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/717470789
DATE : 29.12.2024

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	24LP0593A1	B035052	33.00	2980	14051	10.847	431	539	30	---	446	548	29	---	---	350	315	339	335	---	---	---	---	---	---	---	---	---	---	---	---
2	24LP0923A1	A036646	25.60	2980	14051	8.415	425	550	29	---	416	542	30	---	---	224	216	200	213	---	---	---	---	---	---	---	---	---	---	---	---
3	24LP0944A1	B036326	24.50	2980	14151	8.110	422	537	28	---	412	552	28	---	OK	419	389	373	394	---	---	---	---	---	---	---	---	---	---	---	---
4	24LP0996A1	A036646	24.90	2980	14051	8.185	425	550	29	---	416	542	30	---	OK	224	216	200	213	---	---	---	---	---	---	---	---	---	---	---	---
5	24LP1294B1	A035275	17.50	2980	14051	5.752	443	555	28	---	427	541	30	---	OK	271	318	295	295	---	---	---	---	---	---	---	---	---	---	---	---

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**	**---**
	B035052	0.158	1.350	0.004	0.016	0.195	0.028	0.043	0.015	0.016	0.002	0.026	0.001	0.050	0.0050	0.0010	0.0000	0.044	0.058	0.087	10.00	0.39	0.24
	A036646	0.164	1.370	0.001	0.015	0.195	0.028	0.007	0.014	0.018	0.005	0.025	0.001	0.050	0.0060	0.0010	0.0000	0.048	0.021	0.050	8.33	0.40	0.24
	B036326	0.155	1.370	0.002	0.012	0.188	0.020	0.008	0.011	0.019	0.005	0.026	0.001	0.047	0.0050	0.0010	0.0000	0.050	0.019	0.040	9.40	0.39	0.23
	A036646	0.164	1.370	0.001	0.015	0.195	0.028	0.007	0.014	0.018	0.005	0.025	0.001	0.050	0.0060	0.0010	0.0000	0.048	0.021	0.050	8.33	0.40	0.24
	A035275	0.161	1.365	0.002	0.018	0.204	0.015	0.007	0.011	0.021	0.004	0.026	0.001	0.048	0.0060	0.0020	0.0000	0.051	0.018	0.034	8.00	0.39	0.24

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**	**---**
	B035052	0.156	1.335	0.004	0.016	0.192	0.028	0.042	0.015	0.016	0.002	0.026	0.001	0.049	0.0049	0.0010	0.0000	0.044	0.057	0.086	10.00	0.39	0.23
	A036646	0.162	1.355	0.001	0.015	0.192	0.028	0.007	0.014	0.018	0.005	0.025	0.001	0.049	0.0059	0.0010	0.0000	0.048	0.021	0.050	8.31	0.40	0.24
	B036326	0.158	1.377	0.002	0.012	0.192	0.020	0.008	0.011	0.019	0.005	0.027	0.001	0.048	0.0051	0.0010	0.0002	0.051	0.019	0.040	9.41	0.39	0.24
	A036646	0.162	1.355	0.001	0.015	0.192	0.028	0.007	0.014	0.018	0.005	0.025	0.001	0.049	0.0059	0.0010	0.0000	0.048	0.021	0.050	8.31	0.40	0.24
	A035275	0.158	1.351	0.002	0.018	0.200	0.015	0.007	0.011	0.021	0.004	0.026	0.001	0.047	0.0059	0.0020	0.0000	0.051	0.018	0.034	7.97	0.39	0.23

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: : 29.12.2024