



Sigma Cure™ 215 UCB Pt2

Product Features

Sigma Cure 215 Isocyanate Part 2 Resin was specifically developed for use with Sigma Cure Phenolic Urethane Part 1 Resins, and offers a number of distinct features and advantages. These features include:

- Superior release and low resin wipe off
- High tensile strength development
- Improved humidity resistance
- Excellent resistance to water-based coatings
- Enhanced dip and dry strengths

Product Description

Sigma Cure 215 is a polymeric MDI-type isocyanate resin that is used in conjunction with a phenolic resin, such as Sigma Cure 126M, for non-ferrous cold box applications. Typically, the Part 1 and Part 2 resin components are mixed with a new silica sand or lake sand, or a reclaimed sand, in ratios ranging from 50/50 to 60/40, and at a total resin level in the range 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 crosslinked by the passage of a vaporized tertiary amine catalyst such as dimethylisopropylamine (DMIPA) or dimethylpropylamine (DMPA) to produce a urethane bond.

Typical Physical Properties

Viscosity, cps	26
Flash Point, °F	176
Density, pounds/gallon	9.7

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. 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 react to form solids and carbon dioxide gas. Part 2 resins are reactive with moisture and humidity. Protect drums with desiccant if rate of use is slow. Protect bulk storage tank with dry nitrogen or dry air (-40 °F or less dew point). 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 1 resin, 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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