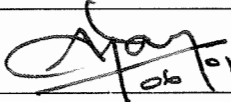
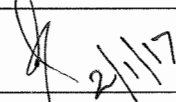

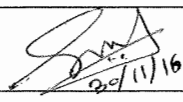


**GOVERNMENT OF INDIA  
(Ministry of Railways)**

**SPECIFICATION FOR  
GUNNING MASS  
(PL No.84982380)**

Issued by

**MECHANICAL DRAWING OFFICE  
RAIL WHEEL FACTORY  
YELAHANKA, BANGALORE-560 064  
INDIA**

			
CWE/W	AED/M&C	Dy. CME/Mfg.	SSE/D
APPROVED BY	REVIEWED BY	VERIFIED BY	PREPARED BY

## SPECIFICATION OF GUNNIG MASS

### 1.0 SCOPE

The Specification covers manufacture and supply of Gunning Mass for use of Electric Arc Furnace to Rail Wheel Factory, Yelahanka, Bangalore - 560 064, Karnataka State, India as per the instructions and conditions of contract and tender papers.

### 2.0 JOB REQUIREMENTS

The material has to form a monolithic hard base on heating in the hearth portion of the direct arc furnace. The progressively sintering hearth formed shall offer resistance to slag attack, mechanical shock loads and shall not soften at temperatures below 1750°C.

### 3.0 DESCRIPTION

#### 3.1 Chemical Composition

1. MgO	: 80% min.
2. Cao	: 3% max.
3. SiO <sub>2</sub>	: 8% max.
4. Fe <sub>2</sub> O <sub>3</sub>	: 3% max.

3.2 Size Grading : 0 - 4 mm.

4.0 The tenderer shall confirm in their offer that their material would suit the following working conditions:


(1) Tapping Temperature	: 1700 - 1730°C	} on high power Electric Arc furnaces.
(2) Melting Time	: 1 to 1 1/2 hours	
Refining Time	: 1 to 1 1/2 hours	
(3) Temperature of furnace at the time of gunning	: 800°C - 1200°C.	

### 5.0 PACKING

The Gunning Mass shall be supplied in multi-walled paper sack packed in gunny bags, weighing 25kg each.

### 6.0 INSPECTION NORM

The supplier shall provide all facilities for inspection and testing of the material for Chemical, Physical and Sieve analysis as mentioned under Clause 3.0.


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**SAMPLING NORM:** As per IS:1528 (Pt.VII)-1974 or latest.

**METHOD OF CHEMICAL ANALYSIS:** As per IS:1760 (Part-3/2)-1992 or latest.

**7.0 SHELF LIFE:** Material shall have a shelf life of minimum 6 months.


**8.0 TESTING FACILITIES:** For the parameters indicated under Clause 3.0

**9.0 QUALITY ASSURANCE PLAN (QAP)**

The supplier shall submit their Quality Assurance Plan (QAP) along with their bid for approval by RWF, which will be followed in the processing of gunning mass to satisfy the technical requirement as required under this specification. Supplier shall get their QAP approved from RWF in advance, unless a waiver is given to this effect.

**10.0 TRIAL OF THE SUPPLY:**

The material for trial shall necessarily meet all the requirements mentioned elsewhere in this specification prior to shop floor trial. Only after this, the material will be taken up for shop floor trial by RWF as per trial scheme at Annexure-1 and the corresponding trial report shall be prepared as per Annexure-2.


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**TRIAL SCHEME OF MAGNESITE GUNNING MASS**

1	Trial scheme No.	RWF/M/SPECN-1/025/1988 alt --- / Trial Scheme PL NO.....
2	Objective of Trial	To establish the suitability of Magnesite gunning mass as per above specification.
3	Description of Material PO Number & PO date PO Qty. Supplier	Magnesite gunning mass ..... ..... .....
4	IDN Number & Date IDN Qty.	..... .....
5	Authority for conducting Trial	Dy. CME/ Mfg
6	Earlier trial details	First Time Supply/ Second time/ Third time ...../...../.....
7	Trial Parameters	As mentioned in Trial Scheme.
8	Specification	RWF/M/SPECN-1/025/1988 alt ---
9	Pre-trial Testing details	Met. Lab Report & MTC
10	Trial qty	Full IDN Qty/ 5% of the tendered quantity
11	Equipment / Station process	EAF A,B,C

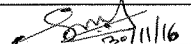
( ..... to be filled by Team Members)

**Trial Parameters:**

1. Total quantity of Magnesite gunning mass to be drawn and trial conducted on the entire quantity under the purchase order/5% of the tendered quantity, whichever is less.
2. Inspection & testing by shop and whenever required by laboratory completely in line (not in part) with the specification. Sampling for inspection as per specification.
3. Examination of MTC (Manufacturer's Test Certificate) and comments on its suitability.

**SPECIFIC REQUIREMENTS:**

Compare the sintering after first heat , no floating of gunning mass should be found during the first heat after fettling, in matching number of other makes by ensuring same process parameter during use and in the same period (or just preceding/succeeding period).

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## TRIAL REPORT OF MAGNESITE GUNNING MASS

1	Trial No.	RWF/M/SPECN-1/025/1988 alt --- / Trial Scheme PL NO.....
2	Objective of Trial	To establish the suitability of Magnesite gunning mass as per above specification.
3	Description of Material PO Number & PO date PO Qty. Supplier	Magnesite gunning mass ..... ..... .....
4	IDN Number & Date IDN Qty.	..... .....
5	Authority for conducting Trial	Dy. CME/ Mfg
6	Earlier trial details	First Time Supply/ Second time/ Third time ...../...../.....
7	Trial Parameters	As mentioned in Trial Scheme
8	Specification	RWF/M/SPECN-1/025/1988 alt ---
9	Pre-trial Testing details	Met. Lab Report & MTC
10	Trial qty	Full IDN Qty/ 5% of the tendered quantity
11	Equipment / Station process	EAF - A,B,C
12	Nominated Officers	ACMT/W & AWM/SMS

( ..... to be filled by Team Members)

**Application Test:** Shop Floor test conducted from date \_\_\_\_ to date \_\_\_\_ & H. No. \_\_\_\_

**Trial Parameters:**

- Total quantity of Magnesite gunning mass to be drawn and trial conducted on the entire quantity under the purchase order/5% of the tendered quantity, whichever is less.

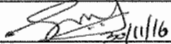
Comments:

- Inspection & testing by shop and whenever required by laboratory completely in line (not in part) with the specification. Sampling for inspection as per specification.

Enclosure Details:

- Examination of M Lab report & MTC (Manufacturer's Test Certificate) and comments on its suitability.

Comments :


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**Specific Requirements:**

Compare the sintering after first heat no floating of gunning mix should be found during the first heat after fettling, in matching number of other makes by ensuring same process parameter during use and in the same period (or just preceding/succeeding period).

**Observations:**


AWM/WM

ACMT/W


SSE/SMS

WM/W


Remarks of Dy CME/Mfg.

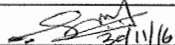
Remarks of AED/M&C

CWE/W

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**AMENDMENT SHEET**

Alt. 'c' Clause No.	Alt. 'd' Clause No.	Description	Job No.	Sign
--	9	Clause added: 9.0 QUALITY ASSURANCE PLAN (QAP) The supplier shall submit their Quality Assurance Plan (QAP) along with their bid for approval by RWF, which will be followed in the processing of magnesite gunning mass to satisfy the technical requirement as required under this specification. Supplier shall get their QAP approved from RWF in advance, unless a waiver is given to this effect.	6893	
--	10	Clause added: 10.0 TRIAL OF THE SUPPLY The material for trial shall necessarily meet all the requirements mentioned elsewhere in this specification prior to shop floor trial. Only after this, the material will be taken up for shop floor trial by RWF as per trial scheme at Annexure-1 and the corresponding trial report shall be prepared as per Annexure-2.		
--	Annexure-1	Added Annexure-1 TRIAL SCHEME OF MAGNESITE GUNNING MASS		
--	Annexure-2	Added Annexure-2 TRIAL REPORT OF MAGNESITE GUNNING MASS		

 29/11/16
SSE/D
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