

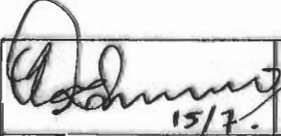

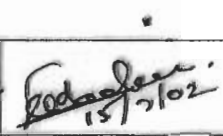
WAP/M/SPECN-1/071/1998/ALT 'b'

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

**SPECIFICATION FOR
IMPURITIES COAGULANTS
(TENTATIVE DEVELOPMENT SPECIFICATION)**

Issued by

**MECHANICAL DRAWING OFFICE
WHEEL & AXLE PLANT
YELAHANKA, BANGALORE-560 064
I N D I A**

 15/7.	 15/02/02	 15/7/02
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SPECIFICATION FOR IMPURITIES COAGULANTS
(DEVELOPMENTAL SPECIFICATION)

1.0 SCOPE:

The specification covers manufacture and supply of impurities coagulants to Wheel & Axle Plant, Yelahanka, Bangalore-560 064 in Karnataka State as per conditions of contract and tender papers.

2.0 DESCRIPTION:

Impurities coagulant mixture shall be in powder form suitable for coagulating non-metallic inclusions like SiO_2 , Al_2O_3 , etc., in liquid steel tapped from electric Arc Furnace.

3.0 JOB REQUIREMENT:

3.1 Impurities coagulant shall be a mixture in powder form capable of coagulating non-metallic inclusions like SiO_2 , Al_2O_3 , etc., from the liquid metal in the ladle at a temperature of 1630 to 1720°C. It should promote coagulation of non-metallic inclusions to float to the top to facilitate slagging off at the slag off station within a duration of 5 min. (approx.).

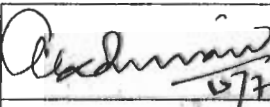

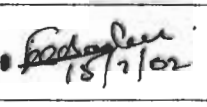
3.2 Micro inclusion in Cast steel shall be predominantly in globular form.

3.3 No Argon purging is done in the ladle. The inoculant therefore should produce itself turbulence to facilitate hastening quick promotion of coagulation of non-metallic and slag compounds by its own kinetics at the temperature indicated at 3.1.

3.4 The material shall be free from dampness and moisture content shall not exceed >0.5%. | 6

4.0 TECHNICAL SPECIFICATION:

4.1 This material should be capable of passing through a pneumatic injector. The size shall be around 0-5 mm.

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4.2 The material should not have an adverse effect on the High Alumina based ladle refractory lining or castable monolithic lining.

4.3 The supplier/manufacturer shall specify the chemical composition of the material being supplied for this purpose.

1. The material shall not have Aluminium, lead, copper, Lithium, Titanium etc.,
2. The material shall not support reversal of Sulphur from slag due to reaction between the metal slag and the coagulant.

<u>4.4 CHARACTERISTICS</u>	<u>NOMINAL (FOR GUIDANCE ONLY)</u>
SiO ₂	7.75%
CaO	29.63%
Fe ₂ O ₃	1.56%
Al ₂ O ₃	Not present
MgO	10.25%

5.0 SHELF LIFE:

The firm shall specify the shelf life of the product.

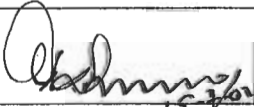
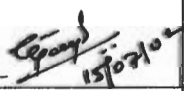
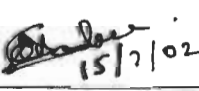
The firm shall indicate the quantity of material to be used for satisfying the job requirement.

6.0 PACKING:

Material shall be packed in 20 Kgs. inside polythene lined bags or suitable eco-degradable environment friendly material.

7.0 MANUFACTURER'S TEST CERTIFICATE:

The supplier shall issue Manufacturer's test certificate guaranteeing that the material supplied shall fulfil the job requirement as specified vide Para 3 above.

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8.0 PERFORMANCE CRITERIA:

With the use of the above material, the wheel surface condition shall be free from non-metallic inclusions attributable to metal refractory reaction products.

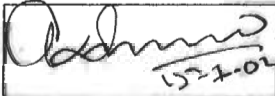
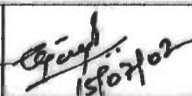
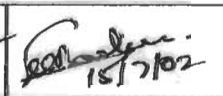
9.0 SAMPLING NORMS:

9.1 Consignment of this material are usually supplied in 20 kg bags. The number of bags, as sample, shall be selected at random as per Table-I.

TABLE-I

Lot weight selected	No. of 20 kgs bags to be be as sample
*Upto 1 MT	02
*Over 1 and less than/ equal to 4 MT	04
*Over 4 and including 25 MT	10

9.2 From each lot, as indicated in the above table with the help of suitable sampling instrument. 0.25 kg of material shall be taken. This material shall be taken from the top, centre and bottom of each selected bag (containers), sample drawn from each selected bag shall be mixed to form a composite sample. By successive coning and quartering division method, the composite sample shall be reduced to given a final test sample of 150 grams for the chemical analysis and other specified parameters.

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AMENDMENT SHEET

Alt.	DATE	DESCRIPTION	JOB NO.	APPROVED
'b'	06.07.02	Cl.No.3.4 & 4.4 added.	4186	<i>[Signature]</i> 15/7/02

<i>[Signature]</i> 15-7-02	<i>[Signature]</i> 15/7/02	<i>[Signature]</i> 15/7/02
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