



PT8955 FIRE RETARDANT URETHANE CASTING SYSTEM

DESCRIPTION

PT8955 is a two-component polyurethane casting system that has been developed to allow the production of parts that are tough, durable and fire retardant. Cured parts are UL Listed for UL94 V-0 at 0.1 inch (2.6 mm) thickness (UL File No. E238713). PT8955 has a 1 to 1 mixing ratio, a low mixed viscosity and relatively fast demold time, which makes it a very easy-to-use material. The natural color of this material is a very bright white which, by itself, produces rich looking parts with good color and opacity, even in thin sections. It also accepts pigments and colorants quite readily for a broad range of final colors to suit the application requirements. PT8955 has excellent hot strength, which prevents sagging or distortion in parts that are exposed to higher ambient temperatures in service. PT8955 does not contain any hazardous anti-mony or brominated fire retardant compounds, for safer working conditions. Overall, PT8955 is an excellent material for the rapid production of parts that have very good appearance and possess tough, durable properties.

PRODUCT SPECIFICATIONS

	PT8955 Part A	PT8955 Part B	Test Method
Color	Amber	White	Visual
Viscosity, @77°F, centipoise	175 cps	4300 cps	ASTM D23932
Specific Gravity, gms./cc	1.20	1.21	ASTM D1475
Mix Ratio	100 : 100 By Weight or Volume		PTM&W
Pot Life, 4 fl. Oz. Mass @ 77°F	10 - 12 minutes		ASTM D2471

HANDLING and CURING

PT8955 is well suited for hand mix and pour applications. The 10 - 12 minute pot life allows plenty of time to mix and deair before pouring, and the low mixed viscosity of the system flows into thin sections readily to minimize pouring time. PT8955 also works very well in vacuum casting equipment. The resin and hardener components of PT8955 can sometimes exhibit a tendency to have a slight initial incompatibility. With adequate mixing, however, the two components combine completely to provide proper parts. It is not necessary to utilize unusual or extreme mixing practice to properly prepare this product. Conscientious mixing with attention to detail is all that is required. When mixing, observe the solution to make sure that there are no streaks or mottled texture evident. When the resin and hardener have combined to a smooth, uniform consistency, the material is ready to cast.

PT8955 will gel hard at room temperature. Heat is not required to set PT8955, but will shorten the time when more rapid production is required. Even though PT8955 gels hard at room temperature, an oven post cure is recommended for full properties and maximum performance by the cured material. As to processing; thin section parts poured in room temperature molds can be removed from the mold in about 2 hours at room temperature. The same parts poured into warmed molds and cured in an oven at moderate temperatures can be removed from the mold in half this time or less. Exact cure time will depend upon part thickness, mold material and mold temperature, and curing temperature. For example, a typical heat cure for urethanes is 4 to 6 hours at 150°F to 165°F. Higher curing temperatures will allow shorter curing times.

PACKAGING WEIGHTS

	Gallon Kit	Pail Kit	Drum Kit
PT8955 Part A	9 lb.	45 lb.	450 lb.
PT8955 Part B	9 lb.	45 lb.	450 lb.
Kit	18 lb.	90 lb.	900 lb.

TYPICAL MECHANICAL PROPERTIES

	PT8955 A/B	Test Method
Mix Ratio	100 : 100 By Weight or Volume	PTM&W
Color	White	Visual
Mixed Viscosity, @77°F, centipoise	700 cps	ASTM D2393
Working Time, 4 fl. Oz. Mass, @77°F	10 - 12 minutes	ASTM D2471
Cured Hardness, Shore D @ Room Temp.	85 D	ASTM D2240
@ 150°F	80 D	
Shrinkage, inch/inch	0.0012	ASTM D2566
Specific Gravity, grams, cc	1.205	ASTM D1475
Density, lb./cu. inch	.0435	ASTM D792
lb./gallon	10.06	
Specific Volume, cu. in./lb.	22.97	ASTM D792
Tensile Strength, psi	7,480 psi	ASTM D638
Elongation at Break, %	4.73 %	
Tensile modulus, psi	505,965 psi	
Flexural Strength, psi	14,333 psi	ASTM D790
Flexural Modulus, psi	532,035 psi	
Compressive Strength, psi	13,305 psi	ASTM D695
Compressive Modulus, psi	450,270 psi	
Izod Impact, ft.lbs./ in. , Notched, Method A	0.76	ASTM D256
Notched, Method E	4.82	
Unnotched	7.36	
Glass Transition Temperature, Tg, TMA	192°F	ASTM D3386
Heat Deflection Temperature, @ 66 psi	161°F	ASTM D648
Coefficient of Thermal Expansion, Range: 100°F to 200°F	5.532 x 10⁻⁵ inch / inch / °F	ASTM D696
Flammability per UL 94 Specification	UL Listed for UL 94 V-0 at 0.10" (2.6 mm) UL File No. E238713	UL 94
Water Absorption, 1/8 inch Sample, 24 hours immersion @ 150°F	0.64 %	ASTM D570

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