

Product Data



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R0271 HIGH MOLECULAR WEIGHT NPG/ISOPHTHALIC CASTING RESIN

FEATURES

- * 100% NPG/Isophthalic Resin System For Excellent *
Toughness and Chemical Resistance
- * Outstanding Stain Resistance *
- * Acrylic Modified for Improved Durability *
- * Excellent Light Transmission Properties *
- * Superior Color and Clarity *
- * High Heat Distortion Temperature *
- * UV Light Stabilized *

HK Research's R-0271 Casting Resin is formulated from a high molecular weight, 100% NPG/Isophthalic resin system which imparts toughness, chemical resistance and a high heat distortion temperature to this product. R-0271 has been further modified with a blend of Styrene and acrylic monomer to improve durability of the finished part.

Fully cured castings of R-0271 and R. J. Marshall's DF-74 ATH filler have been subjected to the CMI Stain Test (ANSI Z124.3.4.2) and have passed with a rating of less than 20 which is outstanding for a non gel-coated casting.

R-0271 casting resin is designed for use in the fabrication of flat stock such as counter tops, table tops and vanities for use with drop-in bowls. The high reactivity, which gives this resin its toughness and chemical resistance, can cause stress cracking if it is cast in integral bowl molds. Some manufacturers have found that they can successfully cast integral bowls with this resin if they remove the "hat" very early in the cure cycle and demold the part shortly before it reaches peak exotherm. Both of these steps, however, require careful attention on the part of the molder.

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Vanity tops and counter tops (flat stock) made with R-0271 type resin and densified fillers such as R. J. Marshall's DF-40 and DF-74 have consistently passed the CMI (ANSI) stain resistance and chemical resistance tests without the presence of a gel coat. R-0271 casting resin will produce castings with excellent color using ATH filler such as Marshall's DF-40 and DF-74 along with normal levels of color pigments.

R-0271 Casting Resin does contain a UV Light-Stabilizer that is designed to retard yellowing in outdoor exposure.

TYPICAL PROPERTIES OF LIQUID RESIN

Color	Blue
Viscosity, 77°F	900-1000 cps
Weight Per Gallon	8.8 lbs.
Specific Gravity	1.06
Stability, Uncatalyzed, 77°F	3 months minimum

TYPICAL CURING PROPERTIES

Neat Resin:	
Gel Time, 77°F,	
1% Superox 46-731*	28-32 minutes
Gel To Peak	10-15 minutes
Peak Exotherm,	
100 gram mass	330-370°F
Filled Resin:	
R0271	100 grams
DF-74 (R.J. Marshall)	200 grams
HWE-2303 White	3 grams (1.0% of total mix wt.)
Superox 46-731	1.0 grams
Gel Time, 77°F	
	40-50 minutes
Demold Time	
	90-120 minutes after gel

*Reichhold Chemicals

2,4 Pentanedione Peroxide catalysts such as Reichhold's Superox 46-731, Atochem's Lupersol 224 or Akzo's Trigonox 40 when used with this resin will exhibit outstanding room temperature cure characteristics without the need for a heated post-cure. Maximum hardness and stain resistance will be attained within a few hours after the cast component is demolded.

R-0271 will also work with conventional Methyl Ethyl Ketone Peroxides but our tests have shown that the demold time and Barcol hardness development will be longer. Typical demold times with these catalysts would be 2-3 hours after catalyzation and a room temperature cure cycle of 24-48 hours will be required to obtain maximum hardness and stain resistance. A heated post-cure can be used to shorten this cure time if necessary. Please contact the HK Research Laboratories at 1-800-334-5975 for more information on post-curing, if required.

SAFETY CONSIDERATIONS

HK Series NPG/Isophthalic Casting Systems are based on a resin that 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 resin and the catalyst may cause burns to eyes and skin. Avoid contact with 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.