



Hylex[®] FRV Polycarbonate Resins

P1003FRV, P1007FRV, P1010FRV, P1017FRV, P1025FRV
P1303FRV, P1307FRV, P1310FRV, P1317FRV, P1325FRV



Product Attributes

- UL94 5VA
- Extreme Toughness
- Opaque Colors



PROPERTY

METHOD

UNIT

VALUES

PROPERTY	METHOD	UNIT	VALUES
PHYSICAL			
Melt Flow (300° C/1.2 kg)	ASTM D1238	g/10min	3-25
Specific Gravity	ASTM D792	-	1.25
Mold Shrinkage (Flow Direction)	ASTM D955	in/in x 10 ⁻³	5-7
MECHANICAL @ 73°F			
Tensile Strength	ASTM D638	psi <i>MPa</i>	9,300 64
Elongation	ASTM D638	%	105
Flexural Modulus	ASTM D790	psi <i>MPa</i>	370,000 2,551
Flexural Strength	ASTM D790	psi <i>MPa</i>	14,000 97
Izod Impact Strength (@ 1/8", Notched)	ASTM D256	ft-lb/in <i>J/m</i>	12 641
THERMAL			
Heat Deflection Temp. (Unannealed)	ASTM D648		
66 psi		°F	148
0.5 MPa		°C	64
264 psi		°F	136
1.8 MPa		°C	58
FLAME CLASS RATING *			
UL94 5VA (Min. Tested Thickness)	UL 94	in (mm)	0.118 (3.0)
UL94 V-0 (Min. Tested Thickness)	UL 94	in (mm)	0.062 (1.5)

†The data listed here fall within the normal range of product properties, but they should not be used to establish specification limits or used alone as a basis for design. This information is not intended as a warranty of any kind. Buyers must make their own representative test and assume all risks of use, whether used alone or in combination with other products. Entec Polymers, LLC assumes no obligation or liability of any advice furnished by it or results obtained with respect to these products. All warranties expressed or implied including warranties of merchantability for a particular purpose or use are excluded and disclaimed. Entec Polymers, LLC assumes no liability for use of products in infringement of any patent. The foregoing limitation of remedy and exclusion of liability is reflected in and is part of the consideration for the price at which the products are sold by Entec Polymers, LLC. All data displayed herein has been obtained via testing of injection-molded specimens of natural color. Pigmentation may affect certain properties to various degrees.



A large OEM of retail electronic security devices was in the process of re-designing one of their current products. The new model would require a more stringent UL listing on the Polycarbonate resin from which the housings were to be molded. Temperature and wiring paths of the proposed unit would require a UL Standard 94 Flammability rating of 5VA within a six month time frame in order to meet the product launch date. Recognizing Entec Engineered Resins as a quality supplier of flame retardant and pre-colored polycarbonates, they came to us with the opportunity.

While there were some competitive type materials already available in the market place, the customer felt they would be better served by Entec's intimate level of service if a product existed in the HYLEX[®] line. At that time, our current FR line did not include a grade that possessed the 5VA listing. It was determined that we would be able to commercialize one within the required time line.

As a result of these customer needs, Entec's Manchester, TN based compounding facility developed a flame retardant polycarbonate formulation that would be UL approvable in all colors, have melt flow ranges from three through twenty five, and possess a UL Standard 94 flame rating of 5VA.

Well within the allotted time frame, Entec's compound was formally approved at Underwriters Laboratory as well as our customers. HYLEX[®] P1017FRV GY257 Gray now holds the sole spot on this application specification demonstrating our responsiveness to customer needs in terms of formulation expertise, precise color matching capabilities and timeliness.