

Alkaline Phenolic Resin Cured by Co₂ gas

Water based resole CO₂ process

CERACARB R-900

Product Data Sheet

PRODUCT: CERACARB R-900 is a Phenol-Formaldehyde water born resole resin cured by CO₂ gas. The resin is only binder which is mixed with sand. The resin does not contain Nitrogen, Phosphorous or sulphur. All types of sand can be used successfully. To harden the mixed sand CO₂ has to be gassed in to core box.

CERCARB R-900 is reddish brown, clear liquid. It is has very less odour and irritating smell.

APPLICATIONS:

CERACARB R-900 along with CO₂ gas used for making silica sand cores for iron and non-ferrous castings. The process work well with fresh sand as well as reclaimed sand. Sand bonding in **CERACARB R-900** is more flexible than any other core making processes. Hence casting defects related to sand expansion, such as veining are significantly reduced or eliminated.

Usually anti-veining additive are not required to obtain sound casting.

Core production cycle times with **CERACARB R-900** is comparable to PUCB process.

CERACARB R-900 along with CO₂ gas has high reactivity causes short gassing time.

Core produced using **CERACARB R-900** does not required extra air purging cycle after gas passing.

ADVANTAGES:-

Non-Flammable, water washable.

Very low free phenol and formaldehyde

No toxic ingredients like isocyanates, peroxides, amines or sulphur based compounds

No toxic fumes during mixing and core making.

Any type of sand can be used.

THERMOCHEM PROCESSES PVT. LTD.

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PHYSICAL PROPERTIES:

PROPERTIES	CERACARB R-900
Appearance	Reddish brown clear liquid
Sp. Gravity @30°C	1.25- 1.35
Viscosity by B4 cup@30°C	40-120 seconds
Free formaldehyde	< 0.3%
Free Phenol	< 0.1%
Storage temperature	15 -30°C
Shelf life from date of manufacture	6 months

SAND MIX PREPARATION:

Dry silica sand [AFS 50-65]

(free from carbonates and chlorides)

-100 parts

CERACARB R 900

- 2.5- 3.5% based on sand

Note:- For good quality reclaimed sand, addition level will be

CERACARB R-900

- 2.5- 3.00% based on sand

Sand mixing can be done in either batch or continuous mixer, but one should ensure for no free resin lumps in sand mix.

Mixing cycle:

Dry silica sand + **CERACARB R-900** --→ mix for 1 – 1 ½ minutes

These are typical mixing times, which can vary with speed and type of mixer.

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Bench Life- 2 hrs.Min.

CO₂ gassing conditions:

Flow rate : 6 LPM
Pressure : 5 PSI
Room temperature : 25 -45°C
Relative Humidity (Approx.) : 50

STRENGTH REQUIREMENT (Resin-3% of sand)

	AS GASED CONDITION	AFTER 24 HRS.
Transverse strength	5.0 – 6.0 kg/cm ²	14.0 – 15.0 kg/cm ²
Compression strength	6.0 – 8.0 kg/cm ²	22.0 – 24.0 kg/cm ²
Tensile strength	3.0 – 8.0 kg/cm ²	

Strength will vary with quality of sand and ambient atmospheric conditions.

Mould & Core Wash: We recommend alcohol base refractory wash.

SHELF LIFE:- 6 months from date of manufacturing

STANDARD PACKING:- 200/225 kg MS/ HDPE drums.

STORAGE & HANDLING:

CERACARB R-900 should stored separately, away from direct source of heat, moisture under roof at below 30°C

Handle **CERACARB R-900** with proper care by using safety tools like chemical resistance hand gloves, safety goggles.

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