Web Site: www.sunflagsteel.com E-mail: admin@sunflagsteel.com

E-mail: admin@sunflagsteel.co Regd. Off.: (0712) 2524661 Works: (07184) 285551

CIN: L27100MH1984PLC034003

SUNFLAG IRON & STEEL CO. LTD.

Regd. Office: 33, Mount Road, Sadar, Nagpur - 440 001 India Works: Bhandara Road, Bhandara - 441 905 (Maharashtra)

TEST CERTIFICATE

ZZR



																						7.79		1
CUSTOMER : M M FORGINGS LIMITED									PROCES	TC NO	O. ICE NO.		: 13.05.2018 · · · · · · · · · · · · · · · · · · ·											
		2 2 2 X								MBF-EAF-LRF-VD-CCM-RM					INVOICE NO. : 182702897 DATE : 13.05.2018 DELIVERY ORDER NO.: 81064357 TRUCK NO. : TN52K9987									
CUSTOMER SPECIFICATION NO. HEAT GRADE								5	SECTION GRADE					BLT/BLM SUPPLY CONDITION							LENGTH NO.OF QTY			
					38		No.		I	IN (mm)		COLOUR CODE			SIZE(m	SIZE (mm)					(Mtrs) PIECES (MT)			
MSA044A R-3					/10.10.2017 0967		672	SCR420H	RND-	56	F	RED+PINK DOT+RED			160x160 AS ROLLED						5.500	5.500 16.490		
			AND THE	4			Acres -	4 1 1 1 1			CHEMIC	AL CON	MPOSIT	ION	_		-			M .		1 - 3		
	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Ni	%Mo	%V	%Al	%Pb	%Ti	%B	%Sn	%W	%As	%Ca	%Sb	%Co			N2	
SP-MIN	0.17	0.55	-	1-	0.15	0.85	-		-	-	0.020	1-	-	-	-		l -		1:-	.	-	ppm	ppm	
-MAX	0.23	0.90	0.030	0.030		1.05	0.30	0.25	0.06	0.02		0.01	1	1		-	0.01	1-	0.01	<u> </u> -	0.0100	20	-	2.0
ACTUAL	0.18	0.88	0.0280	0.004	0 0.2900	0.9800	0.025	50 0.0350	0.0070	0.0050	0 0.0340	0.0006	0.0034	0.0002	2 0.0010	-	0.0056	0.0011	L 0.0007	-	0.0020	16	93	1.10
		77-12			MECHA	NICAL	PROF	PERTIES		1.	-1	1	1		JOM	INY V	ALUE ((MM - I	HRC)	3000		i		
	1		As Roll	led /	И.Т.			IMPACT	HAR	DNESS	DI	CE	TE	1 1						1	1	Ī		1 2
	PS/Y	YS	UTS ()		%EL	%RA 	(I	IZOD/CHARI	PY) (BI	HN)	VALUE	VALUE	3 J1.5	J3	J5 J6	5 J7	J9	J10 J	J11 J13	J15	J20 	J25	5 J	J30
SPEC-MI	N -		1-		-	-	<u> </u>				-	_			122 01	120.0	1			1			- 10 (m)	
-MAX			-		- 1	-	-		-		-	-	-		32.0 -	29.0		- -	-	- -	- -	-	1-	
ACTUAL	-		1-		-1.5.1	-	-		173	-	-	-	-		36.0 -	30.0	- -	- 1 - 8	-	- 8		1-	-	7
A	- !				180 19 20 17 17						METAL	TIPGTO	AT. DEC	דיייסים מי	TO TO		1			4				1
	I	N CLUSI	ON RATI	ING (A	STM-E-45	/IS:416	4163) GRAIN SIZE (ASTM			RFACE	METALLURGICAL PRO QUENCH HARDNESS			7	G0555			DECARI	BURIZATO	MM)	MACRO ETCH F			
	AT AH		B T F	3 H (СТ СН	D T D			2011	DIII	HARDNES	dA -		+ dB	3+dC	= D		Full Partial		Total	RESULTS ASTM-E-3		RATIO	
SPEC-MIN	7 -	71 - 60	-	_	- -		6	V	OK												1 261 50	1	-	May Chi
-MAJ	12.00	0 1.00	2.00 1		.50 0.50				-		-	- T -				-	ł	- -	.44	0.44	- C2R2S2		6:1	
ACTUAL			13		.00 -		7/7		OK		-					0	.000	- 0.	.19	0.19	C2R1S1	1;	10.40	
REMARK	:100)% SPAF	K/SPECT	RAL:OK	.U.S.T.	(100%):	OK.M.P	P.T. (100%	%):OK.M	ICRO				We cer	ctify that	t the m	aterial	descr	ibed abo	ove con	forms to	the	gnegg	-
STRUCTUE	KE: FER	RITE -	+ PEARLI	TE.																	LOTING CO	CITC	apeca	41-

STRUCTURE: FERRITE + PEARLITE.

%PB=0.00,%HG=0.00,%CD=0.00 HEXAVALENT CHROME=0.00

3.3.2015 GSR-002 REV 7 13.09.2013

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For Sunflag Iron & Steel Co. Ltd.

DGM QAR