

ColorFast® FRTPU-85A
Americhem - Thermoplastic Polyurethane Elastomer
General Information
Product Description

FRTPU-85A is an injection molding grade of flame retardant TPU (thermoplastic polyurethane) with Shore-A hardness of 85. It passes the FAA flammability requirements for FAR25.853a vertical Bunsen burner test.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Europe	• North America
	• Asia Pacific	• Latin America	
Additive	• Flame Retardant		
Features	• Excellent Colorability	• Flame Retardant	
Uses	• Closures	• Household Goods	• Industrial Parts
	• Consumer Applications	• Industrial Applications	
Forms	• Pellets		
Processing Method	• Injection Molding		

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.28		ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/2.16 kg)	25	g/10 min	ASTM D1238
Molding Shrinkage - Flow (0.125 in)	8.0E-3	in/in	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Compression Deflection			
10%	271	psi	ASTM D575
25%	1080	psi	
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress (100% Strain)	1410	psi	ASTM D412
Tensile Stress (300% Strain)	1770	psi	ASTM D412
Tensile Strength (Break)	2400	psi	ASTM D412
Tensile Elongation (Break)	> 600	%	ASTM D412
Tear Strength (73°F)	361	lbf/in	ASTM D624
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (A-Scale)	85		ASTM D785
Flammability	Nominal Value	Unit	Test Method
FAA Flammability (60.0 mil)	< 15.0	sec	FAR 25.853(a)

Processing Information

Injection	Nominal Value	Unit
Drying Temperature - Desiccant Dryer	176 to 194	°F
Drying Time	2.0 to 3.0	hr
Drying Time, Maximum	48	hr
Suggested Shot Size	40 to 60	%
Rear Temperature	360 to 390	°F
Middle Temperature	360 to 400	°F
Front Temperature	360 to 410	°F
Nozzle Temperature	370 to 415	°F
Processing (Melt) Temp	385 to 425	°F
Mold Temperature	60 to 110	°F
Back Pressure	200	psi
Screw Speed	40 to 70	rpm

