

## Sigma Cure™ 210M UCB Pt 2

### Product Features

Sigma Cure 210M Isocyanate Part 2 Resin was specifically developed for use with Sigma Cure Phenolic Urethane Part 1 Resins to offer a system with a number of distinct features and advantages. These features include:

- High Tensile Strengths
- Good Mixed Sand Bench Life
- Good Release from Core Box
- Reduced Resin Build-up
- Excellent Shelf Life of Cores
- High Productivity

### Product Description

Sigma Cure 210M is a polymeric MDI-type isocyanate resin that is used in conjunction with a phenolic resin, such as Sigma Cure 120. Typically, the Part 1 and Part 2 resin components are mixed with a suitable new sand, normally a silica 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 0.6 to 1.6%, based on the weight of the sand. The resulting sand mix is then blown into a core box and is subsequently crosslinked by the passage of a vaporized tertiary amine catalyst such as triethylamine, dimethylisopropylamine, or dimethylethylamine to produce a urethane bond

### Typical Physical Properties

<b>Flash Point, °F, TCC</b>	<b>176</b>
<b>Specific Gravity</b>	<b>1.12</b>
<b>Color</b>	<b>Dark Brown</b>
<b>Viscosity, cps</b>	<b>18</b>

### 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, which is normally achieved after 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 degree of angularity and the AFS grain fineness number of the sand that is selected.

## **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).

## **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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