



FERRO TITANIUM (Fe-Ti)

1. SCOPE

This specification governs the quality of Ferro Titanium with the following requirements.

2. APPLICATION

The material shall be used as alloying addition for manufacturing of steel.

3. CONDITION OF DELIVERY

The size should be in the range of 10-50 mm. However oversized material should not exceed 10% by weight and undersize material should not exceed 5% by weight.

4. COMPLIANCE WITH NATIONAL STANDARDS

The specification in general is based on Indian standards specification IS 1468: 2000
Grade: FeTi35Al 2 and FeTi45Al 5

5. FREEDOM FROM CONTAMINATION

The material shall be free from extraneous contamination such as slag.

6. CHEMICAL COMPOSTION

The material shall conform to the following chemical composition when it is analyzed in accordance with IS 13840. The sampling shall be done as per IS: 1472.

ELEMENT	% MIN	%MAX
Titanium	30	-
Carbon	-	0.15
Silicon	-	3.0
Copper	-	0.2
Sulphur	-	0.10
Phosphorus	-	0.10
Aluminium	-	5.00

COPYRIGHT AND CONFIDENTIAL
The information on this document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.

RMI	ARUN AGARWAL		WORKED BY	M.K.SAHU	
MPIC	ROHIT VARSHNEY		CHECKED BY	B K BEDI	
CHAIRMAN CPSC	V K AGARWAL		SECRETARY PPSC	P.K ROY	
APPROVED : PLANT STANDARDS COMMITTEE					
		PREPARED : SMS TECH	ISSUED : Steel Melting Shop	DATE :27/12/2017	



PLANT PURCHASE SPECIFICATION

(CFFP - HARDWAR)

FF 05058 Rev05

Page 2 of 3

COPYRIGHT AND CONFIDENTIAL
The information on this documents 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

7. INSPECTION

- CFFP reserves the right to witness the testing of the material at supplier works and therefore the supplier shall notify the readiness of the material in advance.
- CFFP may, at its discretion, test the material after receipt and acceptance of the material will be based on the CFFP's test results.
- For any deviation from this specification prior approval shall be taken by the supplier.
- For result of analysis and properties of material the decision of CFFP shall be final and binding on the supplier.

8. TEST CERTIFICATES

One Original and three copies of Test Certificate from the **Manufacturer** containing the following information **along with test result of clause 3,5 and the chemical composition as per clause 6** should be provided.

Manufacturer's Name
 Name of the material
 Batch/Lot No.
 Quantity.

Note:

- A manufacturer supplying directly to BHEL should include BHEL's P.O. No. and Challan No. also in the TC.
- Any other supplier should provide a covering letter along with original Manufacturer's TC as above mentioning BHEL's P.O. No. and Challan No.

9. PACKING AND MARKING

Packing should be such as to prevent loss / deterioration in quality during handling, transport and storage and should be in the **original manufacturer's packing**. Each package should be marked with the following details.

Name of the material
 Manufacturer's Name / Trade mark
 Batch/Lot No.
 Net weight.

10. REFERRED STANDARDS

IS: 1468 -1993, IS : 13840 , IS: 1472 .

WORKED BY	M.K.SAHU		
CHECKED BY	B K BEDI		



PLANT PURCHASE SPECIFICATION

(CFFP - HARDWAR)

FF 05058 Rev05

Page 3 of 3

REVISION RECORD SHEET

SN	Revision No.	Revision date	Nature of Changes
01.	01	07.07.2004	- Clause no 4,5,7,9,10 And Clause 11 deleted.
02.	02	07.09.2009	-Clauses 8 and 9 revised incorporating requirement of manufacturer's packing and Test certificate.
03	03	30.07.2010	- Clause no 3 modified for only one size material. - Clause 3: Size range redefined. - Clause 6: Testing and sampling shall be done as per IS 13840 & 1472. Limit for sulphur content has been increased from 0.05% to 0.10%. -Clause 8: Clause 5 included in the T.C.
04	04	02/09/2017	- Clause 9: Tamper proof metallic drum incorporated as per SP-0612 dated 11.03.2010. - Efficiency changed from 30-40% and specification made based on grade: FeTi45 Al 5
05	05	25/12/2017	-Minimum Ti% made 30%, Al content 5% max. Packing clause – metallic drum removed. Original manufacturer packing added.

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.

WORKED BY	M.K.SAHU	
CHECKED BY	BK BEDI	