

TEST CERTIFICATE

TEST CERTIFICATE ACCORDING TO EN10204 TYPE 3.1

Customer Address: M/S - SHIVOM TRADING. C/O OM HOUSEHOLD APPLIANCES PVT. LTD. OPP. P.S. PLYWOOD, SURVEY NO.192 8-B, NATIONAL HIGHWAY, GONDAL ROAD, VERAVAL(SHAPER) DIST. RAJKOT	Material	Induction Route	Test Certificate No.	2024-25/0023314
	Specification		Date	18-12-2024
	Heat No.	AR-K0078	Invoice No.	001674
	Grade	ST52.3	Weight (MT.)	9.205
	Supply Size	120 MMØ	INGOT SIZE	10"X12"
	Supply Condition	AS HOT ROLLED	Reduction Ratio	6.96:1
	Colour Code	GREY	No's of Pcs	26
			No's of Bundle	4
			Multiple	

TEST RESULT

CHEMICAL ANALYSIS (ASTM E 415 / IS 8811)

Element	C%	Mn%	Si%	S%	P%	-	-	-	-	Al%	-
Spec.	Min	-	-	-	-	-	-	-	-	-	-
	Max	0.220	1.600	0.500	0.035	0.035	-	-	-	-	-
Achieved	0.174	1.190	0.290	0.016	0.027	-	-	-	-	0.025	-

TC ISSUED BY :
Shivom Trading Co. (Shaper)
QTY. 2165 KG. 679
Inv. No. ST2428-1235
Date: 7/1/2025

Mechanical Properties

Parameters	IS:1608 / ASTM A370				IS:1500 Surface Hardness As Rolled
	Tensile Strength	Yield Strength	Elongation	Reduction Area	
Spec.	Min	-	-	-	-
	Max	-	-	-	-
Achieved	-	-	-	-	134/148

Metallographic Properties

Parameters		Inclusion Rating (IS : 4163 / ASTM : E45A / JK Chart)									Grain Size IS 4748 / ASTM E112 (No.)	Micro Structure
		WORST FIELD RATING										
		Type	A		B		C		D			
Series	Thin	Thick	Thin	Thick	Thin	Thick	Thin	Thick				
Spec.	Min	-	-	-	-	-	-	-	-	-		
	Max	-	-	-	-	-	-	-	-	-		
Achieved		2.0	0.5	1.5	0.5	1.0	0.5	1.5	1.0	-	6.5 to 7.0	Pearlite+Ferrite

Physical Properties, Non Destructive Test & Other Test

Parameters	Internal Soundness ASTM E381	Surface Inspection IS 13352	Magnetic Particle Inspection	Ultrasonic Test ASTM A388	Spark Test	X-RF
Spec.	-	-	-	-	100%	100%
Achieved	Better than C2,R2,S2	Satisfactory	100%	100%	100%	100%

Remarks :

Induction Route material being not homogeneous. So, we can not guarantee repeatability of Inclusion Rating/ Hardenability or any other mechanical properties in test samples. We stand guarantee of material up to black bar stage only.

Prepared By: GURPREET	Approved By:	Pre dispatch Inspection:
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In case of any Test certificate Issue, please inform Dinesh Singla at quality04@arorairon.com, Mobile No. 919914538700

Date : 7/1/25
Batch No. : 558L
Material : ST52.3
Section : 120mmØ
Qty : 2165kg
Supplier : Shivom
Steel Mill : ARORA