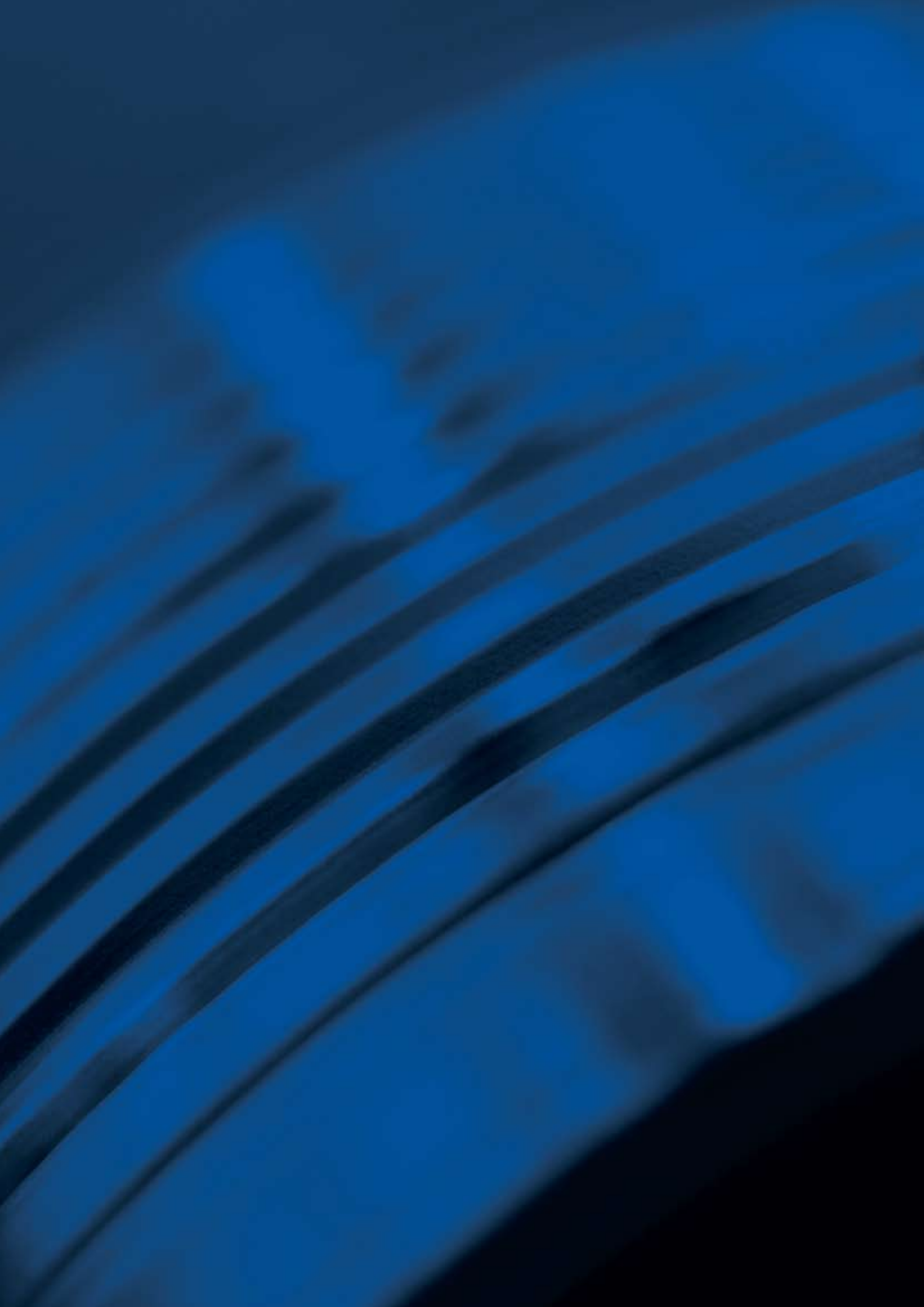


# PREMIUM CONNECTIONS CATALOGUE



# Premium Connections Catalogue



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## CASING & TUBING CONNECTIONS

### Casing Connections

Threaded & Coupled  
Integral Semi Flush  
Integral Flush

### Tubing Connections

Threaded & Coupled  
Integral Upset

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## CONNECTIONS BY TECHNOLOGY

### Blue™ Series

Blue™  
Blue™ Thermal Liner (\*)  
Blue™ Near Flush

### Wedge Series 500™

Wedge 563™  
Wedge 523™  
Wedge 521™  
Wedge 513™  
Wedge 511™  
Wedge 533™  
Wedge 503™  
Wedge 553™

### Legacy Series

3SB™  
MST™  
HW™  
ERT™  
PJD™  
SLX™  
MACII™  
PH4™ / PH6™ / CS®

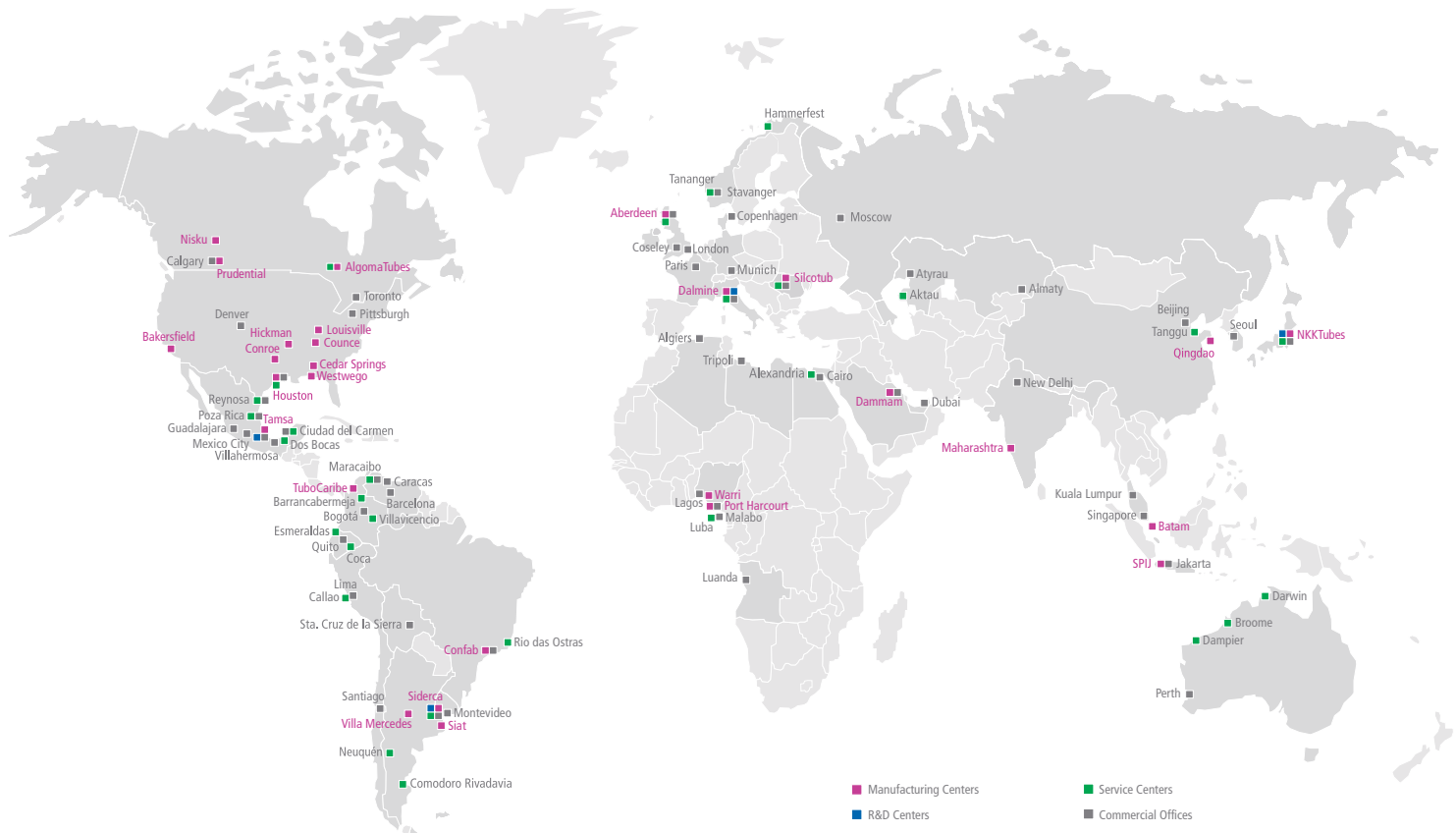
(\*) TenarisHydril Blue™ Thermal Liner was formerly known as TenarisHydril Blue™ SAGD. They are completely interchangeable.

# TenarisHydril

TenarisHydril offers outstanding premium connection design and technology worldwide. With a comprehensive range of high performance products backed by an extensive global field service network and licensed threading shops, we develop solutions to meet the needs of ever more demanding E&P environments.

TenarisHydril premium connections are supplied and supported by Tenaris, the leading manufacturer and supplier of steel tubes and integrated tubular services to the world's energy industry.

For further information please visit our website at [www.tenaris.com](http://www.tenaris.com).



# Research & Development

Tenaris follows a continuous process of designing, testing, and improving TenarisHydril technology to meet the needs of each customer.

With research laboratories and specialized premium connection testing facilities in Argentina, Italy, Japan and Mexico, Tenaris has a research staff of more than 200 scientists and engineers and the resources required to support the needs of our customers in designing, testing and qualifying our premium connections.

Our R&D centers present enhanced capacity in full-scale testing, conditioned to test and qualify premium connections in accordance with the most demanding procedures including the newest version of the ISO 13679 standard. Our state-of-the-art finite element analysis capabilities are used to design and analyze premium connections. We carry out full-scale testing in Argentina, Mexico, Italy and Japan while basic and new design take place mainly at our center in Campana, Argentina.

Finite element analysis is a key design element that helps not only in producing strength visualization and indicating the distribution of stresses and strains on our products but also provides a detailed mapping of sealing performance under the most varied and extreme operating and geometrical conditions. This allows the premium connection design to be generated, refined and optimized even before it is manufactured. Through our R&D activities, we have the capacity to verify our premium connections performance according to each customer's specifications or to qualify connections for a new environment where different operational loading conditions will be observed.

The exhaustive finite-element analysis is necessarily complemented with full-scale performance testing, a critical step to fully verify some critical performance features such as galling resistance and sealability performance. These experiments include make-and-break testing to guarantee makeup, and extensive functional tests to verify sealability response. This test validates the reliability of our connections' structural design and performance, based upon testing that simulates the specific conditions in the oil field where it will be run.

The Tenaris R&D network provides support for premium connection development through specific areas and also through the generation

of basic knowledge and solutions originated in departments as Surfaces and Coatings, Structural Integrity, Metallurgy, Non Destructive Testing, and others that impact not only on the connection design but also on its manufacturing process, control and gauging technology, surface treatment, and quality. This integrated approach helps to ensure Tenaris maintains its leading position in terms of product and process innovation in premium connections.

All of our technology is not only tested in our laboratories but also in the field. Experience in the field guarantees the performance of TenarisHydril premium connections and simultaneously acts as the origin for future R&D initiatives to improve our technologies.



Finite element analysis and full-scale testing at Tenaris's R&D centers.



# Design & Technology

TenarisHydril offers proven products designed for the most challenging operations.

## BLUETM SERIES

Our Blue™ Series incorporates the most advanced premium connection technology available. Designed for the most complex and environmentally sensitive wells and for testing under ISO 13679 CAL IV, these connections are the perfect choice for HP/HT drilling operations all around the world.

Including coupled and integral configurations plus our Dopeless® option, Blue™ Series connections reduce drilling risk by providing performance you can rely on when you most need it.

## DOPELESS®

Dope-free products can provide substantial operational and HSE benefits in complex conditions.

Our Dopeless® connections remain corrosion-free, even after four years beside the sea.

Easy operational handling with exceptional performance.



Our Dopeless® technology is a dry, engineered multi-functional coating which is applied through a controlled industrial process.

Originally developed in response to stringent environmental requirements for offshore operations in Norway, Dopeless® technology has the potential to transform drilling and completion operations in the most complex and sensitive environments. It is also an ideal choice for operations that lack infrastructure, where ease of handling, preparation and installation reduces risk and costs.

## WEDGE SERIES 500™

Specifically designed for use where torque strength is critical, our Wedge Series 500™ connections provide superior compression and bending resistance and also several times the torque strength of most competing technologies. They are used in demanding applications from highly deviated wells to strings that must be rotated and pushed into place.

Wedge Series 500™ connections reliably perform even on pipes with thin walls. They are perfect for tight clearance applications like lean profile, which generates cost savings for our customers, due to their slim profile and compression, torque and bending capacity. Wedge Series 500™ connections are available in flush, near flush, upset and threaded and coupled configurations, with or without metal-to-metal seals.

## LEGACY SERIES

TenarisHydril products have been at the forefront of premium connection design and technology for the past 60 years. Our Legacy Series includes tried and proven performers which have provided many years of reliable service in challenging drilling environments around the world.

## Wedge Series 500™, Thread Identification Code

FIRST DIGIT	SECOND DIGIT	THIRD DIGIT
SERIES 500	CONFIGURATION AND PIPE ENDS	SEALING SYSTEM
5- Wedge thread	0- Integral connection on external upset pipe	
	1- Integral connection on non-upset pipe with pipe body OD box	1- Wedge thread and lubricant seal
	2- Integral connection on non-upset pipe with swaged OD box	
	3- Integral connection on internal/external upset pipe	3- Metal seal plus wedge thread and lubricant seal
	5- Integral connection on non-upset pin end and upset box end pipe	
	6- Coupled connection on non-upset pipe	



# Quality & Manufacturing

TenarisHydril connections are manufactured in Tenaris’s global network of production facilities with its consistent quality management system.

### GLOBAL MANUFACTURING

By manufacturing premium connections as part of an integrated process of pipe design, production, treatment and finishing, we ensure our products’ quality. We can also respond promptly and flexibly to changes in required specifications and other unexpected conditions while maintaining the highest quality standards expected by the industry.

We thread our connections as close as possible to our customers’ operations, using both our manufacturing centers and finishing facilities

worldwide. Our global reach grants us greater flexibility to adapt to our customers’ needs.

### GLOBAL SUPPORT

Tenaris has a wide international network of licensed threading shops to reach every area where our TenarisHydril products are used. These facilities, which are qualified and regularly audited by Tenaris technicians, provide accessories, and carry out repairs of damaged products. For further information about the licensed threading shops, their qualifications and capacity, please visit our website: [www.tenaris.com](http://www.tenaris.com).

### OCTG Dimensional Range

OD (IN.)		1.315	1.660	1.900	2.063	2 3/8	2 7/8	3 1/2	4	4 1/2	5	5 1/2	6 5/8	7	7 5/8	7 3/4
NOMINAL WEIGHTS (LB/FT)	From	1.70	2.09	2.40	3.25	4.00	6.40	7.70	8.20	9.50	11.50	14.00	20.00	17.00	24.00	46.10
	To	2.24	3.24	5.15	4.50	7.45	11.65	17.05	22.50	26.50	34.00	43.10	65.80	63.90	70.70	56.10
		8 5/8	9 5/8	9 7/8	10 3/4	11 3/4	11 7/8	12 3/4	13 3/8	13 1/2	13 5/8	14	16	18 5/8	20	24 1/2
	From	24.00	32.30	62.80	32.75	42.00	58.80	88.00	48.00	80.40	88.20	82.50	65.00	87.50	94.00	133.00
	To	83.20	91.00	72.10	108.70	119.90	71.80	137.90	145.60	81.40	105.00	120.00	147.30	139.00	209.00	182.00



Rolling and threading at our mills guarantees full control of our high quality products.

# Steel Grades

Our proprietary range of steel grades is designed for the most demanding well conditions.

Tenaris has developed a broad range of proprietary steel grades to meet the most demanding well conditions, from severe sour environments to high external pressure conditions and deep wells.

## SEVERE SOUR SERVICE

Designed for a range of sour environments up to the most severe, with higher resistance to sulfide stress corrosion cracking.

## HIGH COLLAPSE SERVICE

Designed for wells where high external pressures are anticipated, through the optimization of tubular collapse performance.

## HIGH COLLAPSE & SOUR SERVICE

Designed for oil and gas wells, where high external pressures in sour environments are anticipated.

## DEEP WELL SERVICE

Designed for deep wells, where added strength with good ductility and fracture toughness is required.

## CRITICAL SERVICE

Designed for specific mild CO<sub>2</sub> environments, giving a cost effective alternative as optional carbon steel for sweet corrosion, where CRA is not economically justified.

## LOW TEMPERATURE SERVICE

Proprietary grades with improved fracture toughness designed to be used in low temperatures, such as Arctic regions.

## HIGH DUCTILITY

Designed for expandable applications.

## THERMAL SERVICE

Designed for the production of high density oil under severe thermal service wells.

Producing proprietary steel grades to meet high demanding requirements.



## API Steel Grades Manufactured by Tenaris

SMYS (KSI)	40	55	65	80	90	95	110	125
<b>GROUP 1</b>	H40	J55, K55		N80.1, N80.Q				
<b>GROUP 2</b>			M65	L80.1, L80 13Cr	C90.1	C95, T95.1		
<b>GROUP 3</b>							P110	
<b>GROUP 4</b>								Q125.1

## Seamless Proprietary Steel Grades Manufactured by Tenaris

SMYS [KSI]	45	55	60	70	75	80	90	95	100	110	125	135	140	150
<b>SOUR SERVICE</b>						TN 80S TN 80SS	TN 90S TN 90SS	TN 95S TN 95SS	TN 100SS	TN 110SS	TN 125SS			
<b>HIGH COLLAPSE</b>						TN 80HC		TN 95HC		TN 110HC	TN 125HC		TN 140HC	
<b>IMPROVED COLLAPSE</b>										P110-IC P110-ICY	Q125-IC Q125-ICY			
<b>HIGH COLLAPSE &amp; SOUR SERVICE</b>						TN 80HS		TN 95HS	TN 100HS	TN 110HS				
<b>DEEP WELL</b>												TN 135DW	TN 140DW	TN 150DW
<b>CRITICAL SERVICE</b>		TN 55CS		TN 70CS	TN 75CS	TN 80Cr3		TN 95Cr3		TN 110Cr3				
<b>LOW TEMPERATURE</b>		TN 55LT				TN 80LT		TN 95LT		TN 110LT	TN 125LT			
<b>HIGH DUCTILITY</b>	TN 45HD		TN 60HD	TN 70HD										
<b>THERMAL SERVICE</b>		TN 55TH				TN 80TH								

## Martensitic Stainless Steels for CO2 Corrosion

SMYS [KSI]	80	85	95	110
<b>MARTENSITIC</b>	TN 80Cr13	TN 85Cr13	TN 95Cr13	
<b>MODIFIED MARTENSITIC</b>			TN 95Cr13M	TN 110Cr13M
<b>SUPER MARTENSITIC</b>			TN 95Cr13S	TN 110Cr13S

## Corrosion Resistant Alloys

GRADE	ISO 13680 GROUP AND CATEGORY	YIELD STRENGTH [Ksi]	TENSILE STRENGTH [Ksi]	MIN. ELONGATION [%]	MAX. HARDNESS VALUE [HRC]
<b>SANDVIK SAF 2205</b>	2; 22-5-3	65-90	90	25	26
		140-160	145	9	38
<b>SANDVIK SAF 2507</b>	2; 25-7-4	80-105	110	20	28
		125-150	130	10	37
		140-160	145	9	38
<b>SANDVIK SANICRO 28</b>	3; 27-31-4	110-140	115	11	35
		125-150	130	10	37
<b>SANDVIK SANICRO 29</b>	NA; similar to 27-31-4	110-140	115	11	35
		125-150	130	10	37

Tenaris and Sandvik established an alliance to assist the oil and gas industry in this particular segment. Tenaris commercializes Sandvik's seamless, stainless steel downhole production tubing and other high performance products.

# Tubular Services

Tenaris works closely with its customers to offer comprehensive solutions to manage their tubular requirements worldwide.

In addition to the field services and repair shops network, Tenaris has expanded its support for its customers offering comprehensive services that add value through customized supply, operational, administrative and technical solutions for E&P operations.

We cover all stages in well operations, from string design to remnant management. Our services are designed to fit each customer's tubular requirements.

Our tubular services package consists of the following elements. Our global Technical Sales team helps customers identify the most appropriate solution for their operations. Our logistical expertise and global network reach customers wherever their projects may be and field experts assist with well installations and inspections.

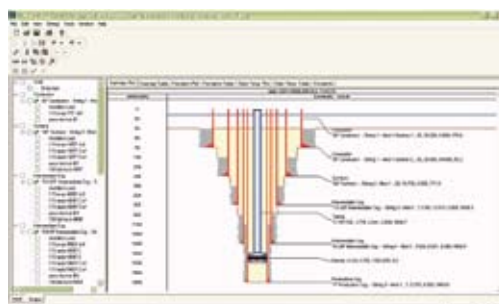
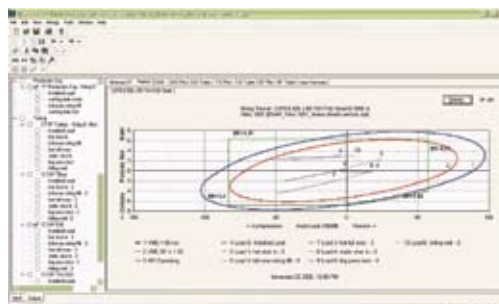
The full menu of tubular services comprises: technical services, inventory handling, field services, operation & production consultancy and remnant & post-installation activities.

Whether you are interested in one service or many, you can be assured of our single purpose - to add value to your well operations.

The benefits of our services include:

- Cost savings: Appropriate stock levels and supply.
- Simplicity: Streamline third parties' participation. Get everything from one source, reducing processes and paperwork. One well - One invoice.
- Reliability: At Tenaris, we have the capacity to handle all details throughout the different operation stages, adapting to unexpected changes in your drilling plans.
- Risk reduction: Receive what you need, whenever you need it. Reduce the probability of incidents while relying on state-of-the-art products.
- Improved operations: Building on its wide experience with tubular products, Tenaris offers consultancy services to make your field operations more efficient.

Our services include product definition and performance evaluation through material handling, using well-established procedures.





Services for all stages of your well operations:

#### TECHNICAL SERVICES

- Introduction to new products
- Materials selection / String design
- Analysis and improvement of operations
- Training in products and operations
- Testing of products and operations
- Connections support

#### INVENTORY HANDLING

- Planning and coordination of the supply
- Stock design
- Customs clearance
- Storage and maintenance
- Components programming
- Preparation for use
- Delivery to well, quay or site
- Accessory management

#### FIELD SERVICES

- Running assistance
- Well installation
- Material rental
- Waste management

#### CONSULTANCY

- Field assessment and analysis
- Engineering and procedures assessment
- Consulting and project management
- Post-installation services

#### POST-INSTALLATION SERVICES

- Surplus management
- Surplus recovery
- Repairs
- Contract-closing solutions

Specialists at a rig site assist product installation to ensure expected performance.



# Website

The TenarisHydril site presents all the information our customers and partners need to know about our premium connections.

Through our website ([www.tenaris.com](http://www.tenaris.com)), Tenaris provides detailed information on our integrated system of products and services as well as technical assistance. Customers can also access the TenarisHydril website under products on the homepage.

## PRODUCTS AND SERVICES

TenarisHydril premium connections for both casing and tubing are classified by technology and by geometry. Users will find information on our products, including their applications and key features and benefits.

## PREMIUM CONNECTIONS PERFORMANCE DATA

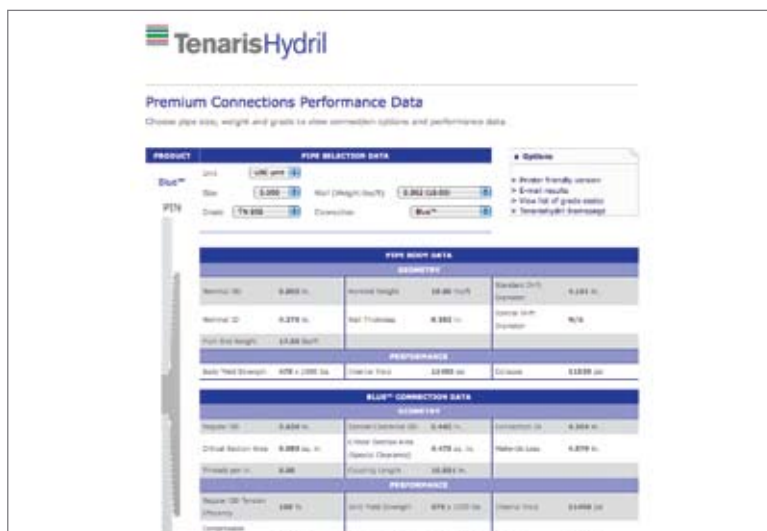
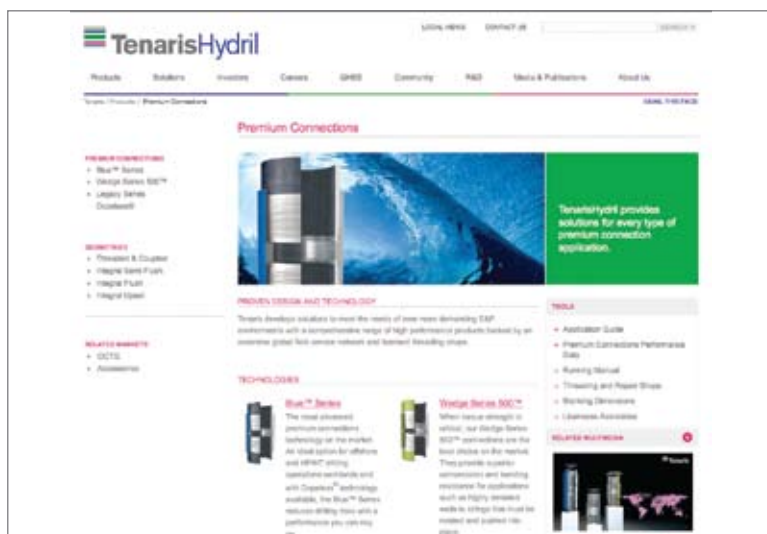
By clicking on the Premium Connections Performance Data tool, customers can view performance data for applicable connections by size and steel grade of pipe. Drift values and pipe body mechanical properties, wall thickness, weight, steel grades and connections are available. Results can be printed or e-mailed.

## APPLICATION AND DIMENSIONAL RANGE

The site also features an Application and Selection Guide that helps users identify which products best suit their needs based on their specific drilling environments, such as thermal or HP/HT and deep wells.

## REPAIR SHOPS AND FIELD SERVICE

A map of Tenaris's global network of pipe finishing and service facilities, as well as licensed threading and repair shops, helps customers identify which field and technical service specialists are closest to their geographic location.



[www.tenaris.com](http://www.tenaris.com)

Application  
Guide

Connections  
Nomenclature

# Application Guide

## Functional Applications

SURFACE & INTERMEDIATE CASING		PRODUCTION CASING, TIE-BACKS & LINERS		PRODUCTION TUBING	
THREADED & COUPLED	SEE PAGE	THREADED & COUPLED	SEE PAGE	THREADED & COUPLED	SEE PAGE
Blue™ (*)	39	Blue™ (*)	39	Blue™ (*)	39
Wedge 563™ (*)	55	Wedge 563™ (*)	55	Wedge 563™ (*)	55
HW™	103				
ERT™ (*)	107				
INTEGRAL	SEE PAGE	INTEGRAL	SEE PAGE	INTEGRAL	SEE PAGE
Wedge 523™ (*)	63	Blue™ Near Flush (*)	49	Wedge 513™ (*)	71
Wedge 521™ (*)	67	Wedge 523™ (*)	63	Wedge 533™ (*)	79
Wedge 513™ (*)	71	Wedge 513™ (*)	71		
Wedge 511™ (*)	75				

## Operational Applications

HP/HT & DEEP WELLS		HORIZONTAL & EXTENDED REACH WELLS		SHALES	
THREADED & COUPLED	SEE PAGE	THREADED & COUPLED	SEE PAGE	THREADED & COUPLED	SEE PAGE
Blue™ (*)	39	Blue™ (*)	39	Blue™ (*)	39
Wedge 563™ (*)	55	Wedge 563™ (*)	55	Wedge 563™ (*)	55
				TXP™ Buttress (*) (**)	-
INTEGRAL	SEE PAGE	INTEGRAL	SEE PAGE	INTEGRAL	SEE PAGE
Blue™ Near Flush (*)	49	Wedge 523™ (*)	63	Wedge 523™ (*)	63
Wedge 523™ (*)	63	Wedge 521™ (*)	67	Wedge 513™ (*)	71
Wedge 513™ (*)	71	Wedge 513™ (*)	71		
		Wedge 511™ (*)	75		
HEAVY WALL	SEE PAGE				
HW™	103				
MACII™	119				

(\*) Dopeless® technology alternative available

(\*\*) Interchangeable with API Buttress. For technical and performance information please visit our website [www.tenaris.com](http://www.tenaris.com).

This application guide is only a recommendation. Contact a Tenaris technical specialist before selecting connections.  
In addition to this guide, most connections can perform in different environments and under load modes not listed here.



## Operational Applications

CASING WHILE DRILLING	WORKSTRINGS	CORROSION PROTECTION & ID COATING
<b>THREADED &amp; COUPLED</b>   SEE PAGE	<b>THREADED &amp; COUPLED</b>   SEE PAGE	<b>THREADED &amp; COUPLED</b>   SEE PAGE
Blue™ (*)   39	Wedge 563™ (*)   59	Wedge 563™ (*)   59
Wedge 563™ (*)   55		
ER™ (*)   107	<b>INTEGRAL UPSET</b>   SEE PAGE	<b>INTEGRAL UPSET</b>   SEE PAGE
TXP™ Buttress (*) (**)   -	Wedge 533™ (*)   79	Wedge 533™ (*)   79
	Wedge 553™ (*)   87	Wedge 553™ (*)   87
<b>INTEGRAL</b>   SEE PAGE	<b>INTEGRAL FLUSH</b>   SEE PAGE	
Wedge 523™ (*)   63	Wedge 511™ (*)   75	
Wedge 521™ (*)   67		
Wedge 513™ (*)   71		
Wedge 511™ (*)   75		
Wedge 533™ (*)   79		

SAGD & CSS		GEOTHERMAL	
<b>CASING/LINERS</b>	SEE PAGE	<b>THREADED &amp; COUPLED</b>	SEE PAGE
Blue™ (*)	39	Blue™ (*)	39
Wedge 563™ (*)	55	Blue™ Thermal Liner (*)	45
Wedge 521™ (*)	67	Wedge 563™ (*)	55
ER™ (*)	107	ER™ (*)	107
		TXP™ Buttress (*) (**)	-
<b>SLOTTED PIPES</b>	SEE PAGE	<b>INTEGRAL</b>	SEE PAGE
Blue™ Thermal Liner (*)	45	Wedge 521™ (*)	67
<b>PRODUCTION TUBING</b>	SEE PAGE	Wedge 511™ (*)	75
Blue™ Thermal Liner (*)	45		
Wedge 511™ (*)	75		

(\*) Dopeless® technology alternative available

(\*\*) Interchangeable with API Buttress. For technical and performance information please visit our website [www.tenaris.com](http://www.tenaris.com).

# Connections Nomenclature

TECHNOLOGY	ACRONYMS
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## BLUE™ SERIES

TenarisHydril Blue™	TSH BLUE
TenarisHydril Blue™ Dopeless®	TSH BLUE-DPLS
TenarisHydril Blue™ Matched Strength	TSH BLUE-MS
TenarisHydril Blue™ Special Clearance	TSH BLUE-SC
TenarisHydril Blue™ Special Bevel	TSH BLUE-SB
TenarisHydril Blue™ Corrosion Barrier	TSH BLUE-CB
TenarisHydril Blue™ Thermal Liner	TSH BTL
TenarisHydril Blue™ Thermal Liner Dopeless®	TSH BTL-DPLS
TenarisHydril Blue™ Thermal Liner Special Clearance	TSH BTL-SC
TenarisHydril Blue™ Thermal Liner Special Bevel	TSH BTL-SB
TenarisHydril Blue™ Near Flush	TSH BNF
TenarisHydril Blue™ Near Flush Dopeless®	TSH BNF-DPLS

## WEDGE SERIES 500™

TenarisHydril Wedge 563™	TSH W563
TenarisHydril Wedge 563™ Dopeless®	TSH W563-DPLS
TenarisHydril Wedge 563™ Matched Strength	TSH W563-MS
TenarisHydril Wedge 563™ Corrosion Barrier	TSH W563-CB
TenarisHydril Wedge 563™ Recess Free Bore	TSH W563-RFB
TenarisHydril Wedge 523™	TSH W523
TenarisHydril Wedge 523™ Dopeless®	TSH W523-DPLS
TenarisHydril Wedge 521™	TSH W521
TenarisHydril Wedge 521™ Dopeless®	TSH W521-DPLS
TenarisHydril Wedge 513™	TSH W513
TenarisHydril Wedge 513™ Dopeless®	TSH W513-DPLS
TenarisHydril Wedge 511™	TSH W511
TenarisHydril Wedge 511™ Dopeless®	TSH W511-DPLS
TenarisHydril Wedge 533™	TSH W533
TenarisHydril Wedge 533™ Dopeless®	TSH W533-DPLS
TenarisHydril Wedge 533™ Corrosion Barrier	TSH W533-CB
TenarisHydril Wedge 503™	TSH W503
TenarisHydril Wedge 503™ Dopeless®	TSH W503-DPLS
TenarisHydril Wedge 553™	TSH W553
TenarisHydril Wedge 553™ Dopeless®	TSH W553-DPLS
TenarisHydril Wedge 553™ Corrosion Barrier	TSH W553-CB

TECHNOLOGY	ACRONYMS
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## LEGACY SERIES

TenarisHydril 3SB™	TSH 3SB
TenarisHydril 3SB™ Special Clearance	TSH 3SB-SC
TenarisHydril 3SB™ Special Bevel	TSH 3SB-SB
TenarisHydril MST™	TSH MS
TenarisHydril MST™ Matched Strength	TSH MS-MS
TenarisHydril MST™ Special Clearance	TSH MS-SC
TenarisHydril MST™ Special Bevel	TSH MS-SB
TenarisHydril HW™	TSH HW
TenarisHydril HW™ Special Clearance	TSH HW-SC
TenarisHydril HW™ Special Bevel	TSH HW-SB
TenarisHydril ER™	TSH ER
TenarisHydril ER™ Dopeless®	TSH ER-DPLS
TenarisHydril ER™ Matched Strength	TSH ER-MS
TenarisHydril ER™ Special Clearance	TSH ER-SC
TenarisHydril ER™ Special Bevel	TSH ER-SB
TenarisHydril PJD™	TSH PJD
TenarisHydril PJD™ Corrosion Barrier	TSH PJD-CB
TenarisHydril SLX™	TSH SLX
TenarisHydril MACII™	TSH MACII
TenarisHydril PH4™	TSH PH4
TenarisHydril PH4™ Corrosion Barrier	TSH PH4-CB
TenarisHydril PH6™	TSH PH6
TenarisHydril PH6™ Corrosion Barrier	TSH PH6-CB
TenarisHydril CS®	TSH CS
TenarisHydril CS® Corrosion Barrier	TSH CS-CB

# Dimensional Range



Dimensional Range | 3/4" TO 3 1/2"

TSH / PCC / Version 02 / January 2011

PIPE SPECIFICATIONS			CONNECTIONS BY TECHNOLOGY										
Outside Diameter	Nominal Weight	Wall Thickness	Blue™ Series		Wedge Series 500™					Legacy Series			
in	lb/ft	in	Blue™	Blue™ Thermal Liner	Wedge 563™	Wedge 533™	Wedge 503™	Wedge 553™	Wedge 511™	35B™	MS™	PJD™	PH4™ PH6™ CS®
3/4 (1.050 OD)	1.20	0.113											•
	1.50	0.154											•
1 (1.315 OD)	1.80	0.133											•
	2.25	0.179											•
1 1/4 (1.660 OD)	2.40	0.140											•
	3.02	0.191											•
	3.24	0.198											•
1 1/2 (1.900 OD)	2.90	0.145											•
	3.64	0.200											•
	4.19	0.219											•
2 1/16	3.25	0.156							•				•
	4.50	0.225							•				•
2 3/8	4.60	0.190	•	•	•	•	•	•	•	•	•	•	•
	4.70												
	5.10	0.218	•	•	•	•		•	•	•	•	•	•
	5.30												
	5.80	0.254	•	•	•	•		•		•	•	•	•
	5.95												
	6.20	0.261								•			•
	6.30	0.280	•										
	6.60	0.295	•		•	•		•					•
	7.35	0.336	•		•	•		•		•			•
	7.45												
	7.70												
2 7/8	6.40	0.217	•	•	•	•	•	•	•	•	•	•	•
	6.50												
	7.70	0.276	•	•	•	•		•		•	•	•	•
	7.80												
	8.60	0.308	•	•	•	•		•		•	•	•	•
	8.70												
	9.35	0.340	•		•	•		•		•		•	•
	9.50												
	9.80	0.362	•										
	10.50	0.392	•		•	•		•		•			•
	10.70												
	10.70	0.405	•							•			•
	11.50	0.440			•	•		•		•			•
	11.65												
3 1/2	7.70	0.216	•						•		•		•
	9.20	0.254	•	•	•	•	•	•	•	•	•	•	•
	9.30												
	10.20	0.289	•	•	•	•		•	•	•	•	•	•
	10.30												
	12.80	0.368								•			
	12.70	0.375	•	•	•	•		•		•	•	•	•
	12.95												
	13.70	0.413	•										
	14.30	0.430	•		•	•		•					•
	14.70	0.449	•							•			
	15.10												
	15.50	0.476	•		•	•		•		•			•
	15.80												

Dimensional Range | 3 1/2 " TO 5 1/2 "

PIPE SPECIFICATIONS			CONNECTIONS BY TECHNOLOGY																
Size	Nominal Weight	Wall Thickness	Blue™ Series				Wedge Series 500™							Legacy Series					
in	lb/ft	in	Blue™	Blue™ Near Flush	Blue™ Thermal Liner	Wedge 563™	Wedge 533™	Wedge 503™	Wedge 553™	Wedge 521™	Wedge 513™	Wedge 511™	3SB™	MS™	HW™	PJD™	SLX™	PH4™ PH6™ CS®	
3 1/2	16.70	0.510				●	●		●				●					●	
	17.00 17.05	0.530				●	●		●				●					●	
4	8.20	0.190	●																
	9.50	0.226	●									●							
	10.90 11.00	0.262	●					●	●	●		●	●	●		●		●	
	11.60	0.286				●	●		●	●		●							
	13.00 13.20 13.40	0.330	●			●	●		●				●	●		●		●	
	14.80 14.85	0.380	●			●	●		●					●					
	16.10	0.415	●			●	●		●									●	
	16.50	0.430	●																
	18.90 19.00	0.500	●			●	●		●				●					●	
	21.10	0.562				●	●		●									●	
	22.20 22.50	0.610				●	●		●				●					●	
	4 1/2	10.50	0.224	●		●					●		●		●				
		11.00	0.237								●		●						
		11.60	0.250	●		●	●	●	●	●	●	●	●	●	●				
		12.60 12.75	0.271	●		●	●	●	●	●	●	●	●	●	●		●	●	●
		13.50	0.290	●		●	●	●		●	●	●	●	●	●		●	●	●
		15.10 15.20 15.50	0.337	●		●	●	●		●		●	●	●	●		●	●	●
16.60		0.375	●								●		●	●					
16.90 17.00		0.380	●		●	●	●		●		●			●			●	●	
17.70		0.402	●																
18.80 18.90 19.20		0.430	●			●	●		●		●		●	●			●	●	
21.50 21.60		0.500	●			●	●		●		●		●	●			●	●	
23.70 24.00		0.560			●	●	●		●				●	●				●	
26.10 26.50		0.630				●	●		●				●					●	
5		13.00	0.253	●			●				●				●				
		15.00	0.296	●			●	●		●	●	●	●	●	●		●	●	
	18.00	0.362	●	●		●	●		●	●	●	●	●	●		●	●	●	
	20.30	0.408	●										●	●			●	●	
	20.80 21.00	0.422	●											●		●			
	21.40	0.437	●			●	●		●		●			●			●	●	
	23.20	0.478	●			●	●		●		●		●	●			●	●	
	24.10	0.500	●			●	●		●		●		●	●			●	●	
	26.70	0.562	●								●				●				
	27.00	0.560																●	
	29.20	0.625													●				
	31.60	0.687													●				
	34.00	0.750													●				
	5 1/2	14.00	0.244				●				●				●				
		15.50	0.275	●		●	●	●		●	●		●	●	●				

Dimensional Range | 5 1/2" TO 7"

PIPE SPECIFICATIONS			CONNECTIONS BY TECHNOLOGY																		
Size	Nominal Weight	Wall Thickness	Blue™ Series					Wedge Series 500™							Legacy Series						
in	lb/ft	in	Blue™	Blue™ Near Flush	Blue™ Thermal Liner	Wedge 563™	Wedge 533™	Wedge 553™	Wedge 523™	Wedge 521™	Wedge 513™	Wedge 511™	3SB™	MS™	HW™	ER™	SLX™	MACI™	PH4™	PH6™	CS®
5 1/2	17.00	0.304	•		•	•	•	•		•	•	•	•	•			•			•	
	20.00	0.361	•		•	•	•	•		•	•	•	•	•			•			•	
	23.00	0.415	•	•	•	•	•	•			•	•	•	•			•			•	
	26.00	0.476	•		•	•	•	•			•		•	•			•			•	
	26.80	0.500	•		•	•	•	•					•	•			•			•	
	28.40	0.530	•			•	•	•						•	•			•		•	
	29.70	0.562	•				•							•	•			•			
	32.00	0.612													•						
	32.60	0.625	•				•							•	•			•			
	35.30	0.687													•			•			
	36.40	0.705													•			•			
	38.00	0.750													•			•			
	40.50	0.812													•			•			
	43.10	0.875													•						
5 3/4	18.00	0.312										•									
	21.80	0.375										•									
	24.20	0.420										•									
6	18.80	0.304											•								
	20.00	0.324																			
	23.00	0.380																			
6 5/8	20.00	0.288	•		•	•				•			•								
	22.60	0.330	•														•				
	23.20																				
	24.00	0.352	•		•	•	•	•		•		•	•	•			•				
	24.60	0.362															•				
	28.00	0.417	•		•	•	•	•		•		•	•	•			•		•		
	32.00	0.475	•		•	•	•	•					•	•			•		•		
	33.00	0.500																	•		
	34.50	0.525	•												•				•		
	35.00																				
	36.70	0.562	•												•			•			
	40.20	0.625													•			•			
	43.70	0.687													•			•			
	46.00	0.730													•			•			
	47.10	0.750													•			•			
	50.40	0.812													•			•			
	53.70	0.875																•			
	65.80	1.125																•			
7	20.00	0.272			•	•				•											
	23.00	0.317	•		•	•	•	•		•		•	•	•		•	•				
	24.75	0.343	•																		
	26.00	0.362	•	•	•	•	•	•		•	•	•	•	•		•	•				
	29.00	0.408	•	•	•	•	•	•	•	•	•	•	•	•		•	•		•		
	32.00	0.453	•	•	•	•	•	•	•	•	•		•	•		•	•		•		
	35.00	0.498	•	•	•	•	•	•	•		•		•	•		•	•		•		
	38.00	0.540	•	•		•	•	•	•		•		•	•	•	•	•		•		
	41.00	0.590	•	•		•			•				•	•	•	•	•	•	•		
	42.70	0.625				•									•		•	•	•		
	44.00	0.640													•	•		•	•		
	45.40	0.670													•	•		•	•		
	46.00																				
	46.40	0.687													•			•	•		
	49.50	0.730													•			•	•		
	50.10	0.750													•			•	•		
	53.60	0.812													•			•	•		
	57.10	0.875	</																		

Dimensional Range | 7 1/4" TO 9 5/8"

PIPE SPECIFICATIONS			CONNECTIONS BY TECHNOLOGY																		
Size	Nominal Weight	Wall Thickness	Blue™ Series					Wedge Series 500™							Legacy Series						
in	lb/ft	in	Blue™	Blue™ Near Flush	Blue™ Thermal Liner	Wedge 563™	Wedge 533™	Wedge 553™	Wedge 523™	Wedge 521™	Wedge 513™	Wedge 511™	3SB™	MS™	HW™	ER™	SLX™	MACI™			
7 1/4	41.20	0.578											•								
7 5/8	26.40	0.328				•	•	•		•		•	•	•			•				
	29.70	0.375	•	•		•	•	•	•	•	•	•	•	•			•				
	33.70	0.430	•	•		•	•	•	•	•	•	•	•	•			•				
	35.80	0.465	•																		
	39.00	0.500	•	•		•	•	•	•		•		•	•			•				
	42.80	0.562	•	•		•			•		•		•	•	•		•				
	45.30	0.595	•	•		•			•		•			•	•		•	•			
	47.10	0.625		•									•	•	•		•	•			
	51.20	0.687													•			•			
	52.80	0.712													•			•			
	55.30	0.750				•									•			•			
	58.30	0.800																			
	59.20	0.812													•			•			
	63.20	0.875											•					•			
	66.90	0.937																•			
	70.70	1.000																•			
7 3/4	46.10	0.595	•	•		•			•		•		•	•			•	•			
	47.60	0.625	•											•							
	48.60	0.640	•	•		•								•			•	•			
	51.80	0.687	•																		
	54.20	0.712															•				
	56.10	0.750	•																		
8	31.00	0.375										•									
	70.80	0.937																•			
8 1/16	74.20	0.980																•			
8 1/8	32.50	0.375										•									
	35.50	0.420										•									
	39.50	0.470										•									
8 5/8	24.00	0.264			•											•					
	28.00	0.304			•											•					
	32.00	0.352			•	•				•		•	•	•		•					
	36.00	0.400	•	•	•	•				•		•	•	•		•	•				
	40.00	0.450	•	•	•	•			•	•	•	•	•	•		•	•				
	44.00	0.500	•	•		•			•		•	•	•	•		•	•				
	49.00	0.557	•	•		•							•	•		•	•				
	49.10	0.562													•						
	52.00	0.595	•	•		•							•		•	•	•				
	54.00	0.625	•			•									•	•	•	•			
	58.70	0.687	•												•	•		•			
	63.50	0.750													•			•			
	68.10	0.812				•									•			•			
	72.70	0.875																•			
	77.10	0.937																•			
	81.50	1.000																•			
	83.20	1.025																•			
9	40.00	0.425										•									
9 3/8	39.00	0.400									•										
9 5/8	36.00	0.352	•		•	•				•			•	•		•					
	40.00	0.395	•	•	•	•				•		•	•	•		•					
	43.50	0.435	•	•	•	•				•		•	•	•		•	•				
	47.00	0.472	•	•	•	•			•	•	•	•	•	•		•	•				
	53.50	0.545	•	•	•	•			•		•		•	•		•	•				
	58.40	0.595	•	•		•			•		•		•	•	•	•	•	•			
	59.40	0.609	•											•	•	•		•			
	61.10	0.625	•										•		•	•		•			
	64.90	0.672	•	•										•	•	•		•			
	70.30	0.734	•												•			•			



Dimensional Range | 9 5/8" TO 12 3/4"

PIPE SPECIFICATIONS			CONNECTIONS BY TECHNOLOGY														
Size	Nominal Weight	Wall Thickness	Blue™ Series				Wedge Series 500™					Legacy Series					
in	lb/ft	in	Blue™	Blue™ Near Flush	Blue™ Thermal Liner	Wedge 563™	Wedge 523™	Wedge 521™	Wedge 513™	Wedge 511™	3SB™	MS™	HW™	ER™	SLX™	MACII™	
9 5/8	71.60	0.750														•	
	75.60	0.797											•			•	
	80.80	0.859											•			•	
	86.00	0.922														•	
	91.00	0.984														•	
9 3/4	59.20	0.595									•				•		
9 7/8	62.80	0.625	•	•		•	•		•		•	•		•	•	•	
	65.10	0.650		•		•	•		•						•		
	65.30																
	67.30	0.668										•					
	68.80	0.700	•	•								•					
	70.40	0.708	•								•	•					
	72.10	0.725	•									•					
10	66.95	0.672													•		
	68.42	0.688					•		•						•		
	68.80	0.700		•			•		•								
10 1/4	82.00	0.800									•						
10 3/4	40.50	0.350	•			•		•			•	•					
	45.50	0.400	•		•	•		•		•	•	•		•			
	51.00	0.450	•	•	•	•		•		•	•	•		•	•		
	55.50	0.495	•	•	•	•	•	•	•	•	•	•		•	•		
	60.70	0.545	•	•	•	•	•	•	•	•	•	•		•	•		
	65.70	0.595	•	•		•	•	•	•	•	•	•	•	•	•		
	68.80	0.636															
	71.10	0.650									•						
	73.20	0.672	•			•					•	•	•			•	
	75.90	0.700	•									•				•	
	76.60																
	79.20	0.734	•			•							•			•	
	80.80	0.750														•	
	85.30	0.797											•			•	
	91.20	0.859											•			•	
	97.10	0.922														•	
	102.90	0.984														•	
	104.30	1.000														•	
	108.70	1.047														•	
11 3/4	47.00	0.375				•		•			•	•					
	54.00	0.435	•	•		•		•		•	•	•					
	60.00	0.489	•	•		•	•	•	•	•	•	•			•		
	65.00	0.534	•	•		•	•	•	•	•	•	•			•		
	71.00	0.582	•	•		•					•	•			•		
	87.50	0.734														•	
	94.00	0.797														•	
	100.50	0.859														•	
	107.10	0.922														•	
	111.50	0.945														•	
	113.50	0.984														•	
	119.90	1.047														•	
11 7/8	58.80	0.470	•							•							
	71.80	0.582	•	•		•	•		•	•		•		•	•		
12	74.80	0.615													•		
12 1/16	78.10	0.640													•		
12 3/4	88.00	0.672					•		•								
	94.20	0.734														•	
	101.70	0.797														•	
	109.10	0.859														•	
	116.50	0.922														•	
	123.70	0.984														•	

Dimensional Range | 12 3/4" TO 17 7/8"

PIPE SPECIFICATIONS			CONNECTIONS BY TECHNOLOGY													
Size	Nominal Weight	Wall Thickness	Blue™ Series			Wedge Series 500™					Legacy Series					
in	lb/ft	in	Blue™	Blue™ Near Flush	Wedge 563™	Wedge 523™	Wedge 521™	Wedge 513™	Wedge 511™	35B™	MS™	HW™	ER™	SLX™	MACII™	
12 3/4	130.90	1.047													•	
	137.90	1.109													•	
13 3/8	54.50	0.380	•		•		•			•	•		•			
	61.00	0.430	•	•	•		•			•	•		•			
	68.00	0.480	•	•	•	•	•	•		•	•		•	•		
	72.00	0.514	•	•	•	•	•	•		•	•		•	•		
	77.00	0.550	•	•	•		•							•		
	80.70	0.580	•	•	•									•		
	85.00	0.608	•		•									•		
	86.00	0.625	•	•	•					•				•		
	92.50	0.672													•	
	98.00	0.719	•													
	100.30	0.734													•	
	108.10	0.797													•	
	115.70	0.859													•	
	123.40	0.922													•	
	130.80	0.984													•	
	138.30	1.047													•	
	145.60	1.109													•	
13 1/2	80.40	0.576									•					
	81.40	0.580			•		•			•				•		
13 5/8	88.20	0.625	•	•	•	•	•	•		•	•		•	•		
	105.00	0.760											•			
14	82.50	0.562									•		•			
	86.00	0.600										•				
	93.00	0.650										•				
	94.80	0.656									•		•			
	99.30	0.688									•		•			
	99.60	0.700				•		•			•				•	
	100.00															
	104.20	0.734				•		•							•	
	106.00	0.750										•				
	110.00	0.772									•		•			
	111.00	0.779									•		•			
	112.60	0.797				•		•					•		•	
	112.00	0.800				•		•				•	•			
	113.00															
	114.00															
	120.00	0.850										•				
15	77.50	0.500					•									
	109.00	0.715											•			
16	65.00	0.375											•			
	75.00	0.438					•						•			
	84.00	0.495					•						•			
	94.50	0.562											•			
	95.00	0.566			•	•	•	•	•							
	96.00	0.575			•	•	•	•	•							
	102.90	0.625				•		•	•							
	109.00	0.656			•	•	•	•	•				•		•	
	118.00	0.715			•		•						•		•	
	128.00	0.781											•		•	
	128.60															
	137.90	0.843													•	
	147.30	0.906													•	
16 1/8	95.60	0.566					•									
17	77.50	0.438					•									
	88.10	0.500					•									
17 7/8	93.50	0.500					•									

Dimensional Range | 17 7/8" TO 24 1/2"

[illegible]



# Casing & Tubing Connections

## Threaded & Coupled

Dopeless® technology available | 4 1/2" TO 13 5/8" | **Blue™**



Dopeless® technology available | 4 1/2" TO 10 3/4" | **Blue™ Thermal Liner**



Dopeless® technology available | 5" TO 16" | **Wedge 563™**



4 1/2" TO 13 5/8" | **3SB™**



4 1/2" TO 14" | MS™



Dopeless® technology available | 7" TO 24 1/2" | ER™



5" TO 14" | HW™



# Casing Connections

## Integral Semi Flush

Dopeless® technology available | 5" TO 13 5/8" | **Blue™ Near Flush**



Dopeless® technology available | 7" TO 16" | **Wedge 523™**



Dopeless® technology available | 5" TO 18 5/8" | **Wedge 521™**



4 1/2" TO 13 5/8" | **SLX™**





5 1/2" TO 16" | MACII™



## Integral Flush

Dopeless® technology available | 4" TO 16" | **Wedge 513™**



Dopeless® technology available | 2 1/16 TO 18 5/8" | **Wedge 511™**



# Tubing Connections

## Threaded & Coupled

Dopeless® technology available | 2 3/8" TO 4 1/2" | **Blue™**



Dopeless® technology available | 2 3/8" TO 4 1/2" | **Blue™ Thermal Liner**



Dopeless® technology available | 2 3/8" TO 4 1/2" | **Wedge 563™**



2 3/8" TO 4 1/2" | 3SB™



2 3/8" TO 4 1/2" | MS™



# Tubing Connections

## Integral Upset

Dopeless® technology available | 2 3/8" TO 7 5/8" | **Wedge 533™**



Dopeless® technology available | 2 3/8" TO 7 5/8" | **Wedge 553™**



Dopeless® technology available | 2 3/8" TO 4 1/2" | **Wedge 503™**



2 3/8" TO 5" | PJD™



3/4" TO 7" | PH4™ / PH6™ / CS®



# Connections by Technology



# Blue™ Series



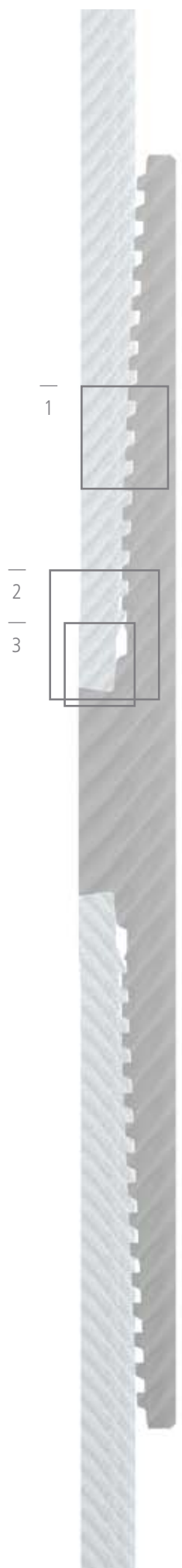


# Blue™

2 3/8" TO 13 5/8"

Dopeless® technology available





1



- Easy make-up is developed with the rugged, coarse pitch thread and steep taper for deep stabbing.

2



- Superior compression strength obtained by optimized torque shoulder and controlled 25 degree stab flank reduced clearance.

3



- 100% internal and external pressure metal seal.
- Toroidal design generates stable seal behavior for all combined-load conditions.
- Dope pocket allows excessive dope to be lodged.

#### FEATURES

- Designed for high performance and versatility. ISO 13679 CAL IV tested and field proven.
- Parabolic seal contact pressure profile minimizes galling risk while improves sealing performance stability.

#### APPLICATIONS

- Surface & intermediate casing
- Production casing, tie-backs & liners
- Production tubing
- Casing while drilling
- Horizontal & extended reach wells

- SAGD & CSS
- Shales
- Geothermal
- HP/HT & deep wells

#### OPTIONS

- Dopeless®
- Matched strength
- Special bevel
- Special clearance

DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						SPECIAL CLEARANCE COUPLING			MATCHED STRENGTH
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter	Critical Section Area	Tensile Efficiency	Outside Diameter
in	lb/ft	in	in	in	in	in	in	in	sq in	%	%	x 1000 lb						in	sq in	%	in
2 3/8	4.60	0.190	1.995	1.901	2.776	5.906	1.947	2.655	1.668	100	100	72	104	117	124	143	163	2.646	1.114	85.0	2.705
	5.10	0.218	1.939	1.845	2.776	5.906	1.915	2.655	1.668	100	100	81	118	133	140	162	185	2.681	1.263	85.0	2.744
	5.80	0.254	1.867	1.774	2.827	5.906	1.868	2.655	1.893	100	100	93	135	152	161	186	212	2.720	1.431	85.0	2.795
	6.30	0.280	1.815	1.722	2.846	5.906	1.833	2.655	1.981	100	100	101	147	166	175	203	230	2.752	1.566	85.0	2.831
	6.60	0.295	1.785	1.692	2.862	5.906	1.837	2.655	2.052	100	100	106	154	173	183	212	241	2.768	1.634	85.0	2.850
	7.35	0.336	1.704	1.610	2.913	5.906	1.797	2.655	2.283	100	100	118	172	193	204	236	269	2.811	1.823	85.0	2.902
2 7/8	6.40	0.217	2.441	2.348	3.307	7.205	2.406	3.202	2.279	100	100	100	145	163	172	199	227	3.161	1.539	85.0	3.228
	7.80	0.276	2.323	2.230	3.346	7.205	2.339	3.202	2.485	100	100	124	180	203	214	248	282	3.236	1.914	85.0	3.319
	8.60	0.308	2.259	2.166	3.386	7.205	2.276	3.202	2.692	100	100	137	199	224	236	273	310	3.276	2.116	85.0	3.366
	9.35	0.340	2.195	2.101	3.437	7.205	2.228	3.202	2.967	100	100	149	217	244	257	298	338	3.311	2.299	85.0	3.409
	9.80	0.362	2.152	2.058	3.449	7.205	2.209	3.202	3.030	100	100	157	228	257	271	314	357	3.335	2.423	85.0	3.437
	10.50	0.392	2.091	1.997	3.488	7.205	2.185	3.202	3.246	100	100	168	245	275	290	336	382	3.370	2.609	85.0	3.476
3 1/2	10.70	0.405	2.065	1.971	3.504	7.205	2.161	3.202	3.333	100	100	173	251	283	299	346	393	3.382	2.672	85.0	3.492
	7.70	0.216	3.068	2.943	3.937	8.228	3.016	3.616	2.895	100	100	123	178	201	212	245	279	3.772	1.894	85.0	3.843
	9.20	0.254	2.992	2.867	3.937	8.228	2.969	3.616	2.895	100	100	142	207	233	246	285	324	3.823	2.199	85.0	3.906
	10.20	0.289	2.922	2.797	4.016	8.228	2.906	3.616	3.388	100	100	160	233	262	277	321	364	3.870	2.485	85.0	3.961
	12.70	0.375	2.750	2.624	4.150	8.228	2.799	3.616	4.245	100	100	202	295	331	350	405	460	3.976	3.140	85.0	4.087
	13.70	0.413	2.674	2.549	4.150	8.228	2.772	3.616	4.245	100	100	220	320	360	381	441	501	4.020	3.413	85.0	4.138
4	14.30	0.430	2.640	2.515	4.169	8.228	2.736	3.616	4.374	100	100	228	332	373	394	456	518	4.035	3.512	85.0	—
	14.70	0.449	2.602	2.477	4.193	8.228	2.720	3.616	4.529	100	100	237	344	387	409	473	538	4.059	3.663	85.0	—
	15.50	0.476	2.548	2.423	4.228	8.228	2.720	3.616	4.765	100	100	249	362	407	430	497	565	4.087	3.838	85.0	—
	8.20	0.190	3.620	3.494	4.441	8.780	3.537	3.805	3.340	100	100	125	182	205	216	250	284	4.276	2.209	97.0	4.299
	9.50	0.226	3.548	3.423	4.441	8.780	3.474	3.805	3.340	100	100	147	214	241	255	295	335	4.287	2.288	85.0	4.362
	10.90	0.262	3.476	3.351	4.441	8.780	3.431	3.805	3.340	100	100	169	246	277	292	338	385	4.335	2.607	85.0	4.421
4 1/2	13.20	0.330	3.340	3.215	4.567	8.780	3.356	3.805	4.232	100	100	209	304	342	361	419	476	4.425	3.230	85.0	4.528
	14.85	0.380	3.240	3.115	4.610	8.780	3.281	3.805	4.543	100	100	238	346	389	411	475	540	4.488	3.672	85.0	—
	16.10	0.415	3.170	3.045	4.661	8.780	3.262	3.805	4.917	100	100	257	374	421	444	514	584	4.531	3.979	85.0	—
	16.50	0.430	3.140	3.015	4.681	8.780	3.234	3.805	5.061	100	100	265	386	434	458	530	603	4.547	4.090	85.0	—
	18.90	0.500	3.000	2.875	4.776	8.780	3.093	3.805	5.763	100	100	302	440	495	522	605	687	4.630	4.687	85.0	—
	10.50	0.224	4.052	3.927	4.921	9.213	3.996	4.012	3.641	100	100	166	241	271	286	331	376	4.780	2.562	85.0	4.854
5	11.60	0.250	4.000	3.875	4.921	9.213	3.957	4.012	3.641	100	100	184	267	300	317	367	417	4.815	2.829	85.0	4.898
	12.60	0.271	3.958	3.833	4.961	9.213	3.917	4.012	3.946	100	100	198	288	324	342	396	450	4.846	3.067	85.0	4.933
	13.50	0.290	3.920	3.794	5.000	9.213	3.878	4.012	4.255	100	100	211	307	345	364	422	479	4.870	3.247	85.0	4.965
	15.20	0.337	3.826	3.701	5.047	9.213	3.823	4.012	4.628	100	100	242	353	397	419	485	551	4.933	3.732	85.0	—
	16.60	0.375	3.750	3.625	5.106	9.213	3.799	4.010	5.099	100	100	267	389	437	462	535	607	4.992	4.193	86.0	—
	17.00	0.380	3.740	3.615	5.114	9.213	3.791	4.012	5.162	100	100	271	393	443	467	541	615	4.992	4.193	85.0	—
5	17.70	0.402	3.696	3.571	5.146	9.213	3.768	4.012	5.416	100	100	285	414	466	492	569	647	5.020	4.410	85.0	—
	18.90	0.430	3.640	3.515	5.189	9.213	3.740	4.012	5.768	100	100	302	440	495	522	605	687	5.051	4.659	85.0	—
	21.50	0.500	3.500	3.375	5.287	9.213	3.602	4.012	6.577	100	100	346	503	565	597	691	785	5.138	5.352	85.0	—
	13.00	0.253	4.494	4.369	5.512	10.551	4.421	4.579	5.051	100	100	208	302	340	358	415	472	5.315	3.377	90.0	5.382
	15.00	0.296	4.408	4.283	5.512	10.551	4.350	4.579	5.051	100	100	241	350	394	416	481	547	5.354	3.708	85.0	5.453
	18.00	0.362	4.276	4.151	5.630	10.551	4.264	4.579	6.085	100	100	290	422	475	501	580	659	5.445	4.475	85.0	5.563
5	20.30	0.408	4.184	4.059	5.650	10.551	4.209	4.579	6.259	100	100	324	471	530	559	647	736	5.508	5.017	85.0	5.634
	20.80	0.422	4.156	4.031	5.673	10.551	4.193	4.579	6.470	100	100	334	486	546	577	668	759	5.524	5.154	85.0	5.657
	21.40	0.437	4.126	4.001	5.693	10.551	4.185	4.579	6.645	100	100	345	501	564	595	689	783	5.543	5.324	85.0	5.677
	23.20	0.478	4.044	3.919	5.756	10.551	4.134	4.579	7.212	100	100	373	543	611	645	747	849	5.594	5.772	85.0	5.740
	24.10	0.500	4.000	3.875	5.787	10.551	4.091	4.579	7.497	100	100	389	565	636	672	778	884	5.622	6.016	85.0	5.772
	26.70	0.562	3.876	3.751	5.874	10.551	3.969	4.579	8.291	100	100	431	627	705	744	862	979	5.693	6.645	85.0	5.858

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift (Special Drift).
- ] Interchangeable where bracketed. Small variations in the connection Internal Diameter will appear. For make-up torque information, refer to TenarisHydril Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- Compression efficiency for SC option is the same as the standard connection.
- For the MS option, the coupling OD is reduced to the minimum critical area capable of providing the same tensile efficiency as the standard option.

DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						SPECIAL CLEARANCE COUPLING			MATCHED STRENGTH
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter	Critical Section Area	Tensile Efficiency	Outside Diameter
in	lb/ft	in	in	in	in	in	in	in	sq in	%	%	x 1000 lb						in	sq in	%	in
5 1/2	15.50	0.275	4.950	4.824	6.063	10.748	4.911	4.677	6.006	100	100	248	361	406	429	497	564	5.831	3.836	85.0	5.925
	17.00	0.304	4.892	4.767	6.063	10.748	4.860	4.677	6.006	100	100	273	397	447	471	546	620	5.874	4.235	85.0	5.972
	20.00	0.361	4.778	4.653	6.102	10.748	4.789	4.677	6.381	100	100	321	466	525	554	641	729	5.953	4.965	85.0	6.067
	23.00	0.415	4.670	4.545	6.181	10.748	4.695	4.677	7.141	100	100	365	530	597	630	729	829	6.024	5.631	85.0	6.157
	26.00	0.476	4.548	4.423*	6.307	10.748	4.616	4.677	8.378	100	100	413	601	676	714	826	939	6.102	6.381	85.0	6.220
	26.80	0.500	4.500	4.375	6.307	10.748	4.589	4.677	8.378	100	100	432	628	707	746	864	982	6.134	6.685	85.0	6.287
	28.40	0.530	4.440	4.315	6.350	10.748	4.530	4.677	8.807	100	100	455	662	745	786	910	1034	6.169	7.026	85.0	6.331
	29.70	0.562	4.376	4.251	6.382	10.748	4.506	4.677	9.123	100	100	480	697	785	828	959	1090	6.209	7.409	85.0	—
6 5/8	32.60	0.625	4.250	4.124	6.469	10.748	4.427	4.677	9.998	100	100	526	766	861	909	1053	1197	6.283	8.144	85.0	—
	20.00	0.288	6.049	5.924	7.283	10.551	5.973	4.480	8.361	100	100	315	459	516	545	631	717	7.020	5.397	94.0	7.071
	23.20	0.330	5.965	5.840	7.283	10.551	5.894	4.480	8.361	100	100	359	522	587	620	718	816	7.051	5.746	88.0	7.146
	24.00	0.352	5.921	5.796	7.283	10.551	5.855	4.480	8.361	100	100	382	555	624	659	763	867	7.063	5.876	85.0	7.181
	28.00	0.417	5.791	5.666	7.390	10.551	5.749	4.480	9.585	100	100	447	651	732	773	895	1017	7.157	6.932	85.0	7.291
	32.00	0.475	5.675	5.550	7.409	10.551	5.678	4.480	9.815	100	100	505	734	826	872	1010	1147	7.236	7.821	85.0	7.386
	35.00	0.525	5.575	5.450	7.492	10.551	5.619	4.480	10.782	100	100	553	805	905	956	1107	1258	7.299	8.541	85.0	7.465
	36.70	0.562	5.502	5.376	7.539	10.551	5.623	4.480	11.340	100	100	588	856	963	1016	1177	1337	7.346	9.085	85.0	7.520
7	23.00	0.317	6.366	6.241*	7.677	10.551	6.287	4.480	9.221	100	100	366	532	599	632	732	832	7.409	6.050	91.0	7.484
	24.75	0.343	6.314	6.189	7.677	10.551	6.228	4.480	9.221	100	100	395	574	646	681	789	897	7.413	6.095	85.0	7.531
	26.00	0.362	6.276	6.151	7.677	10.551	6.189	4.480	9.221	100	100	415	604	679	717	830	944	7.441	6.417	85.0	7.563
	29.00	0.408	6.184	6.059	7.677	10.551	6.118	4.480	9.221	100	100	465	676	760	803	929	1056	7.508	7.203	85.0	7.642
	32.00	0.453	6.094	5.969*	7.732	10.551	6.063	4.480	9.889	100	100	512	745	839	885	1025	1165	7.567	7.902	85.0	—
	35.00	0.498	6.004	5.879	7.807	10.551	6.012	4.480	10.802	100	100	559	814	916	966	1119	1272	7.630	8.654	85.0	—
	38.00	0.540	5.920	5.794*	7.870	10.551	5.969	4.480	11.577	100	100	603	877	986	1041	1206	1370	7.685	9.316	85.0	—
	41.00	0.590	5.820	5.694	7.949	10.551	5.890	4.480	12.555	100	100	653	950	1069	1129	1307	1485	7.748	10.080	85.0	—
7 5/8	29.70	0.375	6.875	6.750	8.425	10.669	6.801	4.551	11.803	100	100	470	683	769	811	940	1068	8.075	7.263	85.0	8.201
	33.70	0.430	6.765	6.640	8.465	10.669	6.699	4.551	12.326	100	100	535	778	875	923	1069	1215	8.154	8.266	85.0	8.295
	35.80	0.465	6.695	6.570	8.465	10.669	6.659	4.551	12.326	100	100	575	837	941	994	1151	1307	8.201	8.874	85.0	8.354
	39.00	0.500	6.625	6.500	8.496	10.669	6.604	4.551	12.746	100	100	616	895	1007	1063	1231	1399	8.252	9.534	85.0	8.413
	42.80	0.562	6.502	6.376	8.539	10.669	6.553	4.551	13.325	100	100	685	997	1121	1184	1371	1558	8.335	10.611	85.0	8.512
	45.30	0.595	6.435	6.310*	8.591	10.669	6.561	4.551	14.014	100	100	723	1051	1183	1248	1445	1643	8.378	11.180	85.0	8.563
7 3/4	46.10	0.595	6.560	6.435*	8.740	11.496	6.691	4.968	14.792	100	100	736	1070	1204	1271	1471	1672	8.488	11.383	85.0	8.677
	47.60	0.625	6.500	6.374	8.740	11.496	6.632	4.968	14.792	100	100	769	1119	1259	1329	1539	1749	8.528	11.909	85.0	8.724
	48.60	0.640	6.470	6.344	8.772	11.496	6.600	4.968	15.226	100	100	786	1144	1287	1358	1573	1787	8.547	12.172	85.0	8.744
	51.80	0.687	6.376	6.251	8.843	11.496	6.506	4.968	16.205	100	100	838	1220	1372	1448	1677	1905	8.606	12.969	85.0	8.819
	56.10	0.750	6.250	6.125	8.937	11.496	6.380	4.968	17.524	100	100	907	1319	1484	1567	1814	2062	8.685	14.037	85.0	8.909
8 5/8	36.00	0.400	7.825	7.700	9.488	11.693	7.787	5.065	14.328	100	100	568	827	930	982	1137	1292	9.126	9.033	87.0	9.244
	40.00	0.450	7.725	7.600*	9.488	11.693	7.709	5.065	14.328	100	100	636	925	1040	1098	1271	1445	9.181	9.825	85.0	9.331
	44.00	0.500	7.625	7.500	9.488	11.693	7.650	5.065	14.328	100	100	702	1021	1149	1212	1404	1595	9.252	10.852	85.0	9.417
	49.00	0.557	7.511	7.386	9.626	11.693	7.535	5.065	16.397	100	100	776	1129	1271	1341	1553	1765	9.331	12.000	85.0	9.512
	52.00	0.595	7.435	7.310	9.626	11.693	7.496	5.065	16.397	100	100	826	1201	1351	1426	1651	1876	9.382	12.753	85.0	9.575
	54.00	0.625	7.375	7.250	9.638	11.693	7.437	5.065	16.576	100	100	864	1257	1414	1492	1728	1964	9.421	13.335	85.0	—
	58.70	0.687	7.251	7.126	9.736	11.693	7.390	5.065	18.073	100	100	942	1371	1542	1628	1885	2142	9.504	14.564	85.0	—
9 5/8	36.00	0.352	8.921	8.765	10.626	11.693	8.829	5.065	18.209	100	100	564	820	923	974	1128	1282	10.079	9.309	91.0	10.165
	40.00	0.395	8.835	8.679	10.626	11.693	8.781	5.065	18.209	100	100	630	916	1031	1088	1260	1432	10.122	9.998	87.0	10.240
	43.50	0.435	8.755	8.599*	10.626	11.693	8.711	5.065	18.209	100	100	691	1005	1130	1193	1381	1570	10.165	10.687	85.0	10.311
	47.00	0.472	8.681	8.525	10.626	11.693	8.659	5.065	18.209	100	100	746	1086	1222	1289	1493	1697	10.217	11.506	85.0	10.378
	53.50	0.545	8.535	8.379*	10.626	11.693	8.545	5.065	18.209	100	100	855	1244	1399	1477	1710	1943	10.323	13.222	85.0	10.504
	58.40	0.595	8.435	8.279*	10.626	11.693	8.494	5.065	18.209	100	100	928	1350	1519	1604	1857	2110	10.394	14.375	85.0	10.587
	59.40	0.609	8.407	8.251	10.626	11.693	8.553	5.065	18.209	100	100	949	1380	1552	1639	1897	2156	10.409	14.632	85.0	—
	61.10	0.625	8.375	8.219	10.654	11.693	8.514	5.065	18.670	100	100	972	1414	1590	1679	1944	2209	10.433	15.018	85.0	—
	64.90	0.672	8.281	8.125	10.728	11.693	8.435	5.065	19.925	100	100	1040	1512	1701	1796	2079	2363	10.496	16.053	85.0	—
	70.30	0.734	8.157	8.001	10.827	11.693	8.356	5.065	21.592	100	100	1128	1640	1845	1948	2255	2563	10.579	17.422	85.0	—

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• Compression efficiency for SC option is the same as the standard connection.

• For the MS option, the coupling OD is reduced to the minimum critical area capable of providing the same tensile efficiency as the standard option.

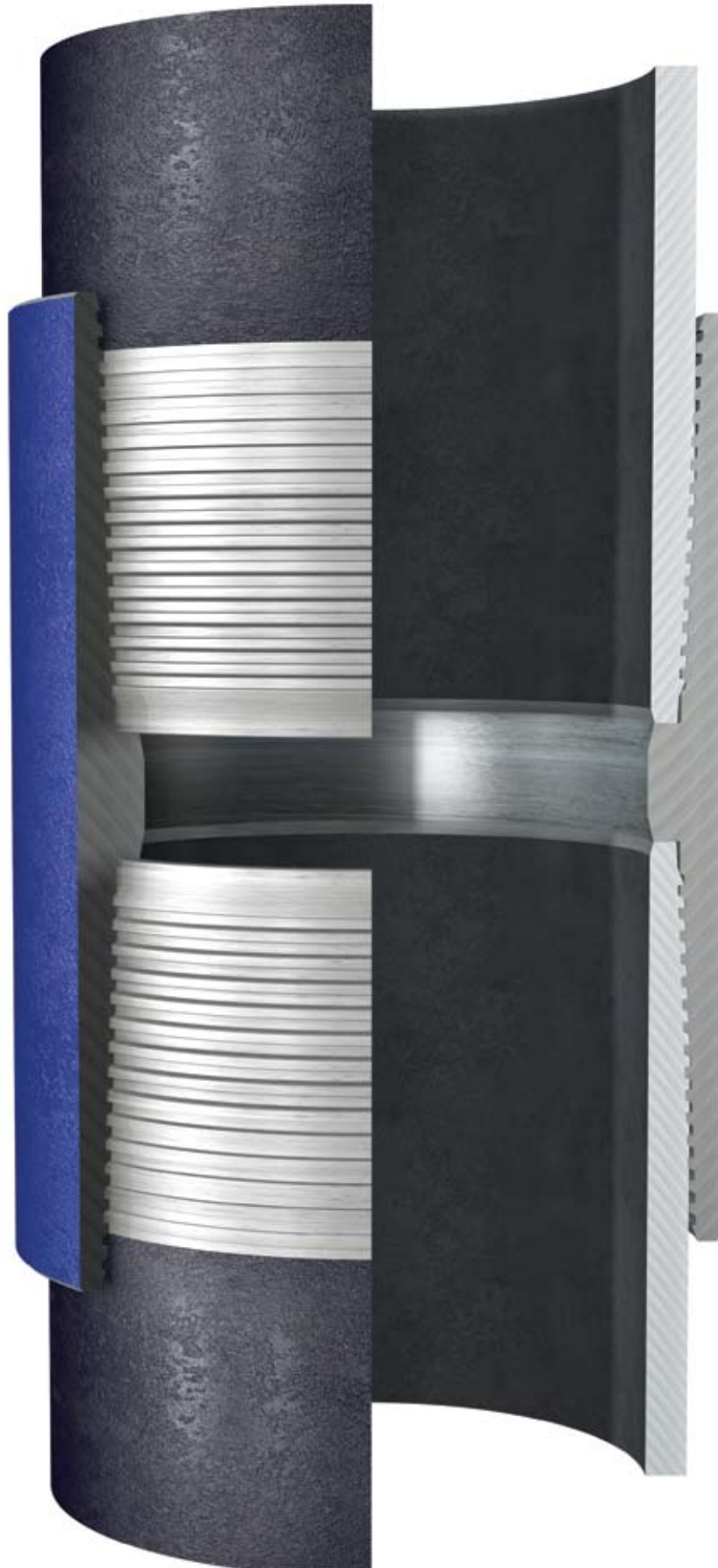
DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						SPECIAL CLEARANCE COUPLING			MATCHED STRENGTH
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter	Critical Section Area	Tensile Efficiency	Outside Diameter
in	lb/ft	in	in	in	in	in	in	in	sq in	%	%	x 1000 lb						in	sq in	%	in
9 7/8	62.80	0.625	8.625	8.469*	10.984	11.693	8.691	5.065	21.030	100	100	999	1453	1635	1725	1998	2270	10.654	15.410	85.0	10.858
	68.80		8.475	8.319*	10.984	11.693	8.593	5.065	21.030	100	100	1110	1614	1816	1917	2219	2522	10.756	17.132	85.0	—
	70.40	0.707	8.461	8.305*	10.984	11.693	8.608	5.065	21.030	100	100	1120	1629	1833	1934	2240	2545	10.768	17.332	85.0	—
	72.10	0.725	8.425	8.269*	11.031	11.693	8.573	5.065	21.847	100	100	1146	1667	1876	1980	2292	2605	10.791	17.732	85.0	—
10 3/4	40.50	0.350	10.050	9.894	11.575	11.693	9.966	5.065	16.807	100	100	629	915	1029	1086	1258	1429	11.217	10.394	91.0	11.303
	45.50	0.400	9.950	9.794	11.575	11.693	9.887	5.065	16.807	100	100	715	1040	1171	1236	1431	1626	11.256	11.089	85.0	11.394
	51.00	0.450	9.850	9.694	11.654	11.693	9.809	5.065	18.244	100	100	801	1165	1311	1383	1602	1820	11.327	12.346	85.0	11.484
	55.50	0.495	9.760	9.604*	11.693	11.693	9.754	5.065	18.966	100	100	877	1276	1435	1515	1754	1993	11.394	13.539	85.0	11.563
	60.70	0.545	9.660	9.504	11.748	11.693	9.694	5.065	19.980	100	100	961	1398	1573	1660	1922	2184	11.469	14.883	85.0	11.650
	65.70	0.595	9.560	9.404*	11.890	11.693	9.635	5.065	22.611	100	100	1044	1519	1708	1803	2088	2373	11.539	16.163	85.0	11.736
	73.20	0.672	9.406	9.250	11.929	11.693	9.558	5.065	23.348	100	100	1170	1702	1915	2021	2340	2660	11.646	18.099	85.0	11.862
	76.60	0.700	9.350	9.194	11.929	11.693	9.506	5.065	23.348	100	100	1216	1768	1989	2100	2431	2763	11.685	18.820	85.0	—
	79.20	0.734	9.282	9.126	11.984	11.693	9.454	5.065	24.383	100	100	1270	1848	2079	2194	2541	2887	11.728	19.617	85.0	—
11 3/4	54.00	0.435	10.880	10.724	12.752	11.693	10.950	5.065	21.702	100	100	850	1237	1392	1469	1701	1933	12.319	13.175	85.0	12.469
	60.00	0.489	10.772	10.616*	12.752	11.693	10.831	5.065	21.702	100	100	951	1384	1557	1643	1903	2162	12.398	14.703	85.0	12.567
	65.00	0.534	10.682	10.526*	12.752	11.693	10.753	5.065	21.702	100	100	1035	1505	1693	1788	2070	2352	12.465	16.010	85.0	12.646
	71.00	0.582	10.586	10.430	12.752	11.693	10.670	5.065	21.702	100	100	1123	1634	1838	1940	2246	2552	12.531	17.324	85.0	12.728
11 7/8	58.80	0.470	10.935	10.779	12.854	12.283	10.973	5.361	21.884	100	100	926	1347	1516	1600	1852	2105	12.472	14.288	85.0	12.638
	71.80	0.582	10.711	10.555*	12.854	12.283	10.879	5.361	21.884	100	100	1136	1652	1858	1962	2271	2581	12.638	17.549	85.0	12.835
13 3/8	54.50	0.380	12.615	12.459	14.173	13.031	12.520	5.719	20.906	100	100	853	1241	1396	1474	1706	1939	13.858	13.973	90.0	13.957
	61.00	0.430	12.515	12.359	14.173	13.031	12.442	5.719	20.906	100	100	962	1399	1574	1661	1924	2186	13.898	14.830	85.0	14.051
	68.00	0.480	12.415	12.259	14.252	13.031	12.371	5.719	22.664	100	100	1069	1556	1750	1847	2139	2431	13.976	16.556	85.0	14.142
	72.00	0.514	12.347	12.191*	14.252	13.031	12.312	5.719	22.664	100	100	1142	1661	1869	1973	2284	2596	14.028	17.681	85.0	14.205
	77.00	0.550	12.275	12.119	14.299	13.031	12.261	5.719	23.724	100	100	1219	1773	1994	2105	2438	2770	14.079	18.811	85.0	14.268
	80.70	0.580	12.215	12.059	14.354	13.031	12.221	5.719	24.964	100	100	1282	1865	2098	2215	2565	2914	14.122	19.770	85.0	14.323
	85.00	0.608	12.159	12.003	14.402	13.031	12.182	5.719	26.032	100	100	1341	1951	2195	2317	2682	3048	14.165	20.731	85.0	14.370
	86.00	0.625	12.125	11.969*	14.433	13.031	12.174	5.719	26.745	100	100	1377	2003	2253	2378	2754	3129	14.189	21.258	85.0	14.402
	98.00	0.719	11.937	11.781	14.598	13.031	12.150	5.719	30.515	100	100	1572	2287	2573	2716	3145	3573	14.323	24.256	85.0	14.563
13 5/8	88.20	0.625	12.375	12.187*	14.665	12.992	12.422	5.719	27.277	100	100	1404	2042	2297	2425	2808	3191	14.421	21.702	85.0	14.634

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift (Special Drift).
- ] Interchangeable where bracketed. Small variations in the connection Internal Diameter will appear. For make-up torque information, refer to TenarisHydriil Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- Compression efficiency for SC option is the same as the standard connection.
- For the MS option, the coupling OD is reduced to the minimum critical area capable of providing the same tensile efficiency as the standard option.



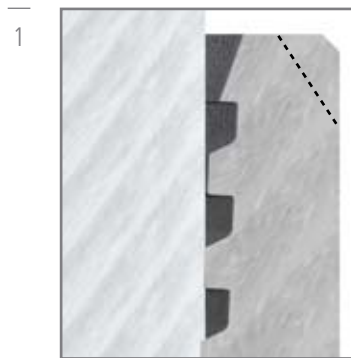
# Blue™ Thermal Liner (\*) | 2 3/8" TO 10 3/4"

Dopeless® technology available



(\*) TenarisHydril Blue™ Thermal Liner was formerly known as TenarisHydril Blue™ SAGD. They are completely interchangeable.





- Special bevel design option reduces potential problems for coupling face hang-up during running.



- Easy make-up is developed with the rugged, coarse pitch thread and steep taper for deep stabbing.



- Special coupling torque shoulder design provides high torque and compression capacity for rotating applications.

#### FEATURES

- Special design for slotted pipes to be used on heavy oil operations like SAGD and CSS.
- Fast and easy make-up that reduces cross-threading risk.

#### APPLICATIONS

- SAGD & CSS
- Geothermal

#### OPTIONS

- Dopeless®
- Matched strength
- Special clearance
- Special bevel



DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						SPECIAL CLEARANCE COUPLING			MATCHED STRENGTH
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter	Critical Section Area	Tensile Efficiency	Outside Diameter
in	lb/ft	in	in	in	in	in	in	in	sq in	%	%	x 1000 lb						in	sq in	%	in
2 3/8	4.60	]	0.190	1.995	1.901	6.319	1.937	2.520	1.817	100	100	72	104	117	124	143	163	2.661	1.243	95.3	2.673
	5.10		0.218	1.939	1.845	6.319	1.878	2.520	1.817	100	100	81	118	133	140	162	185	2.705	1.426	96.5	2.717
	5.80		0.254	1.867	1.773	6.319	1.827	2.520	1.817	100	100	93	135	152	161	186	212	2.744	1.595	94.2	2.764
2 7/8	6.40	]	0.217	2.441	2.347	6.949	2.382	2.835	2.441	100	100	100	145	163	172	199	227	3.181	1.645	90.8	3.213
	7.70		0.276	2.323	2.229	6.949	2.272	2.835	2.806	100	100	124	180	203	214	248	282	3.260	2.043	90.7	3.299
	8.60		0.308	2.259	2.165	6.949	2.209	2.835	2.806	100	100	137	199	224	236	273	310	3.299	2.246	90.4	3.343
3 1/2	9.20	]	0.254	2.992	2.867	8.051	2.939	3.386	2.834	100	100	142	207	233	246	285	324	3.839	2.354	90.9	3.874
	10.20		0.289	2.922	2.797	8.051	2.900	3.386	3.324	100	100	160	233	262	277	321	364	3.886	2.641	90.6	3.929
	12.70		0.375	2.750	2.625	8.051	2.853	3.386	4.204	100	100	169	246	277	292	338	385	3.996	3.323	90.3	4.051
4 1/2	10.50	]	0.224	4.052	3.927	9.311	4.016	4.016	3.952	100	100	166	241	271	286	331	376	4.764	2.754	91.5	4.795
	11.60		0.250	4.000	3.875	9.311	4.000	4.016	3.952	100	100	184	267	300	317	367	417	4.803	3.050	91.4	4.839
	12.60		0.271	3.958	3.833	9.311	3.921	4.016	3.952	100	100	198	288	324	342	396	450	4.835	3.289	91.4	4.874
	13.50		0.290	3.920	3.795	9.311	3.921	4.016	4.258	100	100	211	307	345	364	422	479	4.862	3.498	91.2	4.906
	15.10		0.337	3.826	3.701*	9.311	3.854	4.016	5.189	100	100	242	353	397	419	485	551	4.929	4.013	91.0	4.976
	17.00		0.380	3.740	3.615	9.311	3.827	4.016	5.189	100	100	271	393	443	467	541	615	4.988	4.473	90.9	5.043
	23.70		0.560	3.380	3.255	9.311	3.717	4.016	6.986	100	100	381	555	624	659	762	866	5.215	6.287	90.7	5.299
5 1/2	15.50	]	0.275	4.950	4.825	9.783	4.878	4.252	6.067	100	100	248	361	406	429	497	564	5.843	4.118	91.2	5.882
	17.00		0.304	4.892	4.767	9.783	4.827	4.252	6.067	100	100	273	397	447	471	546	620	5.886	4.517	91.0	5.933
	20.00		0.361	4.778	4.653	9.783	4.772	4.252	6.067	100	100	321	466	525	554	641	729	5.972	5.324	91.4	6.024
	23.00		0.415	4.670	4.545	9.783	4.705	4.252	6.972	100	100	365	530	597	630	729	829	6.047	6.030	90.9	6.106
	26.00		0.476	4.548	4.423*	9.783	4.681	4.252	8.085	100	100	413	601	676	714	826	939	6.130	6.820	90.8	6.201
	26.80		0.500	4.500	4.375	9.783	4.650	4.252	8.085	100	100	432	628	707	746	864	982	6.165	7.163	91.2	6.236
6 5/8	20.00	]	0.288	6.049	5.924	9.783	5.992	4.252	9.477	100	100	315	459	516	545	631	717	6.965	5.185	90.4	7.012
	24.00		0.352	5.921	5.796	9.783	5.870	4.252	9.477	100	100	382	555	624	659	763	867	7.063	6.268	90.4	7.122
	28.00		0.417	5.791	5.666	9.783	5.760	4.252	9.477	100	100	447	651	732	773	895	1017	7.157	7.324	90.1	7.228
	32.00		0.475	5.675	5.550	9.783	5.646	4.252	9.477	100	100	505	734	826	872	1010	1147	7.244	8.303	90.5	7.319
7	20.00	]	0.272	6.456	6.331	10.098	6.382	4.409	9.336	100	100	316	460	517	546	632	719	7.382	6.081	100	7.350
	23.00		0.317	6.366	6.241*	10.098	6.291	4.409	9.336	100	100	366	532	599	632	732	832	7.382	6.081	91.4	7.429
	26.00		0.362	6.276	6.151	10.098	6.209	4.409	9.336	100	100	415	604	679	717	830	944	7.453	6.907	91.5	7.504
	29.00		0.408	6.184	6.059	10.098	6.150	4.409	9.336	100	100	465	676	760	803	929	1056	7.520	7.694	91.1	7.583
	32.00		0.453	6.094	5.969*	10.098	6.039	4.409	10.050	100	100	512	745	839	885	1025	1165	7.583	8.441	90.6	7.654
	35.00		0.498	6.004	5.879	10.098	5.965	4.409	10.528	100	100	559	814	916	966	1119	1272	7.650	9.241	90.8	7.724
8 5/8	24.00	]	0.264	8.097	7.972	10.445	8.004	4.634	10.662	100	100	381	555	624	659	763	867	9.075	8.111	100	—
	28.00		0.304	8.017	7.892	10.445	7.968	4.634	10.662	100	100	437	636	715	755	874	993	9.075	8.111	100	9.067
	32.00		0.352	7.921	7.796*	10.445	7.925	4.634	10.662	100	100	503	732	823	869	1006	1144	9.075	8.111	88.7	9.150
	36.00		0.400	7.825	7.700	10.445	7.840	4.634	12.389	100	100	568	827	930	982	1137	1292	9.144	9.097	88.0	9.232
9 5/8	40.00	]	0.450	7.725	7.600*	10.445	7.791	4.634	12.389	100	100	636	925	1040	1098	1271	1445	9.219	10.176	88.0	9.315
	36.00		0.352	8.921	8.765	11.004	8.911	4.913	12.413	100	100	564	820	923	974	1128	1282	10.110	10.083	98.3	10.122
	40.00		0.395	8.835	8.679*	11.004	8.872	4.913	12.413	100	100	630	916	1031	1088	1260	1432	10.110	10.083	88.0	10.197
	43.50		0.435	8.755	8.599*	11.004	8.837	4.913	14.648	100	100	691	1005	1130	1193	1381	1570	10.171	11.055	88.0	10.268
	47.00		0.472	8.681	8.525	11.004	8.755	4.913	14.648	100	100	746	1086	1222	1289	1493	1697	10.226	11.938	88.0	10.331
10 3/4	53.50	]	0.545	8.535	8.379*	11.004	8.683	4.913	18.154	100	100	855	1244	1399	1477	1710	1943	10.335	13.687	88.0	10.449
	45.50		0.400	9.950	9.794*	11.949	9.965	5.386	15.445	100	100	715	1040	1171	1236	1431	1626	11.238	11.444	88.0	11.327
	51.00		0.450	9.850	9.694	11.949	9.920	5.386	15.445	100	100	801	1165	1311	1383	1602	1820	11.317	12.839	88.2	11.413
	55.50		0.495	9.760	9.604*	11.949	9.880	5.386	18.516	100	100	877	1276	1435	1515	1754	1993	11.384	14.032	88.0	11.492
	60.70		0.545	9.660	9.504	11.949	9.780	5.386	18.516	100	100	961	1398	1573	1660	1922	2184	11.459	15.374	88.0	11.575

• Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift (Special Drift).

• ] Interchangeable where bracketed. Small variations in the connection Internal Diameter will appear. For make-up torque information, refer to TenarisHydril Running Manual.

• Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).

• Compression efficiency for SC option is the same as the standard connection.

• For the MS option, the coupling OD is reduced to the minimum critical area capable of providing the same tensile efficiency as the standard option.



# Blue™ Near Flush | 5" TO 13 5/8"

Dopeless® technology available





1



- 100% external pressure integrity created by toroidal external metal to metal seals, promoting consistent seal contact loading for all combined-load conditions.

2



- Superior compression strength, up to 50%, obtained by optimized torque shoulder and controlled 20 degree stab flank reduced clearance.
- Hooked threads provide high tension strength, up to 78%, by resisting the tendency for radial disengagement, virtually eliminating thread jump-out.

3



- 100% internal pressure integrity created by toroidal internal metal to metal seals, promoting consistent seal contact loading for all combined-load conditions.

#### FEATURES

- Design for high performance, structural efficiency and maximum clearance. ISO 13679 CAL IV tested and field proven.
- Box OD only 2-3% larger than pipe body (1-2% larger than API maximum) permits use in clearance situations.

#### APPLICATIONS

- Production casing, tie-backs & liners
- HP/HT & deep wells

#### OPTIONS

- Dopeless®

Blue™ Near Flush | 5" TO 13 5/8"

DESIGNATION		PIPE BODY			BOX OUTSIDE DIAMETER	CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH					
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter							55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi
in	lb/ft	in	in	in	in	in	in	sq in	%	%	x 1000 lb					
5	18.00	0.362	4.276	4.151	5.146	4.217	4.839	3.796	72.0	50.0	209	304	342	361	418	475
5 1/2	23.00	0.415	4.670	4.545	5.650	4.618	4.685	4.707	71.0	40.0	259	377	424	447	518	588
7	26.00	0.362	6.276	6.151	7.169	6.228	5.339	5.531	73.0	40.0	304	442	498	525	608	691
	29.00	0.408	6.184	6.059	7.169	6.130	4.980	5.913	70.0	40.0	325	473	532	562	650	739
	32.00	0.453	6.094	6.000*	7.193	6.083	5.980	6.711	72.0	50.0	369	537	604	638	738	839
	35.00	0.498	6.004	5.879	7.209	5.953	5.732	7.833	77.0	50.0	431	627	705	744	862	979
	38.00	0.540	5.920	5.795	7.201	5.874	5.980	8.331	76.0	50.0	458	666	750	791	916	1041
	41.00	0.590	5.820	5.695	7.224	5.768	5.732	9.270	78.0	50.0	510	742	834	881	1020	1159
7 5/8	29.70	0.375	6.875	6.750	7.791	6.823	5.339	6.238	73.0	40.0	343	499	561	593	686	780
	33.70	0.430	6.765	6.640	7.803	6.713	5.480	7.191	74.0	50.0	396	575	647	683	791	899
	39.00	0.500	6.625	6.500	7.827	6.571	5.480	8.506	76.0	50.0	468	680	766	808	936	1063
	42.80	0.562	6.502	6.376	7.850	6.453	6.232	9.849	79.0	50.0	542	788	886	936	1083	1231
	45.30	0.595	6.435	6.310	7.854	6.390	6.232	10.248	78.0	50.0	564	820	922	974	1127	1281
	47.10	0.625	6.375	6.250	7.866	6.327	6.232	10.724	78.0	50.0	590	858	965	1019	1180	1341
7 3/4	46.10	0.595	6.560	6.500*	7.992	6.567	5.858	10.296	77.0	50.0	566	824	927	978	1133	1287
	48.60	0.640	6.470	6.375	8.004	6.445	6.480	11.296	79.0	50.0	621	904	1017	1073	1243	1412
8 5/8	36.00	0.400	7.825	7.700	8.799	7.780	5.539	7.752	75.0	50.0	426	620	698	736	853	969
	40.00	0.450	7.725	7.625*	8.815	7.705	5.480	8.552	74.0	50.0	470	684	770	812	941	1069
	44.00	0.500	7.625	7.500	8.831	7.583	5.732	9.828	77.0	50.0	541	786	885	934	1081	1229
	49.00	0.557	7.511	7.386	8.850	7.465	5.732	10.873	77.0	50.0	598	870	979	1033	1196	1359
	52.00	0.595	7.435	7.310	8.882	7.386	6.232	11.856	79.0	50.0	652	948	1067	1126	1304	1482
9 5/8	40.00	0.395	8.835	8.679	9.799	8.764	5.189	8.130	71.0	45.0	447	650	732	772	894	1016
	43.50	0.435	8.755	8.625*	9.819	8.709	4.980	9.043	72.0	40.0	497	723	814	859	995	1130
	47.00	0.472	8.681	8.525	9.827	8.606	5.732	10.316	76.0	50.0	567	825	928	980	1135	1290
	53.50	0.545	8.536	8.500*	9.878	8.567	5.890	11.970	77.0	50.0	658	958	1077	1137	1317	1496
	58.40	0.595	8.435	8.375*	9.870	8.453	5.980	12.995	77.0	50.0	715	1040	1170	1235	1429	1624
	64.90	0.672	8.281	8.125	9.909	8.209	6.480	14.744	78.0	50.0	811	1180	1327	1401	1622	1843
9 7/8	62.80	0.625	8.625	8.500*	10.110	8.579	5.980	13.989	77.0	50.0	769	1119	1259	1329	1539	1749
	65.30	0.650	8.575	8.419*	10.134	8.504	6.480	14.882	79.0	50.0	819	1191	1339	1414	1637	1860
	68.80	0.700	8.475	8.319*	10.154	8.402	6.232	15.537	77.0	50.0	855	1243	1398	1476	1709	1942
10	68.80	0.700	8.600	8.500	10.110	8.579	5.980	13.113	65.0	50.0	721	1049	1180	1246	1442	1639
10 3/4	51.00	0.450	9.850	9.694	10.941	9.783	5.732	10.775	74.0	50.0	593	862	970	1024	1185	1347
	55.50	0.495	9.760	9.625*	10.941	9.713	6.232	11.958	75.0	50.0	658	957	1076	1136	1315	1495
	60.70	0.545	9.660	9.504	10.980	9.579	5.453	13.451	77.0	50.0	740	1076	1211	1278	1480	1681
	65.70	0.595	9.560	9.500*	10.996	9.583	6.232	14.803	78.0	50.0	814	1184	1332	1406	1628	1850
11 3/4	54.00	0.435	10.880	10.724	11.965	10.807	5.480	11.753	76.0	50.0	646	940	1058	1117	1293	1469
	60.00	0.489	10.772	10.625*	11.988	10.709	5.980	13.147	76.0	50.0	723	1052	1183	1249	1446	1643
	65.00	0.534	10.682	10.625*	12.004	10.709	5.232	13.732	70.0	40.0	755	1099	1236	1305	1511	1717
	71.00	0.582	10.586	10.430	12.024	10.516	5.732	15.720	77.0	50.0	865	1258	1415	1493	1729	1965
11 7/8	71.80	0.582	10.711	10.625*	12.122	10.713	5.732	15.277	74.0	50.0	840	1222	1375	1451	1680	1910
13 3/8	61.00	0.430	12.515	12.359	13.579	12.449	5.339	12.938	74.0	50.0	712	1035	1164	1229	1423	1617
	68.00	0.480	12.415	12.259	13.606	12.343	5.480	14.582	75.0	50.0	802	1167	1312	1385	1604	1823
	72.00	0.514	12.346	12.250*	13.646	12.323	6.354	16.204	78.0	50.0	891	1296	1458	1539	1782	2026
	77.00	0.550	12.275	12.119	13.618	12.209	5.980	17.285	78.0	50.0	951	1383	1556	1642	1901	2161
	80.70	0.580	12.215	12.059	13.626	12.150	5.732	17.950	77.0	50.0	987	1436	1616	1705	1975	2244
	86.00	0.625	12.125	11.968*	13.626	12.059	5.480	18.782	75.0	50.0	1033	1503	1690	1784	2066	2348
13 5/8	88.20	0.625	12.375	12.250*	13.886	12.343	5.732	19.150	75.0	50.0	1053	1532	1724	1819	2107	2394

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift (Special Drift).
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).



# Wedge Series 500™

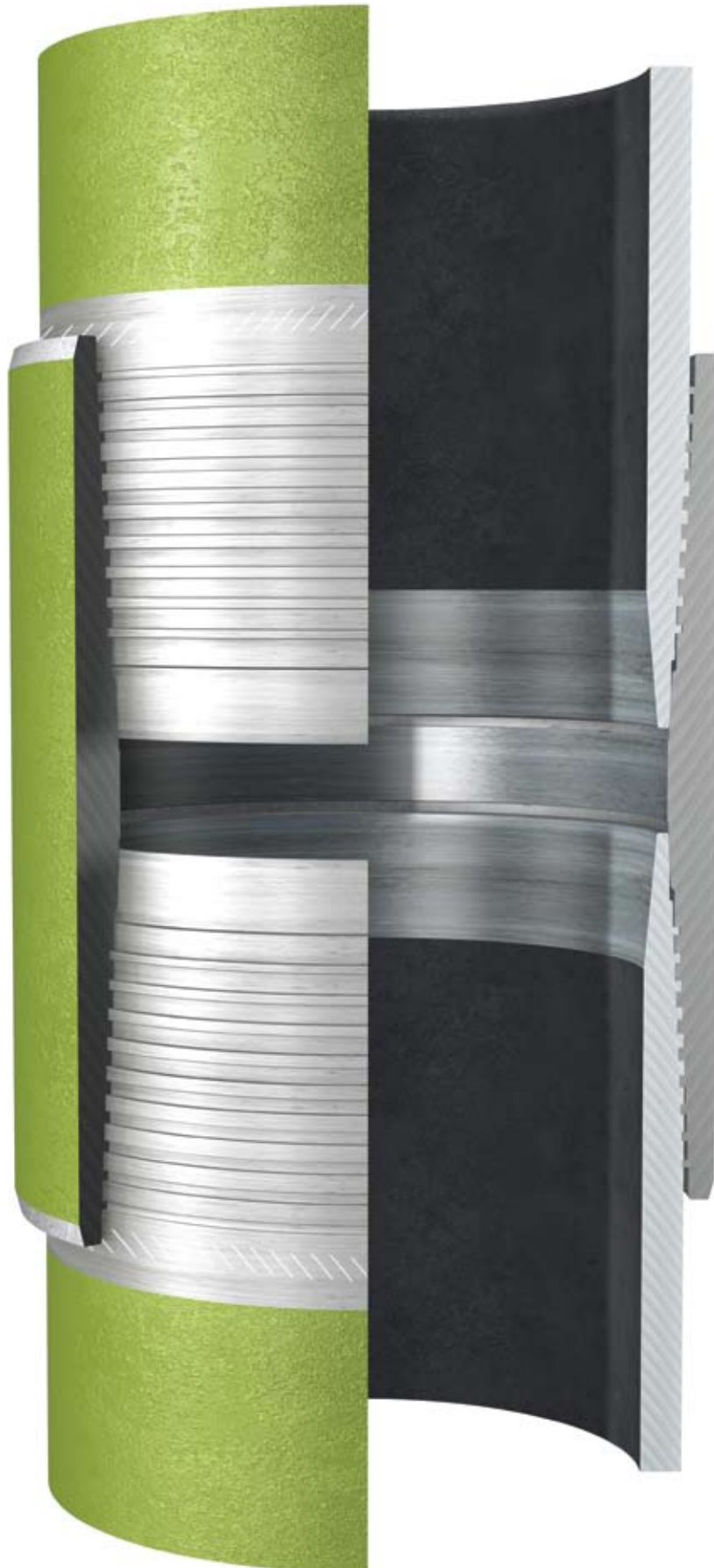
Wedge Series 500™

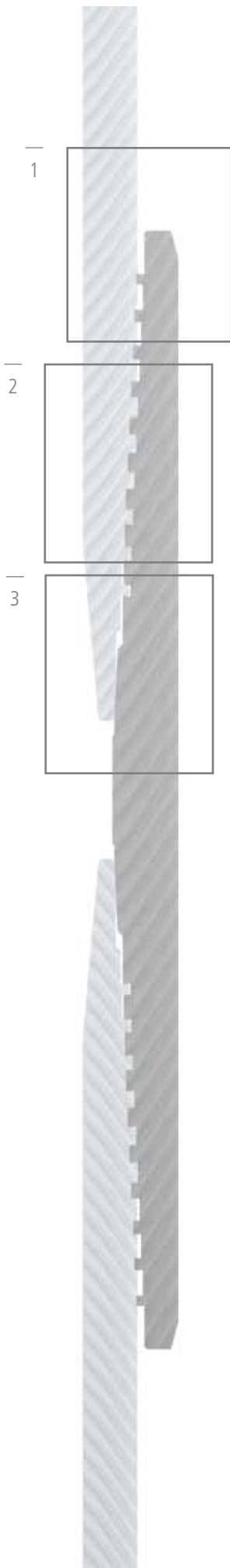




# Wedge 563™ Casing | 5" TO 16"

Dopeless® technology available





1



- Roller-stenciled make-up confirmation band.

2



- Easy make-up is developed with the rugged, coarse pitch thread and steep taper for deep stabbing.
- Exceptional torque strength developed through the simultaneous engagement of opposing flanks of the double hooked dovetail thread.

3



- 100% internal pressure rated metal seal maintains gas sealing capability under high axial loads.
- The shallow angle run out chamfer on the pin ID promotes uniform stress under the seal around the full circumference of the connection.

#### FEATURES

- 100% ratings in tension and compression provided by the dovetail threads.
- 100% collapse rated thread seal created by full form contact of the dovetail threads, also providing a secondary internal pressure seal rated at pipe body.
- Wedge 563™ is interchangeable with Wedge 533™, Wedge 503™ and Wedge 553™.

#### APPLICATIONS

- Surface & intermediate casing

- Production casing, tie-backs & liners
- Casing while drilling
- Horizontal & extended reach wells
- SAGD & CSS
- HP/HT & deep wells
- Shales
- Geothermal
- Corrosion protection & ID coating

#### OPTIONS

- Dopeless®
- Matched strength
- Recess free bore (RFB)
- CB ring

Wedge 563™ - Casing | 5" TO 9 7/8" (10 3/4" TO 16" on reverse side)

OPTIONS

DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						MATCHED STRENGTH		
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length					55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter		
in	lb/ft	in	in	in	in	in	in	in	%	%	x 1000 lb						in		
5	13.00	]	0.253	4.494	4.369	5.563	9.25	4.444	3.99	95.8	100	199	289	326	343	398	452	5.332	
	15.00		0.296	4.408	4.283	5.563	9.25	4.358	3.99	100	100	241	350	394	416	481	547	5.404	
	18.00	]	0.362	4.276	4.151	5.563	9.25	—	3.99	100	100	290	422	475	501	580	659	—	
	21.40		0.437	4.126	4.001	5.750	12.00	4.076	5.36	95.9	100	331	480	541	571	661	751	5.511	
	23.20		0.478	4.044	3.919	5.750	12.00	—	5.36	100	100	373	543	611	645	747	849	5.571	
	24.10		0.500	4.000	3.875	5.750	12.00	—	5.36	100	100	389	565	636	672	778	884	5.603	
5 1/2	14.00	]	0.244	5.012	4.887	6.050	9.25	4.962	3.99	95.4	100	212	307	346	365	423	481	5.820	
	15.50		0.275	4.950	4.825	6.050	9.25	4.900	3.99	100	100	248	361	406	429	497	564	5.873	
	17.00	]	0.304	4.892	4.767	6.050	9.25	4.842	3.99	100	100	273	397	447	471	546	620	5.921	
	20.00		0.361	4.778	4.653	6.050	9.25	—	3.99	100	100	321	466	525	554	641	729	—	
	23.00		0.415	4.670	4.545	6.050	9.25	—	3.99	100	100	365	530	597	630	729	829	—	
	26.00		0.476	4.548	4.423	6.125	9.75	4.498	4.30	100	100	413	601	676	714	826	939	6.057	
	26.80	]	0.500	4.500	4.375	6.125	9.75	4.450	4.30	100	100	432	628	707	746	864	982	—	
	28.40		0.530	4.440	4.315	6.125	9.75	4.390	4.30	100	100	455	662	745	786	910	1034	—	
	29.70	]	0.562	4.376	4.251	6.250	11.25	4.326	5.06	100	100	480	697	785	828	959	1090	6.085	
	32.60		0.625	4.250	4.125	6.250	11.25	—	5.06	100	100	526	766	861	909	1053	1197	6.174	
	6 5/8	20.00	]	0.288	6.049	5.924	7.390	9.25	5.999	4.05	95.7	100	301	439	494	522	604	686	7.012
		24.00		0.352	5.921	5.796	7.390	9.25	5.871	4.05	100	100	382	555	624	659	763	867	7.121
28.00		]	0.417	5.791	5.666	7.390	9.25	—	4.05	100	100	447	651	732	773	895	1017	7.227	
32.00			0.475	5.675	5.550	7.390	9.25	—	4.05	100	100	505	734	826	872	1010	1147	—	
7	20.00	]	0.272	6.456	6.331	7.656	9.25	6.406	4.05	95	100	300	437	491	519	600	683	7.371	
	23.00		0.317	6.366	6.241*	7.656	9.25	6.316	4.05	100	100	366	532	599	632	732	832	7.449	
	26.00	]	0.362	6.276	6.151	7.656	9.25	6.226	4.05	100	100	415	604	679	717	830	944	7.525	
	29.00		0.408	6.184	6.059	7.656	9.25	—	4.05	100	100	465	676	760	803	929	1056	—	
	32.00		0.453	6.094	5.969*	7.656	9.25	—	4.05	100	100	512	745	839	885	1025	1165	—	
	35.00		0.498	6.004	5.879	7.750	11.25	5.954	5.06	100	100	559	814	916	966	1119	1272	7.557	
	38.00	]	0.540	5.920	5.795	7.750	11.25	5.870	5.06	100	100	603	877	986	1041	1206	1370	7.623	
	41.00		0.590	5.820	5.695	7.750	11.25	—	5.06	100	100	653	950	1069	1129	1307	1485	—	
	42.70	]	0.625	5.750	5.625	7.750	11.25	—	5.06	100	100	688	1001	1127	1189	1377	1565	—	
	7 5/8	26.40	]	0.328	6.969	6.844	8.500	9.25	6.919	4.05	100	100	414	602	677	714	827	940	8.097
29.70		0.375		6.875	6.750	8.500	9.25	—	4.05	100	100	470	683	769	811	940	1068	8.177	
33.70		]	0.430	6.765	6.640	8.500	9.25	—	4.05	100	100	535	778	875	923	1069	1215	8.268	
39.00			0.500	6.625	6.500	8.500	11.25	6.575	5.06	100	100	616	895	1007	1063	1231	1399	8.216	
42.80			0.562	6.501	6.376	8.500	11.25	—	5.06	100	100	686	998	1122	1185	1372	1559	8.315	
45.30			0.595	6.435	6.310	8.500	11.25	—	5.06	100	100	723	1051	1183	1248	1445	1643	8.366	
55.30			0.750	6.125	6.000	8.500	13.50	—	6.17	100	100	891	1296	1458	1539	1782	2025	—	
7 3/4	46.10	]	0.595	6.560	6.435*	8.500	11.50	—	5.19	100	100	736	1070	1204	1271	1471	1672	8.413	
	48.60		0.640	6.470	6.345*	8.500	11.50	—	5.19	100	100	786	1144	1287	1358	1573	1787	—	
8 5/8	32.00	]	0.352	7.921	7.796*	9.625	9.25	7.938	4.05	100	100	503	732	823	869	1006	1144	9.143	
	36.00		0.400	7.825	7.700	9.625	9.25	—	4.05	100	100	568	827	930	982	1137	1292	9.225	
	40.00	]	0.450	7.725	7.600*	9.625	9.25	—	4.05	100	100	636	925	1040	1098	1271	1445	9.309	
	44.00		0.500	7.625	7.500	9.625	11.25	7.575	5.06	100	100	702	1021	1149	1212	1404	1595	9.226	
	49.00		0.557	7.511	7.386	9.625	11.25	—	5.06	100	100	776	1129	1271	1341	1553	1765	9.319	
	52.00		0.595	7.435	7.310	9.625	11.25	—	5.06	100	100	826	1201	1351	1426	1651	1876	9.379	
	54.00		0.625	7.375	7.250	9.625	11.25	—	5.06	100	100	864	1257	1414	1492	1728	1963	9.427	
	68.10		0.812	7.001	6.876	9.625	13.50	7.001	6.18	100	100	1096	1594	1794	1893	2192	2491	—	
9 5/8	36.00	]	0.352	8.921	8.765	10.625	9.25	8.871	4.05	100	100	564	820	923	974	1128	1282	10.147	
	40.00		0.395	8.835	8.679*	10.625	9.25	—	4.05	100	100	630	916	1031	1088	1260	1432	10.222	
	43.50	]	0.435	8.755	8.599	10.625	9.25	—	4.05	100	100	691	1005	1130	1193	1381	1570	10.291	
	47.00		0.472	8.681	8.525	10.625	9.25	—	4.05	100	100	746	1086	1222	1289	1493	1697	10.353	
	53.50		0.545	8.535	8.379*	10.625	9.25	—	4.05	100	100	855	1244	1399	1477	1710	1943	10.474	
9 7/8	62.80	]	0.625	8.625	8.469*	10.625	11.25	—	5.06	100	100	999	1453	1635	1725	1998	2270	—	
	65.10		0.650	8.575	8.419*	10.625	11.25	—	5.06	95.4	100	988	1438	1617	1707	1977	2246	—	

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift.
- ] Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- When no value is shown for "Connection ID", swaging is omitted and the ID is the pipe body ID.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- For the MS option, the coupling OD is reduced to the minimum critical area capable of providing the same tensile efficiency as the standard option.

Wedge 563™ - Casing | 10 3/4" TO 16"

OPTIONS

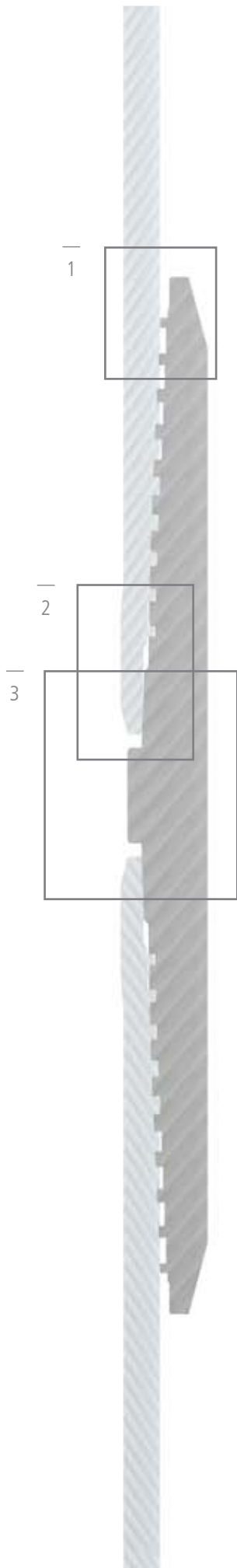
DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						MATCHED STRENGTH	
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length					55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter	
in	lb/ft	in	in	in	in	in	in	in	%	%	x 1000 lb						in	
10 3/4	40.50	]	0.350	10.050	9.894	11.750	10.00	10.000	4.45	100	100	629	915	1029	1086	1258	1429	11.252
	45.50		0.400	9.950	9.794*	11.750	10.00	—	4.45	100	100	715	1040	1171	1236	1431	1626	11.340
	51.00	]	0.450	9.850	9.694	11.750	10.00	—	4.45	100	100	801	1165	1311	1383	1602	1820	11.427
	55.50		0.495	9.760	9.604*	11.750	11.50	9.710	5.22	100	100	877	1276	1435	1515	1754	1993	11.334
	60.70	]	0.545	9.660	9.504	11.750	11.50	—	5.22	100	100	961	1398	1573	1660	1922	2184	11.420
	65.70		0.595	9.560	9.404*	11.750	11.50	—	5.22	100	100	1044	1519	1708	1803	2088	2373	11.503
	73.20	]	0.672	9.406	9.250	11.750	11.50	—	5.22	100	100	1170	1702	1915	2021	2340	2660	11.630
	79.20		0.734	9.282	9.126	11.750	13.00	—	6.06	100	100	1270	1848	2079	2194	2541	2887	—
11 3/4	47.00	]	0.375	11.000	10.844	12.750	10.00	—	4.45	100	100	737	1072	1206	1273	1474	1675	12.299
	54.00		0.435	10.880	10.724	12.750	10.00	—	4.45	100	100	850	1237	1392	1469	1701	1933	12.406
	60.00	]	0.489	10.772	10.616*	12.750	11.50	10.722	5.22	100	100	951	1384	1557	1643	1903	2162	12.363
	65.00		0.534	10.682	10.526*	12.750	11.50	—	5.22	100	100	1035	1505	1693	1788	2070	2352	12.441
	71.00	]	0.582	10.586	10.430	12.750	11.50	—	5.22	100	100	1123	1634	1838	1940	2246	2552	12.523
11 7/8	71.80		0.582	10.711	10.555*	12.750	11.50	—	5.22	100	100	1136	1652	1858	1962	2271	2581	—
13 3/8	54.50	]	0.380	12.615	12.459	14.375	11.50	12.540	5.17	100	100	853	1241	1396	1474	1706	1939	13.923
	61.00		0.430	12.515	12.359	14.375	11.50	12.440	5.17	100	100	962	1399	1574	1661	1924	2186	14.013
	68.00	]	0.480	12.415	12.259	14.375	11.50	—	5.17	100	100	1069	1556	1750	1847	2139	2431	14.102
	72.00		0.514	12.347	12.191*	14.375	11.50	—	5.17	100	100	1142	1661	1869	1973	2284	2596	14.162
	77.00	]	0.550	12.275	12.119	14.375	13.25	12.200	6.06	100	100	1219	1773	1994	2105	2438	2770	14.090
	80.70		0.580	12.215	12.059	14.375	13.25	12.140	6.06	100	100	1282	1865	2098	2215	2565	2914	14.142
	85.00	]	0.608	12.159	12.003	14.375	13.25	—	6.06	100	100	1341	1951	2195	2317	2682	3048	14.190
	86.00		0.625	12.125	11.969	14.375	13.25	—	6.06	100	100	1377	2003	2253	2378	2754	3129	14.219
13 1/2	81.40	]	0.580	12.340	12.152*	14.375	11.50	—	5.17	95.1	100	1232	1791	2015	2126	2463	2799	—
13 5/8	88.20		0.625	12.375	12.187*	14.625	13.25	—	6.06	100	100	1404	2042	2297	2425	2808	3191	14.470
16	95.00	]	0.566	14.868	14.750	17.000	13.25	14.832	6.06	100	100	1509	2196	2470	2607	3019	3430	—
	96.00		0.575	14.850	14.750	17.000	13.25	14.832	6.06	100	100	1533	2229	2508	2647	3065	3483	—
	109.00	]	0.656	14.688	14.500	17.000	13.25	—	6.06	100	100	1739	2530	2846	3004	3478	3953	—
	118.00		0.715	14.570	14.382	17.000	13.25	—	6.06	100	100	1888	2747	3090	3262	3777	4292	—

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift.
- ] Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- When no value is shown for "Connection ID", swaging is omitted and the ID is the pipe body ID.
- 13 1/2" 81.4 lb/ft is interchangeable with the 13 3/8" 54.50–72.00 lb/ft profile.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- For the MS option, the coupling OD is reduced to the minimum critical area capable of providing the same tensile efficiency as the standard option.

# Wedge 563™ Tubing | 2 3/8" TO 7"

Dopeless® technology available





1



- Easy make-up is developed with the rugged, coarse pitch thread and steep taper for deep stabbing.
- Roller-stenciled make-up confirmation band.
- Exceptional torque strength developed through the simultaneous engagement of opposing flanks of the double hooked dovetail thread.

2



- 100% internal pressure rated metal seal maintains gas sealing capability under high axial loads.
- The shallow angle run out chamfer on the pin ID promotes uniform stress under the seal around the full circumference of the connection.
- Flow stream continuity maintained with the recess-free streamlined ID configuration.

3



- Corrosion protection and ID coating possibility without reduction on performance properties.

#### FEATURES

- 100% ratings in tension and compression provided by the dovetail threads.
- 100% collapse rated thread seal created by full form contact of the dovetail threads, also providing a secondary internal pressure seal rated at pipe body.
- Wedge 563™ is interchangeable with Wedge 533™, Wedge 503™ and Wedge 553™.

#### APPLICATIONS

- Production tubing
- Workstring
- Corrosion protection & ID coating

#### OPTIONS

- Dopeless®
- Matched strength
- CB ring

Wedge 563™ - Tubing | 2 3/8" TO 5 1/2" (6 5/8" TO 7" on reverse side)

OPTIONS

DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						MATCHED STRENGTH
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length					55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter
in	lb/ft	in	in	in	in	in	in	in	%	%	x 1000 lb						in
2 3/8	4.60	0.190	1.995	1.901	2.875	8.25	1.945	3.64	95.1	100	68	99	111	118	136	155	2.657
	5.10	0.218	1.939	1.845	2.875	8.25	1.889	3.64	100	100	81	118	133	140	162	185	2.685
	5.80	0.254	1.867	1.773	2.875	8.25	1.817	3.64	100	100	93	135	152	161	186	212	2.737
	6.60	0.295	1.785	1.691	2.875	8.25	—	3.64	100	100	106	154	173	183	212	241	2.793
	7.35	0.336	1.703	1.609	2.875	8.25	—	3.64	100	100	118	172	194	204	237	269	—
2 7/8	6.40	0.217	2.441	2.347	3.500	8.25	2.391	3.64	100	100	100	145	163	172	199	227	3.192
	7.80	0.276	2.323	2.229	3.500	8.25	2.273	3.64	100	100	124	180	203	214	248	282	3.282
	8.60	0.308	2.259	2.165	3.500	8.25	—	3.64	100	100	137	199	224	236	273	310	3.328
	9.35	0.340	2.195	2.101	3.500	9.25	—	4.09	100	100	149	217	244	257	298	338	3.337
	10.50	0.392	2.091	1.997	3.500	9.25	—	4.09	100	100	168	245	275	290	336	382	3.405
3 1/2	11.50	0.440	1.995	1.901	3.500	9.25	—	4.09	100	100	185	269	303	320	370	421	3.464
	9.20	0.254	2.992	2.867	4.250	8.25	2.942	3.64	100	100	142	207	233	246	285	324	3.886
	10.20	0.289	2.922	2.797	4.250	8.25	2.872	3.64	100	100	160	233	262	277	321	364	3.941
	12.70	0.375	2.750	2.625	4.250	8.25	—	3.64	100	100	202	295	331	350	405	460	4.067
	14.30	0.430	2.640	2.515	4.250	10.00	—	4.49	100	100	228	332	373	394	456	518	4.100
4	15.50	0.476	2.548	2.423	4.250	10.00	—	4.49	100	100	249	362	407	430	497	565	4.160
	16.70	0.510	2.480	2.355	4.250	10.00	—	4.49	100	100	263	383	431	455	527	599	4.202
	17.00	0.530	2.440	2.315	4.250	10.00	—	4.49	100	100	272	396	445	470	544	618	—
	11.00	0.262	3.476	3.351	4.750	8.25	3.426	3.64	100	100	169	246	277	292	338	385	4.406
	11.60	0.286	3.428	3.303	4.750	8.25	3.378	3.64	100	100	184	267	300	317	367	417	4.444
4 1/2	13.20	0.330	3.340	3.215	4.750	8.25	—	3.64	100	100	209	304	342	361	419	476	4.513
	14.80	0.380	3.240	3.115	4.750	9.25	—	4.09	100	100	238	346	389	411	475	540	4.549
	16.10	0.415	3.170	3.045	4.750	9.25	—	4.09	100	100	257	374	421	444	514	584	4.599
	18.90	0.500	3.000	2.875	4.750	11.50	—	5.28	100	100	302	440	495	522	605	687	4.598
	21.10	0.562	2.876	2.751	4.750	11.50	—	5.28	100	100	334	486	546	577	668	759	4.679
4 1/2	22.20	0.610	2.780	2.655	4.750	11.50	—	5.28	100	100	357	520	585	617	715	812	—
	11.60	0.250	4.000	3.875	5.200	8.25	3.950	3.64	100	100	184	267	300	317	367	417	4.891
	12.60	0.271	3.958	3.833	5.200	8.25	3.908	3.64	100	100	198	288	324	342	396	450	4.926
	13.50	0.290	3.920	3.795	5.200	8.25	3.870	3.64	100	100	211	307	345	364	422	479	4.958
	15.20	0.337	3.826	3.701	5.200	9.25	—	4.09	100	100	242	353	397	419	485	551	4.992
5	17.00	0.380	3.740	3.615	5.200	9.25	—	4.09	100	100	271	393	443	467	541	615	5.058
	18.90	0.430	3.640	3.515	5.200	9.25	—	4.09	100	100	302	440	495	522	605	687	5.133
	21.50	0.500	3.500	3.375	5.200	11.50	—	5.28	100	100	346	503	565	597	691	785	5.114
	23.70	0.560	3.380	3.255	5.200	11.50	—	5.28	100	100	381	555	624	659	762	866	—
	26.10	0.630	3.240	3.115	5.300	11.50	—	5.28	100	100	421	613	689	728	843	957	—
5 1/2	15.00	0.296	4.408	4.283	5.563	9.00	4.358	3.99	100	100	241	350	394	416	481	547	5.404
	18.00	0.362	4.276	4.151	5.563	9.00	—	3.99	100	100	290	422	475	501	580	659	—
	21.40	0.437	4.126	4.001	5.750	12.00	4.076	5.36	95.9	100	331	480	541	571	661	751	5.511
	23.20	0.478	4.044	3.919	5.750	12.00	—	5.36	100	100	373	543	611	645	747	849	5.571
	24.10	0.500	4.000	3.875	5.750	12.00	—	5.36	100	100	389	565	636	672	778	884	5.603
5 1/2	15.50	0.275	4.950	4.825	6.050	9.00	4.900	3.99	100	100	248	361	406	429	497	564	5.873
	17.00	0.304	4.892	4.767	6.050	9.00	4.842	3.99	100	100	273	397	447	471	546	620	5.921
	20.00	0.361	4.778	4.653	6.050	9.00	—	3.99	100	100	321	466	525	554	641	729	—
	23.00	0.415	4.670	4.545	6.050	9.00	—	3.99	100	100	365	530	597	630	729	829	—
	26.00	0.476	4.548	4.423	6.125	9.75	4.483	4.30	100	100	413	601	676	714	826	939	6.057
5 1/2	26.80	0.500	4.500	4.375	6.125	9.75	4.435	4.30	100	100	432	628	707	746	864	982	—
	28.40	0.530	4.440	4.315	6.125	9.75	4.374	4.30	100	100	455	662	745	786	910	1034	—
	29.70	0.562	4.376	4.251	6.250	11.25	4.326	5.06	100	100	480	697	785	828	959	1090	6.085
	32.60	0.625	4.250	4.125	6.250	11.25	—	5.06	100	100	526	766	861	909	1053	1197	6.174

- ] Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- When no value is shown for “Connection ID”, swaging is omitted and the ID is the pipe body ID.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- For the MS option, the coupling OD is reduced to the minimum critical area capable of providing the same tensile efficiency as the standard option.



DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						MATCHED STRENGTH	
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length					55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter	
in	lb/ft	in	in	in	in	in	in	in	%	%	x 1000 lb						in	
6 5/8	24.00	]	0.352	5.921	5.796	7.390	9.25	5.871	4.05	100	100	382	555	624	659	763	867	7.121
	28.00		0.417	5.791	5.666	7.390	9.25	—	4.05	100	100	447	651	732	773	895	1017	7.227
	32.00		0.475	5.675	5.550	7.390	9.25	—	4.05	100	100	505	734	826	872	1010	1147	—
7	23.00	]	0.317	6.366	6.250	7.656	9.25	6.316	4.05	100	100	366	532	599	632	732	832	7.449
	26.00		0.362	6.276	6.151	7.656	9.25	6.226	4.05	100	100	415	604	679	717	830	944	7.525
	29.00		0.408	6.184	6.059	7.656	9.25	—	4.05	100	100	465	676	760	803	929	1056	—
	32.00		0.453	6.094	6.000	7.656	9.25	—	4.05	100	100	512	745	839	885	1025	1165	—
	35.00		0.498	6.004	5.879	7.750	11.25	5.954	5.06	100	100	559	814	916	966	1119	1272	7.557
	38.00		0.540	5.920	5.795	7.750	11.25	5.870	5.06	100	100	603	877	986	1041	1206	1370	7.623
	41.00		0.590	5.820	5.695	7.750	11.25	—	5.06	100	100	653	950	1069	1129	1307	1485	—
	42.70		0.625	5.750	5.625	7.750	11.25	—	5.06	100	100	688	1001	1127	1189	1377	1565	—

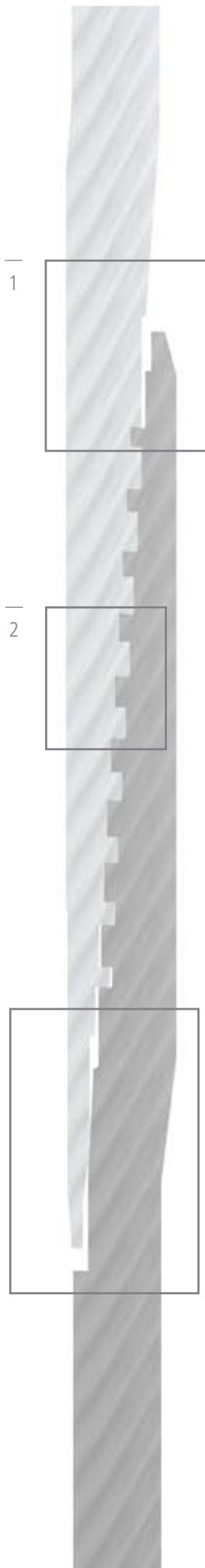
- ] [ Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- When no value is shown for “Connection ID”, swaging is omitted and the ID is the pipe body ID.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- For the MS option, the coupling OD is reduced to the minimum critical area capable of providing the same tensile efficiency as the standard option.



# Wedge 523™ | 7" TO 16"

Dopeless® technology available





1



- Clearance OD 1.5–2% of specified pipe body OD (0.5–1% larger than API maximum) for high clearance situations.

2



- Exceptional torque strength developed through the simultaneous engagement of opposing flanks of the dovetail thread.

3



- 100% internal pressure rated metal seal maintains gas sealing capability under high axial loads.
- Patented seal saver protects pin seal from handling damage and acts as a stiffener to improve metal seal functioning.

#### FEATURES

- 100% collapse rated thread seal created by full form contact of the dovetail threads, also providing a secondary internal pressure seal rated at pipe body.
- High compression rating provided by the reverse angle stab flank of the threads makes the Wedge 523™ suitable for the more severe compression applications. Compression strength exceeds tension strength.
- Wedge 523™ is interchangeable with Wedge 513™.

#### APPLICATIONS

- Surface & intermediate casing
- Production casing, tie-backs & liners
- Casing while drilling
- Horizontal & extended reach wells
- HP/HT & deep wells
- Shales

#### OPTIONS

- Dopeless®

Wedge 523™ | 7" TO 16"

DESIGNATION		PIPE BODY			BOX OUTSIDE DIAMETER	CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH					
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter							55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi
in	lb/ft	in	in	in	in	in	in	sq in	%	%	x 1000 lb					
7	29.00	0.408	6.184	6.059	7.129	6.093	4.07	6.041	71.5	82.6	332	483	544	574	665	755
	32.00	0.453	6.094	5.969*	7.153	6.034	4.70	6.811	73.0	84.2	375	545	613	647	749	851
	35.00	0.498	6.004	5.879	7.168	5.913	4.65	7.558	73.1	83.1	416	605	680	718	831	945
	38.00	0.540	5.920	5.795	7.182	5.829	5.46	8.143	74.3	86.4	448	651	733	774	896	1018
7 5/8	29.70	0.375	6.875	6.750	7.752	6.800	4.42	6.021	70.5	82.3	331	482	542	572	662	753
	33.70	0.430	6.765	6.640	7.775	6.675	4.06	7.057	72.6	82.7	388	565	635	670	776	882
	39.00	0.500	6.625	6.500	7.787	6.535	4.69	8.327	74.4	82.9	458	666	749	791	916	1041
	42.80	] ]	0.562	6.501	6.376	7.787	6.411	9.078	72.8	81.8	499	726	817	862	999	1135
	45.30		0.595	6.435	6.310	7.811	6.345	9.737	74.1	82.6	536	779	876	925	1071	1217
7 3/4	46.10	0.595	6.560	6.435*	7.937	6.535	5.49	9.616	71.9	80.5	529	769	865	914	1058	1202
8 5/8	40.00	0.450	7.725	7.600*	8.773	7.665	4.73	8.229	71.2	80.6	453	658	741	782	905	1029
9 5/8	47.00	0.472	8.681	8.525	9.784	8.566	4.75	9.948	74.8	84.0	547	796	895	945	1094	1244
	53.50	0.545	8.535	8.379*	9.834	8.541	5.56	11.457	73.7	82.8	630	917	1031	1088	1260	1432
	58.40	0.595	8.435	8.279	9.830	8.320	5.56	12.828	76.0	84.3	706	1026	1155	1219	1411	1604
9 7/8	62.80	] ]	0.625	8.625	8.469*	10.087	8.541	13.458	74.1	82.1	740	1077	1211	1279	1480	1682
	65.10		0.650	8.575	8.419*	10.087	8.541	13.458	71.4	79.2	740	1077	1211	1279	1480	1682
10	68.42	] ]	0.688	8.624	8.468*	10.150	8.541	13.465	66.9	74.1	741	1077	1212	1279	1481	1683
	68.80		0.700	8.600	8.500	10.175	8.541	13.478	65.9	72.9	741	1078	1213	1280	1483	1685
10 3/4	55.50	0.495	9.760	9.604*	10.922	9.665	4.75	11.211	70.3	78.8	617	897	1009	1065	1233	1401
	60.70	] ]	0.545	9.660	9.504	10.931	9.546	12.371	70.8	83.4	680	990	1113	1175	1361	1546
	65.70		0.595	9.560	9.404*	10.966	9.542	13.800	72.7	80.7	759	1104	1242	1311	1518	1725
11 3/4	60.00	] ]	0.489	10.772	10.616*	11.928	10.666	12.283	71.0	83.2	676	983	1105	1167	1351	1535
	65.00		0.534	10.682	10.526*	11.965	10.666	13.435	71.4	79.0	739	1075	1209	1276	1478	1679
11 7/8	71.80	0.582	10.711	10.555*	12.072	10.665	5.87	14.660	70.9	80.9	806	1173	1319	1393	1613	1833
12 3/4	88.00	0.672	11.406	11.250	13.000	11.291	5.69	19.022	74.6	82.2	1046	1522	1712	1807	2092	2378
13 3/8	68.00	] ]	0.480	12.415	12.259	13.564	12.303	13.456	69.2	81.9	740	1076	1211	1278	1480	1682
	72.00		0.514	12.347	12.191*	13.602	12.294	14.849	71.5	82.3	817	1188	1336	1411	1633	1856
13 5/8	88.20	0.625	12.375	12.187*	13.875	12.295	6.44	18.250	71.5	83.4	1004	1460	1643	1734	2008	2281
14	99.60	] ]	0.700	12.600	12.413	14.234	12.456	20.561	70.3	77.2	1131	1645	1850	1953	2262	2570
	104.20		0.734	12.532	12.345	14.241	12.388	21.841	71.4	78.0	1201	1747	1966	2075	2403	2730
	112.60	] ]	0.797	12.406	12.218*	14.253	12.293	24.430	73.9	82.9	1344	1954	2199	2321	2687	3054
	113.00		0.800	12.400	12.212*	14.253	12.293	24.483	73.8	82.7	1347	1959	2203	2326	2693	3060
16	95.00	] ]	0.566	14.868	14.750	16.224	14.793	19.375	70.6	82.5	1066	1550	1744	1841	2131	2422
	96.00		0.575	14.850	14.750	16.226	14.793	19.839	71.2	81.4	1091	1587	1786	1885	2182	2480
	102.90	] ]	0.625	14.750	14.562	16.235	14.605	22.310	73.9	82.6	1227	1785	2008	2119	2454	2789
	109.00		0.656	14.688	14.500*	16.241	14.643	22.831	72.2	79.5	1256	1826	2055	2169	2511	2854

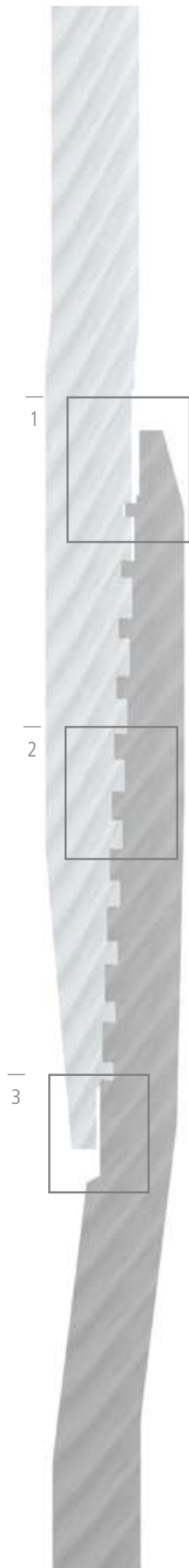
- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift.
- ] Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).



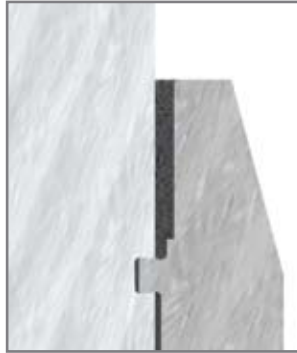
# Wedge 521™ | 4" TO 18 5/8"

Dopeless® technology available





1



- Roller-stenciled make-up confirmation band.

2



- Exceptional torque strength developed through the simultaneous engagement of opposing flanks of the dovetail thread, permitting washing and drilling operations.

3



- Rugged nose to improve stabbing resistance.

#### FEATURES

- Threads lubricant seal provides 100% pipe body internal yield and collapse strength.
- High compression rating provided by the reverse angle stab flank of the dovetail threads makes the Wedge 521™ suitable for the more severe compression applications. Compression rating is typically 80–89% of the pipe body, and is usually higher than the tension rating.
- Excellent for large diameter pipe, the dovetail thread eliminates thread pull-out, even on thin wall pipe.

#### APPLICATIONS

- Surface & intermediate casing
- Casing while drilling
- Horizontal & extended reach wells
- SAGD & CSS
- Geothermal

#### OPTIONS

- Dopeless®

Wedge 521™ | 4" TO 15" (16" TO 18 5/8" on reverse side)

DESIGNATION		PIPE BODY			BOX OUTSIDE DIAMETER	CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH					
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter							55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi
in	lb/ft	in	in	in	in	in	in	sq in	%	%	x 1000 lb					
4	9.50	0.226	3.548	3.423	4.103	3.457	3.62	1.646	61.4	83.6	91	132	148	156	181	206
	11.00	0.262	3.476	3.351	4.162	3.401	3.62	2.029	65.9	85.9	112	162	183	193	223	254
	11.60	0.286	3.428	3.303	4.200	3.353	3.62	2.284	68.4	86.9	126	183	206	217	251	286
4 1/2	10.50	0.224	4.052	3.927	4.651	3.976	3.62	1.821	60.5	82.6	100	146	164	173	200	228
	11.00	0.237	4.026	3.901	4.673	3.976	3.62	1.977	62.3	83.6	109	158	178	188	217	247
	11.60	0.250	4.000	3.875	4.695	3.960	3.62	2.141	64.1	84.8	118	171	193	203	236	268
	12.60	0.271	3.958	3.833	4.729	3.918	3.62	2.393	66.5	86.0	132	191	215	227	263	299
	13.50	0.290	3.920	3.795	4.759	3.880	3.62	2.617	68.2	86.7	144	209	236	249	288	327
5	13.00	0.253	4.494	4.369	5.185	4.444	3.62	2.431	64.4	84.4	134	194	219	231	267	304
	15.00	0.296	4.408	4.283	5.255	4.358	3.62	3.014	68.9	86.8	166	241	271	286	332	377
	18.00	0.362	4.276	4.151	5.359	4.226	3.62	3.891	73.8	88.7	214	311	350	370	428	486
5 1/2	14.00	0.244	5.012	4.887	5.660	4.947	3.62	2.552	63.3	83.5	140	204	230	242	281	319
	15.50	0.275	4.950	4.825	5.713	4.900	3.62	3.022	66.9	85.7	166	242	272	287	332	378
	17.00	0.304	4.892	4.767	5.761	4.842	3.62	3.453	69.6	87.0	190	276	311	328	380	432
	20.00	0.361	4.778	4.653	5.852	4.728	3.62	4.300	73.8	88.7	237	344	387	409	473	538
6 5/8	20.00	0.288	6.049	5.924	6.818	5.999	3.70	3.755	65.5	86.0	207	300	338	357	413	469
	24.00	0.352	5.921	5.796	6.925	5.871	3.70	4.924	71.0	88.3	271	394	443	468	542	616
	28.00	0.417	5.791	5.666	7.029	5.741	3.70	6.079	74.7	89.5	334	486	547	578	669	760
7	20.00	0.272	6.456	6.331	7.148	6.381	3.70	3.629	63.1	84.4	200	290	327	345	399	454
	23.00	0.317	6.366	6.241*	7.225	6.291	3.70	4.507	67.7	86.8	248	361	406	428	496	563
	26.00	0.362	6.276	6.151	7.300	6.201	3.70	5.373	71.2	88.0	296	430	484	510	591	672
	29.00	0.408	6.184	6.059	7.375	6.109	3.70	6.248	73.9	89.0	344	500	562	594	687	781
	32.00	0.453	6.094	5.969*	7.447	6.050	3.70	7.086	76.1	89.7	390	567	638	673	779	886
7 5/8	26.40	0.328	6.969	6.844	7.868	6.894	3.70	5.088	67.7	85.8	280	407	458	483	560	636
	29.70	0.375	6.875	6.750	7.947	6.800	3.70	6.080	71.2	87.5	334	486	547	578	669	760
	33.70	0.430	6.765	6.640	8.037	6.690	3.70	7.220	74.3	88.6	397	578	650	686	794	903
8 5/8	32.00	0.352	7.921	7.796*	8.889	7.924	3.70	6.234	68.1	83.9	343	499	561	592	686	779
	36.00	0.400	7.825	7.700	8.970	7.750	3.70	7.384	71.4	86.7	406	591	665	701	812	923
	40.00	0.450	7.725	7.600*	9.053	7.674	3.70	8.572	74.2	87.8	471	686	771	814	943	1072
9 5/8	36.00	0.352	8.921	8.765	9.883	8.846	3.70	6.841	66.7	83.7	376	547	616	650	753	855
	40.00	0.395	8.835	8.679*	9.957	8.799	3.70	8.012	70.0	85.4	441	641	721	761	881	1002
	43.50	0.435	8.755	8.599	10.025	8.680	3.70	9.083	72.3	86.4	500	727	817	863	999	1135
	47.00	0.472	8.681	8.525	10.087	8.606	3.70	10.052	74.1	87.1	553	804	905	955	1106	1257
10 3/4	40.50	0.350	10.050	9.894	10.863	9.975	4.14	7.231	63.2	78.1	398	578	651	687	795	904
	45.50	0.400	9.950	9.794*	10.950	9.926	4.14	8.651	66.5	78.9	476	692	779	822	952	1081
	51.00	0.450	9.850	9.694	11.037	9.775	4.14	10.247	70.4	82.1	564	820	922	973	1127	1281
	55.50	0.495	9.760	9.604*	11.010	9.685	4.97	11.463	71.9	84.5	630	917	1032	1089	1261	1433
	60.70	0.545	9.660	9.504	11.094	9.585	4.97	12.937	74.0	85.6	712	1035	1164	1229	1423	1617
	65.70	0.595	9.560	9.404*	11.177	9.551	4.97	14.370	75.7	85.3	790	1150	1293	1365	1581	1796
11 3/4	47.00	0.375	11.000	10.844	11.892	10.925	4.14	8.577	64.0	78.3	472	686	772	815	943	1072
	54.00	0.435	10.880	10.724	11.998	10.805	4.14	10.586	68.5	80.7	582	847	953	1006	1164	1323
	60.00	0.489	10.772	10.616*	11.928	10.687	4.97	12.205	70.6	82.5	671	976	1098	1159	1343	1526
	65.00	0.534	10.682	10.526*	11.965	10.676	4.97	13.198	70.1	80.8	726	1056	1188	1254	1452	1650
13 3/8	54.50	0.380	12.615	12.459	13.531	12.540	4.65	9.461	61.0	81.9	520	757	851	899	1041	1183
	61.00	0.430	12.515	12.359	13.620	12.440	4.65	11.362	65.0	83.8	625	909	1023	1079	1250	1420
	68.00	0.480	12.415	12.259	13.707	12.340	4.65	13.254	68.2	85.1	729	1060	1193	1259	1458	1657
	72.00	0.514	12.347	12.191*	13.766	12.317	4.65	14.537	70.0	85.8	800	1163	1308	1381	1599	1817
	77.00	0.550	12.275	12.119	13.686	12.200	5.60	15.587	70.3	85.7	857	1247	1403	1481	1715	1948
13 1/2	81.40	0.580	12.340	12.152*	13.940	12.315	5.60	16.793	71.3	87.3	924	1343	1511	1595	1847	2099
13 5/8	88.20	0.625	12.375	12.187*	13.940	12.305	5.60	18.708	73.3	86.9	1029	1497	1684	1777	2058	2339
15	77.50	0.500	14.000	13.812	15.149	13.875	4.65	15.041	66.0	78.0	827	1203	1354	1429	1655	1880

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift.
- ] Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).

Wedge 521™ | 16" TO 18 5/8"

DESIGNATION		PIPE BODY			BOX OUTSIDE DIAMETER	CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter							55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	
in	lb/ft	in	in	in	in	in	in	sq in	%	%	x 1000 lb						
16	75.00	]	0.438	15.124	14.936	16.155	15.049	4.65	14.058	65.6	80.3	773	1125	1265	1336	1546	1757
	84.00		0.495	15.010	14.822	16.257	14.935	4.65	16.644	69.0	82.2	915	1332	1498	1581	1831	2081
	95.00	]	0.566	14.868	14.750	16.397	14.809	4.65	19.876	72.4	84.0	1093	1590	1789	1888	2186	2485
	96.00		0.575	14.850	14.750	16.397	14.809	4.65	20.296	72.8	84.1	1116	1624	1827	1928	2233	2537
	109.00	]	0.656	14.688	14.500	16.465	14.613	5.60	23.487	74.3	88.4	1292	1879	2114	2231	2584	2936
	118.00		0.715	14.570	14.382	16.566	14.495	5.60	26.116	76.1	89.1	1436	2089	2350	2481	2873	3265
16 1/8	95.60		0.566	14.993	14.805	16.427	14.864	4.65	19.645	71.0	81.5	1080	1572	1768	1866	2161	2456
17	77.50	]	0.438	16.124	15.936*	17.197	16.067	4.65	14.950	65.6	80.7	822	1196	1346	1420	1645	1869
	88.10		0.500	16.000	15.812	17.308	15.925	4.65	17.967	69.3	82.6	988	1437	1617	1707	1976	2246
17 7/8	93.50	]	0.500	16.875	16.687	18.000	16.843	4.65	17.254	63.2	79.3	949	1380	1553	1639	1898	2157
	105.00		0.562	16.751	16.563	18.000	16.628	5.60	19.942	65.2	77.4	1097	1595	1795	1894	2194	2493
	121.00		0.650	16.575	16.500*	18.020	16.565	5.60	22.815	64.9	75.5	1255	1825	2053	2167	2510	2852
18	94.00	]	0.500	17.000	16.812	18.060	16.883	4.65	17.699	64.4	75.4	973	1416	1593	1681	1947	2212
	105.00		0.562	16.876	16.688	18.135	16.759	4.65	20.978	68.1	78.0	1154	1678	1888	1993	2308	2622
18 5/8	87.50	]	0.435	17.755	17.567	18.854	17.638	4.65	16.223	65.3	83.1	892	1298	1460	1541	1785	2028
	94.50		0.460	17.705	17.517	18.899	17.588	4.65	17.580	67.0	84.0	967	1406	1582	1670	1934	2198
	100.00	]	0.500	17.625	17.500	18.971	17.571	4.65	19.709	69.2	85.4	1084	1577	1774	1872	2168	2464
	101.00		0.510	17.605	17.500	18.989	17.571	4.65	20.243	69.7	85.7	1113	1619	1822	1923	2227	2530
	109.35	]	0.563	17.499	17.311	18.948	17.387	5.60	22.588	70.7	86.9	1242	1807	2033	2146	2485	2824
	112.00		0.579	17.467	17.279	18.976	17.355	5.60	23.445	71.4	87.3	1289	1876	2110	2227	2579	2931

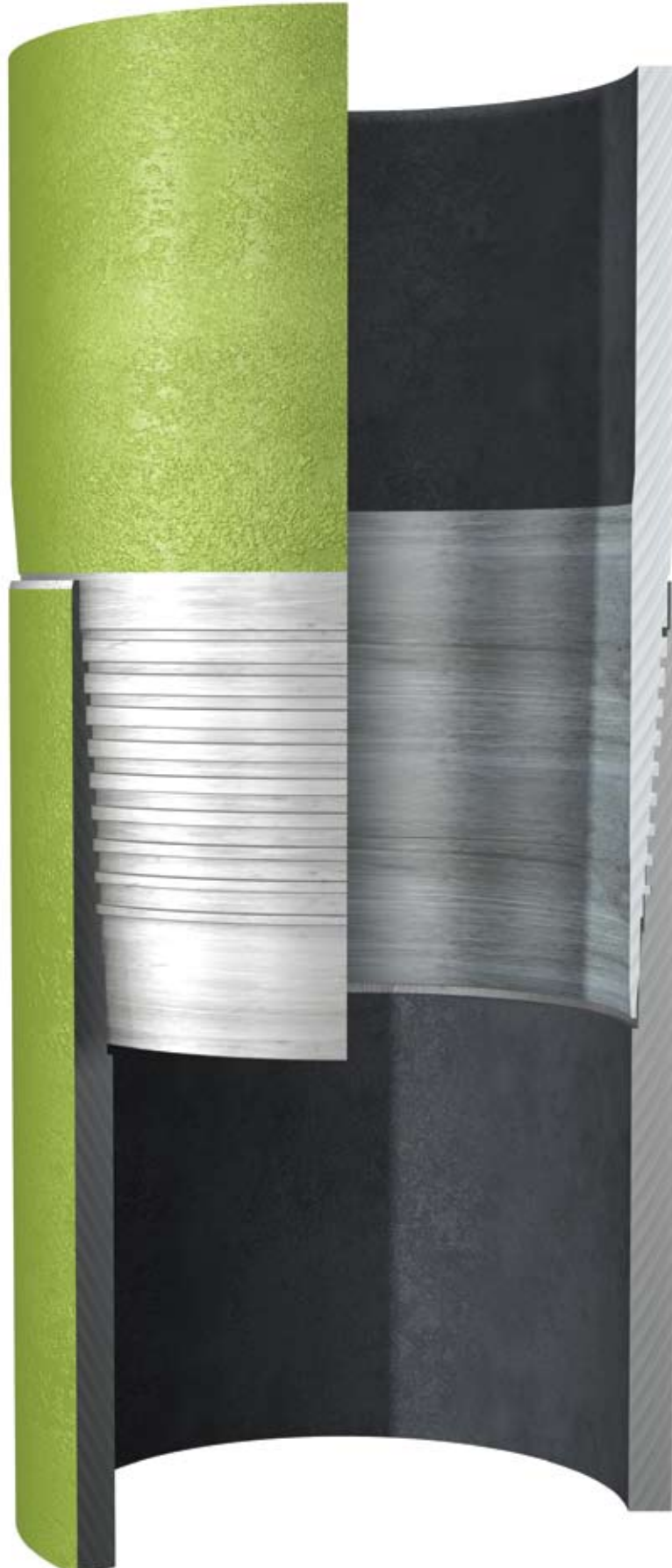
- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift.
- ] interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- 16 1/8" 95.60 lb/ft is interchangeable with 16" 75.00–96.00 lb/ft.
- 17 7/8" 93.50 lb/ft is interchangeable with 18" 94.00–105.00 lb/ft.
- 17 7/8" 105.00 lb/ft and 17 7/8" 121.00 lb/ft are interchangeable with 18" 117.00 lb/ft Wedge 511™, 18" 119 lb/ft Wedge 511™ and 18" 128.00 lb/ft Wedge 511™.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).



# Wedge 513™

4 1/2" TO 16"

Dopeless® technology available

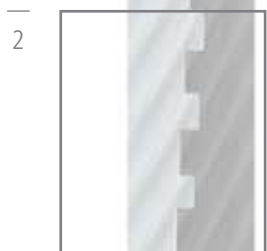




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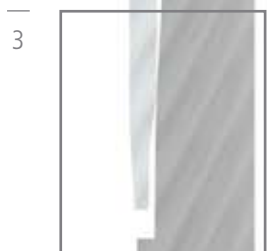
- Flush OD connection facilitates running and circulating and eliminates down hole coupling face hang-up. Boxes machined onto as-received pipe ends.



2



- Exceptional torque strength developed through the simultaneous engagement of opposing flanks of the dovetail thread, permitting washing and drilling operations.



3



- 100% internal pressure rated metal seal maintains gas sealing capability under high axial loads.
- The shallow angle run out chamfer on the pin ID promotes uniform stress under the seal around the full circumference.

#### FEATURES

- High compression rating provided by the reverse angle stab flank of the dovetail threads makes the Wedge 513™ suitable for all liner applications. Compression strength exceeds tension strength.
- Wedge 513™ is interchangeable with Wedge 523™.

#### APPLICATIONS

- Surface & intermediate casing
- Production casing, tie-backs & liners
- Casing while drilling
- Production tubing
- Horizontal & extended reach wells
- HP/HT & deep wells
- Shales

#### OPTIONS

- Dopeless®

Wedge 513™ | 4 1/2" TO 16"

DESIGNATION		PIPE BODY			CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH					
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi
in	lb/ft	in	in	in	in	in	sq in	%	%	x 1000 lb					
4 1/2	11.60	0.250	4.000	3.875	3.918	3.43	2.066	61.9	71.2	114	165	186	196	227	258
	12.60	0.271	3.958	3.833	3.876	3.43	2.261	62.8	71.7	124	181	203	215	249	283
	13.50	0.290	3.920	3.795	3.838	3.73	2.290	59.7	72.6	126	183	206	218	252	286
	15.10	0.337	3.826	3.701	3.744	4.30	2.781	63.1	74.1	153	222	250	264	306	348
	16.60	]	0.375	3.750	3.625	3.668	3.144	64.7	76.6	173	252	283	299	346	393
	17.00		0.380	3.740	3.615	3.658	3.177	64.6	76.6	175	254	286	302	349	397
	18.80		0.430	3.640	3.515	3.558	3.458	62.9	73.5	190	277	311	329	380	432
	21.50		0.500	3.500	3.375	3.418	3.952	62.9	72.0	217	316	356	375	435	494
5	15.00	0.296	4.408	4.283	4.327	3.75	2.629	60.1	72.4	145	210	237	250	289	329
	18.00	0.362	4.276	4.151	4.194	4.32	3.360	63.7	73.7	185	269	302	319	370	420
	21.40	0.437	4.126	4.001	4.045	4.39	3.915	62.5	72.8	215	313	352	372	431	489
	23.20	]	0.478	4.044	3.919	3.963	4.251	62.6	71.7	234	340	383	404	468	531
	24.10		0.500	4.000	3.875	3.919	4.369	61.8	70.7	240	350	393	415	481	546
	26.70		0.562	3.876	3.751	3.795	5.031	64.2	72.1	277	402	453	478	553	629
5 1/2	17.00	0.304	4.892	4.767	4.813	3.78	3.116	62.8	74.4	171	249	280	296	343	390
	20.00	0.361	4.778	4.653	4.698	4.35	3.718	63.8	73.9	204	297	335	353	409	465
	23.00	0.415	4.670	4.545	4.590	4.42	4.210	63.5	74.1	232	337	379	400	463	526
	26.00	0.476	4.548	4.423*	4.468	4.05	4.771	63.5	72.8	262	382	429	453	525	596
7	26.00	0.362	6.276	6.151	6.199	4.36	4.711	62.4	72.3	259	377	424	448	518	589
	29.00	0.408	6.184	6.059	6.093	4.07	5.196	61.5	75.8	286	416	468	494	572	650
	32.00	0.453	6.094	5.969*	6.034	4.70	5.935	63.7	76.7	326	475	534	564	653	742
	35.00	0.498	6.004	5.879	5.913	4.65	6.286	61.8	73.6	346	503	566	597	691	786
	38.00	0.540	5.920	5.795	5.829	5.46	6.893	62.9	75.4	379	551	620	655	758	862
7 5/8	29.70	0.375	6.875	6.750	6.800	4.42	5.125	60.0	75.2	282	410	461	487	564	641
	33.70	0.430	6.765	6.640	6.675	4.06	5.813	59.8	73.4	320	465	523	552	639	727
	39.00	0.500	6.625	6.500	6.535	4.69	6.939	62.0	73.8	382	555	625	659	763	867
	42.80	]	0.562	6.501	6.376	6.411	8.168	65.5	77.4	449	653	735	776	898	1021
	45.30		0.595	6.435	6.310	6.345	8.161	62.1	73.4	449	653	734	775	898	1020
7 3/4	46.10	0.595	6.560	6.435*	6.535	5.49	8.131	60.8	72.2	447	650	732	772	894	1016
8 5/8	40.00	0.450	7.725	7.600*	7.665	4.73	7.154	58.9	73.2	393	572	644	680	787	894
9 3/8	39.00	0.400	8.575	8.419*	8.540	4.47	6.643	58.9	73.2	365	531	598	631	731	830
9 5/8	47.00	0.472	8.681	8.525	8.566	4.75	8.374	61.7	74.3	461	670	754	796	921	1047
	53.50	0.545	8.535	8.379*	8.541	5.56	9.405	60.5	72.9	517	752	846	893	1035	1176
	58.40	0.595	8.435	8.279	8.320	5.56	10.617	62.9	74.3	584	849	956	1009	1168	1327
9 7/8	62.80	]	0.625	8.625	8.469*	8.541	11.369	62.6	73.4	625	910	1023	1080	1251	1421
	65.10		0.650	8.575	8.419*	8.541	11.369	60.4	70.8	625	910	1023	1080	1251	1421
10	68.42	]	0.688	8.624	8.468*	8.541	12.821	63.7	73.5	705	1026	1154	1218	1410	1603
	68.80		0.700	8.600	8.500	8.541	12.823	62.7	72.3	705	1026	1154	1218	1411	1603
10 3/4	55.50	0.495	9.760	9.604*	9.665	4.75	9.712	60.9	73.2	534	777	874	923	1068	1214
	60.70	]	0.545	9.660	9.504	9.546	11.602	66.4	79.0	638	928	1044	1102	1276	1450
	65.70		0.595	9.560	9.404*	9.542	11.598	61.1	72.7	638	928	1044	1102	1276	1450
11 3/4	60.00	]	0.489	10.772	10.616*	10.666	11.366	65.7	78.1	625	909	1023	1080	1250	1421
	65.00		0.534	10.682	10.526*	10.666	11.365	60.4	71.8	625	909	1023	1080	1250	1421
11 7/8	71.80	0.582	10.711	10.555*	10.665	5.87	12.760	61.8	74.5	702	1021	1148	1212	1404	1595
12 3/4	88.00	0.672	11.406	11.250*	11.291	5.69	15.987	62.7	73.0	879	1279	1439	1519	1759	1998
13 3/8	68.00	]	0.480	12.415	12.259	12.303	12.348	63.5	75.9	679	988	1111	1173	1358	1544
	72.00		0.514	12.347	12.191*	12.294	12.897	62.1	73.7	709	1032	1161	1225	1419	1612
13 5/8	88.20	0.625	12.375	12.187*	12.295	6.44	15.341	60.1	74.5	844	1227	1381	1457	1688	1918
14	99.60	]	0.700	12.600	12.413	12.456	19.304	66.0	75.8	1062	1544	1737	1834	2123	2413
	104.20		0.734	12.532	12.345	12.388	19.302	63.1	72.5	1062	1544	1737	1834	2123	2413
	112.60	]	0.797	12.406	12.218*	12.293	20.694	62.6	74.1	1138	1656	1862	1966	2276	2587
	113.00		0.800	12.400	12.212*	12.293	21.332	64.3	75.8	1173	1707	1920	2027	2347	2667
16	95.00	]	0.566	14.868	14.680	14.793	17.454	63.6	76.7	960	1396	1571	1658	1920	2182
	96.00		0.575	14.850	14.662	14.793	17.443	62.6	75.5	959	1395	1570	1657	1919	2180
	102.90	]	0.625	14.750	14.562	14.605	18.959	62.8	73.9	1043	1517	1706	1801	2085	2370
	109.00		0.656	14.688	14.500*	14.643	19.795	62.6	73.2	1089	1584	1782	1881	2177	2474

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift.
- ] Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).

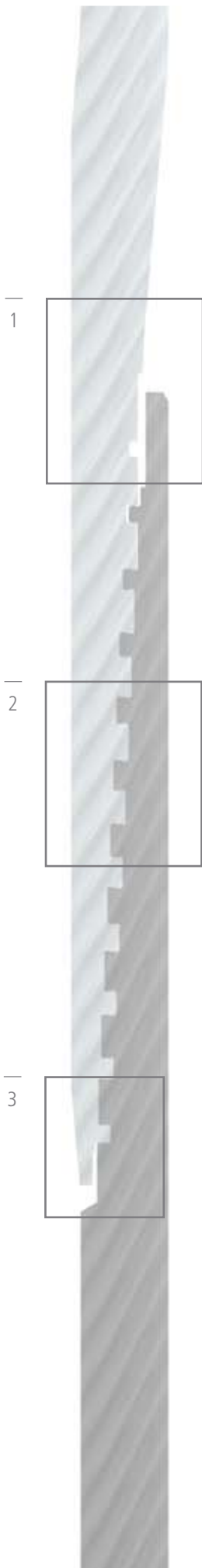


# Wedge 511™

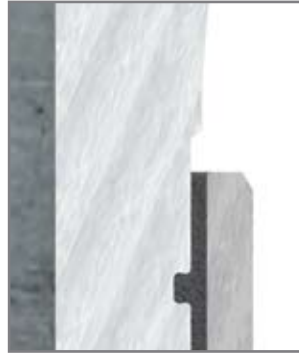
2 1/16" TO 18 5/8"

Dopeless® technology available



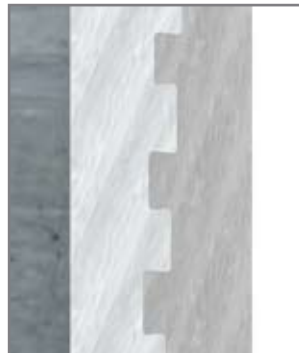


1



- Flush OD connection facilitates running and circulating and eliminates down hole coupling face hang-up.

2



- Exceptional torque strength developed through the simultaneous engagement of opposing flanks of the dovetail thread, permitting rotating and wash over in deviated holes without fear of structural failure.

3



- Stabbing resistance of the pin end face is maintained with the swaged, stress relieved and machined ID to receive a standard drift.

#### FEATURES

- High compression rating provided by the reverse angle stab flank of the dovetail threads makes the Wedge 511™ suitable for use as slotted liners in geothermal and steam injection service. Compression strength exceeds tension strength.
- 100% pipe body collapse strength created with the lubricant seal of the dovetail threads.

#### APPLICATIONS

- Surface & intermediate casing
- Casing while drilling
- Workstrings
- Horizontal & extended reach wells
- SAGD & CSS
- Geothermal

#### OPTIONS

- Dopeless®

Wedge 511™ | 2 1/16" TO 10 3/4" (11 3/4" TO 18 5/8" on reverse side)

DESIGNATION		PIPE BODY			CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH					
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi
in	lb/ft	in	in	in	in	in	sq in	%	%	x 1000 lb					
2 1/16	3.25 <sup>(1)</sup>	0.156	1.751	1.657	1.686	2.27	0.564	60.3	81.6	31	45	51	54	62	71
	4.50 <sup>(1)</sup>	0.225	1.613	1.519	1.548	2.27	0.788	60.7	73.6	43	63	71	75	87	99
2 3/8	4.60 <sup>(2)</sup>	0.190	1.995	1.901	1.930	2.27	0.781	59.9	75.0	43	62	70	74	86	98
	5.10 <sup>(2)</sup>	0.218	1.939	1.845	1.887	2.27	0.899	60.9	75.0	49	72	81	85	99	112
2 7/8	6.40	0.217	2.441	2.347	2.377	2.27	0.996	55.0	67.8	55	80	90	95	110	125
3 1/2	7.70	0.216	3.068	2.943	2.973	2.74	1.227	55.1	67.9	67	98	110	117	135	153
	9.20	0.254	2.992	2.867	2.897	2.74	1.578	60.9	72.0	87	126	142	150	174	197
	10.20	0.289	2.922	2.797	2.827	2.74	1.760	60.4	72.3	97	141	158	167	194	220
4	9.50	0.226	3.548	3.423	3.454	2.74	1.657	61.8	74.0	91	133	149	157	182	207
	11.00	0.262	3.476	3.351	3.382	2.74	1.902	61.8	75.0	105	152	171	181	209	238
	11.60 <sup>(2)</sup>	0.286	3.428	3.303	3.334	2.74	2.035	61.0	78.6	112	163	183	193	224	254
4 1/2	10.50	0.224	4.052	3.927	3.959	2.74	1.902	63.2	75.3	105	152	171	181	209	238
	11.00	0.237	4.026	3.901	3.934	2.74	2.058	64.8	76.2	113	165	185	196	226	257
	11.60	0.250	4.000	3.875	3.908	2.74	2.111	63.2	77.1	116	169	190	201	232	264
	12.60	0.271	3.958	3.833	3.865	2.67	2.096	58.2	73.7	115	168	189	199	231	262
	13.50	0.290	3.920	3.795	3.827	2.67	2.326	60.6	75.2	128	186	209	221	256	291
	15.10	0.337	3.826	3.701	3.733	3.04	2.696	61.2	73.7	148	216	243	256	297	337
5	15.00	0.296	4.408	4.283	4.317	2.67	2.654	60.7	74.9	146	212	239	252	292	332
	18.00	0.362	4.276	4.151	4.185	3.62	3.311	62.8	74.5	182	265	298	315	364	414
5 1/2	15.50	0.275	4.950	4.825	4.860	2.67	2.727	60.4	75.5	150	218	245	259	300	341
	17.00	0.304	4.892	4.767	4.802	2.67	3.021	60.9	74.6	166	242	272	287	332	378
	20.00	0.361	4.778	4.653	4.688	3.24	3.636	62.4	74.0	200	291	327	345	400	455
5 3/4	18.00	0.312	5.126	5.001	5.036	2.67	3.196	60.0	73.3	176	256	288	304	352	400
	21.80	0.375	5.000	4.875	4.910	3.70	3.885	61.4	74.4	214	311	350	369	427	486
	24.20	0.420	4.910	4.785	4.820	3.70	4.202	59.7	71.4	231	336	378	399	462	525
6	20.00	0.324	5.352	5.227	5.263	3.04	3.515	60.8	73.5	193	281	316	334	387	439
	23.00	0.380	5.240	5.115	5.151	3.10	4.026	60.0	73.1	221	322	362	382	443	503
6 5/8	24.00	0.352	5.921	5.796	5.832	3.62	4.393	63.3	75.0	242	351	395	417	483	549
	28.00	0.417	5.791	5.666	5.702	3.70	4.871	59.9	71.5	268	390	438	463	536	609
7	23.00	0.317	6.366	6.241*	6.286	3.04	4.045	60.8	73.7	222	324	364	384	445	506
	26.00	0.362	6.276	6.151	6.187	3.70	4.595	60.9	74.2	253	368	414	437	505	574
	29.00	0.408	6.184	6.059	6.095	3.69	5.124	60.6	72.8	282	410	461	487	564	641
7 5/8	26.40	0.328	6.969	6.844	6.881	3.04	4.633	61.6	74.0	255	371	417	440	510	579
	29.70	0.375	6.875	6.750	6.787	3.70	5.218	61.1	73.8	287	417	470	496	574	652
	33.70	0.430	6.765	6.640	6.677	4.14	5.841	60.1	73.1	321	467	526	555	643	730
8	31.00	0.375	7.250	7.125	7.168	3.70	5.525	61.5	74.1	304	442	497	525	608	691
8 1/8	32.50	0.375	7.375	7.250	7.293	3.70	5.581	61.1	73.7	307	446	502	530	614	698
	35.50	0.420	7.285	7.160	7.203	3.69	6.199	61.0	72.5	341	496	558	589	682	775
	39.50	0.470	7.185	7.060	7.103	4.14	6.741	59.6	71.4	371	539	607	640	742	843
8 5/8	32.00	0.352	7.921	7.796*	7.918	3.24	5.242	57.3	68.8	288	419	472	498	577	655
	36.00	0.400	7.825	7.700	7.743	3.69	6.348	61.4	73.6	349	508	571	603	698	794
	40.00	0.450	7.725	7.600*	7.668	4.14	6.777	58.6	70.9	373	542	610	644	745	847
9	40.00	0.425	8.150	8.025	8.069	3.69	7.120	62.2	73.5	392	570	641	676	783	890
9 5/8	40.00	0.395	8.835	8.679*	8.794	3.70	6.824	59.6	71.4	375	546	614	648	751	853
	43.50	0.435	8.755	8.599*	8.669	3.69	7.849	62.5	73.6	432	628	706	746	863	981
	47.00	0.472	8.681	8.525	8.569	4.14	8.306	61.2	72.8	457	664	748	789	914	1038
10 3/4	45.50	0.400	9.950	9.794*	9.922	3.70	7.671	59.0	70.6	422	614	690	729	844	959
	51.00	0.450	9.850	9.694	9.741	4.14	9.159	62.9	74.9	504	733	824	870	1007	1145
	55.50	0.495	9.760	9.604*	9.672	4.14	9.629	60.4	71.3	530	770	867	915	1059	1204
	60.70	0.545	9.660	9.504	9.551	4.97	11.258	64.4	75.6	619	901	1013	1070	1238	1407
	65.70	0.595	9.560	9.404*	9.547	4.97	11.318	59.6	69.9	622	905	1019	1075	1245	1415

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift.
- ] Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- <sup>(1)</sup> This weight has a box OD 0.063" larger than nominal pipe OD.
- <sup>(2)</sup> This weight has a box OD 0.031" larger than nominal pipe OD.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).

Wedge 511™ | 11 3/4" TO 18 5/8"

DESIGNATION		PIPE BODY			CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	
in	lb/ft	in	in	in	in	in	sq in	%	%	x 1000 lb						
11 3/4	60.00	┐	0.489	10.772	10.616*	10.674	4.65	10.499	60.7	74.0	577	840	945	997	1155	1312
	65.00		0.534	10.682	10.526*	10.674	4.65	10.499	55.8	68.0	577	840	945	997	1155	1312
11 7/8	58.80	┐	0.470	10.935	10.799*	10.926	4.14	9.356	55.6	66.1	515	748	842	889	1029	1170
	71.80		0.582	10.711	10.555*	10.675	4.97	12.658	61.3	71.5	696	1013	1139	1203	1392	1582
16	95.00	┐	0.566	14.868	14.750	14.807	4.97	17.416	63.5	73.6	958	1393	1567	1655	1916	2177
	96.00		0.575	14.850	14.750	14.807	4.97	17.416	62.5	72.5	958	1393	1567	1655	1916	2177
	102.90	┐	0.625	14.750	14.562	14.621	5.60	19.186	63.6	75.1	1055	1535	1727	1823	2110	2398
	109.00		0.656	14.688	14.500	14.559	5.60	20.608	65.2	76.2	1133	1649	1855	1958	2267	2576
18	117.00	┐	0.625	16.750	16.562	16.625	5.60	21.195	62.1	73.6	1166	1696	1908	2014	2331	2649
	119.00		0.640	16.720	16.532	16.595	5.60	21.979	63.0	74.2	1209	1758	1978	2088	2418	2747
	128.00	┐	0.688	16.624	16.500	16.563	5.60	22.813	61.0	71.5	1255	1825	2053	2167	2509	2852
18 5/8	123.40	┐	0.625	17.375	17.187	17.254	5.60	22.801	64.5	75.7	1254	1824	2052	2166	2508	2850
	136.00		0.693	17.239	17.051	17.118	5.60	25.283	64.8	74.9	1391	2023	2275	2402	2781	3160
	139.00		0.720	17.185	16.997	17.064	5.60	25.563	63.1	75.5	1406	2045	2301	2428	2812	3195

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift.
- ┐ Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- 18" 117.00 lb/ft, 18" 119 lb/ft and 128.00 lb/ft are interchangeable with 17.875" 105.00 lb/ft and 121.00 lb/ft Wedge 521™.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).



# Wedge 533™

2 3/8" TO 7 5/8"  
Dopeless® technology available





1



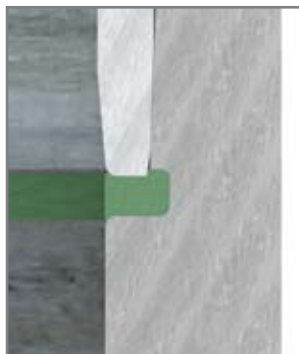
- Streamlined, clearance OD facilitates running, pulling, and circulating.
- Exceptional torque strength developed through the simultaneous engagement of opposing flanks of the dovetail thread, permitting rotating and wash over in deviated holes without fear of structural failure.

2



- 100% internal pressure rated metal seal maintains gas sealing capability under high axial and bending loads.
- The shallow angle run out chamfer on the pin ID promotes uniform stress under the seal around the full circumference of the connection.

3



- Corrosion protection and ID coating possibility without reduction on performance properties.

#### FEATURES

- 100% collapse rated thread seal created by full form contact of the dovetail threads, also providing a secondary internal pressure seal rated at pipe body.
- 100% ratings for tension and bending provided by machining pin and box on hot forged internal-external upsets. Reverse angle stab flank provides 100% compression rating.
- Wedge 533™ is interchangeable with Wedge 503™, Wedge 553™ and Wedge 563™.

#### APPLICATIONS

- Production tubing
- Casing while drilling
- Workstrings
- Corrosion protection & ID coating

#### OPTIONS

- Dopeless®
- CB ring

Wedge 533™ | 2 3/8" TO 6 5/8" (7" TO 7 5/8" on reverse side)

DESIGNATION		PIPE BODY			TURNED OUTSIDE DIAMETER		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH					
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Box	Pin					55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi
in	lb/ft	in	in	in	in	in	in	in	%	%	x 1000 lb					
2 3/8	4.70	0.190	1.995	1.901	2.657	2.657	1.945	3.64	100	100	72	104	117	124	143	163
	5.30	0.218	1.939	1.845	2.685	2.679	1.889	3.64	100	100	81	118	133	140	162	185
	5.95	0.254	1.867	1.773	2.737	2.690	1.817	3.64	100	100	93	135	152	161	186	212
	6.60	0.295	1.785	1.691	2.793	2.718	1.735	3.64	100	100	106	154	173	183	212	241
	7.45	0.336	1.703	1.609	2.845	2.744	1.653	3.64	100	100	118	172	194	204	237	269
2 7/8	6.50	0.217	2.441	2.347	3.192	3.179	2.391	3.64	100	100	100	145	163	172	199	227
	7.90	0.276	2.323	2.229	3.282	3.213	2.273	3.64	100	100	124	180	203	214	248	282
	8.70	0.308	2.259	2.165	3.328	3.236	2.209	3.64	100	100	137	199	224	236	273	310
	9.50	0.340	2.195	2.101	3.337	3.231	2.145	4.09	100	100	149	217	244	257	298	338
	10.70	0.392	2.091	1.997	3.405	3.265	2.041	4.09	100	100	168	245	275	290	336	382
3 1/2	11.65	0.440	1.995	1.901	3.464	3.295	1.945	4.09	100	100	185	269	303	320	370	421
	9.30	0.254	2.992	2.867	3.886	3.827	2.942	3.64	100	100	142	207	233	246	285	324
	10.30	0.289	2.922	2.797	3.941	3.854	2.872	3.64	100	100	160	233	262	277	321	364
	12.95	0.375	2.750	2.625	4.067	3.917	2.700	3.64	100	100	202	295	331	350	405	460
	14.30	0.430	2.640	2.515	4.100	3.943	2.590	4.49	100	100	228	332	373	394	456	518
4	15.80	0.476	2.548	2.423	4.160	3.973	2.498	4.49	100	100	249	362	407	430	497	565
	16.70	0.510	2.480	2.355	4.202	3.994	2.430	4.49	100	100	263	383	431	455	527	599
	17.05	0.530	2.440	2.315	4.226	4.006	2.390	4.49	100	100	272	396	445	470	544	618
	11.00	0.262	3.476	3.351	4.406	4.336	3.426	3.64	100	100	169	246	277	292	338	385
	11.60	0.286	3.428	3.303	4.444	4.355	3.378	3.64	100	100	184	267	300	317	367	417
4 1/2	13.40	0.330	3.340	3.215	4.513	4.390	3.290	3.64	100	100	209	304	342	361	419	476
	14.80	0.380	3.240	3.115	4.549	4.397	3.190	4.09	100	100	238	346	389	411	475	540
	16.10	0.415	3.170	3.045	4.599	4.422	3.120	4.09	100	100	257	374	421	444	514	584
	19.00	0.500	3.000	2.875	4.598	4.459	2.950	5.28	100	100	302	440	495	522	605	687
	21.10	0.562	2.876	2.751	4.679	4.499	2.826	5.28	100	100	334	486	546	577	668	759
5	22.50	0.610	2.780	2.655	4.739	4.529	2.730	5.28	100	100	357	520	585	617	715	812
	11.60	0.250	4.000	3.875	4.891	4.828	3.850	3.64	100	100	184	267	300	317	367	417
	12.75	0.271	3.958	3.833	4.926	4.846	3.908	3.64	100	100	198	288	324	342	396	450
	13.50	0.290	3.920	3.795	4.958	4.862	3.870	3.64	100	100	211	307	345	364	422	479
	15.50	0.337	3.826	3.701	4.992	4.868	3.776	4.09	100	100	242	353	397	419	485	551
5 1/2	17.00	0.380	3.740	3.615	5.058	4.901	3.690	4.09	100	100	271	393	443	467	541	615
	19.20	0.430	3.640	3.515	5.133	4.938	3.590	4.09	100	100	302	440	495	522	605	687
	21.60	0.500	3.500	3.375	5.114	4.966	3.450	5.28	100	100	346	503	565	597	691	785
	24.00	0.560	3.380	3.255	5.196	5.007	3.330	5.28	100	100	381	555	624	659	762	866
	26.50	0.630	3.240	3.115	5.288	5.053	3.190	5.28	100	100	421	613	689	728	843	957
6 5/8	15.00	0.296	4.408	4.283	5.430	5.279	4.358	3.99	100	100	241	350	394	416	481	547
	18.00	0.362	4.276	4.151	5.535	5.279	4.226	3.99	100	100	290	422	475	501	580	659
	21.40	0.437	4.126	4.001	5.526	5.416	4.076	5.36	100	100	345	501	564	595	689	783
	23.20	0.478	4.044	3.919	5.586	5.446	3.994	5.36	100	100	373	543	611	645	747	849
	24.10	0.500	4.000	3.875	5.618	5.462	3.950	5.36	100	100	389	565	636	672	778	884
7 1/2	15.50	0.275	4.950	4.825	5.899	5.779	4.900	3.99	100	100	248	361	406	429	497	564
	17.00	0.304	4.892	4.767	5.948	5.779	4.842	3.99	100	100	273	397	447	471	546	620
	20.00	0.361	4.778	4.653	6.040	5.779	4.728	3.99	100	100	321	466	525	554	641	729
	23.00	0.415	4.670	4.545	6.124	5.779	4.620	3.99	100	100	365	530	597	630	729	829
	26.00	0.476	4.548	4.423	6.084	5.798	4.483	4.30	100	100	413	601	676	714	826	939
8 1/2	26.80	0.500	4.500	4.375	6.119	5.798	4.435	4.30	100	100	432	628	707	746	864	982
	28.40	0.530	4.440	4.315	6.163	5.798	4.374	4.30	100	100	455	662	745	786	910	1034
9 1/2	24.00	0.352	5.921	5.796	7.147	6.932	5.871	4.05	100	100	382	555	624	659	763	867
	28.00	0.417	5.791	5.666	7.254	6.932	5.741	4.05	100	100	447	651	732	773	895	1017
	32.00	0.475	5.675	5.550	7.345	6.932	5.625	4.05	100	100	505	734	826	872	1010	1147

• ] Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.  
• Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).

Wedge 533™ | 7" TO 7 5/8"

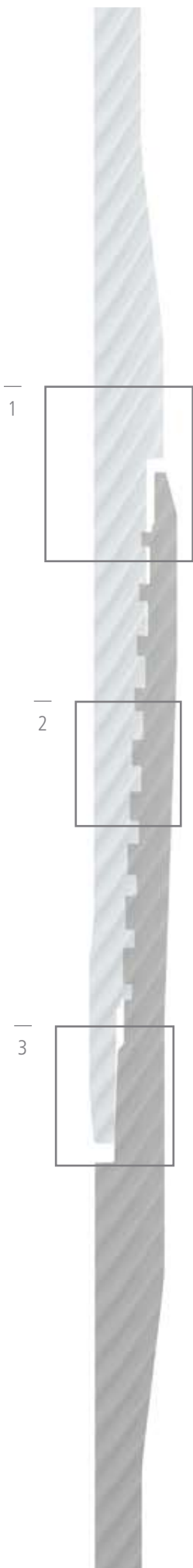
DESIGNATION		PIPE BODY			TURNED OUTSIDE DIAMETER		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Box	Pin					55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	
in	lb/ft	in	in	in	in	in	in	in	%	%	x 1000 lb						
7	23.00	]	0.317	6.366	6.250	7.476	7.318	6.316	4.05	100	100	366	532	599	632	732	832
	26.00		0.362	6.276	6.151	7.552	7.318	6.226	4.05	100	100	415	604	679	717	830	944
	29.00	]	0.408	6.184	6.059	7.628	7.318	6.134	4.05	100	100	465	676	760	803	929	1056
	32.00		0.453	6.094	6.000	7.700	7.318	6.050	4.05	100	100	512	745	839	885	1025	1165
	35.00		0.498	6.004	5.879	7.584	7.320	5.944	5.06	100	100	559	814	916	966	1119	1272
	38.00	]	0.540	5.920	5.795	7.649	7.320	5.860	5.06	100	100	603	877	986	1041	1206	1370
7 5/8	26.40	]	0.328	6.969	6.844	8.123	7.941	6.919	4.05	100	100	414	602	677	714	827	940
	29.70		0.375	6.875	6.750	8.203	7.941	6.825	4.05	100	100	470	683	769	811	940	1068
	33.70	]	0.430	6.765	6.640	8.294	7.941	6.715	4.05	100	100	535	778	875	923	1069	1215
	39.00		0.500	6.625	6.500	8.243	7.971	6.575	5.06	100	100	616	895	1007	1063	1231	1399

- ] Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).

# Wedge 503™

2 3/8" TO 4 1/2"  
Dopeless® technology available





1



- Streamlined, clearance OD facilitates running, pulling, and circulating and eliminates coupling face hang-up.

2



- Exceptional torque strength developed through the simultaneous engagement of the double hooked dovetail thread.

3



- 100% internal pressure rated metal seal maintains gas sealing capability under high axial loads.
- The shallow angle run out chamfer on the pin ID promotes uniform stress under the seal around the full circumference of the connection.

#### FEATURES

- 100% pipe body ratings for tension and bending provided by machining pin and box on API EUE upset. Reverse angle stab flank provides 100% compression rating.
- 100% collapse rated thread seal created by full form contact of the dovetail threads, also providing a secondary internal pressure seal rated at pipe body.
- Wedge 503™ is interchangeable with Wedge 533™, Wedge 553™ and Wedge 563™.

#### APPLICATIONS

- Production tubing
- Workstrings

#### OPTIONS

- Dopeless®

Wedge 503™ | 2 3/8" TO 4 1/2 "

DESIGNATION		PIPE BODY			TURNED OUTSIDE DIAMETER		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH					
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Box	Pin					55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi
in	lb/ft	in	in	in	in	in	in	in	%	%	x 1000 lb					
2 3/8	4.70	0.190	1.995	1.901	2.657	2.657	1.945	3.64	100	100	72	104	117	124	143	163
2 7/8	6.50	0.217	2.441	2.347	3.192	3.179	2.391	3.64	100	100	100	145	163	172	199	227
3 1/2	9.30	0.254	2.992	2.867	3.886	3.827	2.942	3.64	100	100	142	207	233	246	285	324
4	11.00	0.262	3.476	3.351	4.406	4.336	3.426	3.64	100	100	169	246	277	292	338	385
4 1/2	11.60	0.250	4.000	3.875	4.891	4.829	3.950	3.64	100	100	184	267	300	317	367	417
	12.75	0.271	3.958	3.833	4.926	4.846	3.908	3.64	100	100	198	288	324	342	396	450

- ] Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).





# Wedge 553™

2 3/8" TO 7 5/8"  
Dopeless® technology available





1



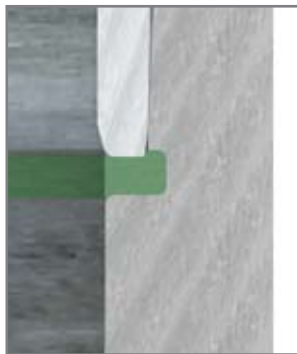
- Roller-stenciled make-up confirmation band.
- Exceptional torque strength developed through the simultaneous engagement of opposing flanks of the double hooked dovetail thread, permitting drilling with tubing applications

2



- 100% internal pressure rated metal seal maintains gas sealing capability under high axial and bending loads.
- The shallow angle run out chamfer on the pin ID promotes uniform stress under the seal around the full circumference of the connection.

3



- Corrosion protection and ID coating possibility without reduction on performance properties.

#### FEATURES

- 100% collapse rated thread seal created by full form contact of the dovetail threads, also providing a secondary internal pressure seal rated at pipe body.
- 100% pipe body ratings for tension and bending developed using non-upset pin end and upset box end pipe. Reverse angle stab flank provides 100% compression rating.
- Wedge 553™ is interchangeable with Wedge 503™, Wedge 533™ and Wedge 563™.

#### APPLICATIONS

- Workstrings
- Corrosion protection & ID coating

#### OPTIONS

- Dopeless®
- CB ring

Wedge 553™ | 2 3/8" TO 6 5/8" (7" TO 7 5/8" on reverse side)

DESIGNATION		PIPE BODY			BOX OUTSIDE DIAMETER	CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH					
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi
in	lb/ft	in	in	in	in	in	in	%	%	x 1000 lb					
2 3/8	4.70	0.190	1.995	1.901	2.657	1.945	3.64	95.1	100	68	99	111	118	136	155
	5.30	0.218	1.939	1.845	2.685	1.889	3.64	100	100	81	118	133	140	162	185
	5.95	0.254	1.867	1.773	2.737	1.817	3.64	100	100	93	135	152	161	186	212
	6.60	0.295	1.785	1.691	2.793	—	3.64	100	100	106	154	173	183	212	241
	7.45	0.336	1.703	1.609	2.845	—	3.64	100	100	118	172	194	204	237	269
2 7/8	6.50	0.217	2.441	2.347	3.192	2.391	3.64	100	100	100	145	163	172	199	227
	7.90	0.276	2.323	2.229	3.282	2.273	3.64	100	100	124	180	203	214	248	282
	8.70	0.308	2.259	2.165	3.328	—	3.64	100	100	137	199	224	236	273	310
	9.50	0.340	2.195	2.101	3.337	—	4.09	100	100	149	217	244	257	298	338
	10.70	0.392	2.091	1.997	3.405	—	4.09	100	100	168	245	275	290	336	382
3 1/2	11.65	0.440	1.995	1.901	3.464	—	4.09	100	100	185	269	303	320	370	421
	9.30	0.254	2.992	2.867	3.886	2.942	3.64	100	100	142	207	233	246	285	324
	10.30	0.289	2.922	2.797	3.941	2.872	3.64	100	100	160	233	262	277	321	364
	12.95	0.375	2.750	2.625	4.067	—	3.64	100	100	202	295	331	350	405	460
	14.30	0.430	2.640	2.515	4.100	—	4.49	100	100	228	332	373	394	456	518
4	15.80	0.476	2.548	2.423	4.160	—	4.49	100	100	249	362	407	430	497	565
	16.70	0.510	2.480	2.355	4.202	—	4.49	100	100	263	383	431	455	527	599
	17.05	0.530	2.440	2.315	4.226	—	4.49	100	100	272	396	445	470	544	618
	11.00	0.262	3.476	3.351	4.406	3.426	3.64	100	100	169	246	277	292	338	385
	11.60	0.286	3.428	3.303	4.444	3.378	3.64	100	100	184	267	300	317	367	417
4 1/2	13.40	0.330	3.340	3.215	4.513	—	3.64	100	100	209	304	342	361	419	476
	14.80	0.380	3.240	3.115	4.549	—	4.09	100	100	238	346	389	411	475	540
	16.10	0.415	3.170	3.045	4.599	—	4.09	100	100	257	374	421	444	514	584
	19.00	0.500	3.000	2.875	4.598	—	5.28	100	100	302	440	495	522	605	687
	21.10	0.562	2.876	2.751	4.679	—	5.28	100	100	334	486	546	577	668	759
5	22.50	0.610	2.780	2.655	4.739	—	5.28	100	100	357	520	585	617	715	812
	11.60	0.250	4.000	3.875	4.891	3.850	3.64	100	100	184	267	300	317	367	417
	12.75	0.271	3.958	3.833	4.926	3.908	3.64	100	100	198	288	324	342	396	450
	13.50	0.290	3.920	3.795	4.958	3.870	3.64	100	100	211	307	345	364	422	479
	15.50	0.337	3.826	3.701	4.992	—	4.09	100	100	242	353	397	419	485	551
5 1/2	17.00	0.380	3.740	3.615	5.058	—	4.09	100	100	271	393	443	467	541	615
	19.20	0.430	3.640	3.515	5.133	—	4.09	100	100	302	440	495	522	605	687
	21.60	0.500	3.500	3.375	5.114	—	5.28	100	100	346	503	565	597	691	785
	24.00	0.560	3.380	3.255	5.196	—	5.28	100	100	381	555	624	659	762	866
	26.50	0.630	3.240	3.115	5.288	—	5.28	100	100	421	613	689	728	843	957
6 5/8	15.00	0.296	4.408	4.283	5.430	4.358	3.99	100	100	241	350	394	416	481	547
	18.00	0.362	4.276	4.151	5.535	—	3.99	100	100	290	422	475	501	580	659
	21.40	0.437	4.126	4.001	5.526	4.076	5.36	95.9	100	331	480	541	571	661	751
	23.20	0.478	4.044	3.919	5.586	—	5.36	100	100	373	543	611	645	747	849
	24.10	0.500	4.000	3.875	5.618	—	5.36	100	100	389	565	636	672	778	884
6 7/8	15.50	0.275	4.950	4.825	5.899	4.900	3.99	100	100	248	361	406	429	497	564
	17.00	0.304	4.892	4.767	5.948	4.842	3.99	100	100	273	397	447	471	546	620
	20.00	0.361	4.778	4.653	6.040	—	3.99	100	100	321	466	525	554	641	729
	23.00	0.415	4.670	4.545	6.124	—	3.99	100	100	365	530	597	630	729	829
	26.00	0.476	4.548	4.423	6.084	4.483	4.30	100	100	413	601	676	714	826	939
7 1/2	26.80	0.500	4.500	4.375	6.119	4.435	4.30	100	100	432	628	707	746	864	982
	28.40	0.530	4.440	4.315	6.163	4.374	4.30	100	100	455	662	745	786	910	1034
	24.00	0.352	5.921	5.796	7.147	5.871	4.05	100	100	382	555	624	659	763	867
	28.00	0.417	5.791	5.666	7.254	—	4.05	100	100	447	651	732	773	895	1017
	32.00	0.475	5.675	5.550	7.345	—	4.05	100	100	505	734	826	872	1010	1147

- ] Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- When no value is shown for "Connection ID", swaging is omitted and the ID is the pipe body ID.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).

Wedge 553™ | 7" TO 7 5/8"

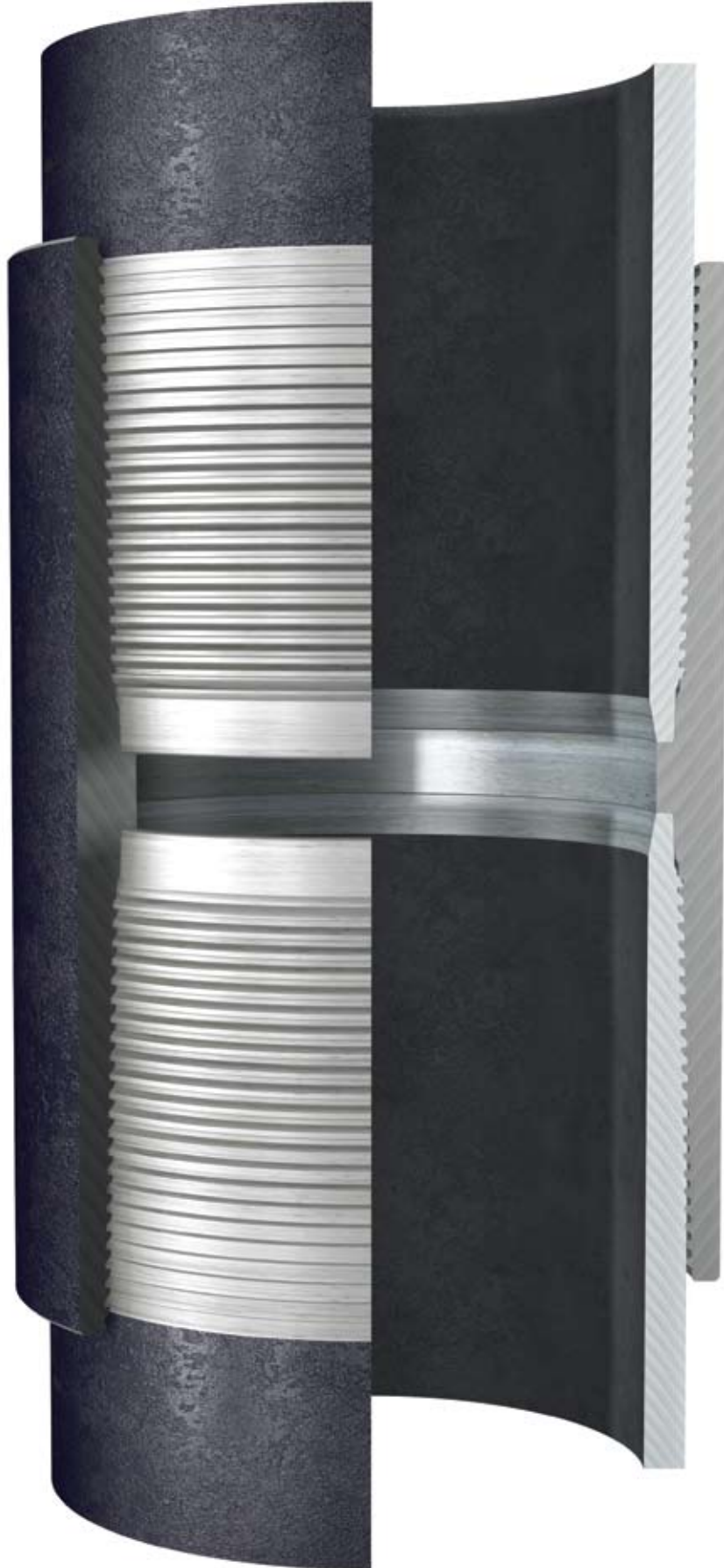
DESIGNATION		PIPE BODY			BOX OUTSIDE DIAMETER	CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	
in	lb/ft	in	in	in	in	in	in	%	%	x 1000 lb						
7	23.00	┌	0.317	6.366	6.250	7.476	6.316	4.05	100	100	366	532	599	632	732	832
	26.00		0.362	6.276	6.151	7.552	6.226	4.05	100	100	415	604	679	717	830	944
	29.00	└	0.408	6.184	6.059	7.628	—	4.05	100	100	465	676	760	803	929	1056
	32.00		0.453	6.094	6.000	7.700	—	4.05	100	100	512	745	839	885	1025	1165
	35.00	└	0.498	6.004	5.879	7.584	5.954	5.06	100	100	559	814	916	966	1119	1272
	38.00		0.540	5.920	5.795	7.649	5.870	5.06	100	100	603	877	986	1041	1206	1370
7 5/8	26.40	┌	0.328	6.969	6.844	8.123	6.919	4.05	100	100	414	602	677	714	827	940
	29.70		0.375	6.875	6.750	8.203	—	4.05	100	100	470	683	769	811	940	1068
	33.70	└	0.430	6.765	6.640	8.294	—	4.05	100	100	535	778	875	923	1069	1215
	39.00		0.500	6.625	6.500	8.243	6.575	5.06	100	100	616	895	1007	1063	1231	1399

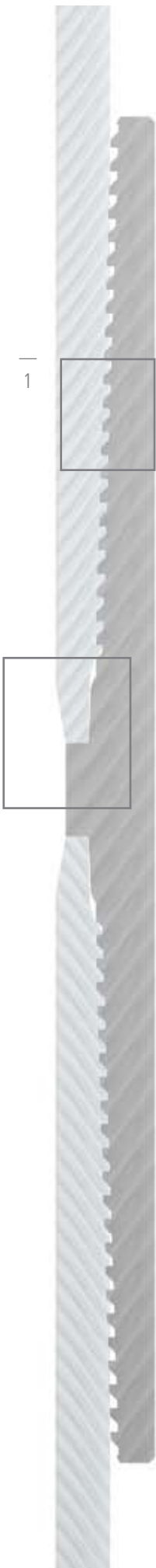
- ┌ └ Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- When no value is shown for "Connection ID", swaging is omitted and the ID is the pipe body ID.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).

# Legacy Series



# 3SB™ | 2 3/8" TO 13 5/8"





1



- Flank-to-flank contact thread design allows optimum performance under tension and compression cycling.
- Flat crested thread parallel to pipe axis helps correct misalignment during make-up.

2



- 100% internal pressure rated metal to metal radial seal and internal shoulder maintains gas sealability under high axial loads.

#### FEATURES

- Reliable and field proven connection design, specially on chrome materials.

#### OPTIONS

- Special clearance
- Special bevel

#### APPLICATIONS

- Production casing
- Production tubing



3SB™ - Casing | 4 1/2" TO 9 7/8" (10 3/4" TO 13 5/8" on reverse side)

OPTIONS

DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						SPECIAL CLEARANCE COUPLING			
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter	Critical Section Area	Tensile Efficiency	
in	lb/ft	in	in	in	in	in						in	in	sq in	%	%	x 1000 lb				
4 1/2	11.60	]	0.250	4.000	3.875	5.000	9.488	3.965	4.358	4.256	100	100	184	267	300	317	367	417	4.890	3.402	100
	13.50		0.290	3.920	3.794	5.000	9.488	3.969	4.358	4.256	100	100	211	307	345	364	422	479	4.890	3.402	88.7
	15.10	]	0.337	3.826	3.701*	5.118	9.488	3.898	4.358	5.194	100	100	242	353	397	419	485	551	5.000	4.256	96.6
	16.90		0.380	3.740	3.615	5.118	9.488	3.811	4.358	5.194	100	100	271	393	443	467	541	615	5.000	4.256	86.5
	21.60		0.500	3.500	3.375	5.252	9.488	3.811	4.358	6.220	99.0	100	342	498	560	591	684	778	5.000	4.256	67.7
5	15.00	]	0.296	4.408	4.283	5.563	10.118	4.406	4.673	5.410	100	100	241	350	394	416	481	547	5.453	4.458	100
	18.00		0.362	4.276	4.151	5.563	10.118	4.374	4.673	5.410	100	100	290	422	475	501	580	659	5.453	4.458	84.5
	20.30	]	0.408	4.184	4.059	5.736	10.118	4.291	4.673	6.946	100	100	324	471	530	559	647	736	5.563	5.410	91.9
	23.20		0.478	4.044	3.919	5.736	10.118	4.291	4.673	6.946	100	100	373	543	611	645	747	849	5.563	5.410	79.7
	24.10		0.500	4.000	3.875	5.768	10.118	4.291	4.673	7.234	100	100	389	565	636	672	778	884	5.563	5.410	76.5
5 1/2	15.50	]	0.275	4.950	4.825	6.051	10.197	4.898	4.705	5.820	100	100	248	361	406	429	497	564	5.917	4.569	100
	17.00		0.304	4.892	4.767	6.051	10.197	4.890	4.705	5.820	100	100	273	397	447	471	546	620	5.969	5.055	100
	20.00	]	0.361	4.778	4.653	6.051	10.197	4.874	4.705	5.820	100	100	321	466	525	554	641	729	5.969	5.055	86.7
	23.00		0.415	4.670	4.545	6.150	10.197	4.787	4.705	6.778	100	100	365	530	597	630	729	829	6.051	5.820	87.8
	26.00		0.476	4.548	4.423*	6.260	10.197	4.787	4.705	7.851	100	100	413	601	676	714	826	939	6.051	5.820	77.5
6	18.80	]	0.304	5.392	5.267	6.500	9.134	5.311	4.075	5.484	100	100	299	435	490	517	598	680	6.360	4.070	74.8
6 5/8	20.00		0.288	6.049	5.924	7.390	10.827	6.024	5.020	9.607	100	100	315	459	516	545	631	717	7.169	7.080	100
	24.00		0.352	5.921	5.796	7.390	10.827	6.008	5.020	9.607	100	100	382	555	624	659	763	867	7.169	7.080	100
	28.00		0.417	5.791	5.666	7.390	10.827	5.894	5.020	9.607	100	100	447	651	732	773	895	1017	7.276	8.294	100
	32.00		0.475	5.676	5.550	7.390	10.827	5.894	5.020	9.607	100	100	504	733	825	871	1009	1146	7.276	8.294	90.4
7	23.00	]	0.317	6.366	6.241*	7.657	11.378	6.339	5.295	9.010	100	100	366	532	599	632	732	832	7.469	6.789	100
	26.00		0.362	6.276	6.151	7.657	11.378	6.339	5.295	9.010	100	100	415	604	679	717	830	944	7.547	7.710	100
	29.00	]	0.408	6.184	6.059*	7.657	11.378	6.276	5.295	9.010	100	100	465	676	760	803	929	1056	7.547	7.710	91.2
	32.00		0.453	6.094	5.969*	7.772	11.378	6.236	5.295	10.416	100	100	512	745	839	885	1025	1165	7.657	9.010	96.7
	35.00		0.498	6.004	5.879	7.772	11.378	6.169	5.295	10.416	100	100	559	814	916	966	1119	1272	7.657	9.010	88.6
	38.00		0.540	5.920	5.794*	7.894	11.378	6.169	5.295	11.819	100	100	603	877	986	1041	1206	1370	7.657	9.010	82.2
	41.00		0.590	5.820	5.694	7.894	11.378	6.169	5.295	11.819	99.0	100	650	946	1064	1123	1300	1477	7.657	9.010	75.8
7 1/4	41.20	]	0.578	6.094	5.969	7.772	11.378	6.236	5.295	9.317	76.9	100	512	745	839	885	1025	1165	—	—	—
7 5/8	26.40		0.328	6.969	6.844	8.500	11.378	6.941	5.295	12.660	100	100	414	602	677	714	827	940	8.126	7.764	100
	29.70		0.375	6.876	6.750	8.500	11.378	6.941	5.295	12.660	100	100	469	682	768	810	938	1066	8.201	8.739	100
	33.70		0.430	6.765	6.640	8.500	11.378	6.874	5.295	12.660	100	100	535	778	875	923	1069	1215	8.291	9.905	100
	39.00		0.500	6.625	6.500	8.500	11.378	6.795	5.295	12.660	100	100	616	895	1007	1063	1231	1399	8.409	11.451	100
	42.80		0.562	6.502	6.376	8.500	11.378	6.795	5.295	12.660	100	100	685	997	1121	1184	1371	1558	8.409	11.451	91.8
	47.10		0.624	6.376	6.251	8.626	11.378	6.795	5.295	14.355	100	100	755	1099	1236	1305	1511	1717	8.500	12.660	92.2
	63.20		0.875	5.876	5.750	8.823	11.378	6.261	5.295	17.055	92.0	100	938	1364	1535	1620	1876	2132	—	—	100
7 3/4	46.10		0.595	6.560	6.435*	8.500	11.378	6.803	5.295	11.865	89.0	100	653	949	1068	1127	1305	1483	—	—	100
8 5/8	32.00	]	0.352	7.921	7.796	9.626	11.417	7.874	5.311	16.136	100	100	503	732	823	869	1006	1144	9.165	9.347	100
	36.00		0.400	7.825	7.700	9.626	11.417	7.913	5.311	16.136	100	100	568	827	930	982	1137	1292	9.248	10.548	100
	40.00	]	0.450	7.725	7.600*	9.626	11.417	7.874	5.311	16.136	100	100	636	925	1040	1098	1271	1445	9.335	11.816	100
	44.00		0.500	7.625	7.500	9.626	11.417	7.795	5.311	16.136	100	100	702	1021	1149	1212	1404	1595	9.417	13.025	100
	49.00		0.557	7.511	7.386	9.626	11.417	7.795	5.311	16.136	100	100	776	1129	1271	1341	1553	1765	9.512	14.437	100
52.00	0.595	7.435	7.310	9.626	11.417	7.795	5.311	16.136	100	100	826	1201	1351	1426	1651	1876	9.512	14.437	96.2		
9 5/8	36.00	]	0.352	8.921	8.765	10.626	11.811	8.878	5.508	18.095	100	100	564	820	923	974	1128	1282	10.157	10.456	100
	40.00		0.395	8.835	8.679*	10.626	11.811	8.913	5.508	18.095	100	100	630	916	1031	1088	1260	1432	10.232	11.658	100
	43.50	]	0.435	8.755	8.599*	10.626	11.811	8.866	5.508	18.095	100	100	691	1005	1130	1193	1381	1570	10.303	12.801	100
	47.00		0.472	8.681	8.525	10.626	11.811	8.819	5.508	18.095	100	100	746	1086	1222	1289	1493	1697	10.370	13.890	100
	53.50		0.545	8.535	8.379*	10.626	11.811	8.780	5.508	18.095	100	100	855	1244	1399	1477	1710	1943	10.370	13.890	89.3
	58.40	]	0.595	8.435	8.279*	10.626	11.811	8.780	5.508	18.095	100	100	928	1350	1519	1604	1857	2110	10.370	13.890	82.3
	61.10		0.625	8.375	8.21																

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift (Special Drift).
- ] [ Interchangeable where bracketed. Small variations in the connection Internal Diameter will appear. For make-up torque information, refer to TenarisHydriil Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- Compression efficiency for SC option is the same as the standard connection.

3SB™ - Casing | 10 3/4" TO 13 5/8"

OPTIONS

DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						SPECIAL CLEARANCE COUPLING		
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter	Critical Section Area	Tensile Efficiency
in	lb/ft	in	in	in	in	in						x 1000 lb						in	sq in	%
10 1/4	82.00	0.800	8.650	8.494	11.516	11.811	8.996	5.508	21.813	91.8	100	1200	1745	1963	2072	2399	2727	—	—	—
10 3/4	40.50	0.350	10.050	9.894	11.748	11.811	10.008	5.508	20.104	100	100	629	915	1029	1086	1258	1429	11.283	11.654	100
	45.50	0.400	9.950	9.794*	11.748	11.811	10.047	5.508	20.104	100	100	715	1040	1171	1236	1431	1626	11.374	13.274	100
	51.00	0.450	9.850	9.694	11.748	11.811	9.984	5.508	20.104	100	100	801	1165	1311	1383	1602	1820	11.465	14.970	100
	55.50	0.495	9.760	9.604*	11.748	11.811	9.929	5.508	20.104	100	100	877	1276	1435	1515	1754	1993	11.543	16.317	100
	60.70	0.545	9.660	9.504	11.748	11.811	9.906	5.508	20.104	100	100	961	1398	1573	1660	1922	2184	11.630	17.899	100
	65.70	0.595	9.560	9.404*	11.748	11.811	9.906	5.508	20.104	100	100	1044	1519	1708	1803	2088	2373	11.630	17.899	94.3
	71.10	0.650	9.450	9.294	11.748	11.811	9.748	5.508	20.104	97.0	100	1106	1608	1809	1910	2211	2513	11.630	17.899	86.8
	73.20	0.672	9.406	9.250	11.748	11.811	9.748	5.508	20.104	94.0	100	1106	1608	1809	1910	2211	2513	11.630	17.899	84.1
11 3/4	47.00	0.375	11.000	10.844	12.748	11.811	11.087	5.508	21.902	100	100	737	1072	1206	1273	1474	1675	12.331	13.648	100
	54.00	0.435	10.880	10.724	12.748	11.811	10.980	5.508	21.902	100	100	850	1237	1392	1469	1701	1933	12.441	15.788	100
	60.00	0.489	10.772	10.616*	12.748	11.811	10.902	5.508	21.902	100	100	951	1384	1557	1643	1903	2162	12.539	17.710	100
	65.00	0.534	10.682	10.526*	12.748	11.811	10.807	5.508	21.902	100	100	1035	1505	1693	1788	2070	2352	12.539	17.710	94.1
13 3/8	54.50	0.380	12.615	12.459	14.374	11.811	12.717	5.508	24.887	100	100	853	1241	1396	1474	1706	1939	13.969	15.849	100
	61.00	0.430	12.515	12.359	14.374	11.811	12.618	5.508	24.887	100	100	962	1399	1574	1661	1924	2186	14.059	17.830	100
	68.00	0.480	12.415	12.259	14.374	11.811	12.520	5.508	24.887	100	100	1069	1556	1750	1847	2139	2431	14.150	19.846	100
	72.00	0.514	12.347	12.191*	14.400	11.811	12.520	5.508	24.887	100	100	1142	1661	1869	1973	2284	2596	14.213	21.251	100
	86.00	0.625	12.125	11.969*	14.400	11.811	12.520	5.508	24.887	99.0	100	1369	1991	2240	2364	2738	3111	14.213	21.251	84.9
13 1/2	81.40	0.580	12.340	12.153*	14.374	11.811	12.520	5.508	20.903	89.0	100	1150	1672	1881	1986	2299	2613	—	—	—
13 5/8	88.20	0.625	12.375	12.187*	14.374	11.811	12.520	5.508	20.224	79.0	100	1112	1618	1820	1921	2225	2528	—	—	—

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift (Special Drift).
- ↕ Interchangeable where bracketed. Small variations in the connection Internal Diameter will appear. For make-up torque information, refer to TenarisHydril Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- Compression efficiency for SC option is the same as the standard connection.

3SB™ - Tubing | 2 3/8" TO 4 1/2"

OPTIONS

DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						SPECIAL CLEARANCE COUPLING		
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter	Critical Section Area	Tensile Efficiency
in	lb/ft	in	in	in	in	in	in	in	sq in	%	%	x 1000 lb						in	sq in	%
2 3/8	4.70	┌	0.190	1.995	1.901	2.874	8.472	1.933	3.743	2.370	100	100	72	104	117	124	143	2.701	1.603	100
	5.30		0.218	1.939	1.845	2.874	8.472	1.882	3.743	2.370	100	100	81	118	133	140	162	2.701	1.603	100
	5.95		0.254	1.867	1.774	2.874	8.472	1.937	3.743	2.370	100	100	93	135	152	161	186	2.732	1.741	100
	6.20		0.261	1.853	1.759	2.874	8.472	1.909	3.743	2.370	100	100	95	139	156	165	191	2.774	1.790	100
	7.70		0.336	1.704	1.610	2.874	8.472	1.799	3.743	2.370	100	100	118	172	193	204	236	—	—	—
2 7/8	6.50	┌	0.217	2.441	2.348	3.500	8.472	2.394	3.743	3.503	100	100	100	145	163	172	199	3.220	2.024	100
	7.90		0.276	2.323	2.230	3.500	8.472	2.394	3.743	3.503	100	100	124	180	203	214	248	3.280	2.333	100
	8.70		0.308	2.259	2.166	3.500	8.472	2.339	3.743	3.503	100	100	137	199	224	236	273	3.323	2.554	100
	9.50		0.340	2.195	2.101	3.500	8.472	2.299	3.743	3.503	100	100	149	217	244	257	298	3.366	2.781	100
	10.70		0.392	2.091	1.997	3.500	8.472	2.220	3.743	3.503	100	100	168	245	275	290	336	—	—	—
	11.00		0.405	2.065	1.971	3.500	8.472	2.220	3.743	3.503	100	100	173	251	283	299	346	—	—	—
	11.65		0.440	1.995	1.901	3.500	8.472	2.220	3.743	3.503	100	100	185	269	303	320	370	—	—	—
3 1/2	9.30	┌	0.254	2.992	2.867	4.252	8.535	3.020	3.775	5.031	100	100	142	207	233	246	285	3.882	2.682	100
	10.30		0.289	2.922	2.797	4.252	8.535	3.004	3.775	5.031	100	100	160	233	262	277	321	3.933	2.995	100
	12.80		0.368	2.764	2.639	4.252	8.535	2.886	3.775	5.031	100	100	199	290	326	344	398	4.051	3.736	100
	12.95		0.375	2.750	2.624	4.252	8.535	2.886	3.775	5.031	100	100	202	295	331	350	405	4.059	3.787	100
	15.10		0.449	2.602	2.477	4.252	8.535	2.768	3.775	5.031	100	100	237	344	387	409	473	—	—	—
	15.80		0.476	2.548	2.423	4.252	8.535	2.768	3.775	5.031	100	100	249	362	407	430	497	—	—	—
	16.70		0.510	2.480	2.355	4.252	8.535	2.768	3.775	5.031	100	100	263	383	431	455	527	—	—	—
	17.05		0.530	2.440	2.315	4.252	8.535	2.768	3.775	5.031	100	100	272	396	445	470	544	—	—	—
4	11.00	┌	0.262	3.476	3.351	4.752	9.118	3.429	4.056	5.792	100	100	169	246	277	292	338	4.402	3.292	100
	13.40		0.330	3.340	3.215	4.752	9.118	3.445	4.056	5.792	100	100	209	304	342	361	419	4.492	3.920	100
	19.00		0.500	3.000	2.875	4.752	9.118	3.209	4.056	5.792	100	100	302	440	495	522	605	—	—	—
	22.50		0.610	2.780	2.655	4.752	9.118	3.209	4.056	5.792	89	100	319	463	521	550	637	—	—	—
4 1/2	12.75	┌	0.271	3.958	3.833	5.201	9.598	3.917	4.306	6.163	100	100	198	288	324	342	396	4.921	3.945	100
	13.50		0.290	3.920	3.794	5.201	9.598	3.878	4.306	6.163	100	100	211	307	345	364	422	4.921	3.945	100
	15.50		0.337	3.826	3.701*	5.201	9.598	3.921	4.306	6.163	100	100	242	353	397	419	485	4.996	4.529	100
	19.20		0.430	3.640	3.515	5.201	9.598	3.772	4.306	6.163	100	100	302	440	495	522	605	—	—	—
	21.60		0.500	3.500	3.375	5.201	9.598	3.772	4.306	6.163	98	100	339	493	555	585	678	—	—	—
	24.00		0.560	3.380	3.255	5.201	9.598	3.654	4.306	6.163	89	100	339	493	555	585	678	—	—	—
	26.50		0.630	3.240	3.115	5.201	9.598	3.654	4.306	6.163	80	100	339	493	555	585	678	—	—	—

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift (Special Drift).
- ┌ Interchangeable where bracketed. Small variations in the connection Internal Diameter will appear. For make-up torque information, refer to TenarisHydriil Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- Compression efficiency for SC option is the same as the standard connection.



MS™ | 2 3/8" TO 14"



1



2



1



- Optimized modified buttress thread design provides easy stabbing and effortless make-up.

2



- Multi-tapered sealing mechanism provides 100% internal and external pressure ratings.

#### FEATURES

- Proven design provides excellent gas tightness with high mechanical properties.

#### APPLICATIONS

- Production casing
- Production tubing

#### OPTIONS

- Matched strength
- Special clearance
- Special bevel

MST™ | 2 3/8" TO 7" (7 5/8" TO 14" on reverse side)

OPTIONS

DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	
in	lb/ft	in	in	in	in	in						in	sq in	%	%	x 1000 lb		
2 3/8	4.60	]	0.190	1.995	1.901	2.776	6.220	1.939	2.520	1.730	100	100	72	104	117	124	143	163
	5.10		0.218	1.939	1.845	2.776	6.220	1.939	2.520	1.730	100	89	81	118	133	140	162	185
	5.80		0.254	1.867	1.774	2.815	6.220	1.939	2.520	1.903	100	78	93	135	152	161	186	212
2 7/8	6.40	]	0.217	2.441	2.348	3.337	6.850	2.384	2.835	2.503	100	100	100	145	163	172	199	227
	7.70		0.276	2.323	2.230	3.406	6.850	2.384	2.835	2.868	100	81	124	180	203	214	248	282
	8.60		0.308	2.259	2.166	3.406	6.850	2.384	2.835	2.868	100	74	137	199	224	236	273	310
3 1/2	7.70	]	0.216	3.068	2.943	3.917	7.953	2.994	3.386	2.891	100	94	123	178	201	212	245	279
	9.20		0.254	2.992	2.867	3.917	7.953	3.033	3.386	2.891	100	71	142	207	233	246	285	324
	10.20		0.289	2.922	2.797	3.996	7.953	2.994	3.386	3.382	100	72	160	233	262	277	321	364
	12.70		0.375	2.750	2.625	4.134	7.953	2.947	3.386	4.261	100	66	202	295	331	350	405	460
4	10.90	]	0.262	3.476	3.351	4.421	9.173	3.500	3.701	3.435	100	72	169	246	277	292	338	385
	13.00		0.330	3.340	3.215	4.551	9.173	3.406	3.701	4.351	100	79	209	304	342	361	419	476
	14.85		0.380	3.240	3.115	4.646	9.173	3.346	3.701	5.033	100	80	238	346	389	411	475	540
4 1/2	10.50	]	0.224	4.052	3.927	4.921	9.803	4.076	4.016	3.009	100	53	165	241	271	286	331	376
	11.60		0.250	4.000	3.875	4.921	9.803	4.045	4.016	3.984	100	57	184	267	300	317	367	417
	12.60		0.271	3.958	3.833	4.921	9.803	4.006	4.016	3.984	100	63	198	288	324	342	396	450
	13.50		0.290	3.920	3.794	4.961	9.803	4.006	4.016	4.289	100	59	211	307	345	364	422	479
	15.10		0.337	3.826	3.701*	5.079	9.803	3.955	4.016	5.220	100	62	242	353	397	419	485	551
	16.60		0.375	3.750	3.624	5.079	9.803	3.927	4.016	5.220	100	62	267	389	437	462	535	607
	17.00		0.380	3.740	3.615	5.079	9.803	3.927	4.016	5.220	100	61	271	393	443	467	541	615
	18.90		0.430	3.640	3.515	5.114	9.803	3.896	4.016	5.504	100	60	302	440	495	522	605	687
	21.50		0.500	3.500	3.375	5.213	9.803	3.852	4.016	6.302	100	59	346	503	565	597	691	785
	23.70		0.560	3.380	3.255	5.291	9.803	3.817	4.016	6.952	100	58	381	555	624	659	762	866
5	13.00	]	0.253	4.494	4.369	5.563	10.866	4.488	4.252	5.513	100	74	208	302	340	358	415	472
	15.00		0.296	4.408	4.283	5.563	10.866	4.488	4.252	5.513	100	63	241	350	394	416	481	547
	18.00		0.362	4.276	4.151	5.563	10.866	4.439	4.252	5.513	100	63	290	422	475	501	580	659
	20.30		0.408	4.184	4.059	5.563	10.866	4.339	4.252	5.513	94	74	303	441	496	524	606	689
	20.80		0.422	4.156	4.031	5.563	10.866	4.339	4.252	5.513	91	71	303	441	496	524	606	689
	21.40		0.437	4.126	4.001	5.563	10.866	4.339	4.252	5.513	88	69	303	441	496	524	606	689
	23.20		0.478	4.044	3.919	5.563	10.866	4.339	4.252	5.513	81	64	303	441	496	524	606	689
	24.10		0.500	4.000	3.875	5.563	10.866	4.339	4.252	5.513	78	61	303	441	496	524	606	689
5 1/2	14.00	]	0.244	5.012	4.887	6.051	10.866	4.980	4.252	5.929	100	79	222	322	363	383	443	504
	15.50		0.275	4.950	4.825	6.051	10.866	4.980	4.252	5.929	100	70	248	361	406	429	497	564
	17.00		0.304	4.892	4.767	6.051	10.866	4.931	4.252	5.929	100	76	273	397	447	471	546	620
	20.00		0.361	4.778	4.653	6.051	10.866	4.902	4.252	5.929	100	70	321	466	525	554	641	729
	23.00		0.415	4.670	4.545	6.146	10.866	4.843	4.252	6.834	100	72	365	530	597	630	729	829
	26.00		0.476	4.548	4.423*	6.260	10.866	4.843	4.252	7.947	100	63	413	601	676	714	826	939
	26.80		0.500	4.500	4.375	6.260	10.866	4.791	4.252	7.947	100	68	432	628	707	746	864	982
	28.40		0.530	4.440	4.315	6.346	10.866	4.791	4.252	8.804	100	65	455	662	745	786	910	1034
	29.70		0.562	4.376	4.251	6.346	10.866	4.740	4.252	8.804	100	68	480	697	785	828	959	1090
	32.60		0.625	4.250	4.124	6.425	10.866	4.740	4.252	9.593	100	62	526	766	861	909	1053	1197
6 5/8	24.00	]	0.352	5.921	5.796	7.390	11.457	6.024	4.252	9.911	100	53	382	555	624	659	763	867
	28.00		0.417	5.791	5.666	7.390	11.457	5.906	4.252	9.911	100	66	447	651	732	773	895	1017
	32.00		0.475	5.676	5.550	7.390	11.457	5.906	4.252	9.911	100	58	504	733	825	871	1009	1146
7	23.00	]	0.317	6.366	6.241*	7.657	11.772	6.386	4.409	9.302	100	58	366	532	599	632	732	832
	26.00		0.362	6.276	6.151	7.657	11.772	6.307	4.409	9.302	100	67	415	604	679	717	830	944
	29.00		0.408	6.184	6.059*	7.657	11.772	6.307	4.409	9.302	100	60	465	676	760	803	929	1056
	32.00		0.453	6.094	5.969*	7.657	11.772	6.307	4.409	9.302	100	54	512	745	839	885	1025	1165
	35.00		0.498	6.004	5.879	7.657	11.772	6.307	4.409	9.302	91	49	512	744	837	884	1023	1163
	38.00		0.540	5.920	5.794*	7.657	11.772	6.307	4.409	9.302	85	46	512	744	837	884	1023	1163
	41.00		0.590	5.820	5.694	7.657	11.772	6.240	4.409	9.302	78	51	512	744	837	884	1023	1163

SPECIAL CLEARANCE COUPLING			MATCHED STRENGTH
Outside Diameter	Critical Section Area	Tensile Efficiency	Outside Diameter
in	sq in	%	in
—	—	—	2.676
—	—	—	2.717
—	—	—	2.767
—	—	—	3.202
—	—	—	3.289
—	—	—	3.333
—	—	—	3.868
—	—	—	3.868
—	—	—	3.921
—	—	—	4.044
—	—	—	4.366
—	—	—	4.474
—	—	—	4.548
4.875	3.633	100	4.875
4.875	3.633	100	4.875
4.875	3.633	100	4.875
4.875	3.633	94.7	4.903
4.875	3.633	82.4	4.976
4.875	3.633	74.8	5.034
4.875	3.633	73.9	5.041
4.875	3.633	66.1	5.114
4.875	3.633	57.8	5.211
4.875	3.633	52.4	5.289
5.374	3.891	100	5.358
5.374	3.891	89.0	5.433
5.374	3.891	73.8	5.535
5.374	3.891	66.1	5.606
5.374	3.891	64.1	5.626
5.374	3.891	62.1	5.650
5.374	3.891	57.3	5.709
5.374	3.891	55.0	5.740
5.878	4.306	100	5.848
5.878	4.306	95.4	5.902
5.878	4.306	86.8	5.949
5.878	4.306	73.9	6.043
5.878	4.306	65.0	6.126
5.878	4.306	57.3	6.217
5.878	4.306	54.8	6.256
5.878	4.306	52.0	6.295
5.878	4.306	49.4	6.339
5.878	4.306	45.0	6.425
7.000	5.506	79.4	7.129
7.000	5.506	67.7	7.235
7.000	5.506	60.0	7.326
7.375	5.960	89.6	7.434
7.375	5.960	78.9	7.510
7.375	5.960	70.5	7.586
7.375	5.960	64.0	7.658
7.375	5.960	58.6	7.729
7.375	5.960	54.4	7.794
7.375	5.960	50.2	7.869

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift (Special Drift).
- ] Interchangeable where bracketed. Small variations in the connection Internal Diameter will appear. For make-up torque information, refer to TenarisHydriil Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- Compression efficiency for SC option is the same as the standard connection.
- For the MS option, the coupling OD is reduced to the minimum critical area capable of providing the same tensile efficiency as the standard option.

DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						SPECIAL CLEARANCE COUPLING			MATCHED STRENGTH
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter	Critical Section Area	Tensile Efficiency	Outside Diameter
in	lb/ft	in	in	in	in	in	in	in	sq in	%	%	x 1000 lb						in	sq in	%	in
7 5/8	26.40	]	0.328	6.969	6.844	12.165	6.996	4.606	13.158	100	56	414	602	677	714	827	940	8.125	8.274	100	8.125
	29.70		0.375	6.876	6.750	12.165	6.996	4.606	13.158	100	49	469	682	768	810	938	1066	8.125	8.274	96.9	8.147
	33.70		0.430	6.765	6.640	12.165	6.890	4.606	13.158	100	61	535	778	875	923	1069	1215	8.125	8.274	85.1	8.238
	39.00		0.500	6.625	6.500	12.165	6.890	4.606	13.158	100	53	616	895	1007	1063	1231	1399	8.125	8.274	73.9	8.351
	42.80		0.562	6.502	6.376	12.165	6.890	4.606	13.158	100	48	685	997	1121	1184	1371	1558	8.125	8.274	66.3	8.448
	45.30		0.595	6.435	6.310*	12.165	6.890	4.606	13.158	100	45	723	1051	1183	1248	1445	1643	8.125	8.274	63.0	8.499
	47.10		0.625	6.375	6.250	12.165	6.890	4.606	13.158	96	43	724	1053	1184	1250	1447	1645	8.125	8.274	60.2	8.544
7 3/4	46.10	]	0.595	6.560	6.435*	12.165	6.756	4.606	13.325	100	76	736	1070	1204	1271	1471	1672	—	—	—	8.630
	47.60		0.625	6.500	6.374	12.165	6.728	4.606	13.325	95	76	733	1066	1199	1266	1466	1666	—	—	—	8.675
	48.60		0.640	6.470	6.344	12.165	6.713	4.606	13.325	93	76	733	1066	1199	1266	1466	1666	—	—	—	8.697
8 5/8	32.00	]	0.352	7.921	7.796*	12.402	7.972	4.724	16.830	100	55	503	732	823	869	1006	1144	9.125	9.467	100	9.125
	36.00		0.400	7.825	7.700	12.402	7.874	4.724	16.830	100	66	568	827	930	982	1137	1292	9.125	9.467	91.6	9.186
	40.00		0.450	7.725	7.600*	12.402	7.874	4.724	16.830	100	59	636	925	1040	1098	1271	1445	9.125	9.467	81.9	9.271
	44.00		0.500	7.625	7.500	12.402	7.874	4.724	16.830	100	54	702	1021	1149	1212	1404	1595	9.125	9.467	74.2	9.353
	49.00		0.557	7.511	7.386	12.402	7.874	4.724	16.830	100	49	776	1129	1271	1341	1553	1765	9.125	9.467	67.1	9.445
9 5/8	36.00	]	0.352	8.921	8.765	12.402	8.976	4.724	18.693	100	54	564	820	923	974	1128	1282	10.125	10.545	100	10.108
	40.00		0.395	8.835	8.679*	12.402	8.878	4.724	18.693	100	67	630	916	1031	1088	1260	1432	10.125	10.545	92.1	10.183
	43.50		0.435	8.755	8.599*	12.402	8.878	4.724	18.693	100	61	691	1005	1130	1193	1381	1570	10.125	10.545	84.0	10.252
	47.00		0.472	8.681	8.525	12.402	8.878	4.724	18.693	100	56	746	1086	1222	1289	1493	1697	10.125	10.545	77.7	10.315
	53.50		0.545	8.535	8.379*	12.402	8.878	4.724	18.693	100	49	855	1244	1399	1477	1710	1943	10.125	10.545	67.8	10.436
	58.40		0.595	8.435	8.279*	12.402	8.878	4.724	18.693	100	45	928	1350	1519	1604	1857	2110	10.125	10.545	62.5	10.517
	64.90		0.672	8.281	8.125	12.402	8.819	4.724	18.693	99	47	1028	1495	1682	1776	2056	2337	10.125	10.545	55.8	10.638
9 7/8	62.80	]	0.625	8.625	8.469*	12.402	9.102	4.724	18.350	100	45	999	1453	1635	1725	1998	2270	—	—	—	10.816
	67.30		0.668	8.539	8.383*	12.402	9.055	4.724	21.047	100	48	1063	1546	1739	1836	2125	2415	—	—	—	10.884
	68.80		0.700	8.475	8.319*	12.402	9.055	4.724	21.047	100	46	1110	1614	1816	1917	2219	2522	—	—	—	10.933
	70.40		0.707	8.461	8.305*	12.402	9.055	4.724	21.047	100	46	1120	1629	1833	1934	2240	2545	—	—	—	10.944
	72.10		0.725	8.425	8.269*	12.402	9.055	4.724	21.047	100	44	1146	1667	1876	1980	2292	2605	—	—	—	10.972
10 3/4	40.50	]	0.350	10.050	9.894	12.402	10.110	4.724	20.719	100	53	629	915	1029	1086	1258	1429	11.250	11.759	100	11.250
	45.50		0.400	9.950	9.794*	12.402	9.992	4.724	20.719	100	68	715	1040	1171	1236	1431	1626	11.250	11.759	90.4	11.322
	51.00		0.450	9.850	9.694	12.402	9.992	4.724	20.719	100	61	801	1165	1311	1383	1602	1820	11.250	11.759	80.8	11.409
	55.50		0.495	9.760	9.604*	12.402	9.992	4.724	20.719	100	56	877	1276	1435	1515	1754	1993	11.250	11.759	73.7	11.486
	60.70		0.545	9.660	9.504	12.402	9.992	4.724	20.719	100	51	961	1398	1573	1660	1922	2184	11.250	11.759	67.3	11.571
	65.70		0.595	9.560	9.404*	12.402	9.992	4.724	20.719	100	47	1044	1519	1708	1803	2088	2373	11.250	11.759	61.9	11.653
	73.20		0.672	9.406	9.250	12.402	9.811	4.724	20.719	97	61	1140	1658	1865	1968	2279	2590	11.250	11.759	55.3	11.778
11 3/4	76.60	]	0.700	9.350	9.194	12.402	9.811	4.724	20.719	94	59	1140	1658	1865	1968	2279	2590	11.250	11.759	53.2	11.823
	47.00		0.375	11.000	10.843	12.752	11.055	4.724	22.653	100	60	737	1072	1206	1273	1474	1675	—	—	—	12.288
	54.00		0.435	10.880	10.724	12.752	10.925	4.724	22.653	100	74	850	1237	1392	1469	1701	1933	—	—	—	12.394
	60.00		0.489	10.772	10.616*	12.752	10.925	4.724	22.653	100	66	951	1384	1557	1643	1903	2162	—	—	—	12.488
	65.00		0.534	10.682	10.526*	12.752	10.874	4.724	22.653	100	67	1035	1505	1693	1788	2070	2352	—	—	—	12.565
	71.80		0.582	10.711	10.555*	12.764	10.941	4.724	20.662	100	69	1136	1652	1858	1962	2271	2581	—	—	—	—
	77.00		0.630	10.600	10.444*	12.764	10.941	4.724	20.662	100	69	1136	1652	1858	1962	2271	2581	—	—	—	—
11 7/8	54.50	]	0.380	12.615	12.459	12.402	12.677	4.724	25.676	100	60	853	1241	1396	1474	1706	1939	—	—	—	13.917
	61.00		0.430	12.515	12.359	12.402	12.559	4.724	25.676	100	73	962	1399	1574	1661	1924	2186	—	—	—	14.007
	68.00		0.480	12.415	12.259	12.402	12.559	4.724	25.676	100	66	1069	1556	1750	1847	2139	2431	—	—	—	14.095
	72.00		0.514	12.347	12.191*	12.402	12.559	4.724	25.676	100	61	1142	1661	1869	1973	2284	2596	—	—	—	14.155
13 1/2	80.40	]	0.576	12.348	12.161*	12.402	12.559	4.724	25.911	100	68	1286	1871	2105	2222	2573	2923	—	—	—	14.389
13 5/8	88.20		0.625	12.375	12.187*	12.402	12.685	4.724	26.145	100	63	1404	2042	2297	2425	2808	3191	—	—	—	14.599
14	82.50		0.562	12.876	12.689	13.583	12.807	5.512	32.226	100	63	1305	1898	2135	2254	2610	2966	—	—	—	14.635
	94.80		0.656	12.688	12.501	13.583	12.677	5.512	32.226	100	69	1513	2200	2475	2613	3025	3438	—	—	—	14.798
	99.30		0.688	12.624	12.436	13.583	12.677	5.512	32.226	100	66	1583	2302	2590	2733	3165	3597	—	—	—	14.853
	110.00		0.772	12.456	12.269	13.583	12.598	5.512	32.226	100	66	1765	2567	2887	3048	3529	4010	—	—	—	14.994
	111.00		0.779	12.442	12.254*	13.583	12.598	5.512	32.226	100	66	1780	2588	2912	3074	3559	4044	—	—	—	15.006

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift (Special Drift).
- ] Interchangeable where bracketed. Small variations in the connection Internal Diameter will appear. For make-up torque information, refer to TenarisHydril Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- Compression efficiency for SC option is the same as the standard connection.
- For the MS option, the coupling OD is reduced to the minimum critical area capable of providing the same tensile efficiency as the standard option.



# HW™ | 5" TO 14"





1



- Flat crested thread parallel to pipe axis helps correct misalignment during make-up.

2



- 100% internal pressure rated metal to metal radial seal and internal shoulder maintains gas sealability under high axial loads.

#### FEATURES

- Specially designed for medium to heavy wall pipes. Suitable for salt dome applications.

#### OPTIONS

- Special clearance
- Special bevel

#### APPLICATIONS

- Surface & intermediate casing
- HP/HT & deep wells

HW™ | 5" TO 9 5/8" (10 3/4" TO 14" on reverse side)

OPTIONS

DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						SPECIAL CLEARANCE COUPLING			
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter	Critical Section Area	Tensile Efficiency	
in	lb/ft	in	in	in	in	in	in	in	sq in	%	%	x 1000 lb						in	sq in	%	
5	26.70	]	0.562	3.876	3.751	5.650	11.811	3.996	5.406	8.384	100	100	431	627	705	744	862	979	5.409	6.273	80.1
	29.20		0.625	3.750	3.625	5.772	11.811	3.886	5.406	9.192	100	100	472	687	773	816	945	1074	5.480	6.880	80.1
	31.60		0.687	3.626	3.501	5.874	11.811	3.776	5.406	9.960	100	100	512	745	838	884	1024	1164	5.543	7.425	79.8
	34.00		0.750	3.500	3.375	5.976	11.811	3.657	5.406	10.715	100	100	551	801	901	951	1102	1252	5.610	8.012	80.0
5 1/2	28.40	]	0.530	4.440	4.315	6.094	12.244	4.524	5.630	8.854	100	100	455	662	745	786	910	1034	5.854	6.608	79.9
	29.70		0.562	4.376	4.251	6.146	12.244	4.484	5.630	9.329	100	100	480	697	785	828	959	1090	5.894	6.977	80.0
	32.00		0.612	4.276	4.151	6.232	12.244	4.406	5.630	10.055	100	100	517	752	846	893	1034	1175	5.953	7.525	80.1
	32.60		0.625	4.250	4.125	6.256	12.244	4.382	5.630	10.241	100	100	526	766	861	909	1053	1197	5.969	7.676	80.2
	35.30		0.687	4.126	4.001	6.362	12.244	4.272	5.630	11.115	100	100	571	831	935	987	1143	1298	6.035	8.297	79.9
	36.40		0.705	4.090	3.965	6.390	12.244	4.240	5.630	11.363	100	100	584	850	956	1009	1168	1328	6.055	8.486	79.9
	38.00		0.750	4.000	3.875	6.465	12.244	4.161	5.630	11.975	100	100	616	895	1007	1063	1231	1399	6.102	8.936	79.8
	40.50		0.812	3.876	3.751	6.567	12.244	4.051	5.630	12.794	100	100	658	957	1076	1136	1315	1495	6.165	9.543	79.8
	43.10		0.875	3.750	3.625	6.669	12.244	3.933	5.630	13.603	100	100	699	1017	1144	1208	1399	1589	6.228	10.156	79.9
	6 5/8		34.50	]	0.525	5.575	5.450	7.390	12.362	5.650	5.684	10.766	100	100	553	805	905	956	1107	1258	6.988
36.70		0.562	5.502		5.376	7.390	12.362	5.610	5.684	11.448	100	100	588	856	963	1016	1177	1337	7.035	8.572	80.1
40.20		0.625	5.375		5.250	7.390	12.362	5.516	5.684	12.605	100	100	648	942	1060	1119	1296	1473	7.110	9.405	79.8
43.70		0.687	5.251		5.126	7.504	12.362	5.406	5.684	13.711	100	100	705	1025	1153	1218	1410	1602	7.185	10.249	80.0
46.00		0.730	5.165		5.040	7.579	12.362	5.327	5.684	14.466	100	100	744	1082	1217	1284	1487	1690	7.236	10.825	80.1
47.10		0.750	5.125		5.000	7.614	12.362	5.287	5.684	14.810	100	100	761	1107	1246	1315	1523	1730	7.256	11.053	79.8
50.40		0.812	5.002		4.876	7.720	12.362	5.117	5.684	15.861	100	100	815	1186	1334	1408	1630	1853	7.327	11.865	80.1
7	38.00	]	0.540	5.920	5.794*	7.656	12.402	6.024	5.702	11.729	100	100	603	877	986	1041	1206	1370	7.382	8.764	80.0
	41.00		0.590	5.820	5.694	7.717	12.402	5.945	5.702	12.716	100	100	653	950	1069	1129	1307	1485	7.445	9.497	79.9
	42.70		0.625	5.750	5.625	7.772	12.402	5.890	5.702	13.394	100	100	688	1001	1127	1189	1377	1565	7.488	10.001	79.9
	44.00		0.640	5.720	5.595	7.799	12.402	5.866	5.702	13.683	100	100	703	1023	1151	1215	1407	1598	7.508	10.238	80.1
	46.00		0.670	5.660	5.535	7.850	12.402	5.811	5.702	14.258	100	100	733	1066	1199	1266	1466	1665	7.543	10.652	79.9
	46.40		0.687	5.626	5.501	7.878	12.402	5.780	5.702	14.579	100	100	749	1090	1226	1294	1499	1703	7.563	10.889	79.9
	49.50		0.730	5.540	5.415	7.957	12.402	5.701	5.702	15.384	100	100	791	1150	1294	1366	1582	1797	7.614	11.496	79.9
	50.10		0.750	5.500	5.375	7.992	12.402	5.669	5.702	15.757	100	100	810	1178	1325	1399	1620	1841	7.638	11.783	80.0
	53.60		0.812	5.376	5.251	8.098	12.402	5.551	5.702	16.890	100	100	868	1263	1421	1500	1736	1973	7.709	12.639	80.1
	57.10		0.875	5.250	5.125	8.213	12.402	5.433	5.702	18.016	100	100	926	1347	1515	1600	1852	2105	7.780	13.504	80.2
7 5/8	42.80	]	0.562	6.502	6.376	8.500	12.480	6.610	5.732	13.338	100	100	685	997	1121	1184	1371	1558	8.043	9.990	80.2
	45.30		0.595	6.435	6.310*	8.500	12.480	6.571	5.732	14.055	100	100	723	1051	1183	1248	1445	1643	8.083	10.497	79.9
	47.10		0.625	6.375	6.250	8.500	12.480	6.516	5.732	14.710	100	100	756	1100	1237	1306	1512	1718	8.122	10.993	80.0
	51.20		0.687	6.251	6.126	8.512	12.480	6.406	5.732	16.021	100	100	824	1198	1348	1423	1647	1872	8.197	11.955	79.8
	52.80		0.712	6.202	6.076	8.559	12.480	6.366	5.732	16.540	100	100	850	1236	1391	1468	1700	1932	8.228	12.355	80.0
	55.30		0.750	6.125	6.000	8.626	12.480	6.295	5.732	17.332	100	100	891	1296	1458	1539	1782	2025	8.276	12.977	80.1
	59.20		0.812	6.002	5.876	8.736	12.480	6.185	5.732	18.591	100	100	955	1390	1563	1650	1911	2171	8.346	13.891	80.0
8 5/8	49.00	]	0.557	7.511	7.386	9.625	12.559	7.610	5.780	15.106	100	100	776	1129	1271	1341	1553	1765	9.043	11.326	80.2
	49.10		0.562	7.502	7.376	9.625	12.559	7.602	5.780	15.226	100	100	782	1138	1280	1351	1565	1778	9.047	11.383	80.0
	52.00		0.595	7.435	7.310	9.625	12.559	7.571	5.780	16.061	100	100	826	1201	1351	1426	1651	1876	9.091	12.009	80.0
	54.00		0.625	7.375	7.250	9.625	12.559	7.524	5.780	16.805	100	100	864	1257	1414	1492	1728	1964	9.130	12.567	80.0
	58.70		0.687	7.251	7.126	9.625	12.559	7.413	5.780	18.330	100	100	942	1371	1542	1628	1885	2142	9.209	13.707	80.0
	63.50		0.750	7.125	7.000	9.625	12.559	7.295	5.780	19.852	100	100	1021	1484	1670	1763	2041	2319	9.287	14.840	80.0
	68.10		0.812	7.002	6.876	9.744	12.559	7.185	5.780	21.319	100	100	1096	1594	1793	1892	2191	2490	9.362	15.937	80.0
9 5/8	58.40	]	0.595	8.435	8.279*	10.625	13.071	8.547	6.028	18.061	100	100	928	1350	1519	1604	1857	2110	10.075	13.507	80.0
	59.40		0.609	8.407	8.251	10.625	13.071	8.547	6.028	18.456	100	100	949	1380	1552	1639	1897	2156	10.094	13.807	80.0
	61.10		0.625	8.375	8.219	10.625	13.071	8.531	6.028	18.905	100	100	972	1414	1590	1679	1944	2209	10.114	14.125	79.9
	64.90		0.672	8.281	8.125	10.625	13.071	8.445	6.028	20.223	100	100	1040	1512	1701	1796	2079	2363	10.177	15.130	80.0
	70.30		0.734	8.157	8.001	10.625	13.071	8.335	6.028	21.931	100	100	1128	1640	1845	1948	2255	2563	10.256	16.396	80.0
	75.60		0.797	8.031	7.875	10.705	13.071	8.217	6.028	23.645	100	100	1216	1768	1989	2100</					

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift (Special Drift).
- ] Interchangeable where bracketed. Small variations in the connection Internal Diameter will appear. For make-up torque information, refer to TenarisHydriil Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- Compression efficiency for SC option is the same as the standard connection.

DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						SPECIAL CLEARANCE COUPLING			
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter	Critical Section Area	Tensile Efficiency	
in	lb/ft	in	in	in	in	in	in	in	sq in	%	%	x 1000 lb						in	sq in	%	
10 3/4	65.70	┌	0.595	9.560	9.404*	11.750	13.150	9.669	6.082	20.307	100	100	1044	1519	1708	1803	2088	2373	11.205	15.221	80.2
	73.20		0.672	9.406	9.250	11.750	13.150	9.567	6.082	22.766	100	100	1170	1702	1915	2021	2340	2660	11.307	17.024	80.0
	79.20		0.734	9.282	9.126	11.750	13.150	9.449	6.082	24.709	100	100	1270	1848	2079	2194	2541	2887	11.390	18.504	80.1
	85.30		0.797	9.156	9.000	11.839	13.150	9.331	6.082	26.660	100	100	1371	1994	2243	2367	2741	3115	11.469	19.922	79.9
	91.20		0.859	9.032	8.876	11.949	13.150	9.236	6.082	28.563	100	100	1468	2135	2402	2536	2936	3337	11.547	21.333	79.9
14	86.00	┐	0.600	12.800	12.613	14.843	13.465	12.921	6.238	27.027	100	100	1389	2021	2273	2400	2778	3157	14.472	20.164	79.8
	93.00		0.650	12.700	12.513	14.843	13.465	12.874	6.238	29.170	100	100	1499	2181	2454	2590	2999	3408	14.543	21.782	79.9
	100.00		0.700	12.600	12.413	14.953	13.465	12.787	6.238	31.296	100	100	1609	2340	2632	2779	3217	3656	14.614	23.408	80.0
	106.00		0.750	12.500	12.313	15.043	13.465	12.693	6.238	33.406	100	100	1717	2498	2810	2966	3434	3902	14.681	24.950	79.9
	112.00		0.800	12.400	12.213	15.130	13.465	12.606	6.238	35.497	100	100	1825	2654	2986	3152	3649	4147	14.752	26.590	80.2
	120.00		0.850	12.300	12.113	15.220	13.465	12.512	6.238	37.574	100	100	1931	2809	3160	3336	3863	4389	14.819	28.147	80.2

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift (Special Drift).
- ┌ Interchangeable where bracketed. Small variations in the connection Internal Diameter will appear. For make-up torque information, refer to TenarisHydril Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- Compression efficiency for SC option is the same as the standard connection.

ER™ | 7" TO 24 1/2"  
Dopeless® technology available





1



- Improved running efficiency in large diameter casing provided by low TPI thread design and increased taper.

2



- Pin nose shoulder and thread profile provide high torque and 100% compression strength.

#### FEATURES

- Easy stabbing, fast make-up with minimized cross threading risk.

#### APPLICATIONS

- Surface & intermediate casing
- Casing while drilling
- SAGD & CSS
- Geothermal

#### OPTIONS

- Dopeless®
- Matched strength
- Special clearance
- Special bevel



ERTM | 7" TO 15" (16" TO 24 1/2" on reverse side)

OPTIONS

DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	
in	lb/ft	in	in	in	in	in	in	in	sq in	%	%	x 1000 lb						
7	23.00	]	0.317	6.366	6.241*	7.657	10.000	6.398	4.409	9.517	100	100	366	532	599	632	732	832
	26.00		0.362	6.276	6.151	7.657	10.000	6.339	4.409	9.517	100	100	415	604	679	717	830	944
	29.00		0.408	6.184	6.059*	7.657	10.000	6.272	4.409	9.517	100	100	465	676	760	803	929	1056
	32.00		0.453	6.094	5.969*	7.657	10.000	6.232	4.409	9.517	100	100	512	745	839	885	1025	1165
	35.00		0.498	6.004	5.879	7.657	10.000	6.193	4.409	9.517	94	100	523	761	857	904	1047	1190
	38.00		0.540	5.920	5.794*	7.657	10.000	6.161	4.409	9.517	87	100	523	761	857	904	1047	1190
	41.00		0.590	5.820	5.694	7.657	10.000	6.122	4.409	9.517	80	100	523	761	857	904	1047	1190
	44.00		0.640	5.720	5.594	7.657	10.000	6.083	4.409	9.517	74	100	523	761	857	904	1047	1190
	46.00		0.670	5.660	5.535	7.657	10.000	6.083	4.409	9.517	71	100	523	761	857	904	1047	1190
8 5/8	24.00	]	0.264	8.097	7.972	9.626	10.626	8.051	4.724	17.095	100	100	381	555	624	659	763	867
	28.00		0.304	8.017	7.892	9.626	10.626	8.008	4.724	17.095	100	100	437	636	715	755	874	993
	32.00		0.352	7.921	7.796*	9.626	10.626	7.980	4.724	17.095	100	100	503	732	823	869	1006	1144
	36.00		0.400	7.825	7.700	9.626	10.626	7.882	4.724	17.095	100	100	568	827	930	982	1137	1292
	40.00		0.450	7.725	7.600*	9.626	10.626	7.846	4.724	17.095	100	100	636	925	1040	1098	1271	1445
	44.00		0.500	7.625	7.500	9.626	10.626	7.807	4.724	17.095	100	100	702	1021	1149	1212	1404	1595
	49.00		0.557	7.511	7.386	9.626	10.626	7.764	4.724	17.095	100	100	776	1129	1271	1341	1553	1765
	52.00		0.595	7.435	7.310	9.626	10.626	7.717	4.724	17.095	100	100	826	1201	1351	1426	1651	1876
	54.00		0.625	7.375	7.250	9.626	10.626	7.717	4.724	17.095	100	100	864	1257	1414	1492	1728	1964
	58.70		0.687	7.251	7.126	9.626	10.626	7.646	4.724	17.095	100	100	942	1371	1542	1628	1885	2142
	9 5/8		36.00	]	0.352	8.921	8.765	10.626	10.626	8.972	4.724	19.015	100	100	564	820	923	974
40.00		0.395	8.835		8.679*	10.626	10.626	8.890	4.724	19.015	100	100	630	916	1031	1088	1260	1432
43.50		0.435	8.755		8.599*	10.626	10.626	8.839	4.724	19.015	100	100	691	1005	1130	1193	1381	1570
47.00		0.472	8.681		8.525	10.626	10.626	8.807	4.724	19.015	100	100	746	1086	1222	1289	1493	1697
53.50		0.545	8.535		8.379*	10.626	10.626	8.748	4.724	19.015	100	100	855	1244	1399	1477	1710	1943
58.40		0.595	8.435		8.279*	10.626	10.626	8.705	4.724	19.015	100	100	928	1350	1519	1604	1857	2110
59.40		0.609	8.407		8.251	10.626	10.626	8.705	4.724	19.015	100	100	949	1380	1552	1639	1897	2156
61.10		0.625	8.375		8.219	10.626	10.626	8.689	4.724	19.015	100	100	972	1414	1590	1679	1944	2209
64.90		0.672	8.281		8.125	10.626	10.626	8.654	4.724	19.015	100	100	1040	1512	1701	1796	2079	2363
9 7/8	62.80		0.625	8.625	8.469	10.827	10.626	9.055	4.724	18.654	100	100	999	1453	1635	1726	1998	2271
10 3/4	45.50	]	0.400	9.950	9.794*	11.748	10.626	9.980	4.724	13.006	100	100	715	1040	1171	1236	1431	1626
	51.00		0.450	9.850	9.694	11.748	10.626	9.980	4.724	21.051	100	100	801	1165	1311	1383	1602	1820
	55.50		0.495	9.760	9.604*	11.748	10.626	9.980	4.724	21.051	100	100	877	1276	1435	1515	1754	1993
	60.70		0.545	9.660	9.504	11.748	10.626	9.764	4.724	21.051	100	100	961	1398	1573	1660	1922	2184
	65.70		0.595	9.560	9.404*	11.748	10.626	9.764	4.724	21.051	100	100	1044	1519	1708	1803	2088	2373
11 7/8	71.80		0.582	10.711	10.555*	12.756	10.626	10.866	4.724	20.872	100	100	1136	1652	1858	1962	2271	2581
13 3/8	54.50	]	0.380	12.615	12.459	14.374	10.626	12.689	4.724	26.091	100	100	853	1241	1396	1474	1706	1939
	61.00		0.430	12.515	12.359	14.374	10.626	12.559	4.724	26.091	100	100	962	1399	1574	1661	1924	2186
	68.00		0.480	12.415	12.259	14.374	10.626	12.559	4.724	26.091	100	100	1069	1556	1750	1847	2139	2431
	72.00		0.514	12.347	12.191*	14.374	10.626	12.559	4.724	26.091	100	100	1142	1661	1869	1973	2284	2596
13 1/2	80.40		0.576	12.348	12.161*	14.500	10.626	12.559	4.724	26.330	100	100	1286	1871	2105	2222	2573	2923
13 5/8	88.20	]	0.625	12.375	12.187*	14.626	10.626	12.598	4.724	26.569	100	100	1404	2042	2297	2425	2808	3191
	105.00		0.760	12.106	11.918	14.626	10.626	12.402	4.724	26.569	87	100	1461	2126	2391	2524	2923	3321
14	82.50	]	0.562	12.876	12.689	15.000	10.626	12.996	4.724	30.597	100	100	1305	1898	2135	2254	2610	2966
	94.80		0.656	12.688	12.501	15.000	10.626	12.874	4.724	30.597	100	100	1513	2200	2475	2613	3025	3438
	99.30		0.688	12.624	12.436	15.000	10.626	12.874	4.724	30.597	100	100	1583	2302	2590	2733	3165	3597
	110.00		0.772	12.456	12.269	15.000	10.626	12.795	4.724	30.597	95	100	1683	2448	2754	2907	3366	3825
	111.00		0.779	12.442	12.254*	15.000	10.626	12.795	4.724	30.597	95	100	1683	2448	2754	2907	3366	3825
	114.00		0.800	12.400	12.213	15.000	10.626	12.756	4.724	30.597	92	100	1683	2448	2754	2907	3366	3825
15	109.00		0.715	13.570	13.383	16.000	12.205	13.602		34.089	100	100	1765	2567	2888	3048	3530	4011

SPECIAL CLEARANCE COUPLING			MATCHED STRENGTH
Outside Diameter	Critical Section Area	Tensile Efficiency	Outside Diameter
in	sq in	%	in
7.375	6.181	92.9	7.415
7.375	6.181	81.9	7.492
7.375	6.181	73.2	7.568
7.375	6.181	66.3	7.640
7.375	6.181	60.8	7.711
7.375	6.181	56.4	7.776
7.375	6.181	52.0	7.851
7.375	6.181	48.3	7.924
7.375	6.181	46.4	7.967
9.125	9.720	100	9.125
9.125	9.720	100	9.125
9.125	9.720	100	9.125
9.125	9.720	94.0	9.168
9.125	9.720	84.1	9.252
9.125	9.720	76.2	9.335
9.125	9.720	68.8	9.427
9.125	9.720	64.8	9.487
9.125	9.720	61.9	9.533
9.125	9.720	56.7	9.628
10.125	10.853	100	10.125
10.125	10.853	94.8	10.163
10.125	10.853	86.4	10.232
10.125	10.853	80.0	10.295
10.125	10.853	69.8	10.416
10.125	10.853	64.3	10.497
10.125	10.853	62.9	10.520
10.125	10.853	61.4	10.545
10.125	10.853	57.4	10.619
—	—	—	10.802
11.250	12.056	92.7	11.304
11.250	12.056	82.8	11.391
11.250	12.056	75.6	11.468
11.250	12.056	69.0	11.552
11.250	12.056	63.5	11.635
—	—	—	—
—	—	—	13.898
—	—	—	13.988
—	—	—	14.077
—	—	—	14.136
—	—	—	14.370
—	—	—	14.599
—	—	—	14.824
—	—	—	14.706
—	—	—	14.868
—	—	—	14.922
—	—	—	—
—	—	—	—
—	—	—	—

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift (Special Drift).
- ] Interchangeable where bracketed. Small variations in the connection Internal Diameter will appear. For make-up torque information, refer to TenarisHydril Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- Compression efficiency for SC option is the same as the standard connection.
- For the MS option, the coupling OD is reduced to the minimum critical area capable of providing the same tensile efficiency as the standard option.

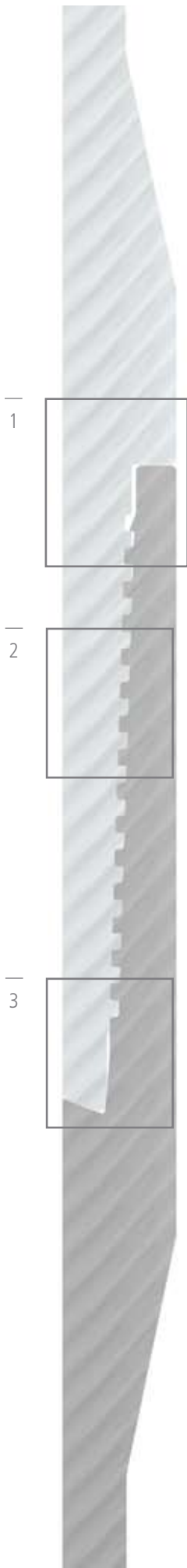
DESIGNATION		PIPE BODY			COUPLING		CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						SPECIAL CLEARANCE COUPLING			MATCHED STRENGTH	
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter	Outside Diameter	Length						55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter	Critical Section Area	Tensile Efficiency	Outside Diameter	
in	lb/ft	in	in	in	in	in						in	in	sq in	%	%	x 1000 lb					
16	65.00	┌	0.375	15.250	15.062	17.000	9.646	15.252	4.232	33.356	100	100	1012	1473	1657	1749	2025	2301	—	—	—	—
	75.00		0.438	15.124	14.936	17.000	9.646	15.118	4.232	33.356	100	100	1178	1713	1927	2034	2355	2677	—	—	—	16.547
	84.00	┌	0.495	15.010	14.823	17.000	10.626	15.020	4.724	34.870	100	100	1326	1929	2170	2291	2652	3014	16.405	19.266	79.9	16.592
	94.50		0.562	14.876	14.689*	17.000	10.626	14.961	4.724	34.870	100	100	1499	2181	2453	2589	2998	3407	—	—	—	16.712
	109.00	┌	0.656	14.688	14.501	17.000	10.626	14.902	4.724	34.870	100	100	1739	2530	2846	3004	3478	3953	—	—	—	16.878
	118.00		0.715	14.570	14.383	17.000	12.205	14.744	5.512	37.281	100	100	1888	2747	3090	3262	3777	4292	—	—	—	16.980
	128.00	└	0.781	14.438	14.250	17.000	12.205	14.705	5.512	37.281	100	100	2054	2987	3361	3547	4108	4668	—	—	—	17.092
18 5/8	87.50	┌	0.435	17.755	17.568	20.000	9.646	17.803	4.232	50.353	100	100	1367	1989	2237	2362	2734	3107	—	—	—	19.171
	94.50		0.468	17.689	17.502	20.000	9.646	17.764	4.232	50.353	100	100	1468	2136	2403	2536	2937	3337	—	—	—	19.232
	96.50	┌	0.485	17.655	17.468*	20.000	9.646	17.764	4.232	50.353	100	100	1520	2211	2488	2626	3040	3455	—	—	—	19.263
	99.00		0.500	17.625	17.438	20.000	10.626	17.657	4.724	52.120	100	100	1566	2278	2562	2705	3132	3559	—	—	—	19.232
	114.00	┌	0.579	17.467	17.280	20.000	10.626	17.579	4.724	52.120	100	100	1805	2626	2954	3118	3611	4103	—	—	—	19.376
	115.00		0.594	17.437	17.250	20.000	10.626	17.579	4.724	52.120	100	100	1851	2692	3028	3197	3701	4206	—	—	—	19.403
	126.00	┌	0.636	17.354	17.166	20.000	10.626	17.559	4.724	52.120	100	100	1975	2873	3232	3412	3951	4489	—	—	—	19.478
	136.00		0.693	17.239	17.052	20.000	10.626	17.559	4.724	52.120	100	100	2147	3123	3514	3709	4294	4880	—	—	—	19.579
	139.00	└	0.720	17.185	16.998	20.000	12.205	17.323	5.512	54.937	100	100	2228	3240	3645	3848	4455	5063	—	—	—	19.627
20	94.00	┌	0.438	19.124	18.936	21.000	9.646	19.177	4.232	41.516	100	100	1480	2153	2423	2557	2961	3365	—	—	—	20.553
	106.50		0.500	19.000	18.813	21.000	10.626	19.012	4.724	43.417	100	100	1685	2450	2757	2910	3369	3829	—	—	—	20.609
	118.50	┌	0.563	18.874	18.687	21.000	10.626	18.965	4.724	43.417	100	100	1891	2750	3094	3266	3782	4297	—	—	—	20.724
	131.50		0.625	18.750	18.562	21.000	10.626	18.917	4.724	43.417	100	100	2092	3043	3424	3614	4185	4755	—	—	—	20.837
	133.00	┌	0.635	18.730	18.543	21.000	10.626	18.917	4.724	43.417	100	100	2125	3091	3477	3670	4249	4829	—	—	—	20.854
	147.00		0.709	18.582	18.394	21.000	10.626	18.858	4.724	43.417	100	100	2363	3437	3867	4082	4727	5371	—	—	—	20.987
	156.00	┌	0.750	18.500	18.313	21.000	10.626	18.827	4.724	43.417	96	100	2269	3300	3712	3919	4537	5156	—	—	—	21.059
	169.00		0.812	18.376	18.189	21.000	10.626	18.787	4.724	43.417	89	100	2388	3473	3907	4125	4776	5427	—	—	—	—
	209.00	└	1.000	18.000	17.813	21.000	10.626	18.701	4.724	43.417	73	100	2397	3486	3922	4140	4793	5447	—	—	—	—
	22	146.50	┌	0.625	20.750	20.500	23.130	12.205	20.906	5.512	55.735	100	100	2308	3358	3777	3987	4617	5246	—	—	—
180.00		0.781		20.438	20.188	23.130	12.205	20.689	5.512	55.735	100	100	2863	4165	4686	4946	5727	6508	—	—	—	23.031
226.00		└	1.000	20.000	19.750	23.130	12.205	20.394	5.512	55.735	84	100	3048	4433	4988	5265	6096	6927	—	—	—	23.409
24	159.20	┌	0.625	22.750	22.562	25.000	10.626	22.906	4.724	51.964	100	100	2524	3672	4131	4360	5049	5737	—	—	—	—
	162.00		0.635	22.730	22.543	25.000	10.626	22.906	4.724	51.964	100	100	2564	3729	4195	4428	5127	5826	—	—	—	—
	174.00	└	0.688	22.624	22.436	25.000	10.626	22.866	4.724	51.964	100	100	2771	4031	4535	4787	5543	6298	—	—	—	—
24 1/2	133.00	┌	0.500	23.500	23.250	25.591	9.646	23.638	4.232	54.329	100	100	2073	3016	3393	3581	4147	4712	—	—	—	25.174
	140.00		0.531	23.438	23.188	25.591	10.626	23.488	4.724	56.665	100	100	2199	3199	3599	3799	4398	4998	—	—	—	25.172
	162.00	┌	0.625	23.250	23.000	25.591	10.626	23.417	4.724	56.665	100	100	2578	3750	4219	4453	5157	5860	—	—	—	25.346
	165.00		0.635	23.230	22.980	25.591	10.626	23.417	4.724	56.665	100	100	2618	3809	4285	4523	5237	5951	—	—	—	25.364
	182.00	└	0.709	23.082	22.832	25.591	10.626	23.417	4.724	56.665	100	100	2915	4239	4769	5034	5829	6624	—	—	—	25.499

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift (Special Drift).
- ┌ └ Interchangeable where bracketed. Small variations in the connection Internal Diameter will appear. For make-up torque information, refer to TenarisHydril Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- Compression efficiency for SC option is the same as the standard connection.
- For the MS option, the coupling OD is reduced to the minimum critical area capable of providing the same tensile efficiency as the standard option.



# PJD™ | 2 3/8" TO 5"





1



- Rugged primary external torque shoulder designed for high torque resistance.

2



- Optimized modified buttress thread design provides easy stabbing and effortless make-up.

3



- Double torque shoulder engagement promotes low stress along thread profile providing high fatigue resistance.

#### FEATURES

- Streamlined, clearance OD facilitates running, pulling, and circulating and eliminates coupling face hang-up.
- 100% pipe body performance in tension, compression, bending, internal and external pressure.

#### APPLICATIONS

- Production tubing
- Workstring

#### OPTIONS

- CB ring

PJD™ | 2 3/8 " TO 5 "

DESIGNATION		PIPE BODY			BOX OUTSIDE DIAMETER	CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter							55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	
in	lb/ft	in	in	in	in	in	in	sq in	%	%	x 1000 lb						
2 3/8	4.70	┌	0.190	1.995	1.901	2.795	1.941	2.362	1.325	100	100	72	104	117	124	143	163
	5.30		0.218	1.939	1.845	2.795	1.886	2.362	1.494	100	100	81	118	133	140	162	185
	5.95		0.254	1.867	1.774	2.913	1.811	2.362	1.714	100	100	93	135	152	161	186	212
2 7/8	6.50	┌	0.217	2.441	2.348	3.307	2.386	2.756	1.838	100	100	100	145	163	172	199	227
	7.90		0.276	2.323	2.230	3.425	2.268	2.756	2.275	100	100	124	180	203	214	248	282
	8.70		0.308	2.259	2.166	3.484	2.205	2.756	2.499	100	100	137	199	224	236	273	310
	9.60		0.340	2.195	2.101	3.543	2.142	2.756	2.717	100	100	149	217	244	257	298	338
3 1/2	9.30	┌	0.254	2.992	2.867	4.000	2.925	3.228	2.688	100	100	142	207	233	246	285	324
	10.30		0.289	2.922	2.797	4.000	2.854	3.228	3.013	100	100	160	233	262	277	321	364
	12.95		0.375	2.750	2.625	4.291	2.685	3.228	3.757	100	100	202	295	331	350	405	460
4	11.00	┌	0.262	3.476	3.351	4.469	3.409	3.543	3.191	100	100	169	246	277	292	338	385
	13.40		0.330	3.340	3.215	4.528	3.276	3.543	3.900	100	100	209	304	342	361	419	476
4 1/2	12.75	┌	0.271	3.958	3.833	4.961	3.894	3.937	3.718	100	100	198	288	324	342	396	450
	13.50		0.290	3.920	3.794	4.961	3.854	3.937	3.960	100	100	211	307	345	364	422	479
	15.50		0.337	3.826	3.701	5.079	3.760	3.937	4.529	100	100	242	353	397	419	485	551
5	15.00	┌	0.296	4.408	4.283	5.472	4.343	4.134	4.521	100	100	241	350	394	416	481	547
	18.00		0.362	4.276	4.151	5.567	4.209	4.134	5.422	100	100	290	422	475	501	580	659
	21.00		0.422	4.156	4.031	5.669	4.091	4.134	6.191	100	100	334	486	546	577	668	759

- ┌ Interchangeable where bracketed. Small variations in the connection Internal Diameter will appear. For make-up torque information, refer to TenarisHydriI Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).



# SLX™ | 4 1/2" to 13 5/8"



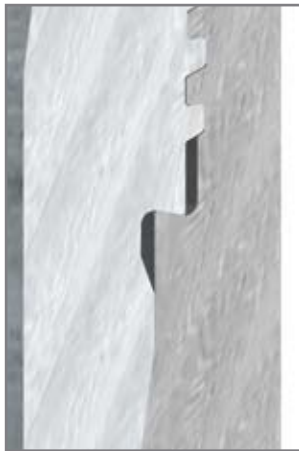


1



- Clearance OD 1.5–2% larger than specified pipe body OD (0.5–1% larger than API maximum) permits use in clearance situations.

2



- 100% collapse rating provided by the sliding metal to metal seal. This seal also functions as a secondary internal pressure seal.

3



- 100% pipe body rated gas sealing, internal pressure energized, metal to metal seal.

#### FEATURES

- High performance achieved by machining pin and box on formed ends.
- Patented seal saver protects the pin seal from handling damage and acts as a stiffener to improve metal seal functioning.

#### APPLICATIONS

- Production casing, tie-backs & liners
- HP/HT & deep wells

SLX™ | 4 1/2 " TO 9 5/8 " (9 3/4 " TO 13 5/8 " on reverse side)

DESIGNATION		PIPE BODY			BOX OUTSIDE DIAMETER	CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH							
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter							55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi		
in	lb/ft	in	in	in	in	in	in	sq in	%	%	x 1000 lb							
4 1/2	12.60	]	0.271	3.958	3.833	4.584	3.880	4.15	2.602	72.3	36.1	143	208	234	247	286	325	
	13.50		0.290	3.920	3.795	4.588	3.840	4.15	2.832	73.8	36.9	156	227	255	269	312	354	
	15.10	0.337	3.826	3.701	4.597	3.746	4.49	3.207	72.8	36.4	176	257	289	305	353	401		
	17.00	]	0.380	3.740	3.615	4.605	3.661	4.92	3.612	73.4	36.7	199	289	325	343	397	452	
	18.80		0.430	3.640	3.515	4.615	3.560	4.92	4.330	78.8	39.4	238	346	390	411	476	541	
	21.60	0.500	3.500	3.375	4.629	3.420	5.48	5.054	80.4	40.2	278	404	455	480	556	632		
5	15.00	]	0.296	4.408	4.283	5.092	4.328	4.49	3.147	71.9	36.0	173	252	283	299	346	393	
	18.00		0.362	4.276	4.151	5.105	4.196	4.49	3.697	70.1	35.0	203	296	333	351	407	462	
	20.30	]	0.408	4.184	4.059	5.114	4.104	4.92	4.599	78.1	39.1	253	368	414	437	506	575	
	20.80		0.422	4.156	4.031	5.117	4.076	4.92	4.775	78.7	39.3	263	382	430	454	525	597	
	21.40	]	0.437	4.126	4.001	5.119	4.046	4.92	4.963	79.2	39.6	273	397	447	471	546	620	
	23.20		0.478	4.044	3.919	5.128	3.964	5.29	5.364	79.0	39.5	295	429	483	510	590	671	
	24.10	]	0.500	4.000	3.875	5.132	3.920	5.29	5.632	79.7	39.8	310	451	507	535	620	704	
	17.00		0.304	4.892	4.767	5.598	4.812	4.40	3.568	71.9	36.0	196	285	321	339	392	446	
5 1/2	20.00	]	0.361	4.778	4.653	5.608	4.698	4.40	4.136	71.0	35.5	227	331	372	393	455	517	
	23.00		0.415	4.670	4.545	5.619	4.590	5.02	5.151	77.7	38.8	283	412	464	489	567	644	
	26.00	]	0.476	4.548	4.423*	5.631	4.534	5.17	5.733	76.3	38.2	315	459	516	545	631	717	
	26.80		0.500	4.500	4.375	5.635	4.420	5.17	6.181	78.7	39.3	340	494	556	587	680	773	
	6 5/8	22.60	]	0.330	5.965	5.840	6.736	5.890	4.41	4.149	63.6	31.8	228	332	373	394	456	519
		24.00		0.352	5.921	5.796	6.740	5.841	4.41	4.622	66.6	33.3	254	370	416	439	508	578
24.60		]	0.362	5.901	5.776	6.742	5.826	4.41	4.803	67.4	33.7	264	384	432	456	528	600	
28.00			0.417	5.791	5.666	6.752	5.711	5.18	6.333	77.9	38.9	348	507	570	602	697	792	
32.00		]	0.475	5.675	5.550	6.763	5.595	5.18	7.280	79.3	39.7	400	582	655	692	801	910	
23.00			0.317	6.366	6.241*	7.111	6.286	4.41	4.879	73.3	36.7	268	390	439	464	537	610	
7	26.00	]	0.362	6.276	6.151	7.120	6.196	4.41	5.603	74.2	37.1	308	448	504	532	616	700	
	29.00		0.408	6.184	6.059*	7.128	6.160	4.93	6.463	76.5	38.2	355	517	582	614	711	808	
	32.00	]	0.453	6.094	5.969*	7.153	6.035	4.93	7.409	79.5	39.8	407	593	667	704	815	926	
	35.00		0.498	6.004	5.879	7.145	5.924	5.80	8.205	80.7	40.3	451	656	738	779	903	1026	
	38.00	]	0.540	5.920	5.795*	7.169	5.910	5.80	8.961	81.8	40.9	493	717	806	851	986	1120	
	41.00		0.590	5.820	5.695	7.163	5.740	5.97	9.770	82.2	41.1	537	782	879	928	1075	1221	
	42.70	]	0.625	5.750	5.625	7.200	5.675	5.97	10.279	82.1	41.1	565	822	925	977	1131	1285	
	26.40		0.328	6.969	6.844	7.743	6.889	4.72	5.570	74.1	37.0	306	446	501	529	613	696	
7 5/8	29.70	]	0.375	6.875	6.750	7.752	6.795	4.72	6.358	74.4	37.2	350	509	572	604	699	795	
	33.70		0.430	6.765	6.640	7.762	6.685	5.49	7.624	78.4	39.2	419	610	686	724	839	953	
	39.00	]	0.500	6.625	6.500	7.775	6.545	5.49	8.861	79.2	39.6	487	709	797	842	975	1108	
	42.80		0.562	6.501	6.376	7.787	6.421	5.97	10.174	81.6	40.8	560	814	916	967	1119	1272	
	45.30	]	0.595	6.435	6.310	7.793	6.355	5.97	10.819	82.3	41.2	595	866	974	1028	1190	1352	
	47.10		0.625	6.375	6.250	7.799	6.295	6.16	11.310	82.3	41.1	622	905	1018	1074	1244	1414	
	7 3/4	46.10	]	0.595	6.560	6.435*	7.937	6.535	6.16	10.917	81.6	40.8	600	873	983	1037	1201	1365
		48.60		0.640	6.470	6.345*	7.945	6.410	6.16	11.421	79.9	39.9	628	914	1028	1085	1256	1428
54.20		]	0.712	6.326	6.201*	7.995	6.295	6.16	11.805	75.0	37.5	649	944	1062	1121	1299	1476	
8 5/8	36.00		]	0.400	7.825	7.700	8.764	7.745	5.19	7.575	73.3	36.6	417	606	682	720	833	947
	40.00	0.450		7.725	7.600	8.773	7.645	5.19	8.745	75.7	37.8	481	700	787	831	962	1093	
	44.00	]	0.500	7.625	7.500	8.782	7.545	5.80	9.803	76.8	38.4	539	784	882	931	1078	1225	
	49.00		0.557	7.511	7.386	8.793	7.450	5.80	11.204	79.4	39.7	616	896	1008	1064	1232	1401	
	52.00	]	0.595	7.435	7.310	8.801	7.355	6.17	11.852	79.0	39.5	652	948	1067	1126	1304	1482	
	54.00		0.625	7.375	7.250	8.806	7.295	6.17	12.523	79.7	39.9	689	1002	1127	1190	1378	1565	
9 5/8	43.50	]	0.435	8.755	8.599*	9.778	8.675	5.32	9.310	74.1	37.1	512	745	838	884	1024	1164	
	47.00		0.472	8.681	8.525	9.784	8.601	5.32	10.281	75.7	37.9	565	822	925	977	1131	1285	
	53.50	]	0.545	8.535	8.379*	9.821	8.535	5.45	12.062	77.6	38.8	663	965	1086	1146	1327	1508	
	58.40		0.595	8.435	8.279*	9.830	8.445	5.45	12.974	76.9	38.4	714	1038	1168	1233	1427	1622	

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift.
- ] Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).

SLX™ | 9 3/4" TO 13 5/8"

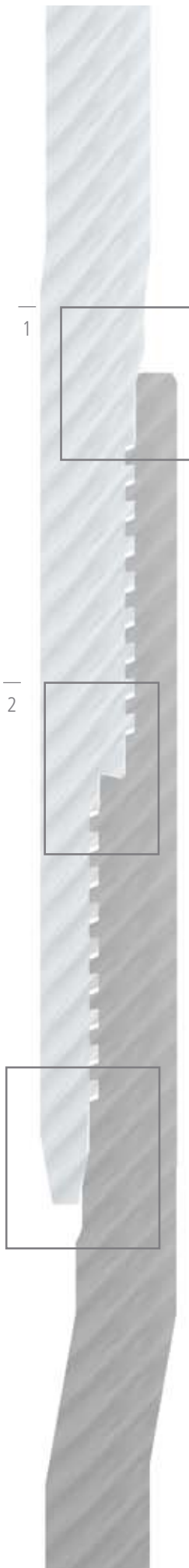
DESIGNATION		PIPE BODY			BOX OUTSIDE DIAMETER	CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH					
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter							55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi
in	lb/ft	in	in	in	in	in	in	sq in	%	%	x 1000 lb					
9 3/4	59.20	0.595	8.560	8.404*	9.956	8.570	6.22	12.953	75.7	37.8	712	1036	1166	1231	1425	1619
9 7/8	62.80	0.625	8.625	8.469*	10.065	8.535	6.22	14.358	79.1	39.5	790	1149	1292	1364	1579	1795
	65.10	0.650	8.575	8.419*	10.065	8.535	6.22	15.091	80.1	40.1	830	1207	1358	1434	1660	1886
10	66.95	0.672	8.656	8.500*	10.100	8.541	6.22	15.091	76.6	38.3	830	1207	1358	1434	1660	1886
	68.42	0.688	8.624	8.468*	10.150	8.541	6.22	15.091	75.0	37.5	830	1207	1358	1434	1660	1886
10 3/4	51.00	0.450	9.850	9.694	10.914	9.770	5.46	10.765	73.9	37.0	592	861	969	1023	1184	1346
	55.50	0.495	9.760	9.604	10.922	9.680	5.46	12.092	75.8	37.9	665	967	1088	1149	1330	1512
	60.70	0.545	9.660	9.504	10.931	9.580	5.83	13.397	76.7	38.3	737	1072	1206	1273	1474	1675
	65.70	0.595	9.560	9.404*	10.966	9.545	5.83	14.844	78.2	39.1	816	1188	1336	1410	1633	1856
11 3/4	60.00	0.489	10.772	10.616*	11.928	10.692	5.63	12.548	72.5	36.3	690	1004	1129	1192	1380	1569
	65.00	0.534	10.682	10.526*	11.965	10.670	5.63	14.000	74.4	37.2	770	1120	1260	1330	1540	1750
	71.00	0.582	10.586	10.430	11.975	10.504	5.63	15.656	76.7	38.3	861	1252	1409	1487	1722	1957
11 7/8	71.80	0.582	10.711	10.555*	12.000	10.670	5.83	14.940	72.4	38.0	822	1195	1345	1419	1643	1868
12	74.80	0.615	10.770	10.614*	12.204	10.666	5.83	17.165	78.0	39.0	944	1373	1545	1631	1888	2146
12 1/16	78.10	0.640	10.783	10.625	12.272	10.666	5.83	17.365	75.6	37.8	955	1389	1563	1650	1910	2171
13 3/8	68.00	0.480	12.415	12.259	13.564	12.305	5.64	14.024	72.1	36.1	771	1122	1262	1332	1543	1753
	72.00	0.514	12.347	12.191*	13.602	12.295	5.64	15.289	73.6	36.8	841	1223	1376	1452	1682	1911
	77.00	0.550	12.275	12.119	13.609	12.196	5.64	16.774	75.7	37.8	923	1342	1510	1594	1845	2097
	80.70	0.580	12.215	12.059	13.614	12.136	6.30	17.687	75.9	37.9	973	1415	1592	1680	1946	2211
	85.00	0.608	12.159	12.003	13.619	12.080	6.30	18.698	76.7	38.3	1028	1496	1683	1776	2057	2337
13 1/2	86.00	0.625	12.125	11.969	13.622	12.046	6.30	19.333	77.2	38.6	1063	1547	1740	1837	2127	2417
	81.40	0.580	12.340	12.152*	13.740	12.291	5.64	18.039	76.6	38.3	992	1443	1624	1714	1984	2255
13 5/8	88.20	0.625	12.375	12.187*	13.875	12.290	6.30	19.506	76.4	38.2	1073	1560	1756	1853	2146	2438

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift.
- ] Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).



# MACII™ | 5 1/2" to 16"



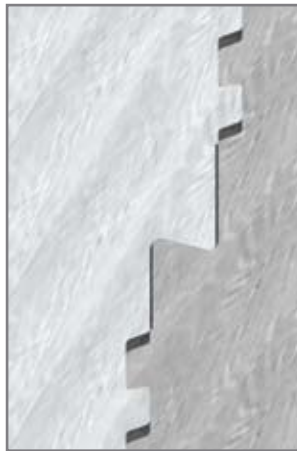


1



- Pressure energized metal seal provides 100% collapse rating.

2



- Easy make-up on even the heaviest pipe weights ensured by using the rugged, coarse-pitch threads combined with field-proven, deep stabbing two-step design.

3



- 100% pipe body rated gas sealing, internal pressure energized, metal to metal seal.

#### FEATURES

- High performance achieved by machining pin and box on formed ends.
- Perfect alternative for heavy wall applications with reduced clearances.

#### APPLICATIONS

- HP/HT & deep wells

MACII™ | 5 1/2" TO 9 5/8" (9 7/8" TO 16" on reverse side)

DESIGNATION		PIPE BODY			BOX OUTSIDE DIAMETER	CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH							
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter							55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi		
in	lb/ft	in	in	in	in	in	in	sq in	%	%	x 1000 lb							
5 1/2	28.40	]	0.530	4.440	4.315	5.716	4.360	4.94	6.205	75.0	37.5	341	496	558	589	683	776	
	29.70		0.562	4.376	4.251	5.743	4.296	4.94	6.781	77.8	38.9	373	542	610	644	746	848	
	32.60		0.625	4.250	4.125	5.770	4.170	4.94	7.490	78.2	39.1	412	599	674	712	824	936	
	35.30	]	0.687	4.126	4.001	5.767	4.046	5.75	7.951	76.5	38.3	437	636	716	755	875	994	
	36.40		0.705	4.090	3.965	5.766	4.010	5.75	7.958	74.9	37.5	438	637	716	756	875	995	
	38.00		0.750	4.000	3.875	5.764	3.920	5.81	8.418	75.2	37.6	463	673	758	800	926	1052	
	40.50		0.812	3.876	3.751	5.761	3.796	6.44	8.851	74.0	37.0	487	708	797	841	974	1106	
6 5/8	36.70		0.562	5.501	5.376	6.921	5.421	5.00	8.250	77.1	38.5	454	660	743	784	908	1031	
	40.20	]	0.625	5.375	5.250	6.887	5.295	5.75	9.020	76.6	38.3	496	722	812	857	992	1128	
	43.70		0.687	5.251	5.126	6.951	5.171	5.75	9.860	76.9	38.5	542	789	887	937	1085	1233	
	47.10		0.750	5.125	5.000	6.948	5.045	5.81	10.807	78.1	39.0	594	865	973	1027	1189	1351	
	50.40		0.812	5.001	4.876	6.945	4.921	6.44	11.367	76.7	38.3	625	909	1023	1080	1250	1421	
	53.70		0.875	4.875	4.750	6.942	4.795	6.44	11.931	75.5	37.7	656	954	1074	1133	1312	1491	
	65.80		1.125	4.375	4.250	6.933	4.295	7.38	14.078	72.4	36.2	774	1126	1267	1337	1549	1760	
7	41.00	]	0.590	5.820	5.695	7.259	5.740	5.00	9.195	77.4	38.7	506	736	828	874	1011	1149	
	42.70		0.625	5.750	5.625	7.300	5.670	5.00	9.807	78.3	39.2	539	785	883	932	1079	1226	
	44.00	]	0.640	5.720	5.595	7.270	5.640	5.75	9.679	75.7	37.8	532	774	871	920	1065	1210	
	45.40		0.670	5.660	5.535	7.298	5.580	5.75	10.368	77.8	38.9	570	829	933	985	1140	1296	
	46.40	]	0.687	5.626	5.501	7.311	5.546	5.75	10.664	78.3	39.1	587	853	960	1013	1173	1333	
	49.50		0.730	5.540	5.415	7.344	5.460	5.81	11.349	78.9	39.5	624	908	1021	1078	1248	1419	
	50.10	]	0.750	5.500	5.375	7.343	5.420	5.81	11.349	77.1	38.5	624	908	1021	1078	1248	1419	
	53.60		0.812	5.376	5.251	7.340	5.296	6.44	12.235	77.5	38.8	673	979	1101	1162	1346	1529	
	57.10		0.875	5.250	5.125	7.337	5.170	6.44	12.838	76.2	38.1	706	1027	1155	1220	1412	1605	
	60.50		0.937	5.126	5.001	7.334	5.046	7.38	13.423	75.2	37.6	738	1074	1208	1275	1477	1678	
	63.90		1.000	5.000	4.875	7.331	4.920	7.38	14.063	74.6	37.3	773	1125	1266	1336	1547	1758	
	7 5/8	45.30	]	0.595	6.435	6.310*	7.885	6.400	5.00	9.710	73.9	36.9	534	777	874	922	1068	1214
		47.10		0.625	6.375	6.250	7.921	6.295	5.00	10.743	78.2	39.1	591	859	967	1021	1182	1343
51.20		]	0.687	6.251	6.126	8.004	6.171	5.81	11.650	77.8	38.9	641	932	1049	1107	1282	1456	
52.80			0.712	6.201	6.076	8.003	6.121	5.81	11.796	76.3	38.1	649	944	1062	1121	1298	1475	
55.30			0.750	6.125	6.000	8.001	6.045	5.81	12.847	79.3	39.7	707	1028	1156	1220	1413	1606	
59.20			0.812	6.001	5.876	7.998	5.921	6.44	13.723	79.0	39.5	755	1098	1235	1304	1510	1715	
63.20			0.875	5.875	5.750	7.994	5.795	6.44	14.407	77.6	38.8	792	1153	1297	1369	1585	1801	
66.90			0.937	5.751	5.626	7.991	5.671	7.38	15.051	76.5	38.2	828	1204	1355	1430	1656	1881	
70.70		1.000	5.625	5.500	7.989	5.545	7.38	15.736	75.6	37.8	865	1259	1416	1495	1731	1967		
7 3/4	46.10	]	0.595	6.560	6.435*	8.025	6.530	5.75	10.046	75.1	37.6	553	804	904	954	1105	1256	
	48.60		0.640	6.470	6.345*	8.084	6.405	5.75	10.934	76.5	38.2	601	875	984	1039	1203	1367	
8	70.80	0.937	6.126	6.001	8.386	6.046	7.38	15.804	76.0	38.0	869	1264	1422	1501	1738	1976		
8 1/16	74.20	0.980	6.103	6.000	8.450	6.045	7.38	16.570	76.0	38.0	911	1326	1491	1574	1823	2071		
8 5/8	54.00	]	0.625	7.375	7.250	8.884	7.295	5.81	11.869	75.6	37.8	653	950	1068	1128	1306	1484	
	58.70		0.687	7.251	7.126	8.970	7.171	5.81	13.249	77.3	38.7	729	1060	1192	1259	1457	1656	
	63.50	]	0.750	7.125	7.000	9.054	7.045	5.81	14.439	77.8	38.9	794	1155	1300	1372	1588	1805	
	68.10		0.812	7.001	6.876	9.051	6.921	6.50	15.784	79.2	39.6	868	1263	1421	1499	1736	1973	
	72.70		0.875	6.875	6.750	9.047	6.795	7.38	16.905	79.4	39.7	930	1352	1521	1606	1860	2113	
	77.10		0.937	6.751	6.626	9.044	6.671	7.38	17.766	78.5	39.3	977	1421	1599	1688	1954	2221	
	81.50	]	1.000	6.625	6.500	9.041	6.545	7.38	18.562	77.5	38.7	1021	1485	1671	1763	2042	2320	
	83.20		1.025	6.575	6.450*	9.075	6.525	7.38	18.767	76.7	38.3	1032	1501	1689	1783	2064	2346	
9 5/8	58.40	]	0.595	8.435	8.279*	9.843	8.400	5.81	11.793	69.9	34.9	649	943	1061	1120	1297	1474	
	59.40		0.609	8.407	8.251	9.873	8.327	5.81	13.033	75.6	37.8	717	1043	1173	1238	1434	1629	
	61.10		0.625	8.375	8.219	9.889	8.295	5.81	13.440	76.1	38.0	739	1075	1210	1277	1478	1680	
	64.90	]	0.672	8.281	8.125	9.965	8.201	5.81	14.620	77.3	38.7	804	1170	1316	1389	1608	1828	
	70.30		0.734	8.157	8.001	10.047	8.077	6.50	16.017	78.1	39.1	881	1281	1442	1522	1762	2002	
	71.60		0.750	8.125	7.969	10.060	8.045	6.50	16.410	78.5	39.2	903	1313	1477	1559	1805	2051	
	75.60	]	0.797	8.031	7.875	10.099	7.951	6.50	17.558	79.4	39.7	966	1405	1580	1668	1931	2195	
	80.80		0.859	7.907	7.751	10.102	7.827	7.38	18.779	79.4	39.7	1033	1502	1690	1784	2066	2347	
	86.00		0.922	7.781	7.625	10.098	7.701	7.38	20.213	80.2	40.1	1112	1617	1819	1920	2223	2527	
	91.00		0.984	7.657	7.501	10.095	7.577	7.44	21.093	79.0	39.5	1160	1687	1898	2004	2320	2637	

▪ Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift.

▪ ] Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.

▪ Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).

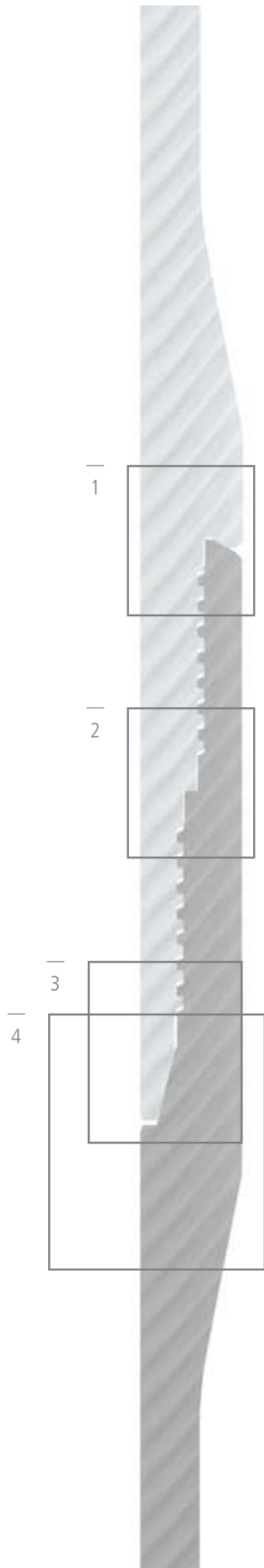
MACII™ | 9 7/8" TO 16"

DESIGNATION		PIPE BODY			BOX OUTSIDE DIAMETER	CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	CRITICAL SECTION AREA	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH					
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter							55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi
in	lb/ft	in	in	in	in	in	in	sq in	%	%	x 1000 lb					
9 7/8	62.80	0.625	8.625	8.469*	10.147	8.565	5.81	13.655	75.2	37.6	751	1092	1229	1297	1502	1707
10 3/4	73.20	0.672	9.406	9.250	11.041	9.326	5.81	16.264	76.4	38.2	895	1301	1464	1545	1789	2033
	75.90	0.700	9.350	9.194	11.076	9.270	5.81	17.066	77.2	38.6	939	1365	1536	1621	1877	2133
	79.20	0.734	9.282	9.126	11.131	9.202	5.81	18.021	78.0	39.0	991	1442	1622	1712	1982	2253
	80.80	0.750	9.250	9.094*	11.157	9.170	5.81	18.366	77.9	39.0	1010	1469	1653	1745	2020	2296
	85.30	0.797	9.156	9.000	11.139	9.076	7.44	19.474	78.1	39.1	1071	1558	1753	1850	2142	2434
	91.20	0.859	9.032	8.876	11.223	8.952	7.44	21.184	79.4	39.7	1165	1695	1907	2012	2330	2648
	97.10	0.922	8.906	8.750	11.283	8.826	7.44	22.257	78.2	39.1	1224	1781	2003	2114	2448	2782
	102.90	0.984	8.782	8.626	11.280	8.702	7.50	24.257	80.3	40.2	1334	1941	2183	2304	2668	3032
	104.30	1.000	8.750	8.594	11.232	8.670	7.44	23.140	75.5	37.8	1273	1851	2083	2198	2545	2893
	108.70	1.047	8.656	8.500	11.276	8.576	7.44	25.602	80.2	40.1	1408	2048	2304	2432	2816	3200
11 3/4	87.50	0.734	10.282	10.126	12.097	10.202	6.56	19.647	77.3	38.7	1081	1572	1768	1866	2161	2456
	94.00	0.797	10.156	10.000	12.185	10.076	6.56	21.580	78.7	39.3	1187	1726	1942	2050	2374	2698
	100.50	0.859	10.032	9.876	12.267	9.952	7.44	23.313	79.3	39.7	1282	1865	2098	2215	2564	2914
	107.10	0.922	9.906	9.750	12.320	9.826	7.44	25.209	80.4	40.2	1386	2017	2269	2395	2773	3151
	111.50	0.945	9.860	9.704	12.336	9.780	7.44	25.536	79.6	39.8	1404	2043	2298	2426	2809	3192
	113.50	0.984	9.782	9.626	12.332	9.702	7.44	26.713	80.3	40.1	1469	2137	2404	2538	2938	3339
	119.90	1.047	9.656	9.500	12.330	9.576	7.44	28.590	81.2	40.6	1572	2287	2573	2716	3145	3574
12 3/4	94.20	0.734	11.282	11.126	13.091	11.202	6.56	21.370	77.1	38.6	1175	1710	1923	2030	2351	2671
	101.70	0.797	11.156	11.000	13.185	11.076	6.56	23.510	78.6	39.3	1293	1881	2116	2233	2586	2939
	109.10	0.859	11.032	10.876	13.285	10.952	6.56	25.584	79.7	39.9	1407	2047	2303	2430	2814	3198
	116.50	0.922	10.906	10.750	13.311	10.826	7.50	27.153	79.3	39.6	1493	2172	2444	2580	2987	3394
	123.70	0.984	10.782	10.626	13.387	10.702	7.50	29.182	80.2	40.1	1605	2335	2626	2772	3210	3648
	130.90	1.047	10.656	10.500	13.384	10.576	7.50	29.689	77.1	38.6	1633	2375	2672	2820	3266	3711
	137.90	1.109	10.532	10.376	13.379	10.452	7.44	33.085	81.6	40.8	1820	2647	2978	3143	3639	4136
13 3/8	92.50	0.672	12.031	11.875	13.680	11.951	6.56	20.267	75.6	37.8	1115	1621	1824	1925	2229	2533
	100.30	0.734	11.907	11.751	13.759	11.827	6.56	22.510	77.2	38.6	1238	1801	2026	2138	2476	2814
	108.10	0.797	11.781	11.625	13.756	11.701	7.44	24.425	77.6	38.8	1343	1954	2198	2320	2687	3053
	115.70	0.859	11.657	11.501	13.848	11.577	7.44	26.622	78.8	39.4	1464	2130	2396	2529	2928	3328
	123.40	0.922	11.531	11.375	13.936	11.451	7.50	28.522	79.1	39.5	1569	2282	2567	2710	3137	3565
	130.80	0.984	11.407	11.251	13.991	11.327	7.50	30.668	80.1	40.0	1687	2453	2760	2913	3373	3834
	138.30	1.047	11.281	11.125	14.033	11.201	7.50	32.662	80.5	40.3	1796	2613	2940	3103	3593	4083
	145.60	1.109	11.157	11.001	14.037	11.077	7.50	33.936	79.4	39.7	1866	2715	3054	3224	3733	4242
14	99.60	0.700	12.600	12.412	14.306	12.520	6.56	22.109	75.6	37.8	1216	1769	1990	2100	2432	2764
	104.20	0.734	12.532	12.344	14.354	12.452	6.56	23.397	76.5	38.2	1287	1872	2106	2223	2574	2925
	112.60	0.797	12.406	12.218	14.458	12.326	6.56	25.750	77.9	38.9	1416	2060	2318	2446	2833	3219
16	109.00	0.656	14.688	14.500	16.706	14.608	7.56	20.891	66.1	33.0	1149	1671	1880	1985	2298	2611
	118.00	0.715	14.570	14.382	16.706	14.490	7.56	25.312	73.7	36.9	1392	2025	2278	2405	2784	3164
	128.60	0.781	14.438	14.250	16.706	14.358	7.56	28.192	75.5	37.7	1551	2255	2537	2678	3101	3524
	137.90	0.843	14.314	14.126	16.706	14.234	7.56	30.876	76.9	38.5	1698	2470	2779	2933	3396	3860
	147.30	0.906	14.188	14.000	16.706	14.108	7.56	33.579	78.2	39.1	1847	2686	3022	3190	3694	4197

- Drift diameters displayed are standard. Items marked with \* will pass popular oversize drift.
- ⌋ Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).

# PH4™ / PH6™ / CS® | 3/4" to 7"





1



- 100% metal seal created at the torque shoulder. This metal seal also provides a pressure energized secondary internal pressure seal.

2



- Excellent galling resistance and straightforward make-up provided by non-interference thread style.
- Reserve torque strength is provided by the 90 degree intermediate shoulder.

3



- 100% pipe body rated metal to metal seal.

4



- CB ring option

#### FEATURES

- 100% tension strength produced by machining pin and box on hot forged upsets.
- Worldwide reputation in production tubing and workstring applications.

#### APPLICATIONS

- Production tubing
- Workstrings
- Corrosion protection & ID coating

#### OPTIONS

- Matched strength
- CB ring



PH4™ / PH6™ / CS® | 3/4" TO 5" (5 1/2" TO 7" on reverse side)

OPTIONS

DESIGNATION		PIPE BODY			NAME	CONNECTION OUTSIDE DIAMETER	CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						MATCHED STRENGTH
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter							55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	Outside Diameter
in	lb/ft	in	in	in		in	in	in	%	%	x 1000 lb						in
3/4 (1.050 OD)	1.20	0.113	0.824	0.672	CS	1.327	0.687	2.22	100	80	18	27	30	32	37	42	1.300
	1.50	0.154	0.742	0.648	CS	1.327	0.687	2.22	100	80	24	35	39	41	48	54	—
1 (1.315 OD)	1.80	0.133	1.049	0.955	CS	1.552	0.970	2.22	100	80	27	40	44	47	54	62	1.525
	2.25	0.179	0.957	0.848	CS	1.600	0.864	2.22	100	80	35	51	57	61	70	80	—
1 1/4 (1.660 OD)	2.40	0.140	1.380	1.286	CS	1.883	1.312	2.22	100	80	37	53	60	64	74	84	1.858
	3.02	0.191	1.278	1.184	CS	1.927	1.218	2.22	100	80	48	71	79	84	97	110	—
	3.24	0.198	1.264	1.170	CS	1.927	1.200	2.22	100	80	50	73	82	86	100	114	—
1 1/2 (1.900 OD)	2.90	0.145	1.610	1.516	CS	2.113	1.530	2.22	100	80	44	64	72	76	88	100	2.094
	3.64	0.200	1.500	1.406	CS	2.162	1.440	2.22	100	80	59	85	96	101	117	134	—
	4.19	0.219	1.462	1.368	CS	2.179	1.390	2.22	100	80	64	93	104	110	127	145	—
2 1/16	3.25	0.156	1.751	1.657	CS	2.330	1.700	2.23	100	80	51	75	84	89	103	117	2.295
	4.50	0.225	1.613	1.519	CS	2.460	1.550	2.23	100	80	71	104	117	123	143	162	2.407
2 3/8	4.70	0.190	1.995	1.901	CS	2.700	1.945	2.31	100	80	72	104	117	124	143	163	2.655
	5.30	0.218	1.939	1.845	CS	2.750	1.890	2.31	100	80	81	118	133	140	162	185	2.700
	5.95	0.254	1.867	1.773	PH6	2.906	1.805	3.05	100	100	93	135	152	161	186	212	2.782
	6.20	0.261	1.853	1.759	PH6	2.938	1.795	3.05	100	100	95	139	156	165	191	217	2.794
	6.60	0.295	1.785	1.691	PH6	3.032	1.725	3.05	100	100	106	154	173	183	212	241	2.854
	7.70	0.336	1.703	1.609	PH6	3.125	1.645	3.05	100	100	118	172	194	204	237	269	2.924
	6.50	0.217	2.441	2.347	CS	3.210	2.371	2.39	100	80	100	145	163	172	199	227	3.166
	7.90	0.276	2.323	2.229	PH6	3.438	2.265	3.04	100	100	124	180	203	214	248	282	3.312
2 7/8	8.70	0.308	2.259	2.165	PH6	3.500	2.200	3.04	100	100	137	199	224	236	273	310	3.365
	9.50	0.340	2.195	2.101	PH6	3.625	2.130	3.03	100	100	149	217	244	257	298	338	3.419
	10.70	0.392	2.091	1.997	PH6	3.688	2.030	3.02	100	100	168	245	275	290	336	382	3.509
	11.00	0.405	2.065	1.971	PH4	3.750	2.000	4.23	100	100	173	251	283	299	346	393	—
	11.65	0.440	1.995	1.901	PH4	3.750	1.945	4.23	100	100	185	269	303	320	370	421	—
	9.20	0.254	2.992	2.867	CS	3.915	2.920	2.84	100	80	142	207	233	246	285	324	3.859
	10.30	0.289	2.922	2.797	CS	3.915	2.870	2.84	100	80	160	233	262	277	321	364	—
	12.95	0.375	2.750	2.625	PH6	4.313	2.687	3.35	100	100	202	295	331	350	405	460	4.189
3 1/2	14.30	0.430	2.640	2.515	PH6	4.410	2.550	3.35	100	100	228	332	373	394	456	518	4.287
	15.80	0.476	2.548	2.423	PH6	4.500	2.485	3.34	100	100	249	362	407	430	497	565	4.367
	16.70	0.510	2.480	2.355	PH4	4.500	2.406	4.24	100	100	263	383	431	455	527	599	—
	17.05	0.530	2.440	2.315	PH4	4.563	2.375	4.24	100	100	272	396	445	470	544	618	—
	11.00	0.262	3.476	3.351	CS	4.417	3.395	2.84	100	80	169	246	277	292	338	385	4.359
	13.40	0.330	3.340	3.215	PH6	4.625	3.275	3.32	100	100	209	304	342	361	419	476	4.514
	16.10	0.415	3.170	3.045	PH6	4.765	3.080	3.31	100	100	257	374	421	444	514	584	4.655
	19.00	0.500	3.000	2.875	PH4	5.000	2.920	4.76	100	100	302	440	495	522	605	687	—
4	21.10	0.562	2.876	2.751	PH4	5.090	2.795	4.76	100	100	334	486	546	577	668	759	—
	22.50	0.610	2.780	2.655	PH4	5.188	2.700	4.76	100	100	357	520	585	617	715	812	—
	12.75	0.271	3.958	3.833	CS	4.920	3.865	2.89	100	80	198	288	324	342	396	450	4.861
	13.50	0.290	3.920	3.795	CS	4.955	3.840	2.89	100	80	211	307	345	364	422	479	4.890
	15.50	0.337	3.826	3.701	PH6	5.125	3.765	3.34	100	100	242	353	397	419	485	551	5.021
	17.00	0.380	3.740	3.615	PH6	5.210	3.650	3.34	100	100	271	393	443	467	541	615	5.091
	19.20	0.430	3.640	3.515	PH6	5.313	3.560	3.34	100	100	302	440	495	522	605	687	5.170
	21.60	0.500	3.500	3.375	PH4	5.500	3.420	4.76	100	100	346	503	565	597	691	785	—
4 1/2	24.00	0.560	3.380	3.255	PH4	5.563	3.300	4.76	100	100	381	555	624	659	762	866	—
	26.50	0.630	3.240	3.115	PH4	5.688	3.160	4.76	100	100	421	613	689	728	843	957	—
	18.00	0.362	4.276	4.151	CS	5.515	4.196	5.27	100	80	290	422	475	501	580	659	—
	20.30	0.408	4.184	4.059	CS	5.585	4.104	5.27	100	80	324	471	530	559	647	736	—
	21.40	0.437	4.126	4.001	CS	5.630	4.046	5.27	100	80	345	501	564	595	689	783	—
	23.20	0.478	4.044	3.919	CS	5.700	3.964	5.27	100	80	373	543	611	645	747	849	—
	24.10	0.500	4.000	3.875	CS	5.735	3.920	5.27	100	80	389	565	636	672	778	884	—
	27.00	0.560	3.880	3.755	CS	5.835	3.800	5.27	100	80	430	625	703	742	859	976	—

- ] Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
- The CB® feature is not available in 3/4" and 1".
- Torque recommendation values available at [www.tenaris.com](http://www.tenaris.com).
- For the MS option, the coupling OD is reduced to the minimum critical area capable of providing the same tensile efficiency as the standard option.

PH4™ / PH6™ / CS® | 5 1/2" TO 7"

DESIGNATION		PIPE BODY			NAME	CONNECTION OUTSIDE DIAMETER	CONNECTION INSIDE DIAMETER	MAKE-UP LOSS	TENSILE EFFICIENCY	COMPRESSION EFFICIENCY	JOINT YIELD STRENGTH						
Size	Nominal Weight	Wall Thickness	Inside Diameter	Drift Diameter							55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	
in	lb/ft	in	in	in		in	in	in	%	%	x 1000 lb						
5 1/2	17.00	┌	0.304	4.892	4.767	CS	5.920	4.812	5.27	100	80	273	397	447	471	546	620
	20.00		0.361	4.778	4.653	CS	6.005	4.698	5.27	100	80	321	466	525	554	641	729
	23.00	└	0.415	4.670	4.545	CS	6.090	4.590	5.27	100	80	365	530	597	630	729	829
	26.00		0.476	4.548	4.423	CS	6.185	4.468	5.27	100	80	413	601	676	714	826	939
	26.80	└	0.500	4.500	4.375	CS	6.225	4.420	5.27	100	80	432	628	707	746	864	982
	28.40		0.530	4.440	4.315	CS	6.275	4.360	5.27	100	80	455	662	745	786	910	1034
6 5/8	28.00	┌	0.417	5.791	5.666	CS	7.210	5.710	5.26	100	80	447	651	732	773	895	1017
	32.00		0.475	5.675	5.550	CS	7.300	5.595	5.26	100	80	505	734	826	872	1010	1147
	33.00	└	0.500	5.625	5.500	CS	7.340	5.545	5.26	100	80	529	770	866	914	1058	1203
	34.50		0.525	5.575	5.450	CS	7.380	5.495	5.26	100	80	553	805	905	956	1107	1258
7	29.00	┌	0.408	6.184	6.059	CS	7.570	6.104	5.28	100	80	465	676	760	803	929	1056
	32.00		0.453	6.094	5.969	CS	7.640	6.014	5.28	100	80	512	745	839	885	1025	1165
	35.00	└	0.498	6.004	5.879	CS	7.710	5.924	5.28	100	80	559	814	916	966	1119	1272
	38.00		0.540	5.920	5.795	CS	7.775	5.840	5.28	100	80	603	877	986	1041	1206	1370
	41.00		0.590	5.820	5.695	CS	7.855	5.740	5.28	100	80	653	950	1069	1129	1307	1485

- ┌ ┐ Interchangeable where bracketed. For make-up torque information, refer to TenarisHydril Running Manual.
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For contact information, please visit  
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