

TECHNICAL SPECIFICATION FOR: CARBON-DIOXIDE CURED RESIN.

1, GENERAL DESCRIPTION: Carbon-Dioxide cured phenol formaldehyde resin is a one part binder system consisting of alkaline phenolic resin. It is cured with carbon dioxide gas.

2. PURPOSE: The resin shall be designed for the production of moulds and cores. Usually clean dry silica sand is employed. It shall be adaptable to batch and continuous methods of mixing. The sand mix should be free flowing and is suitable for either hand ramming or blowing into core or moldings boxes. Passage of carbon dioxide gas through the compacted sand shall convert the binder to a strong bond within seconds. It should be used for ferrous and non-ferrous. Casting production.

3. CARBON-DIOXIDE CURED PHENOL FORMALDEHYDE RESIN REQUIRED

PARAMETERS:

The firm has to confirm the following parameters along with Quotation.

a) % Resin to be added for 100 kg of sand:

High silica Sand (AFS=55-60 / Grade425/212, IS: 1987)	:	100 kg
Resin	:	-----(%wt of sand)

b) Co2 Gassing conditions shall be:

Flow Rate	:	6 LPM
Pressure	:	5 psi
Room Temperature	:	25-45 C
Relative Humidity (Approx.)	:	50%

		As gassed Condition	after 24 Hours
c) Strength requirements			
i) Transverse strength	:	5.0-6.0 kg/cm2	: 14-15 kg/cm2
ii) Compression strengths	:	6.0-8.0 kg/cm2	: 22-24 kg/cm2
iii) Tensile strength	:	3.0-8.0 kg/cm2	

d) Physical properties shall be :

Viscosity at 25 C	:	300-500 cps
Free phenol	:	0.1% Max.
Free formaldehyde	:	0.3% Max.

e) Environmental requirements:

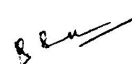
- To be hardened by Co₂ gas
- Very low in free phenol (0.1%)
- Very low in free formaldehyde (0.30% Max.)
- Very low level of fumes at the casting station .Co₂ cured resin binder shall be nitrogen, sulphur and phosphorous free.
- Sand shall able to be prepared on any conventional sand mixer.
- Co₂ cured resin shall have low viscosity and should be excellent sand flow ability.

4. STANDARD PACKING: RESIN: 50/200 KG in MS Drum / Fiber /Polycarbonate Drum.

6. SHELF LIFE AND STORAGE : RESIN shall have shelf life of Min. 6 months.

NOTE:

1. The specified % resin shall be mixed with high silica sand and the mixed sand should meet all the requirements given in points (a) (b) (c) (d) .
- 2 The price comparison will be made w.r.t the % resin used for making 100 kg of sand..
- 3 25 kg of sample of resin offered to be supplied for tryout along with quotation
- 4 Product Data Sheet and Material safety data sheet also to be supplied.


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