



Vijayanagar Works, Vidyanagar Post, Bellary Dist, Karnataka INDIA
 Regd. Office : JSW Centre, Bandra Kurla Complex, Bandra(East), Mumbai 400051

MILL TEST CERTIFICATE
 (According to EN 10204 - 3.1)

TO:
 SALGITTER MANNAMANN INTERNATIONAL GMBH
 SCHWANNSTR 12
 40476 DUSSELDORF
 GERMANY

TC No: Germany/Exp13-14/Sap00705

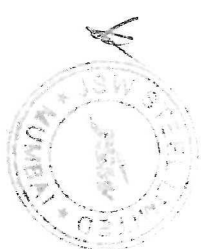
Product: Hot Rolled Steel Coils

Date: 12-04-2014
 Sales contract No. JSW/HRS/2013-14/2922 DATED: 07.03.2014
 Specification : EN 10149-2-2005, S355 MC

Specifications requirements:-

(Reference: As per TDC no.: IM/JSW/2010-11/HRS/133 Dt. : 31-10-2010 and S355 MC)

Cast/Heat No.	Coil No.	Nominal Size (mm)				Metric Tonnes	C														YS	UTS	EL	Impact @ 20°C	Bend test 0.5T, 180°	Remarks			
		T	X	W	L		%	Mn	S	P	SI	AI	Cr	NI	Nb	Mo	V	TI	Cu	N							Si+2SP	C.E.	
D609515	14542887	8.00	X	1.500	X	coil	27.430	0.078	1.00	0.010	0.013	0.014	0.047	0.015	0.013	0.025	0.001	0.001	0.014	0.005	0.0047	0.0465	0.249	439	523	28	196,220,232	Pass	
D609518	14542886	8.00	X	1.500	X	coil	27.290	0.079	1.01	0.009	0.014	0.015	0.047	0.012	0.013	0.025	0.001	0.001	0.014	0.006	0.0049	0.0500	0.251	420	499	30	288,280,284	Pass	
E609528	14544198	8.00	X	1.500	X	coil	27.320	0.071	1.00	0.010	0.011	0.015	0.055	0.016	0.014	0.030	0.001	0.001	0.017	0.006	0.0042	0.0425	0.242	469	540	26	182,172,168	Pass	
E609543	14544143	8.00	X	1.500	X	coil	23.560	0.076	1.01	0.008	0.018	0.018	0.045	0.021	0.011	0.029	0.001	0.002	0.017	0.009	0.0047	0.0630	0.250	437	511	29	288,329,340	Pass	
E609545	14544435	8.00	X	1.500	X	coil	23.910	0.077	1.05	0.007	0.014	0.012	0.041	0.016	0.013	0.030	0.001	0.001	0.016	0.006	0.0042	0.0470	0.256	433	466	34	360,358,362	Pass	
F609538	14543754	8.00	X	1.500	X	coil	27.330	0.070	1.08	0.009	0.017	0.012	0.055	0.011	0.012	0.023	0.001	0.003	0.016	0.006	0.0036	0.0545	0.254	454	526	27	384,389,387	Pass	
D609518	14542902	10.00	X	1.500	X	coil	27.240	0.079	1.01	0.009	0.014	0.015	0.047	0.012	0.013	0.025	0.001	0.001	0.014	0.006	0.0049	0.0500	0.251	424	508	29	288,280,284	Pass	
D609542	14542903	10.00	X	1.500	X	coil	27.400	0.077	1.06	0.009	0.011	0.024	0.041	0.015	0.013	0.029	0.001	0.001	0.014	0.008	0.0040	0.0515	0.258	449	518	28	301,304,290	Pass	
D609542	14542904	10.00	X	1.500	X	coil	27.570	0.077	1.06	0.009	0.011	0.024	0.041	0.015	0.013	0.029	0.001	0.001	0.014	0.008	0.0040	0.0515	0.258	449	518	28	301,304,290	Pass	
E609521	14542905	10.00	X	1.500	X	coil	27.560	0.085	1.00	0.010	0.014	0.013	0.050	0.014	0.012	0.027	0.001	0.001	0.018	0.006	0.0064	0.0480	0.256	394	484	28	196,202,238	Pass	
E609521	14542908	10.00	X	1.500	X	coil	27.270	0.085	1.00	0.010	0.014	0.013	0.050	0.014	0.012	0.027	0.001	0.001	0.018	0.006	0.0064	0.0480	0.256	394	484	28	196,202,238	Pass	
E609524	14544022	10.00	X	1.500	X	coil	27.220	0.074	1.06	0.009	0.012	0.012	0.039	0.014	0.015	0.022	0.001	0.001	0.014	0.006	0.0064	0.0480	0.256	394	484	28	196,202,238	Pass	
E609543	14542907	10.00	X	1.500	X	coil	27.355	0.076	1.01	0.008	0.018	0.018	0.045	0.021	0.011	0.029	0.001	0.002	0.017	0.009	0.0047	0.0630	0.250	437	519	29	301,308,290	Pass	
E609545	14544020	10.00	X	1.500	X	coil	27.560	0.077	1.05	0.007	0.014	0.012	0.041	0.016	0.013	0.030	0.001	0.001	0.016	0.006	0.0042	0.0470	0.256	399	485	31	288,329,340	Pass	
E609545	14544021	10.00	X	1.500	X	coil	24.290	0.077	1.05	0.007	0.014	0.012	0.041	0.016	0.013	0.030	0.001	0.001	0.016	0.006	0.0042	0.0470	0.256	399	485	31	360,358,362	Pass	
F609550	14544018	10.00	X	1.500	X	coil	27.440	0.071	1.10	0.008	0.016	0.012	0.048	0.027	0.014	0.027	0.001	0.001	0.018	0.050	0.0042	0.0520	0.263	417	503	29	361,341,370	Pass	
F609550	14544019	10.00	X	1.500	X	coil	27.510	0.071	1.10	0.008	0.016	0.012	0.048	0.027	0.014	0.027	0.001	0.001	0.018	0.050	0.0042	0.0520	0.263	417	503	29	361,341,370	Pass	
D609542	14542890	12.00	X	1.500	X	coil	27.260	0.077	1.06	0.009	0.011	0.024	0.041	0.015	0.013	0.029	0.001	0.001	0.014	0.008	0.0040	0.0515	0.258	439	531	25	301,304,290	Pass	
F609516	14542706	12.00	X	1.500	X	coil	27.570	0.070	1.02	0.008	0.011	0.009	0.044	0.012	0.013	0.025	0.001	0.003	0.019	0.006	0.0040	0.0365	0.244	420	511	27	230,210,227	Pass	





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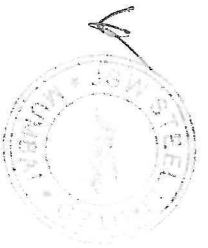
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TC No: Germany/Exp13-14/Sap00705
 Product: Hot Rolled Steel Coils

Date: 12-04-2014
 Sales contract No: JSW/HRS/2013-14/2922 DATED: 07.03.2014
 Specification : EN 10149-2-2005, S355 MC

Casting	Coil No.	Nominal Size (mm)				Metric Tonnes	Chemical Composition (%)														YS Mpa	UTS Mpa	EL %	Impact @ 20°C J	Bend test @ 5T, 180°	Remarks				
		T	X	W	L		C	Mn	S	P	SI	Al	Cr	Ni	Nb	Mo	V	Ti	Cu	N							SH+2.5P C.E.			
		%	%	%	%		%	%	%	%	%	%	%	%	%	%	%	%	%	%							%	%		
F609532	14543759	12.00	X	1.500	X	coil	27.260	0.088	1.05	0.007	0.013	0.019	0.049	0.014	0.011	0.026	0.001	0.003	0.017	0.006	0.0050	0.0515	0.267	433	52.1	1.31	227	230	233	Pass
F609538	14543757	12.00	X	1.500	X	coil	27.230	0.070	1.08	0.009	0.017	0.012	0.055	0.011	0.012	0.023	0.001	0.003	0.016	0.006	0.0036	0.0545	0.254	447	540	27	384	389	387	Pass
E609524	14542891	15.00	X	1.500	X	coil	27.305	0.074	1.06	0.009	0.012	0.012	0.039	0.012	0.015	0.022	0.001	0.001	0.014	0.006	0.0045	0.0420	0.254	370	466	30	319	328	341	Pass
E609524	14542892	15.00	X	1.500	X	coil	27.640	0.074	1.06	0.009	0.012	0.012	0.039	0.012	0.015	0.022	0.001	0.001	0.014	0.006	0.0045	0.0420	0.254	370	466	30	319	328	341	Pass
D609518	14542893	15.00	X	1.500	X	coil	27.240	0.079	1.01	0.009	0.014	0.015	0.047	0.012	0.013	0.025	0.001	0.001	0.014	0.006	0.0049	0.0500	0.251	365	458	31	245	236	208	Pass
D609518	14542894	15.00	X	1.500	X	coil	27.560	0.079	1.01	0.009	0.014	0.015	0.047	0.012	0.013	0.025	0.001	0.001	0.014	0.006	0.0049	0.0500	0.251	365	458	31	245	236	208	Pass
E609528	14542895	15.00	X	1.500	X	coil	25.305	0.071	1.00	0.010	0.011	0.015	0.055	0.016	0.014	0.030	0.001	0.001	0.017	0.006	0.0042	0.0425	0.242	381	460	30	182	172	158	Pass
E609528	14542906	15.00	X	1.500	X	coil	25.500	0.071	1.00	0.010	0.011	0.015	0.055	0.016	0.014	0.030	0.001	0.001	0.017	0.006	0.0042	0.0425	0.242	381	460	30	182	172	158	Pass
E609528	14543074	15.00	X	1.500	X	coil	25.390	0.071	1.00	0.010	0.011	0.015	0.055	0.016	0.014	0.030	0.001	0.001	0.017	0.006	0.0042	0.0425	0.242	381	460	30	182	172	158	Pass
D609515	14544202	15.00	X	1.500	X	coil	26.125	0.078	1.00	0.010	0.013	0.014	0.047	0.015	0.013	0.025	0.001	0.001	0.014	0.005	0.0047	0.0465	0.249	396	496	26	227	230	233	Pass
D609546	14544203	15.00	X	1.500	X	coil	27.160	0.074	1.04	0.010	0.012	0.012	0.046	0.014	0.013	0.025	0.001	0.001	0.014	0.006	0.0036	0.0420	0.251	370	468	35	238	224	232	Pass
E609528	14544361	15.00	X	1.500	X	coil	25.610	0.071	1.00	0.010	0.011	0.015	0.055	0.016	0.014	0.030	0.001	0.001	0.017	0.006	0.0042	0.0425	0.242	381	460	30	182	172	158	Pass
D609546	14544361	15.00	X	1.500	X	coil	27.500	0.074	1.04	0.010	0.012	0.012	0.046	0.014	0.013	0.022	0.001	0.001	0.018	0.006	0.0036	0.0420	0.251	380	487	24	238	224	232	Pass
E609545	14543808	20.00	X	1.500	X	coil	24.390	0.077	1.05	0.007	0.014	0.012	0.041	0.016	0.013	0.030	0.001	0.001	0.016	0.006	0.0042	0.0470	0.256	393	492	29	252	258	265	Pass
E609545	14543809	20.00	X	1.500	X	coil	24.045	0.077	1.05	0.007	0.014	0.012	0.041	0.016	0.013	0.030	0.001	0.001	0.016	0.006	0.0042	0.0470	0.256	393	492	29	252	258	265	Pass
F609541	14543800	20.00	X	1.500	X	coil	27.520	0.090	1.01	0.009	0.015	0.010	0.044	0.017	0.011	0.030	0.001	0.003	0.019	0.006	0.0053	0.0475	0.263	398	496	28	192	208	212	Pass
F609544	14543799	20.00	X	1.500	X	coil	27.400	0.073	1.10	0.009	0.012	0.025	0.051	0.012	0.011	0.028	0.001	0.003	0.019	0.006	0.0040	0.0550	0.260	395	512	29	188	125	153	Pass





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TC No: Germany/Exp13-14/Sap00705
 Product: Hot Rolled Steel Coils

Date: 12-04-2014
 Sales contract No. JSW/HR/2013-14/2922 DATED: 07.03.2014
 Specification : EN 10149-2-2005, S355 MC

Specifications requirements:-

(Reference: As per TDC no.: IM/JSW/2010-11/HR/133 Dt.: 31-10-2010 and S355 MC)

Castl	Coil No.	Nominal Size (mm)				Metric Tonnes	C	Mn %	S %	P %	SI %	Al %	Cr %	Ni %	Nb %	Mo %	V %	Ti %	Cu %	N %	SH+2.5P C.E. %	YS Mpa	UTS Mpa	EL %	Impact @ 20°C	Bend test 0.5T, 180°	Remarks			
		T	X	W	X																							L		
F609547	14543810	20.00	X	1.500	X	coil	27.170	0.072	1.07	0.008	0.018	0.015	0.013	0.026	0.001	0.001	0.018	0.007	0.0038	0.0600	0.254	406	519	26	148	152	148	Pass		
F609550	14543811	20.00	X	1.500	X	coil	27.540	0.071	1.10	0.008	0.016	0.012	0.048	0.027	0.014	0.027	0.001	0.018	0.050	0.0042	0.0520	0.263	400	509	27	252	260	270	Pass	
F609553	14543802	20.00	X	1.500	X	coil	27.150	0.082	1.03	0.008	0.015	0.022	0.055	0.018	0.013	0.026	0.002	0.001	0.018	0.013	0.0034	0.0595	0.259	443	528	26	212	218	220	Pass
F609553	14543803	20.00	X	1.500	X	coil	27.700	0.082	1.03	0.008	0.015	0.022	0.055	0.018	0.013	0.026	0.002	0.001	0.018	0.013	0.0034	0.0595	0.259	443	528	26	212	218	220	Pass
F609553	14544438	20.00	X	1.500	X	coil	27.590	0.082	1.03	0.008	0.015	0.022	0.055	0.018	0.013	0.026	0.002	0.001	0.018	0.013	0.0034	0.0595	0.259	443	528	26	212	218	220	Pass
F609556	14543812	20.00	X	1.500	X	coil	27.245	0.071	1.04	0.008	0.014	0.014	0.040	0.014	0.011	0.025	0.001	0.019	0.006	0.0039	0.0490	0.248	384	498	28	228	234	230	Pass	
Total Weight in Metric Tonnes						1124.660	MT																							
Grand Total of Weight						1124.660	MT																							

We hereby certify that the material (Hot Rolled Steel Coils) described herein have been tested and inspected with satisfactory results in accordance with the requirements of the above specification.

Grade code: JYTRS3	1Mpa=1N/mm ²	chemistry = Ladle sample analysis.	Certified By
Product : Hot rolled Steel coils, Fully Killed, mill edge, unpickled.	YS= Yield Strength.	Tensile Test Piece: Longitudinal	
Process Route: BOF-LHF-CCM-HSM	UTS = Ultimate Tensile Strength.	Test Temperature: Ambient (25°C ±2°)	
Legend: BOF = Basic Oxygen Furnace, LHF = Ladle Heating Furnace	EL=%age Elongation on standard gauge length 5.65√A0 for > 3.0mm and 80	Impact values are calculated to full size specimen	Authorised signatory
CCM = Continuous Casting Machine, HSM = Hot Strip Mill	mm G.L. for < 3.0 mm nominal thickness.		(HSM Technology & Excellence)
T X W X L = Thickness X Width X Length	CE=(C+Mn/6+Cr+Mo+V)/5+(Ni+Cu)/15]		For JSW Steel Ltd.,

