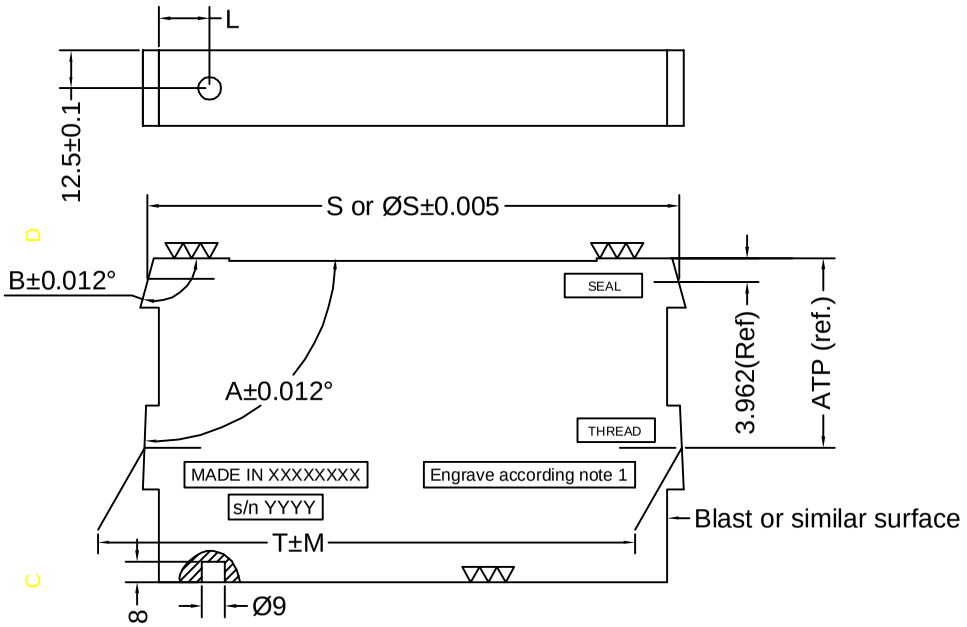
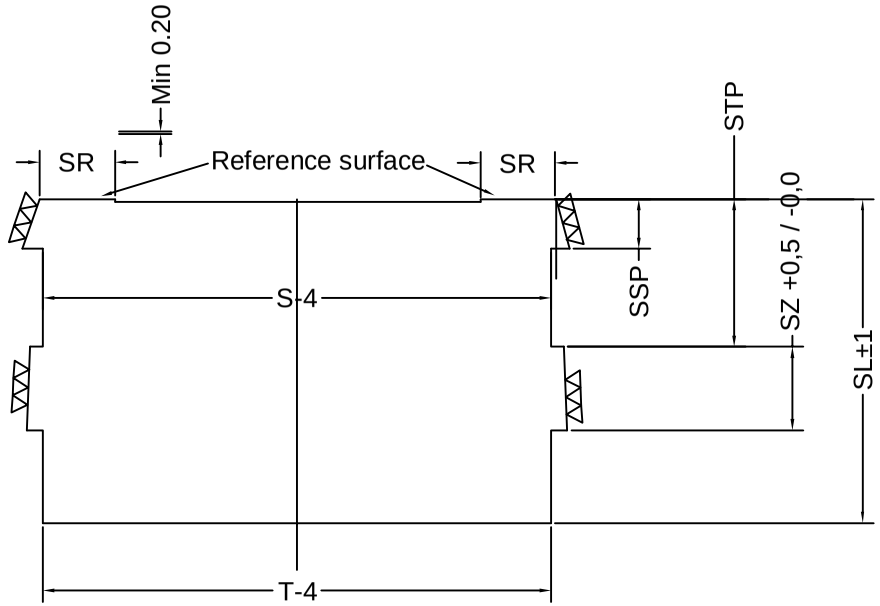
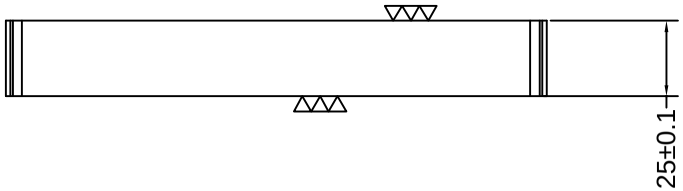




Option (Flat or circular surface)



Notes:

1.- Engrave "TSH-GD-09.0001 Rev ...Pos ...."
2.- Engrave Thread and seal. Words shall be 0.8mm deep.
3.- Material: Thyrodur 2990 Heat treatment:
a) Stress Relief at 650°CX 2 hours, as an intermediate step between machining and grinding.
b) Vacuum quenching since a temperature of austenitising 1070- 1080 °C at room temperature
c) Cooling: Subcero up to -80°C and then tempered twice at 520°C.Hardness requested 58-60 HRC
4.- Serial Number- (according to the supplier identification)
5.- Taper surfaces for thread and seal axes shall be perpendicular to the reference surface.
6.- Dimensions S, ASP, T, ATP; Angle A and B shall be certified.
7.- The Corrosion Protection and Packaging shall be according to TenarisConnections specification.
8.- The Certificate shall be according TenarisConnections specification.

All the changes do not affect the functionality of the Standards made with previous revisions.

TenarisConnection

MODFICATIONS

Rev	Description	Draw.	Chk.	App.	Date
03	Modify "S" values from 9 5/8" to 13 3/8"	JPA	ELT	NCR	03-01-11
02	Added a hole at the base on one side	JPA	ELT	NCR	01-09-10
01	New Issued	JPA	ELT	NCR	6/01/10

OBJECT: TenarisHydril MS - MS XT/XC

DETAIL: Pin Seal and Thread Std - 2 3/8" to 14"

Scale: NOT | Date: 06/01/10

Drawn by: JPA | Checked by: ELT | Approved by: NCR

DRAWING N.: TSH-GD-09.0001 | REV.: 03 | N. page: 1/2

Position	Diameter	A°	ATP (ref.)	T	M	B°	SSP	S or ØS	STP	SZ	SL	SR	L
1	2 3/8"	91.790	19.686	60.200	0.005	92.434	11.0	56.791	13.2±0.2	13.00	52	20	14
2	2 7/8"	91.790	19.686	72.400	0.005	92.434	11.0	68.992	13.2±0.2	13.00	52	25	14
3	3 1/2"	91.790	31.500	88.163	0.005	92.434	15.0	83.990	23.5±0.5	16.00	52	30	17
4	4"	91.790	32.000	100.395	0.005	92.434	15.0	96.193	24.0±0.5	16.00	52	30	19
5	4 1/2"	91.790	32.000	112.595	0.005	92.434	15.0	108.393	24.0±0.5	16.00	52	30	22
6	5"	91.790	32.000	125.697	0.005	92.434	15.0	121.195	24.0±0.5	16.00	52	30	24
7	5 1/2"	91.790	32.000	138.397	0.005	92.434	15.0	133.895	24.0±0.5	16.00	52	30	27
8	6 5/8"	92.434	32.000	166.417	0.008	92.434	15.0	160.243	24.0±0.5	16.00	52	30	33
9	7"	92.434	32.000	175.576	0.008	92.434	15.0	169.395	24.0±0.5	16.00	52	40	35
10	7 5/8"	92.434	32.000	191.053	0.008	92.434	15.0	184.894	24.0±0.5	16.00	52	40	37
11	7 3/4"	92.434	32.000	194.202	0.008	92.434	15.0	188.094	24.0±0.5	16.00	52	40	37
12	8 5/8"	92.434	35.000	216.451	0.008	92.434	15.0	209.994	27.0±0.5	16.00	52	40	43
13	9 5/8"	92.434	35.000	241.854	0.008	92.434	15.0	235.405	27.0±0.5	16.00	52	40	48
14	9 7/8"	92.434	35.000	248.154	0.008	92.434	15.0	241.605	27.0±0.5	16.00	60	40	48
15	10 3/4"	92.434	35.000	270.454	0.008	92.434	15.0	264.006	27.0±0.5	16.00	60	40	53
16	11 3/4"	92.434	35.000	295.854	0.008	92.434	15.0	289.405	27.0±0.5	16.00	70	50	58
17	11 7/8"	92.434	35.000	298.954	0.008	92.434	15.0	292.505	27.0±0.5	16.00	70	50	58
18	13 3/8"	92.434	35.000	337.050	0.008	92.434	15.0	330.604	27.0±0.5	16.00	70	50	66
19	13 1/2"	92.434	35.000	340.252	0.008	95.711	15.0	333.820	27.0±0.5	16.00	70	50	66
20	13 5/8"	92.434	35.000	343.454	0.008	95.711	15.0	337.024	27.0±0.5	16.00	70	50	66
21	14"	93.576	40.000	348.244	0.012	95.711	15.0	339.123	27.0±0.5	26.00	70	50	66

Notes: -Tolerances S and T according drawing is for the manufacturing supplier

Tolerances S and T will be increased +/- 0.005 mm to the hubs due to uncertainty and wear usage.

- Each standard will be measured by the manufacture supplier and each hub once they are received
- No compensation values will be allowed. If the hub find tolerances out has to contact Tenaris Connections

All the changes do not affect the functionality of the Standards made with previous revisions.

TenarisConnection

MODFICATIONS

Rev	Description	Draw.	Chk.	App.	Date
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OBJECT: TenarisHydril MS - MS XT/XC

DETAIL: Pin Seal and Thread Std - 2 3/8" to 14"

Scale: NOT | Date: 06/01/10

Drawn by: JPA | Checked by: ELT | Approved by: NCR

DRAWING N.: TSH-GD-09.0001 | REV.: 03 | N. page: 2/2