FERRO TUNGSTEN

1. SCOPE

This specification governs the quality of **FERRO TUNGSTEN** with the following requirements.

2. APPLICATION

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

3. CONDITION OF DELIVERY

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

B) The size of material should be in the range of 3-8 mm size However oversized shall not exceed 10% by weight and undersized material shall not exceed 5% by weight.

4. COMPLIANCE WITH NATIONAL STANDARDS

The specification in general is based on Indian standards specification IS 1467-1993;
Grade: **Fe W 80C 10**

5. FREEDOM FROM CONTAMINATION

The material shall be free from extraneous contamination such as slag and non metallic Inclusion.

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			APPROVED : PLANT STANDARDS COMMITTEE		
PREPARED AND ISSUED BY STEEL MELTING SHOP			DATE 20/6/17		

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6. CHEMICAL COMPOSTION

The material shall conform to the following chemical composition when it is analyzed in accordance with IS: 1559-1961 or by any established equivalent National or International Instrumental/ Chemical method or standard.

Each batch of the material shall be sampled in accordance . with IS 1472: 1977 or any Established equivalent national/international method or standard.

All the test results are to be rounded off as per IS 2-1960 or any equivalent National /International standards.

ELEMENT	% MIN	%MAX
Tungsten	75.0	85.0
Carbon	-	0.10
Silicon	-	0.50
Phosphorous	-	0.02
Sulphur	-	0.020
Aluminum		0.10

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 test the material after receipt on random sample basis and acceptance of the material will be based on the CFFP's test results. *In case of any dispute in chemical analysis referee method shall be IS.*
- 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 in English language 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 No.
Lot Size
Packing size details ,
Date of manufacturing
All parameters mentioned in clause 3, 5 and 6
Quantity.

Note:

a) A manufacturer supplying directly to BHEL should include BHEL'S P.O. No. and Challan No. also in the TC.
b) 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

The material shall be packed in **Tamper proof metallic drum** such as to prevent loss / deterioration in quality during handling, transport and storage. It should be in the manufacturer's packing. Each package should be marked with the following details

Name of the material
Manufacturer's Name / Trade mark
Batch No.
Net weight.
Date of manufacture:

10. REFFERED STANDARDS

IS: 1467 -1993, IS: 1559, IS: 1472.

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REVISION RECORD SHEET

SN	Revision No.	Revision date	Nature of Changes
1	1	30.07.2010	-Clause 3: Size range redefined. -Clause 8: Clause 5 included in the T.C. - Clause 9: Tamper proof metallic drum incorporated as per SP-0612 dated 11.03.2010.
2	2	20.06.2017	Chemical composition revised. FeW80C10 added. FeW80C60 replaced. Date of manufacturing added in Clause no 8 and 9.Clause no 7 modified.

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