

## Betaset 2003



### Product Features

Betaset 2003 is an ester-cured phenolic cold box process using two components, a resin and a curing agent. The resin is an alkaline phenolic resole in water and the curing agent is the vapor of a volatile ester, methyl formate. The Betaset resin offers higher strength development and excellent dimensional stability, both highly desirable traits in making automotive castings. The following lists the benefits with the use of Betaset 2003 cold box resin.

- High tensile strength development
- Compatible with all sand types
- Excellent release characteristics
- Excellent humidity resistance
- Environmentally friendly water-based resin
- Excellent resistance to expansion defects

### Product Description

Betaset 2003 is a water-based phenolic resin that is cured by the use of Methyl Formate vapor. Typically, the Betaset resin is mixed with a new silica sand or lake sand, or a reclaimed sand, at a resin content of 1.5 to 2.0% based on the weight of the sand. The final resin percent used is a function of the type of sand used as well as other factors. The resulting sand mix is then blown into a core box and is subsequently cured by passage of vaporized methyl formate (Betacure 100) through the core.

### Typical Physical Properties

<b>Viscosity @ 25 ° C, cps</b>	160
<b>Specific Gravity @ 25° C</b>	1.22
<b>pH</b>	12.2
<b>Solids, %</b>	62
<b>Nitrogen, %</b>	<0.5
<b>Free Formaldehyde, %</b>	<0.5



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## 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. Actual results may vary due to the many variables known to affect binder performance such as sand quality, sand temperature, etc.

## Storage Guidelines

Drum and tote storage should be in a dry area, out of direct sunlight. Partially used drums should be tightly closed to prevent contamination. Betaset 2003 is a heat reactive product and will advance in viscosity. The rate of viscosity advancement varies directly with temperature. The recommended stock rotation per given storage temperature for this resin is estimated as follows:

Temperature	Stock Rotation
90 °F	1 month
75 ° F	2 months
41 ° F	Greater than 6 months

While cooler temperatures are better for storage, freezing temperatures should be avoided for this water-based resin.

## Safe Handling

Betaset 2003 is an alkaline resin. Chemically resistant gloves and eye protection should be used when handling or using chemical binders. Skin contact may cause burning or irritation. Drum labels contain additional handling information. Refer to the Material Safety Data Sheet for additional information.

## Technical Service

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