

# Product Data



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## R-0527 HIGH HDT ISOPHTHALIC TOOLING RESIN

R-0527 High HDT Isophthalic Tooling Resin combines the toughness, chemical resistance and high heat distortion temperature typical of high quality isophthalic resins with a low laminate exotherm temperature as formulated by the HK Research laboratory. These properties provide this special tooling resin with the qualities required to give the FRP tool constructed from this resin a long, useful life.

### TYPICAL PROPERTIES OF R-0527

|   |                  |
|---|------------------|
| Weight/Gallon, 77°F:                                  | 8.95 Pounds      |
| Specific Gravity:                                     | 1.08             |
| Viscosity, Brookfield, 77°F                           |                  |
| @ 6 rpm:  | 1100-1500 cPs    |
| @ 60 rpm:   | 450-550 cPs      |
| Acid Value:   | < 10             |
| Gel Time, 1.25% MEKP, 77°F                            |                  |
| 100 Gram mass:  | 20-25 minutes    |
| 1/8" thick Laminate:                                  | 22-28 minutes    |
| Barcol Hardness Development<br>in 1/8" thick Laminate |                  |
| Time after Gel:                                       |                  |
| 2 Hours:  | 10-20            |
| 4 Hours:  | 25-30            |
| 24 Hours:   | 45+              |
| Shelf Life, Uncatalyzed:                              | 3 Months minimum |

### 1/8" THICK CLEAR CASTING

|                                 |             | Test Method |
|---------------------------------|-------------|-------------|
| Barcol Hardness:                | 45          | ----        |
| Flexural Strength:              | 18,100 psi  | ASTM D-790  |
| Flexural Modulus:               | 565,000 psi | ASTM D-790  |
| Tensile Strength:               | 8,200 psi   | ASTM D-638  |
| Elongation in Tension:          | 1.5%        | ASTM D-638  |
| Heat Distortion Temp (264 psi): | 108oC.      | ASTM D-648  |

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## **CATALYZATION AND APPLICATION**

Proper catalyzation is important to the cure of any good laminating resin. R-0527 Tooling Resin should be catalyzed with Methyl Ethyl Ketone Peroxide (RCI Superox 46-702 or equivalent) at a level of 1.25% of the resin weight.

The tooling resin and catalyst should be mixed thoroughly and then carefully applied by spraying, brushing or rolling along with chopped fiberglass strands directly behind the properly applied and cured gel coat film. Instructions for the proper application of a laminate can be found in Technical Bulletin HKR055. Extreme care must be taken to assure that the glass reinforcement is thoroughly wet with resin and all entrapped air is worked out of the laminate.

## **SAFETY CONSIDERATIONS**

HK Research's Isophthalic Tooling Resins are based on a resin which contains styrene monomer, which is a flammable liquid. Keep away from sparks, heat and open flame (including pilot lights). Electrical equipment should be vapor-proof and protected from breakage.

Styrene vapors are heavier than air and will tend to concentrate in the low areas of molds and in pockets immediately above the floor area. To keep vapors within a safe limit in all areas, adequate ventilation or suction fans should be used that will remove these styrene monomer vapors.

### **All equipment must be grounded - including spray guns and molds.**

Both the polyester gel coat and the catalyst may cause burns to eyes and skin. Do not get in the eyes! Avoid breathing vapors! Gel coat applicators should wear a NIOSH approved respirator effective for vapors, spray mist and dust. In case of accidental contact, remove contaminated clothing and wash affected skin areas with soap and copious quantities of water. Contact a physician if persistent skin irritation occurs. For eyes, immediately flush with plenty of water for at least 15 minutes; call a physician immediately. Wash contaminated clothing before reusing.