

EpoxAcast® 670 HT

Epoxy; Epoxide

Smooth-On, Inc

Message:

EpoxAcast® 670 HT (formerly 20-136) is an epoxy casting compound which offers high heat resistance up to 350° F/177° C if post cure schedule is used. EpoxAcast® 670 HT features a relatively low viscosity that ensures minimal bubble entrapment. EpoxAcast® 670 HT also offers an extra long working time of 3 hours. Castings cure with negligible shrinkage and are very hard, very strong and heat resistant. EpoxAcast® 670 HT is ideal for making vacuum form molds, foundry patterns, forming dies & fixtures, hard rollers, industrial parts and high impact tools. EpoxAcast® 670 HT is also suitable for encapsulation applications or for use as a high temperature epoxy for bonding a variety of surfaces.

General Information

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| Features | Bondability High Hardness High Heat Resistance High Strength Low Shrinkage Low Viscosity |
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| Uses | Modeling Material Molds/Dies/Tools Patterns Rollers |
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|------------|-------|
| Appearance | Beige |
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|-------------------|--------------------------|
| Processing Method | Casting Encapsulating |
|-------------------|--------------------------|

| Physical | Nominal Value | Unit | Test Method |
|----------|---------------|------|-------------|
|----------|---------------|------|-------------|

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|------------------|------|-------------------|------------|
| Specific Gravity | 1.15 | g/cm ³ | ASTM D1475 |
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|-----------------|-------|--------------------|-----------|
| Specific Volume | 0.741 | cm ³ /g | ASTM D792 |
|-----------------|-------|--------------------|-----------|

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|------------------------|-----|-----|--|
| Cure Time ¹ | 1.0 | day | |
|------------------------|-----|-----|--|

| Hardness | Nominal Value | Unit | Test Method |
|----------|---------------|------|-------------|
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| | | | |
|------------------------------|----|--|------------|
| Durometer Hardness (Shore D) | 90 | | ASTM D2240 |
|------------------------------|----|--|------------|

| Mechanical | Nominal Value | Unit | Test Method |
|------------|---------------|------|-------------|
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|-----------------|------|-----|-----------|
| Tensile Modulus | 2290 | MPa | ASTM D638 |
|-----------------|------|-----|-----------|

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|--------------------------|------|-----|-----------|
| Tensile Strength (Break) | 31.0 | MPa | ASTM D638 |
|--------------------------|------|-----|-----------|

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|----------------------------|------|---|-----------|
| Tensile Elongation (Break) | 0.65 | % | ASTM D638 |
|----------------------------|------|---|-----------|

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| Flexural Modulus | 1750 | MPa | ASTM D790 |
|------------------|------|-----|-----------|

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|-------------------|------|-----|-----------|
| Flexural Strength | 75.8 | MPa | ASTM D790 |
|-------------------|------|-----|-----------|

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|---------------------|-----|-----|-----------|
| Compressive Modulus | 699 | MPa | ASTM D695 |
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|----------------------|------|-----|-----------|
| Compressive Strength | 89.6 | MPa | ASTM D695 |
|----------------------|------|-----|-----------|

| Thermal | Nominal Value | Unit | Test Method |
|-----------------------------------|--------------------------|------|-------------|
| Deflection Temperature Under Load | | | ASTM D648 |
| 0.45 MPa, Unannealed ² | 177 | °C | |
| 0.45 MPa, Unannealed ³ | 122 | °C | |
| Thermoset | Nominal Value | Unit | Test Method |
| Thermoset Components | | | |
| Part A | Mix Ratio by Weight: 100 | | |
| Part B | Mix Ratio by Weight: 16 | | |
| Pot Life | 180 | min | ASTM D2471 |
| Thermoset Mix Viscosity | 6000 | cP | ASTM D2393 |
| NOTE | | | |

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| 1. | followed by: Heat cure for 2 hrs at 175°F/80°C followed by 3 hrs at 300°F/150°C |
| 2. | if post cured according to heat curing schedule |
| 3. | If cured at room temperature |

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