

Tender evaluation and technical parameters of No-Bake Ester Cured Alkaline Phenolic Resin.

A. SPECIFICATION FOR ESTER CURED ALKALINE PHENOLIC RESIN & CATALYST (TWO-PART NO BAKE)

Resin type : Ester cured alkaline phenolic (two- part cold set binder system)

Application: For manufacture of cores and moulds for steel castings. (Max Mould/core weight 350 kg)

Alloys poured: low alloy steel and Manganese steel

Weight of castings: 60 kg Max.

Type of Mixer: continuous/batch type

Bench life of sand mixture: 4 to 8 minutes, strip time of mold/core:15 to 30 minutes

Typical addition level: resin: 1.2 to 2.0% based on sand and catalyst/hardener: 20 to 25% based on resin.

Properties of sand mixture: sand (SiO<sub>2</sub>-min 98%, caly-0.5% max.)-100 parts, resin-1.6% based on sand, hardner-20% based on resin. Compression strength after sand mixing in kg/cm<sup>2</sup>: 1 hour-min 7, 2 hours – min. 12, 4 hours-min. 18, 24 hours-min.22

Shelf life if stored in covered area less than 30 deg. C: resin-min 3 months, hardener-min. 12 months.

Sand reclamation capability: up to 80% with primary sand reclamation.

No pungent smell/fumes emission at mixing and casting stages.

The material supplied staggered delivery based on OFMK requirement.

B. Tender submission and evaluation

1. The tendering will be on a two- bid (technical bid & price bid to be submitted separately by all the firms) basis.
2. The price of resin and catalyst/hardener should be quoted on per kg basis.
3. At the time of Bid submission, the tenderer will submit the Resin and catalyst / Hardener samples (Qty : As determined by firm for min. 1000 kg of sand ) along with detailed instructions of mixing and usage, indicating the most economical percentages of resin and catalyst to be used.
4. Trails will be conducted based on a time schedule to be given by OFMK & as per parameters tested in part A above.
5. During the trials ( Sand mix batches : 3 batches of 150 kg sand ) the tenderer or his representative shall be present and also the record of the results of the trails will be jointly signed by the OFMK rep and the firm rep. If necessary the Percentage of Resin and catalyst may be varied as per the firms recommendations and maximum of three trails can be conducted for each vendor.
6. If, on the scheduled date, the vendor/firm is not present, trails will not be conducted and the firms bid will not be opened. Or the firm has to send a written communication that the trails may be conducted in their absence and the trail results of OFMK would be acceptable to them.

7. After trials of all the participating vendor/firms the evaluation would be carried out in the following manner:

a. The lowest percentage of resin and hardener/catalyst of each firm, which meet the parameters specified for the sand would be noted and tabulated for all the firms qualifying in the trials.

b.

Firm	Min. % of resin at which		Cost & price bid		Cost of 100 kg of sand		
	The specified properties were achieved				Resin	catalyst	Total
	Resin	catalyst			2 x 4	3 x 5	6 + 7
1	2	3	4	5	6	7	8
Firm - A	X1	Y1	F1	G1	X1 x F1	Y1 X G1	(X1 x F1) + (Y1 X G1)
Firm - B	X2	Y2	F2	G2	X2 X F2	Y2 X G2	(X2 X F2) + (Y2 X G2)

1. The value in column 2 & 3 shall be finalized before opening of price bid / commercial bid
2. The firm price ratings will be decided based on column: 8
8. Once price bids are opened, the per kg rate of resin and catalyst required would be calculated and tabulated, for all the technically qualifying firms.
9. Based on the above data/tabulation, CST to be prepared and put up to TPC for decision.
10. Inspection criteria for bulk suppliers: bulk will be accepted only after six batches of sand mixes are tried out from different lots/drums/packs selected at random by OFMK.

*[Signature]*  
30/3  
Jt.GM/FDY

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DGM/FDY