



M M FORGINGS LIMITED

INCOMING METALLURGICAL INSPECTION REPORT

Lot No : 010000341485 SI.No :0
Mat.Des : RM - SCR420H, 75DIA REV.03

No.Of.Bars:

ICIN Number: 5000354753	Matl : MA044A03075.0D	Supplier : Sunflag Iron & Steel Co Ltd	Supp TC No :0011657	Heat Number : 07878
PO Number : 4500012907	Size : 75.000 DIA	Supp TC date : 26:01:2018	Qty in MT : 7.990	Batch : 0000661380

Chemical composition in %

		C	Mn	Si	P	S	Ni	Cr	Mo	V	Cu	Nb	B	Al	Ti	Co	Sn	Fe	Sb	Pb	As	Ca	W	Zr	Ta	N2	H2	O2	CE1	CE2
As per Spec.	Min	0.1700	0.5500	0.1500				0.8500						0.0200																
	Max	0.2300	0.9000	0.3500	0.0300	0.0300	0.2500	1.0500	0.0600	0.0200	0.3000	0.0100	0.0006		0.0200		0.0200		0.0100		0.0100					0.0100	0.0002	0.0020		
Act. Analysis	1	0.1760	0.8120	0.2240	0.0080	0.0060	0.0210	0.9770	0.0070	0.0030	0.0170	0.0040	0.0001	0.0330	0.0020		0.0020				0.0050									
	2	0.1820	0.8150	0.2210	0.0080	0.0080	0.0230	0.9710	0.0050	0.0020	0.0140	0.0020	0.0001	0.0320	0.0020		0.0020				0.0050									
	3																													
	4																													
	5																													
As per Tc	1	0.1800	0.8400	0.2200	0.0090	0.0100	0.1000	0.9700	0.0350	0.0050	0.0150	0.0020	0.0002	0.0290	0.0027		0.0011		0.0007		0.0050					0.0076	0.0001	0.0014		

Visual inspection:	Size & Surface satisfactory																				Shearability	OK	Forgeability	OK
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Mechanical properties

		UTS (Mpa)	YS (Mpa)	El (%)	RA (%)	Izod		Charpy Impact -1		Charpy Ipmaact -2		RM Hardness	Upset Hardness	H/T Hardness
						Joule	T(° C)	Joule	T(° C)	Joule	T(° C)			
As per Spec.	Min													143
	Max											229	229	187
Tested Value												149,143,143,149,149	170,163,163,156,156	149,149,149,152,156
As per TC														

Micro

Inclusion rating (%)	A Thin/Thick	B Thin/Thick	C Thin/Thick	D Thin/Thick	Grain size (ASTM)	Decarb (mm)	Macro	Step Down	Bend Test
As per Spec. Min					6.00				
Max	2.00 /1.00	2.00 /1.00	0.50 /0.50	2.00 /1.00	8.00	0.50			
Tested Value	1.00 /-	0.50 /-	- /-	1.00 /-	7.5	0.22	C2S2R2		
As Per TC Value	1.00 /-	0.50 /-	- /-	0.50 /-	7-7.5	0.36	C2S1R2		

Jominy hardenability (MM)	5.0	7.0																													
As per spec min	32.0	29.0																													
max	37.0	34.0																													
Tested Value	35.0	31.0																													
As per TC Value	34.0	30.0																													

Any other test specified :	Our RM color code: Light Brown / White
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Remarks : Material Accepted.	Heat code allocated: YVV
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Tested By :LAB1	Lot Cleared Date:07.02.2018	Head Metallurgy
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