

## R. L. STEELS & ENERGY LTD.

## **TEST CERTIFICATE**

Regd. Office: Gut No. 78 to 81, Pangra Shiver Chitegaon, Paithan Road, Aurangabad - 431 107 Maharashtra, India. Phone : 02431-661231, 251163 Fax : 02431-251879 E-mail: qc@rlsteels.com, Website: www.rlsteels.com

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(AUTHORISED SIGNATORY)

## Customer: M/S SADHU FORGING LTD.

UNIT-2,PLOT NO-84,SECTOR-25, FARIDABAD-121001

TC NO.		Date	Invoice No.		Date	Truck No.		No. of PCS	Quantity in MT	Length	Supply Condition		ion	Colour code	
18-0389 03-		03-05-2018	RL18-	SI-0383	03-05-2018 RJ 25 G		GA 3643 110		38.490	5.0 TO 6.0 MTR	AS ROLLED			YELLOW+ BLUE+WHITE	
		ıte	Heat N		Grad		As Ca	ast Size	Product Size		Reduction Ratio		Customer TDC		
EAF/LRF/VD/CCP-with MEMS		2-XOO-4		EN353		240X280		90RCS		8.29:1		As per TATA MOTORS SS-40:			
Chemica	l Compos	sition & Tr	amp Elen	nents						200 A 100 A					
lement	%C	%Si	%Mn	%P	%S	%Cr	%Mo	%Ni	%Cu	%V	%AI	%Ti	%В	%Ca	%As
1ın.	0.14	-	0.50	-	0.020	0.75	0.080	1.00	-	-	0.020		-	-	-
Лах.	0.20	0.35	1.00	0.035	0.040	1.25	0.15	1.50	-	0.030	0.040	-	0.0004	•	-
ctual	0.18	0.21	1.00	0.031	0.033	1.12	0.12	1.02	-1	0.005	0.026	-	0.0003	• .	-
	ramp Elements (Contd.) & DI / CE								Gas Analysis.			Dimensio		n Tolerance	
Element	%Sn	%Pb	%Sb	CE	DI Va	lue			O2	H2	N2	N2 Size To		ol. (MM)	
Min	-	-	-	-	-		(PPM)	Min	-	- (	70.00				
							Gas	Max	20.00	2.00	100.00	Specification		As per IS 3739, Grade I.	
Max		-	-	-			9							010	iuc i.
Max Actual	0.006	-	-	-	-		9	Actual	13.00	1.30	72.00			O.C	iuc i.
Actual		-					в			1.30	72.00 Macrost	ructure	Mic	rostruc	
Actual Vlechanio	0.006  cal Prope	- Prties Hardness (H&T	-			Лра)	%EI.		13.00	1.30 /alues (Joules)	Macrostru	icture As	Mic		
Actual Vlechanio	0.006	erties Hardness				Лра)		Actual	13.00		Macrost	icture As	Mic		
Actual Vlechanio	0.006  cal Prope  Hardness As Rolled	Hardness (H&T Condition)	-	- Ира)		Лра)		Actual	13.00	/alues (Joules)	Macrostru	ucture As ME-381	Mic		
Actual  Mechanic	0.006  cal Prope  Hardness As Rolled (BHN)	Hardness (H&T Condition) (BHN)	YS (n	- Ира)		Лра)	%EI.	Actual	13.00	/alues (Joules)	Macrostru per AST	ncture As ME-381 n C2R2S2	Mic		***
Actual  Vechanic  Test Code  Spec.  Actual  Value	0.006  cal Prope  Hardness As Rolled (BHN)  240 Max.	Hardness (H&T Condition) (BHN)	YS (n	- Ира)		Лра)	%EI.	Actual	Impact \ Izod	/alues (Joules)  Charpy  -	Macrostru per AST Better Tha	n C2R2S2 2S2			
Actual  Wechanio  Test Code  Spec.  Actual Value	0.006  Cal Prope  Hardness As Rolled (BHN)  240 Max.	Hardness (H&T Condition) (BHN)	YS (n	- Inclusion	UTS (M	er IS 4163/	%EI ASTME-45.	Actual %RA A) Plate IR	Impact \landscape   Izod -	/alues (Joules)  Charpy  -	Macrostruper AST  Better Thai  C2R  Other Te  UT Test (100%	ncture As ME-381 n C2R2S2			ture
Actual  Wechanic  Test Code  Spec.  Actual Value  Wetallurg	0.006  Cal Prope  Hardness As Rolled (BHN)  240 Max.  206-217  gical Prop	Hardness (H&T Condition) (BHN) perties	YS (N	Inclusion Series	UTS (N	er IS 4163/	%EI ASTME-45	Actual  %RA  A) Plate IR D	Impact \landscape   Izod -	/alues (Joules)  Charpy  -	Macrostru per AST Better Than C2R Other Te UT Test (100% Bars)	n C2R2S2 2S2 st Resu Spark/Spectral Test	lts	crostruc - - -	ture
Actual  Mechanic  Fest Code  Spec.  Actual Value  Metallurg	0.006  cal Prope  Hardness As Rolled (BHN)  240 Max.  206-217  gical Prop	Hardness (H&T Condition) (BHN)	YS (N	- Inclusion	UTS (M	er IS 4163/	%EI ASTME-45.	Actual  %RA  A) Plate IR D	Impact \landscape   Izod -	/alues (Joules)  Charpy  -	Macrostruper AST  Better Thai  C2R  Other Te  UT Test (100%	st Resu Spark/Sp ectral Test (100%	lts	crostruc - - -	ture
Actual  Wechanic Fest Code  Spec.  Actual Value  Wetallurg  Test	0.006  Cal Prope  Hardness As Rolled (BHN)  240 Max.  206-217  gical Prop	Hardness (H&T Condition) (BHN)	YS (N	Inclusion Series	UTS (N	er IS 4163/	%EI ASTME-45	Actual  %RA  A) Plate IR  D 2.0 / 0.0	Impact \landscape   Izod -	/alues (Joules)  Charpy  -	Macrostru per AST Better Than C2R Other Te UT Test (100% Bars)	st Resu Spark/Sp ectral Test (100%	lts	crostruc	ture
Actual  Fest Code  Spec.  Actual Value  Test  Sp  Actual	0.006  cal Prope  Hardness As Rolled (BHN)  240 Max.  206-217  gical Prop  Code	Hardness (H&T Condition) (BHN)	Grain Size as per ASTM E112	Inclusion Series T/H	UTS (M	er IS 4163/ B 2.0 / 0.0	%EI ASTME-45. C 2.0 / 0.0	Actual  %RA  A) Plate IR  D 2.0 / 0.0	Impact \landscape   Izod -	/alues (Joules)  Charpy  -  -  Test (100% Bars)	Macrostru per AST Better Than C2R Other Te UT Test (100% Bars)	scture As ME-381  n C2R2S2  2S2  St Resu  Spark/Sp ectral Test (100% Bars)	lts	crostruc	own Tes
Actual  Fest Code  Spec.  Actual Value  Test  Sp  Actual	0.006  cal Prope  Hardness As Rolled (BHN)  240 Max.  206-217  gical Prop  Code	Hardness (H&T Condition) (BHN)	Grain Size as per ASTM E112	Inclusion Series T/H	UTS (M	er IS 4163/ B 2.0 / 0.0	%EI ASTME-45. C 2.0 / 0.0	Actual  %RA  A) Plate IR  D 2.0 / 0.0	Impact \landscape   Izod -	/alues (Joules)  Charpy  -  -  Test (100% Bars)	Macrostru per AST Better Than C2R Other Te UT Test (100% Bars)	scture As ME-381  n C2R2S2  2S2  St Resu  Spark/Sp ectral Test (100% Bars)	lts	crostruc	own Tes
Actual  Wechanic  Test Code  Spec.  Actual Value  Wetaliuro  Test  Sp  Actual  Hardena	0.006  cal Prope  Hardness As Rolled (BHN)  240 Max.  206-217  gical Prop  Code	Hardness (H&T Condition) (BHN)	Grain Size as per ASTM E112	Inclusion Series T/H	UTS (M	er IS 4163/ B 2.0 / 0.0	%EI ASTME-45. C 2.0 / 0.0	Actual  %RA  A) Plate IR  D 2.0 / 0.0	Impact \landscape   Izod -	/alues (Joules)  Charpy  -  -  Test (100% Bars)	Macrostru per AST Better Than C2R Other Te UT Test (100% Bars)	scture As ME-381  n C2R2S2  2S2  St Resu  Spark/Sp ectral Test (100% Bars)	lts	crostruc	own Tes

DECLARATION: TEST RESULTS ARE BASED ON ACTUAL TESTS CARRIED OUT ON SAMPLES DRAWN AS PER QUALITY ASSURANCE PLAN.

TEST CERTIFICATE CONFORMS TO THE CUSTOMER TDC.