

Form No:	 PE&SD	BHARAT HEAVY ELECTRICALS LIMITED PROJECT ENGINEERING & SYSTEMS DIVISION		PY 52 080
		TECHNICAL SPECIFICATION		Rev. No. 02
		MILD STEEL PIPES IS-3589 SEAMLESS/WELDED		Page 1 of 2

COPYRIGHT AND CONFIDENTIAL

The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED, It must not be used directly or indirectly in any way detrimental to the interest of the company.

1.0 GENERAL

The Mild Steel (MS) Pipes (Seamless/Welded) supplied according to this standard shall conform to the requirements of latest version of **Indian Standard IS 3589 "Specification for Steel Pipes for Water and Sewage"** and comply with the following additional requirements.

2.0 MANUFACTURE:

- 2.1 This specification is applicable for both Seamless and Welded Pipes, to be manufactured as per process specified in Indian Standard IS-3589.
- 2.2 The method of manufacture (Seamless / Welded) shall be as per BHEL order. Welded Pipes can be manufactured from either of the Processes ERW or SAW.
- 2.3 The applicable grade of steel (Fe330/Fe410/Fe450) shall be as per BHEL order.
- 2.4 The pipes shall be supplied with Bevel Ends.

3.0 CHEMICAL COMPOSITION:

Shall be as per the requirements of Indian Standard IS-3589.

4.0 MECHANICAL PROPERTIES:

Shall be as per the requirements of Indian Standard IS-3589.

5.0 DIMENSIONS AND TOLERANCES:

- 5.1 Pipe outside diameter and Wall Thickness shall be as per BHEL order and they shall be specified in "mm" unless otherwise indicated.
- 5.2 Unless otherwise specified, pipes shall be supplied in single random lengths of 5 to 7 meters.
- 5.3 Unless otherwise specified, Quantity Tolerance shall be as follows depending on the ordered quantity:
 - 5.3.1 Upto 200m : $\pm 10\%$
 - 5.3.2 Above 200m upto 500m : $\pm 5\%$
 - 5.3.3 Above 500m : $\pm 20\%$
- 5.4 All other Tolerances shall be as per Indian Standard IS 3589.

6.0 DESIGNATION:

A welded steel pipe of OD 219.1 mm, wall thickness of 6.3 mm and of grade Fe410, shall be designated as:

PIPE (WELDED) MS 219.1 X 6.3 IS3589FE410.

7.0 TESTING REQUIREMENTS:

All the applicable tests as per the requirements of National Standard IS3589 shall be carried out successfully.

8.0 INSPECTION REQUIREMENTS:

BHEL's representative shall have free access at all times to all parts of the manufacture's works, until the work on the contract of BHEL is being performed. The manufacturer shall offer BHEL's representative all reasonable facilities, without charge, to satisfy the latter that the material is being furnished in accordance with the specification.

Refer Doc	LAYOUTS & PIPING ENGINEERING	PREPARED	CHECKED	APPROVED	DATE
		 G KALYAN	 SRIKANTH G	 S B RAO	29.06.15

Form No:	 PE&SD	BHARAT HEAVY ELECTRICALS LIMITED PROJECT ENGINEERING & SYSTEMS DIVISION	PY 52 080
		TECHNICAL SPECIFICATION	Rev. No. 02
		MILD STEEL PIPES IS-3589 SEAMLESS/WELDED	Page 2 of 2

COPYRIGHT AND CONFIDENTIAL
 The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED,
 It must not be used directly or indirectly in any way detrimental to the interest of the company.

9.0 TEST CERTIFICATES:

Three copies of test certificates shall be supplied, unless otherwise stated on the order. In addition, the supplier shall ensure to enclose one copy of the test certificate along with their dispatch documents to facilitate quick clearance of the material. The test certificate shall bear the following information:

PY52080: MILD STEEL PIPES IS-3589

BHEL order No:

Supplier's Reference:

Name:

Identification No:

Melt No:

Results of Tests:

- Results of Dimensional inspection.
- Results of Chemical Analysis, Mechanical Tests, Hydraulic & NDE tests.

10.0 PACKING AND MARKING:

Packing and Marking shall be as per BHEL Corporate Standard AA0490001.

11.0 REJECTION AND REPLACEMENT:

If each length of pipe does not comply with the requirements of this specification during receipt inspection at BHEL/Project site or if any defect is found during further processing of pipes, BHEL reserves the right to reject the whole consignment and the supplier shall replace the material free of cost. The rejected material shall be taken back by the supplier after fulfilling the commercial terms and conditions.

RECORD OF REVISIONS:

Rev No	Date	Revision Detail	Revised by	Approved by
00	29.06.2015	FIRST ISSUE	-	-
01	04.12.2015	Quantity Tolerances updated	 G KALYAN	 SRIKANTH G
02	03.12.2016	Generally Revised	 G KALYAN	 SRIKANTH G