Anjar Works

MILL TEST CERTIFICATE

JSW Steel Limited

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

IS- 2062
CM/L- 7945703

TEST CERTIFICATE NO. : JSW/PCMD/717510628
DATE : 03.01.2025

CUSTOMER : MOUNTING RENEWABLE POWER LIMITED
P. O. NO. : MRPL STEEL 2024 IN P Date - 24.10.2024
SPECIFICATION : EN 10025-2 : 2019 / IS 2062 : 2011
GRADE : S355J0+N / E350B0
UT STD. : EN10160 S2 E3
Impact Temp.(°C) : 0

Sr. No.	Plate / Coil No.	Heat No.	Thk (MM)	Width (MM)	Length (MM)	Weight (MT)	Mechanical Properties (Transverse Tensile) 1 YS* (MPa)	1 UTS (MPa)	1 %EL 5.65√a	1 %RA	2 YS* (MPa)	2 UTS (MPa)	2 %EL 5.65√a	2 %RA	Bend (Transverse)	CHARPY V-NOTCH IMPACT TEST (Joules) Longitudinal 1	2	3	AVG	Grain size (ASTM E112)	Z - Direction Test (Through Thickness) 1	2	3	AVG	Y Groove Crackability Test				NDTT	Remarks
Specified Requirement						**Min**	**355**	**490**	**22**	**---**	**355**	**490**	**22**	**---**	**≤25-2T, >25-NA**		**---**		**27**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
						Max	**---**	**630**	**---**	**---**	**---**	**630**	**---**	**---**			**---**		**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
1	24LP0503B1	A035217	12.80	2981	11539	3.456	385	559	26	---	408	540	28	---	OK	71	127	84	94	---	---	---	---	---	---	---	---	---	---	---	---
2	24LP0504B1	A035274	12.80	2981	11539	3.456	423	556	25	---	417	544	24	---	OK	349	245	333	309	---	---	---	---	---	---	---	---	---	---	---	---
3	24LP0180A1	B035380	15.60	2982	13436	4.907	411	547	26	---	420	547	30	---	OK	356	379	373	369	---	---	---	---	---	---	---	---	---	---	---	---
4	24LP0728A1	A035070	26.30	2980	14051	8.645	437	563	27	---	458	568	29	---	---	234	224	245	234	---	---	---	---	---	---	---	---	---	---	---	---
5	24LP0730A1	A035213	26.30	2980	14051	8.645	413	547	25	---	398	554	28	---	---	200	265	304	256	---	---	---	---	---	---	---	---	---	---	---	---
6	24LP0231A1	B035370	33.00	2980	14051	10.847	430	535	27	---	422	531	28	---	---	281	266	243	263	---	---	---	---	---	---	---	---	---	---	---	---

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	**0.200**	**1.600**	**0.030**	**0.030**	**0.550**	**---**	**---**	**0.550**	**---**	**---**	**---**	**---**	**---**	**0.0120**	**---**	**---**	**0.250**	**---**	**---**	**---**	**0.45**	**---**
	A035217	0.150	1.360	0.003	0.018	0.196	0.018	0.007	0.008	0.015	0.004	0.027	0.001	0.037	0.0060	0.0010	0.0000	0.046	0.015	0.034	6.17	0.38	0.23
	A035274	0.155	1.375	0.004	0.018	0.220	0.016	0.007	0.011	0.022	0.002	0.027	0.001	0.050	0.0050	0.0010	0.0000	0.051	0.018	0.035	10.00	0.39	0.23
	B035380	0.151	1.390	0.003	0.013	0.200	0.018	0.008	0.010	0.019	0.002	0.027	0.001	0.050	0.0050	0.0010	0.0000	0.048	0.018	0.037	10.00	0.39	0.23
	A035070	0.164	1.360	0.003	0.018	0.196	0.020	0.009	0.001	0.022	0.002	0.026	0.002	0.043	0.0050	0.0020	0.0000	0.050	0.010	0.032	8.60	0.40	0.24
	A035213	0.150	1.358	0.002	0.017	0.195	0.023	0.007	0.010	0.019	0.004	0.025	0.001	0.046	0.0060	0.0010	0.0000	0.048	0.017	0.041	7.67	0.38	0.23
	B035370	0.135	1.430	0.003	0.015	0.208	0.022	0.011	0.011	0.026	0.003	0.034	0.001	0.055	0.0050	0.0020	0.0000	0.063	0.022	0.045	11.00	0.38	0.22

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	**0.200**	**1.600**	**0.030**	**0.030**	**0.550**	**---**	**---**	**0.550**	**---**	**---**	**---**	**---**	**---**	**0.0120**	**---**	**---**	**0.250**	**---**	**---**	**---**	**0.45**	**---**
	A035217	0.147	1.346	0.003	0.018	0.192	0.018	0.007	0.008	0.015	0.004	0.027	0.001	0.036	0.0059	0.0010	0.0000	0.046	0.015	0.034	6.10	0.38	0.22
	A035274	0.158	1.382	0.004	0.018	0.225	0.016	0.007	0.011	0.022	0.002	0.028	0.001	0.051	0.0051	0.0010	0.0002	0.052	0.018	0.035	10.00	0.39	0.24
	B035380	0.149	1.375	0.003	0.013	0.197	0.018	0.008	0.010	0.019	0.002	0.027	0.001	0.049	0.0049	0.0010	0.0000	0.048	0.018	0.037	10.00	0.38	0.23
	A035070	0.161	1.348	0.003	0.018	0.192	0.020	0.009	0.001	0.022	0.002	0.026	0.002	0.042	0.0049	0.0020	0.0001	0.050	0.010	0.032	8.57	0.39	0.24
	A035213	0.148	1.344	0.002	0.017	0.193	0.023	0.007	0.010	0.019	0.004	0.025	0.001	0.045	0.0059	0.0010	0.0000	0.048	0.017	0.041	7.63	0.38	0.22
	B035370	0.134	1.416	0.003	0.015	0.206	0.022	0.011	0.011	0.026	0.003	0.034	0.001	0.054	0.0049	0.0020	0.0000	0.063	0.022	0.045	11.02	0.38	0.21

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. CM/L-7945703 ARE AS INDICATED ABOVE AGAINST EACH ORDER NO.
PLAESE 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 : Normalized rolled
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*=t≤16-355, 16<t≤40-345, 40<t≤63=335,63<t≤80=325, CE= 0.47 for t>30 mm**

DEE Forge India Private Limited QA/QC

(Quality Assurance & Control Dept)

AUTHORISED SIGNATORY

Printed on: : 03.01.2025