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/717479971
DATE : 30.12.2024

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	24LP0594A1	E983636	33.60	2980	14051	11.044	394	533	29	---	422	551	26	---	---	315	302	283	300	---	---	---	---	---	---	---	---	---	---	---	
2	24LP0632A1	A036588	21.50	2980	14151	7.117	434	537	31	---	428	531	32	---	OK	224	194	199	206	---	---	---	---	---	---	---	---	---	---	---	
3	24LP0753A1	B036315	22.00	2980	14051	7.231	403	541	30	---	396	517	28	---	OK	371	340	336	349	---	---	---	---	---	---	---	---	---	---	---	
4	24LP0754A1	B036315	22.00	2980	14051	7.231	403	541	30	---	396	517	28	---	OK	371	340	336	349	---	---	---	---	---	---	---	---	---	---	---	
5	24LP1459A1	B036313	24.50	2980	14151	8.110	403	534	29	---	400	543	23	---	OK	388	413	364	388	---	---	---	---	---	---	---	---	---	---	---	

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	---
	E983636	0.160	1.400	0.003	0.015	0.204	0.030	0.009	0.006	0.014	0.002	0.025	0.001	0.031	0.0042	0.0024	0.0004	0.041	0.015	0.046	7.38	0.40	0.24
	A036588	0.156	1.370	0.004	0.018	0.183	0.014	0.005	0.010	0.017	0.005	0.027	0.001	0.045	0.0070	0.0020	0.0000	0.049	0.015	0.030	6.43	0.39	0.23
	B036315	0.164	1.350	0.001	0.015	0.186	0.022	0.007	0.010	0.017	0.005	0.026	0.001	0.045	0.0050	0.0010	0.0000	0.048	0.017	0.040	9.00	0.40	0.24
	B036315	0.164	1.350	0.001	0.015	0.186	0.022	0.007	0.010	0.017	0.005	0.026	0.001	0.045	0.0050	0.0010	0.0000	0.048	0.017	0.040	9.00	0.40	0.24
	B036313	0.157	1.370	0.001	0.015	0.204	0.019	0.008	0.012	0.021	0.005	0.026	0.001	0.050	0.0050	0.0010	0.0000	0.052	0.020	0.040	10.00	0.39	0.23

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	---
	E983636	0.158	1.386	0.003	0.015	0.202	0.030	0.009	0.006	0.014	0.002	0.025	0.001	0.031	0.0042	0.0024	0.0004	0.041	0.015	0.046	7.38	0.40	0.24
	A036588	0.159	1.377	0.004	0.018	0.187	0.014	0.005	0.010	0.017	0.005	0.028	0.001	0.046	0.0074	0.0020	0.0002	0.050	0.015	0.030	6.48	0.39	0.24
	B036315	0.161	1.338	0.001	0.015	0.183	0.022	0.007	0.010	0.017	0.005	0.026	0.001	0.044	0.0049	0.0010	0.0002	0.048	0.017	0.040	8.98	0.39	0.24
	B036315	0.161	1.338	0.001	0.015	0.183	0.022	0.007	0.010	0.017	0.005	0.026	0.001	0.044	0.0049	0.0010	0.0002	0.048	0.017	0.040	8.98	0.39	0.24
	B036313	0.160	1.377	0.001	0.015	0.208	0.019	0.008	0.012	0.021	0.005	0.027	0.001	0.051	0.0051	0.0010	0.0001	0.053	0.020	0.040	10.00	0.40	0.24

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**

DEEP Forgeom India Private Limited QA/QC

(Quality Assurance & Control Dept)

AUTHORISED SIGNATORY

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