



SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH

(A unit of Shriram Scientific and Industrial Research Foundation)

An ISO - 9001:2008 Certified Institute

000371070

TEST CERTIFICATE

**Issued To:**

Client Code : J0161
JSW STEEL LIMITED
THAPAR HOUSE, 3RD FLOOR,
EASTERN SIDE OF CENTRAL WING,
124, JANPATH LANE
NEW DELHI
NEW DELHI-110001

Date 15/06/2015**Job No.** 1506-1-171-1090**Booking No.** RG1516/1/2187**Booking Date** 06/06/2015**Customer Ref No.** -**Customer Ref Date** 06/06/2015**Sample Description :**

ONE SAMPLE DESCRIBED AS TMT GRADE : FE-500D, 32 MM DIA, MARKED AS : JSW NEO STEEL WAS RECEIVED.

The sample was not carried out by SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH.
The sample particulars provided in the Test Certificate are based on the declaration by the party.

TEST RESULTS

(As Per IS: 1786-2008 with amendment No. 2)

S.No.	Tests	Observation	Requirement Grade Fe-500D	Conformity	Protocol Adopted
A.	Chemical Tests(% by wt.)				
1.	Carbon	0.16	0.25 Max.	Yes	IS: 228 Part(1)
2.	Sulfur	0.015	0.040 Max.	Yes	IS: 228 Part(9)
3.	Phosphours	0.020	0.040 Max.	Yes	IS: 228 Part(3)
4.	Sulfur + Phosphorus	0.035	0.075 Max.	Yes	IS: 1786-2008
B.	Physical Tests				
1.	TS/YS ratio ¹	1.24	>= 1.10 but TS	Yes	IS: 1786-2008
	Tensile Strength, N/mm ²	659	not less than 565.0	Yes	IS: 1608-2005
2.	Yield Stress, N/mm ²	532	500 Min.	Yes	IS: 1608-2005
3.	Elongation (%) (Gauge Length 5.65 Sq Root Area)	23.6	16.0 Min.	Yes	IS: 1608-2005
4.	Bend Test	Satisfactory	To satisfy the test	Yes	IS: 1599-2012
5.	Rebend Test	Satisfactory	To satisfy the test	Yes	IS: 1786-2008
6.	Mass per metre run (Kg)	6.373	Not less than 6.058	Yes	IS: 1786-2008
7.	Deformation & Surface Characterstics				
a.	Mean ribs area in mm ² /mm length	6.11	5.44 Min.	Yes	IS: 1786-2008
b.	Mean projected area of transvers ribs in mm ² /mm length	6.11	1.81 Min.	Yes	IS: 1786-2008

Remarks: The sample Conforms to IS: 1786-2008 amendment No. 2 for Grade FE 500D w.r.t. above tests.

Note: - TS/YS ratio refers to ratio of tensile strength to the yield stress of the test piece.

DOR: 06/06/2015

DOC: 15/06/2015

Pravina S
AUTHORISED SIGNATORY
(EMPLOYEE CODE: 5065)

GC-01(Rev-04)

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SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH

(A unit of Shriram Scientific and Industrial Research Foundation)

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TEST CERTIFICATE

000371071

Issued To:

Client Code : J0161
JSW STEEL LIMITED
THAPAR HOUSE, 3RD FLOOR,
EASTERN SIDE OF CENTRAL WING,
124, JANPATH LANE
NEW DELHI
NEW DELHI-110001

Date 15/06/2015

Job No. 1506-1-171-1091

Booking No. RG1516/1/2187

Booking Date 06/06/2015

Customer Ref No. -

Customer Ref Date 06/06/2015



Sample Description :

ONE SAMPLE DESCRIBED AS TMT GRADE : FE-500D, 36 MM DIA, MARKED AS : JSW TMT PLUS WAS RECEIVED.

The sample was not carried out by SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH.
The sample particulars provided in the Test Certificate are based on the declaration by the party.

TEST RESULTS

(As Per IS: 1786-2008 with amendment No. 2)

S.No.	Tests	Observation	Requirement Grade Fe-500D	Conformity	Protocol Adopted
A.	Chemical Tests(% by wt.)				
1.	Carbon	0.17	0.025 Max.	Yes	IS: 228 Part(1)
2.	Sulfur	0.018	0.040 Max.	Yes	IS: 228 Part(9)
3.	Phosphours	0.022	0.040 Max.	Yes	IS: 228 Part(3)
4.	Sulfur + Phosphorus	0.040	0.075 Max.	Yes	IS: 1786-2008
B.	Physical Tests				
1.	TS/YS ratio ¹	1.23	>= 1.10 but TS	Yes	IS: 1786-2008
	Tensile Strength, N/mm ²	662	not less than 565.0	Yes	IS: 1608-2005
2.	Yield Stress, N/mm ²	540	500 Min.	Yes	IS: 1608-2005
3.	Elongation (%) (Gauge Length 5.65 Sq Root Area)	20.4	16.0 Min.	Yes	IS: 1608-2005
4.	Bend Test	Satisfactory	To satisfy the test	Yes	IS: 1599-2012
5.	Rebend Test	Satisfactory	To satisfy the test	Yes	IS: 1786-2008
6.	Mass per metre run (Kg)	8.048	Not less than 7.670	Yes	IS: 1786-2008
7.	Deformation & Surface Characterstics				
a.	Mean ribs area in mm ² /mm length	6.44	6.12 Min.	Yes	IS: 1786-2008
b.	Mean projected area of transvers ribs in mm ² /mm length	6.44	2.04 Min.	Yes	IS: 1786-2008

Remarks: The sample Conforms to IS: 1786-2008 amendment No. 2 for Grade FE 500D w.r.t. above tests.

Note: - TS/YS ratio refers to ratio of tensile strength to the yield stress of the test piece.

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