

**Sigma Cure™ 138 UCB Pt1** **380628**

**Sigma Cure™ 238 UCB Pt2** **380629**

## Product Features

Sigma Cure 138 Pt1 / Sigma Cure 238 Pt2 Phenolic Urethane Cold Box has been designed to offer high mechanical strengths and a superior bench life performance while maintaining adequate hot strengths characteristics for ferrous applications. Sigma Cure 138 Pt1 / Sigma Cure 138 Pt2 shows an excellent performance even when used with reclaimed sands, hot sands, and when sand additives are commissioned. The Sigma Cure 138 Pt1 contains no reportable formaldehyde and can be used with several different part 2 Isocyanate components chosen, depending upon particular performance features. The Sigma Cure 138 Pt1 / Sigma Cure 238 Pt2 also provides good release attributes and compatibility with all refractory coatings. Key features available when using Sigma Cure 138 Pt1 / Sigma Cure 238 Pt2 include the following:

- Exceptional bench life performance, especially in the presence of hot sand environments
- Excellent resistance to water based coatings (enhanced dip and dry strengths)
- Good humidity resistance characteristics
- High hot strengths

## Product Description

Sigma Cure 138 Pt1 / Sigma Cure 238 Pt2 is a Phenolic-Urethane binder system. Both parts are mixed with suitable sands and other media in ratios typically ranging from 50/50 to 60/40, and a total binder content in the range of 0.8% to 2.0% based on the weight of the aggregate. The resulting media-binder 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 Properties

Viscosity @ 25°C, cps	Sigma Cure 138 Pt1	Sigma Cure 238 Pt2
Refractive Index	1.5570	1.5980
Viscosity, cps	150	29
Flash Point °F, TCC	159.1	212
Relative Density	1.10	1.16
*Typical Shelf Life (months)	12	6 * N2 blanket is strongly recommended

## 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 60-80% 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 purged 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, resulting in an exothermic reaction, to give a solid polymer. Do not mix Part 1 and Part 2 except in sand during use. Refer to the Material Safety Data Sheet for additional information.

## Technical Service

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**For Emergency Medical Assistance Please Call:**  
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