



Sigma Cure™ 127 UCB Pt1

Sigma Cure™ 217 UCB Pt2

Product Features

Sigma Cure 127 Pt1 / Sigma Cure 217 Pt2, Phenolic Urethane Cold Box, has been designed to offer provide high mechanical strengths and good bench life performance while improving the hot strengths characteristics. Sigma Cure 127 Pt1 / Sigma Cure 217 Pt2 shows a good performance when used with thermally reclaimed sand. Sigma Cure 127 Pt1 / 217 Pt2 also provides good release characteristics and compatibility with all refractory coatings. The Pt1 contains no reportable formaldehyde and can be used with several different Part 2 Isocyanate components chosen depending upon the desired performance features. Features available when using Sigma Cure 127 / Sigma Cure 217 include the following:

- High tensile strength development
- Excellent resistance to aqueous coatings (enhanced dip and dry strengths)
- Lower VOC as compared to standard PUCB systems
- Excellent humidity resistance characteristics
- Improved hot strength

Product Description

Sigma Cure 127 Pt1 / Sigma Cure 217 Pt2 is a phenolic urethane resin. 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

	Sigma Cure 127 Pt1	Sigma Cure 217 Pt2
Refractive Index	1.540	1.5987
Viscosity, cps	85	67
Flash Point, °F, TCC	156.2	176.0
Relative Density	1.09	1.12
NCO %		25.6

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. At high temperatures solvent loss can occur. 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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