

Sigma Cure™ 7210 UCB Pt1

Product Features

Sigma Cure 7210 (SC 7210) Phenolic Urethane Part 1 Resin, a premium performance urethane cold box binder, has been designed to offer improved tensile strengths over previous resins and greatly improved humidity resistance and performance with water-based coatings. SC 7210 can be used with several different Part 2 Isocyanate components, chosen depending upon the desired performance features. SC 7210 is used for ferrous or non-ferrous applications when mated with the optimum Part 2 resin. Features available when using SC 7210 with the appropriate Part 2 component include the following:

- High tensile strengths
- Extended bench life of mixed sand (minimal down time)
- Excellent release and humidity resistance
- Superior hot strength
- Low free phenol
- Excellent resistance to water-based coatings

Product Description

Sigma Cure 7210 is a phenolic resin used in conjunction with an MDI-type isocyanate resin, such as Sigma Cure 7515. Both the Part 1 and Part 2 resin components are mixed with a new silica or lake sand, or a reclaimed sand, in ratios ranging from 50/50 to 60/40, and at a total resin content in the range of 0.8 % to 2.0 % based on the weight of the sand. The resulting sand mix is then blown into a core box and subsequently cross linked by passage of a vaporized tertiary amine catalyst such as, dimethylisopropylamine (DMIPA) or dimethylpropylamine (DMPA), to produce a urethane bond.

Typical Physical Properties

Refractive Index	1.568
Viscosity, cps	400
Flash Point, ° F, TCC	>210
Density (pounds per gallon)	9.25

Performance Characteristics

Tensile strength development occurs almost instantaneously before the core is ejected from the core box. Initial tensile strength at ejection typically ranges from 60 to 80% of the ultimate tensile strength at 24 hours. The value is adversely affected by clay and other alkaline contaminants, and by moisture in the sand or high dew points in the compressed purge air. Tensile strength values will vary as a function of the sand angularity and the AFS grain fineness number of the selected sand.

Storage Guidelines

Recommended storage temperature is between 60 - 90°F. At lower temperatures, viscosity will increase, making pumping and mixing more difficult. Freezing temperatures should be avoided. Drum storage should be in a dry area, out of direct sunlight. Partially used drums should be tightly closed to prevent contamination, primarily from water, which can adversely affect performance. The recommended stock rotation is six months when properly stored.

Safe Handling

Chemically resistant gloves and eye protection should be used when handling or using chemical binders. Material Safety Data Sheets are available for all products. Drum labels also contain handling information. This material will react with the Part 2 component, without catalyst, in an exothermic reaction, to give a solid polymer. Do not mix Part 1 and Part 2 except on sand during use. Refer to the Material Safety Data Sheet for additional information.

Technical Service

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