

ARDHMAN SPECIAL STEELS LTD.

C-58, FOCAL POINT, PHASE V, LUDHIANA (PB.) INDIA

Ph. No.: 0161-2670707-09

TEST CERTIFICATE

Vardhonan FICATE NO. ___ 2018/05/511

DATE. 24/05/2018

HAPPY FORGINGS LTD (UNIT-II)



QF MSD 4.12.06 ISO/TS 16949: 2009 Certificate: 37659-2008

ISO 14001: 2004

Certificate: 177315-2015 OHSAS 18001: 2007 Certificate: 177314-2015

We certify that the material described below fully conforms to IS:7283-1992. Chemical Composition and Mechanical Properties of the product tested in accordance with the Scheme of Testing and Inspection contained in the BIS Certification Marks licence No. CM/L-9700028216 are as indicated below against each order No. etc.

(PLEASE REFER TO IS:7283-1992 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

					-			KESULI	0							
Order No. & Date		Invoice No.		Grade	Heat No (Cast No)	Size mm)	Qty	Finish Shape	Cast Section (mm)	Red. Ratio	Supply Cond.	Color Code		Length of Bar		No o
Manufac	turing Ro	1 45		1E1286			2969	RCS	200*200	4.0	Hot Rolled	BLACK BASE /		[/] 3-6MTR		75
	IICAL CON		EAF-LR	RF-VD-CC	P With E	MS & AMLO	0						Vinde and			100
70 OTTEN	C	Si			4							2.43				
Min.			Mn	S	Р	Ni	Cr	Mo	Cu	Sn	AI	Ti	Ca	В	V	
Max.	0.28	0.15	0.90	0.050			0.90				0.080				0.05	
Actual	0.33	0.35	1.20	0.080	0.035		1.20				0.130		0.0020		0.05	
Actual	0.32	0.28	1.15	0.064	0.015	0.055	1.155	0.010	0.120	0.008	0.099	0.0032	0.0006		0.10	
	02	N2	H2		Grain Siz		Tota	I Decarb	(mm)	D.I.	Value	- Micro Structure				
na:		In PPM		(IS:47	48/ASTI	W E112)	(IS:6396)			micro Structure						
Min.					5	ZE	-			92 mm						
Max.	20 100 2		- (122 mm			-				
Actual	7 75 1.1		7.0/7.5			-			107.70		_					
ICLUSIO	ON RATING		63 / ASTN	/I E45A/ IS	SO 4967,	Method A	11								11	
	A	E				C	D			JIS			DIN		Hardnes	
	Thin	Thick	Thin	Thick	Thin	Thick	Thin	Thick	A	B+C	Total	K3	161		IS 1500	1:198
Max.	3.0	2.0	2.0	1.0	0.5	0.5	1.0	1.0		D.C	Total	N3	K4		Min	Max
Actual	2.0	-	0.5				1.0									260
		11-				JOMINY H		ABILITY (IN HRC) (S 2040)	-				215	235
M / Inch	J1/16	J14/16	J16/16					TOIL!!!	III (IIIC) (I	3 3040)						
Min.	50	37														
Max.	55		48													
Actual	52.0	48.0	46.5													
						MECHA	NICALE	POPER	TIES /IS 4	000)						
	Test	on	Tens	Tensile Strength			ANICAL PROPERTIES (IS Yield Strength									
Min.								rield Strength					Reduction Area		Impact Strength	
Max.											-					
Actual					-						A TOTAL STREET					
						Sun	plomont						7//		-	
andard	Internal S	oundnes	s (ASTM E	E381 / IS11	1371)	Step Down	(IS 4075)	/ Blue F	racture	Conf		- 7				
equired	C3R3S3 max					Test (IS:10138)				Surface Defects (Visual /						
ctual	C3R3S3 max					As per IS 4075 OK As per IS 4075				Depth of defect 0.3 mm m			max			
	Ultrasonic Test									OK						
quired	Yes					MFLT				Dimension Tolerance			Ovality / Lobbing			
ctual	100% Bars manual ut done & found OK					-				IS:3739			IS:3739			
up Test	100% Bars Checked by Spark Moto					scope,Ni Spot test,Mobile Spectro - OK				Asper is 3739 gr 1			А	A s per IS3739 gr 1		
narks:-				Th	e Mater	ial Supplied	d to the			lerances						

Free from radioactive material or banned substances.

Reference Standard IS 7283:1992, Customer Specification Caterpillar Inc.Chg. No.17, DT.19.11.2010

For any Technical Support / Quality related issues please contact

Mr. Dinesh Singh (Chief Manager - R&D)

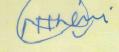
Mobile no.: 081466-25586, email: met5.vss@vardhman.com

For any Test Certificate related issues please contact -

Mr. K.K.Shukla (Officer - R&D)

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Website: www.vardhmansteel.com



Checked by: Engineer - R&D

Approved by: **Authorised Signatory**

For VARDHMAN SPECIAL STEELS LTD