



Anjar Works

## MILL TEST CERTIFICATE

JSW Steel Limited

SURVEY NO - 659, VILLAGE - VARSAMEDI, TA. - ANJAR (KUTCH) GUJARAT INDIA - 370110



TEST CERTIFICATE NO. : JSW/PCMD/717606739-

2

DATE : 17.01.2025

CUSTOMER : MOUNTING RENEWABLE POWER LIMITED

SPECIFICATION : EN 10025-2 : 2019 / IS 2062 : 2011

UT STD. : EN10160 S2 E3

P. O. NO. : MRPL STEEL 2024 IN P Date - 24.10.2024

GRADE : S355J2+N / E350C

Impact Temp.(°C) : -20

Sr. No.	Plate / Coil No.	Heat No.	Thk (MM)	Width (MM)	Length (MM)	Weight (MT)	Mechanical Properties (Transverse Tensile)								Bend (Transverse)	CHARPY V-NOTCH IMPACT TEST (Joules)				Grain size (ASTM E112)	Z - Direction Test (Through Thickness)				Y Groove Crackability Test			NDTT	Remarks	
							1				2					Longitudinal														
							YS*	UTS	%EL	%RA	YS*	UTS	%EL	%RA																
							(MPa)	(MPa)	5.65Va		(MPa)	(MPa)	5.65Va			1	2	3	AVG		1	2	3	AVG						
Specified Requirement						Min	355	490	22	---	355	490	22	---	≤25-2T, >25-NA	---				27	---	---	---	---	25	---	---	---	---	---
						Max	---	630	---	---	---	630	---	---		---				---	---	---	---	---	---	---	---	---	---	---
1	24LP1615A1	F985421	48.00	2777	14151	14.807	406	566	27	---	413	572	26	---	---	233	202	196	210	---	54	57	56	56	---	---	---	---	---	
2	24LP1617A1	F985416	48.00	2777	14151	14.807	472	593	23	---	430	575	27	---	---	243	212	213	223	---	58	63	60	60	---	---	---	---	---	

### Chemical Composition (%)

HEAT ANALYSIS	Heat No.	C	Mn	S	P	Si	Cr	Ni	Cu	Ti	V	Nb	Mo	Al	N	Ca	B	Nb+Ti+V	Cu+Ni	Cr+Mo+Cu+Ni	Al/N	CE**	Pcm
Specified Requirement	Min	---	---	---	---	---	---	---	---	---	---	---	---	0.020	---	---	---	---	---	---	---	---	---
	Max	0.220	1.600	0.025	0.025	0.550	---	---	0.550	---	---	---	---	---	0.0120	---	---	0.250	---	---	---	0.45	---
	F985421	0.160	1.430	0.002	0.015	0.290	0.022	0.239	0.008	0.015	0.002	0.035	0.001	0.035	0.0048	0.0023	0.0002	0.052	0.247	0.270	7.29	0.42	0.25
	F985416	0.162	1.430	0.002	0.015	0.312	0.022	0.239	0.008	0.014	0.002	0.036	0.001	0.033	0.0038	0.0021	0.0003	0.052	0.247	0.270	8.68	0.42	0.25

PRODUCT ANALYSIS	Heat No.	C	Mn	S	P	Si	Cr	Ni	Cu	Ti	V	Nb	Mo	Al	N	Ca	B	Nb+Ti+V	Cu+Ni	Cr+Mo+Cu+Ni	Al/N	CE**	Pcm
Specified Requirement	Min	---	---	---	---	---	---	---	---	---	---	---	---	0.020	---	---	---	---	---	---	---	---	---
	Max	0.220	1.600	0.025	0.025	0.550	---	---	0.550	---	---	---	---	---	0.0120	---	---	0.250	---	---	---	0.45	---
	F985421	0.158	1.414	0.002	0.015	0.286	0.022	0.235	0.008	0.015	0.002	0.034	0.001	0.034	0.0047	0.0023	0.0002	0.051	0.243	0.266	7.23	0.41	0.24
	F985416	0.160	1.414	0.002	0.015	0.307	0.022	0.235	0.008	0.014	0.002	0.035	0.001	0.033	0.0037	0.0021	0.0003	0.051	0.243	0.266	8.92	0.42	0.25

IT IS CERTIFIED THAT THE MATERIAL DESCRIBED ABOVE FULLY CONFIRM TO EN 10025-2:2019 & EQUIVALENT TO IS 2062:2011. CHEMICAL COMPOSITION & MECHANICAL PROPERTIES OF THE PRODUCT AS TESTED IN ACCORDANCE WITH THE SCHEME OF TESTING AND INSPECTION CONTAINED IN BIS CERTIFICATION MARKS LICENCE NO. CML-7945703 ARE AS INDICATED ABOVE AGAINST EACH ORDER NO. PLEASE REFER TO EN 10025-2:2019 & IS 2062:2011 FOR DETAILS OF SPECIFICATION REQUIREMENTS.

#### Note :

- 1) Test Certificate confirms to EN 10204 : 2004 Type 3.1
- 2) Process Route : SLAB (BOF-LHF-RH-CCM-Fully Killed(Al&Si Killed))-Hot Rolling.
- 3) Supply Condition : Furnace Normalized
- 4) Mechanical Properties are certified at Room Temperature unless specified.
- 5) Ultrasonic Test are satisfactory as per : EN10160 S2 E3
- 6) Dimensions are satisfactory as per EN10029:2010 Class B, Table - 1,2,3
- 7) Surface condition as per EN10163-2 Class B, Subclass-3,
- 8) Weight calculation for plates is as per Theoretical Calculation

Legend : YS : Yield Strength, UTS :Ultimate Tensile Strength, EL : % Elongation, RA : Reduction in Area, Thk : Thickness, NDTT: Nil Ductility Transition Test, Min : Minimum, Max : Maximum, NA: Not Applicable, S: Simulated Post-weld Heat Treatment Test,Sat : Satisfactory,WBBT-Weld bead bend test YS\*≤16-355, 16<≤40-345, 40<≤63=335,63<≤80=325, CE\*\*= 0.47 for >30 mm



(Quality Assurance & Control Dept)



AUTHORISED SIGNATORY