



REPLICAST 616

Metallic Gray Rapid Tooling Urethane

DESCRIPTION

REPLICAST 616 is a two-component, filled urethane tooling material that has very easy handling characteristics and exceptional cured properties. This material tends to have less hard-pack settling in storage, and therefore is usually easier to use than other materials of this type, which tend to settle more rapidly. It is not extremely abrasive, so it can be machined with the proper cutters if desired. REPLICAST 616 has a one-to-one mix ratio by weight or volume, for fast measuring and mixing. It has a shorter pot life than the REPLICAST 612 product, and therefore cures more rapidly. It can be demolded and put into service rather quickly, making it the better choice for thinner castings and when a faster cure time is required.

REPLICAST 616 provides an easy to measure and mix, rapid curing system that has tough cured properties and very good heat resistance. It is an excellent choice for patterns, tooling, fixtures and general shop aids

FEATURES and BENEFITS

- ◆ **Less Hard Packed Filler Settling**
- ◆ **Smooth Consistency that Pours Well & Duplicates Details Nicely**
- ◆ **Excellent for Smaller to Medium Size Castings**
- ◆ **Low Exotherm During Cure for Stress-Free Castings**
- ◆ **Very Good Hot Strength**
- ◆ **Low Shrinkage, Good Cured Stability**

PRODUCT SPECIFICATIONS

	REPLICAST 616 Part A	REPLICAST 616 Part B	ASTM Method
Color	Gray	Tan	Visual
Viscosity,	2,700 cps	500 cps	D2392
Specific Gravity, gms./cc	1.73	1.69	D1475
Mix Ratio, By Weight By Volume	100 : 100 100 : 100		PTM&W
Pot Life, 4 fl.oz. Mass @ 77°F	6 minutes		D2471

HANDLING and CURING

REPLICAST 616 is a modification of the REPLICAST 612 product that has provided excellent service for a number of years. REPLICAST 616 has been developed to provide a shorter working time to allow faster production of smaller to medium size castings. With the faster setting time, it cures quite rapidly in thinner sections than REPLICAST 612 was designed for, so it can be demolded in a short time in those instances. The exact demold time will depend upon the shop conditions and size of the casting. Generally, most castings can be demolded in 30 to 40 minutes, depending upon size, and can be put into service shortly after that. Extremely thin casts, and those made in very cold shop environments should be carefully checked for hardness and degree of cure before demolding, to avoid distortion of the casting. REPLICAST 616 is a highly filled system, and, as such, both components should be checked for settling before making a casting. REPLICAST 616 usually has less hard-pack settling than other products of this type. However, all filled casting systems have the potential to settle in some manner when stored for long periods, so the REPLICAST resin and hardener should be thoroughly stirred before use to insure original manufactured uniformity.

TYPICAL MECHANICAL PROPERTIES

	REPLICAST 616 A/B	ASTM Method
Mix Ratio, By Weight By Volume	100 : 100 100 : 100	PTM&W
Color	Metallic gray	Visual
Mixed Viscosity, centipoise	2,600 cps	D2393
Working Time, 4 fl. Oz. Mass, @77°F	6 minutes	D2471
Peak Exotherm, 5 lb. Mass, 2.5" Thick	124°F	D2471
Cured Hardness, Shore D @ Room Temperature @ 150°F	84 D 80 D	D2240
Shrinkage, Inch/Inch, Mold #2, Volume: .344 Gal., Size: 10" Long x 2.5" Deep	0.0009 inch / inch	D2566
Specific Gravity, grams, cc	1.71	D1475
Density, lb./cu. Inch lb. / gallon	.0618 14.2	D792
Specific Volume, cu. in./lb.	16.19	
Tensile Strength, psi	4,500 psi	D638
Elongation at Break, %	2.00 %	
Flexural Strength, psi	6,900 psi	D790
Compressive Strength, psi	9,100 psi	D695

PACKAGING WEIGHTS

	Gallon Kit	Kit Volume	
		Gallons	Cubic Inches
REPLICAST 616 Part A	9 lb.	.62 gal.	144 cu. in.
REPLICAST 616 Part B	9 lb.	.64 gal.	147 cu. in.
Kit	18 lb.	1.26 gal.	291 cu. in.

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