

STEEL LIMITED

Vijayanagar Works, PO: Vidyanagar, Village : Tornagallu, Dist: Bellary, Karnataka-583275, INDIA
Regd. Office: JSW Centre, Bandra Kurla Complex, Bandra (East), Mumbai-400051.

MILL TEST CERTIFICATE (According to EN 10204 - 3.1)

TO,
SALZGITTER MANNESMANN INTER GM
DUSSELDORF, 40476
DE

TC No / 0400648966 _ 11 / 7190003466
Date 07.07.2017

Product: Hot Rolled Pickled and/or Oiled										Chemical Composition & Mechanical Properties													
Cast/Heat No.	Coil No.	T	X	W	X	L	Net Wt.	Gross Wt.	C	Mn	S	P	Si	Al	B	N	YS MPa	UTS MPa	EL %	GL mm	Bend Test	Remarks	
G715153	176S31601	3,000	X	1500.0	X	Coil	25,790	25,890	0.074	0.590	0.005	0.012	0.008	0.048	0.0001	0.0041	412	486	33.00	5.65 SA	Pass		
							25,790	25,890															
Total Weight in Metric Tonnes							25,790	25,890															
Total no of Batches							1	1															

We hereby certify that the material described herein have been tested and inspected with satisfactory results in accordance with the requirements of the above specification.

This is to certify that the above mentioned product produced & supplied by JSW Steel Ltd do not contain any radio active element higher than the natural level

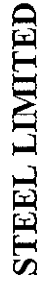
The product or packing material does not contain any hazardous substances as per ROHS

Commercial Invoice : 7190003466	Legend: BOF = Basic Oxygen Furnace, LHF = Ladle Heating Furnace,
Sales Contract Number : 3029	CCM = Continuous Casting Machine, HSM = Hot Strip Mill, CPL =
Product: HOT ROLLED STEEL COILS, PICKLED AND OILED with Mill Edge	Continuous Pickling Line, CRM = Cold Rolling Mill, ECL = Electrolytic Cleaning Line, BAF = Batch Annealing Furnace, SPM = Skin Pass Mill, RCL = Recoiling Cum Inspection Line, APL = Automatic Packaging Line, PLTCM = Pickling Cum Tandem Mill,
Process Route : BOF-LHF-CCM-HSM-CPL-APL	CGI = Continuous Galvanizing line CAL = Continuous Annealing Line, CTL = Cut to Length, HRS = HR Slitters, HTL = HR Cut to Length

T x W x T = Thickness x Width x Length, Chemistry = Ladle Sample Analysis, (MPa = N/mm², YS = Yield Strength, UTS = Ultimate Tensile Strength, EL = %Elongation on Standard Gauge Length
GSM = Grams per Square Meter
Oil Type : Q

Certified By

A. Jindal
CANVISH JINDAL



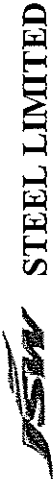
Vijayanagar Works, PO: Vidyvanagar, Village : Tornagallu, Dist: Bellary, Karnataka-582275, INDIA
Regd. Office: JSW Centre, Bandra Kurla Complex, Bandra (East), Mumbai-400051.

MILL TEST CERTIFICATE (According to EN 10204 - 3.1)

TO,
SALZGITTER MANNESMANN INTER GM
DUSSELDORF, 40476
DE

TC No	/ 0400648966_21 / 7190003466
Date	07.07.2017

Product: Hot Rolled Pickled and/or Oiled										Chemical Composition & Mechanical Properties													
Cast/Heat No.	Coil No.	T	X	W	X	L	Net Wt.	Gross Wt.		C	Mn	S	P	Si	Al	B	N	YS MPa	UTS MPa	EL %	GL mm	Bend Test	
Specification : EN 10149_2_2005 S355MC																							
							MIN	→		-	-	-	-	-	0.0150	-	-	-	355	430	23.00	-	-
							MAX	→		0.1200	1.500	0.0200	0.025	0.030	-	-	-	-	-	550	-	-	-
							Net Wt.	Gross Wt.		C	Mn	S	P	Si	Al	B	N	YS MPa	UTS MPa	EL %	GL mm	Bend Test	
E708950	176S31520	4.000	X	1500.0	X	Coil	22.980	23.075		0.080	0.630	0.005	0.015	0.017	0.041	0.0001	0.0050	429	509	34.00	5.65 SA	Pass	
E715180	176S31529	4.000	X	1500.0	X	Coil	19.725	19.810		0.088	0.600	0.005	0.011	0.005	0.050	0.0001	0.0051	421	506	30.00	5.65 SA	Pass	
F715166	176S31577	4.000	X	1500.0	X	Coil	21.180	21.255		0.077	0.600	0.005	0.012	0.010	0.046	0.0001	0.0045	402	500	28.00	5.65 SA	Pass	
F715166	7637190000	4.000	X	1500.0	X	Coil	28.720	28.820		0.077	0.600	0.005	0.012	0.010	0.046	0.0001	0.0045	399	493	31.00		Pass	
Total Weight in Metric Tonnes							92.605	92.960															
Total no of Batches							4																



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TO,
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DUSSELDORF, 40476
DE

TC No / 0400648966 _ 21 / 7190003466
Date 07.07.2017

We hereby certify that the material described herein have been tested and inspected with satisfactory results in accordance with the requirements of the above specification.

This is to certify that the above mentioned product produced & supplied by JSW Steel Ltd do not contain any radio active element higher than the natural level

The product or packing material does not contain any hazardous substances as per ROHS

Commercial Invoice : 7190003466
Sales Contract Number : 3009
Product: : HOT ROLLED STEEL COILS, PICKLED
AND OILED
with Mill Edge
Process Route : BOF-LHF-CCM-HEM-CPL-APL

Legend: BOF = Basic Oxygen Furnace, LHF = Ladle Heating Furnace,
CCM = Continuous Casting Machine, HSM = Hot Strip Mill, CPL =
Continuous Pickling Line, CRM = Cold Rolling Mill, ECL = Electrolytic
Cleaning Line, BAF = Batch Annealing Furnace, SPM = Skin Pass Mill, RCL =
Recoiling Cum Inspection Line, APL = Automatic Packaging Line, PLTCM =
Pickling Cum Tandem Mill,
CGL = Continuous Galvanizing line CAL = Continuous Annealing Line, CTL =
Cut to Length, HRS = HR Slitters, HTL = HR Cut to Length

T x W x T = Thickness x Width x Length, Chemistry = Ladle Sample Analysis,
MPa = N/mm², YS = Yield Strength, UTS = Ultimate Tensile Strength, EL =
%gs Elongation on Standard Gauge Length
GSM = Grams per Square Meter
Oil Type : Q

Certified By

A. Jindal
CAVISH JINDAL

MILL TEST CERTIFICATE (According to EN 10204 - 3.1)

TO,
SALZGITTER MANNESMANN INTER GM
DUSSELDORF, 40476
DE

TC No 2017-18 / 0400648966 _11 / 7190003441
Date 30.06.2017

Product: Hot Rolled Pickled and/or Oiled										Chemical Composition & Mechanical Properties														
Cast/Heat No.	Coil No.	T	X	W	X	L	L	Net Wt.	Gross Wt.	C	Mn	S	P	Si	Al	B	N	YS	UTS	EL	GL	Bend Test		
																							MIN	MAX
Specification : EN 10149_2_2005 S355MC																								
																						</		

JSW STEEL LIMITED
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Regd. Office: JSW Centre, Bandra Kurla Complex, Bandra (East), Mumbai-400051.

MILL TEST CERTIFICATE (According to EN 10204 - 3.1)

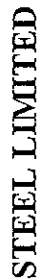
TO:
SALZGITTER MANNESMANN INTER GM
DUSSELDORF, 40476
DE
TC No 2017-18 / 0400648966 _ I1 / 7190003441
Date 30.06.2017

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Commercial Invoice : 7190003441 Sales Contract Number : 3009 Product: : HOT ROLLED STEEL COILS, PICKLED AND OILED with Mill Edge Process Route : BOF-LHF-CCM-BSM-CFL-APL	Legend: BOF = Basic Oxygen Furnace, LHF = Ladle Heating Furnace, CCM = Continuous Casting Machine, HSM = Hot Strip Mill, CFL = Continuous Pickling Line, CRM = Cold Rolling Mill, ECL = Electrolytic Cleaning Line, BAF = Batch Annealing Furnace, SPM = Skin Pass Mill, RCL = Recoiling Cum Inspection Line, APL = Automatic Packaging Line, PLTCM = Pickling Cum Tandem Mill, CGL = Continuous Galvanizing line CAL = Continuous Annealing Line, CTL = Cut to Length, HRS = HR Slitters, HTL = HR Cut to Length	T x W x T = Thickness x Width x Length, Chemistry = Ladle Sample Analysis, IMPa = N/mm ² , YS = Yield Strength, UTS = Ultimate Tensile Strength, EL = %gs Elongation on Standard Gauge Length GSM = Grams per Square Meter Oil Type : Q	Certified By <i>R. Jindal</i> CAVISH JINDAL
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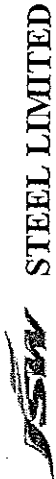
Vijayanagar Works, PO: Vidyannagar, Village : Tornagallu, Dist: Bellary, Karnataka-583275, INDIA
Regd. Office: JSW Centre, Bandra Kurla Complex, Bandra (East), Mumbai-400051.

MILL TEST CERTIFICATE (According to EN 10204 - 3.1)

DE

Date 30.06.2017

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STEEL LIMITED

Vijayanagar Works, PO: Vidyannagar, Village : Tornagallu, Dist: Bellary, Karnataka-583275, INDIA
Regd. Office: JSW Centre, Bandra Kurla Complex, Bandra (East), Mumbai-400051.

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DUSSELDORF, 40476
DE

TC No 2017-18 / 0400648966 _ 21 / 7190003441
Date 30.06.2017

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The product or packing material does not contain any hazardous substances as per ROHS

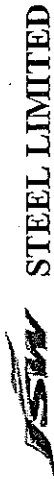
Commercial Invoice : 7190003441
Sales Contract Number : 3009
Product: : HOT ROLLED STEEL COILS, PICKLED
AND OILED
with Mill Edge
Process Route : BOF-LHF-CCM-HEM-CPL-AFL

Legend: BOF = Basic Oxygen Furnace, LHF = Ladle Heating Furnace,
CCM = Continuous Casting Machine, HSM = Hot Strip Mill, CPL =
Continuous Pickling Line, ORM = Cold Rolling Mill, ECL = Electrolytic
Cleaning Line, BAF = Batch Annealing Furnace, SPM = Skin Pass Mill, RCL =
Recoiling Cum Inspection Line, AFL = Automatic Packaging Line, PLTCM =
Pickling Cum Tandem Mill,
CGL = Continuous Galvanizing Line CAL = Continuous Annealing Line, CTL =
Cut to Length, HRS = HR Silters, HTL = HR Cut to Length

T x W x T = Thickness x Width x Length, Chemistry = Ladle Sample Analysis,
MPa = N/mm², YS = Yield Strength, UTS = Ultimate Tensile Strength, EL =
% Elongation on Standard Gauge Length
GSM = Grams per Square Meter
Oil Type : Q

Certified By

A. P. Jindal
CANISH JINDAL

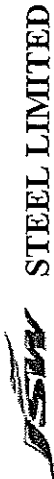


JSW STEEL LIMITED
Vijayanagar Works, PO: Vidyannagar, Village : Tornagalli, Dist: Bellary, Karnataka-583275, INDIA
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TO,
SALZGITTER MANNESMANN INTER GM
DUSSELDORF, 40476
DE
TC No 2017-18 / 0400648966 _ 31 / 7190003441
Date 30.06.2017

Product: Hot Rolled Pickled and/or Oiled										Chemical Composition & Mechanical Properties											
					MIN										Bend Test						
					MAX																
Specification : EN 10149_2_2005 S355MC																					
Cast/Heat No.	Coil No.	T	X	W	X	L	Net Wt.	Gross Wt.	C	Mn	S	P	Si	Al	B	N	YS	UTS	EL	GL	Bend Test
			</																		



Vijayanagar Works, PO: Vidyannagar, Village : Tornagallu, Dist: Bellary, Karnataka-583275, INDIA
Regd. Office: JSW Centre, Bandra Kurla Complex, Bandra (East), Mumbai-400051.

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SALZGITTER MANNESMANN INTER GM
DUSSELDORF, 40476
DE
TC No 2017-18 / 0400648966_31 / 7190003441
Date 30.06.2017

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Commercial Invoice : 7190003441	Legend: BOF = Basic Oxygen Furnace, LHF = Ladle Heating Furnace, CCM = Continuous Casting Machine, HSM = Hot Strip Mill, CPL = Continuous Pickling Line, CRM = Cold Rolling Mill, ECL = Electrolytic Cleaning Line, BAP = Batch Annealing Furnace, SPM = Skin Pass Mill, RCL = Recoiling Cum Inspection Line, APL = Automatic Packaging Line, PLTCM = Pickling Cum Tandem Mill, CGL = Continuous Galvanizing Line, CAL = Continuous Annealing Line, CTL = Cut to Length, HRS = HR Sizers, HTL = HR Cut to Length	T x W x T = Thickness x Width x Length, Chemistry = Ladle Sample Analysis, 1MPa = 1N/mm ² , YS = Yield Strength, UTS = Ultimate Tensile Strength, EL = %Elongation on Standard Gauge Length, GSM = Grams per Square Meter, Oil Type : Q	Certified By <i>Ajinder Jindal</i> (AJINDER JINDAL)
Sales Contract Number : 3009			
Product: HOT ROLLED STEEL COILS, PICKLED AND OILED with Mill Edge			
Process Route : BOF-LHF-CCM-HSM-CPL-APL			



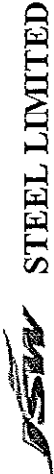
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TO,
SALZGITTER MANNESMANN INTER GM
DUSSELDORF, 40476
DE

TC No 2017-18 / 0406648966_41 / 7190003441
Date 30.06.2017

Product: Hot Rolled Pickled and/or Oiled										Chemical Composition & Mechanical Properties													
							MIN		MAX		C	Mn	S	P	Si	Al	B	N	YS MPa	UTS MPa	EL %	GL mm	Bend Test
							Net Wt.	Gross Wt.															
Specification : EN 10149_2_2005 S355MC																							
Cast/Heat No.	Coil No.	T	X	W	X	L	Net Wt.	Gross Wt.	C	Mn	S	P	Si	Al	B	N	YS MPa	UTS MPa	EL %	GL mm	Bend Test	Remarks	
F715170	7624900000	6.000	X	1500.0	X	Coil	28.585	28.680	0.077	0.610	0.005	0.015	0.009	0.048	0.0001	0.0040	402	480	33.00		Pass		
F715154	176531307	6.000	X	1500.0	X	Coil	25.880	25.965	0.080	0.630	0.005	0.013	0.007	0.044	0.0001	0.0034	376	471	34.00	5.65 SA	Pass		
D708836	7612420000	6.000	X	1500.0	X	Coil	25.410	25.495	0.080	0.600	0.005	0.015	0.020	0.049	0.0001	0.0058	406	483	30.00		Pass		
E715180	176531306	6.000	X	1500.0	X	Coil	24.260	24.345	0.088	0.600	0.005	0.011	0.005	0.050	0.0001	0.0051	415	489	33.00	5.65 SA	Pass		
G715176	176531305	6.000	X	1500.0	X	Coil	27.755	27.845	0.083	0.600	0.005	0.011	0.010	0.050	0.0001	0.0046	398	489	31.00	5.65 SA	Pass		
G715153	176531304	6.000	X	1500.0	X	Coil	27.875	27.965	0.074	0.590	0.005	0.012	0.008	0.048	0.0001	0.0041	399	475	33.00	5.65 SA	Pass		
F715154	176531313	6.000	X	1500.0	X	Coil	24.490	24.575	0.080	0.630	0.005	0.013	0.007	0.044	0.0001	0.0034	398	483	34.00	5.65 SA	Pass		
F715161	176531316	6.000	X	1500.0	X	Coil	23.670	23.760	0.088	0.650	0.005	0.012	0.006	0.040	0.0001	0.0052	425	496	29.00	5.65 SA	Pass		
F715154	176531319	6.000	X	1500.0	X	Coil	23.520	23.605	0.080	0.630	0.005	0.013	0.007	0.044	0.0001	0.0034	392	482	33.00	5.65 SA	Pass		
F715161	176531370	6.000	X	1500.0	X	Coil	22.750	22.840	0.088	0.650	0.005	0.012	0.006	0.040	0.0001	0.0052	425	496	29.00	5.65 SA	Pass		
F715170	176531368	6.000	X	1500.0	X	Coil	22.690	22.765	0.077	0.610	0.005	0.015	0.009	0.048	0.0001	0.0040	402	480	33.00	5.65 SA	Pass		
G708835	176530981	6.000	X	1500.0	X	Coil	20.665	20.740	0.072	0.600	0.005	0.010	0.022	0.050	0.0001	0.0038	402	483	33.00	5.65 SA	Pass		
Total Weight in Metric Tonnes							297.550	298.580															
Total no of Batches							12																



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Commercial Invoice : 7190003441
Sales Contract Number : 3009
Product: : HOT ROLLED STEEL COILS, PICKLED
AND OILED
with Mill Edge
Process Route : BOF-LHF-CCM-HSM-CPL-APL

Legend: BOF = Basic Oxygen Furnace, LHF = Ladle Heating Furnace,
CCM = Continuous Casting Machine, HSM = Hot Strip Mill, CPL =
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%gs Elongation on Standard Gauge Length
QSM = Grams per Square Meter
Oil Type : Q

Certified By

A. Jindal
CANISH JINDAL