POLYREX® PG-80

CHI MEI CORPORATION - General Purpose Polystyrene

Tuesday, November 5, 2019

General Information

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• High Strength		
RoHS Compliance	• RoHS Compliant		
Resin ID (ISO 1043)	• >PS<		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity [2]	1.05		ASTM D792
Density (73°F)	1.05	g/cm³	ISO 1183
Melt Mass-Flow Rate (200°C/5.0 kg)	4.5	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (200°C/5.0 kg)	4.50	cm³/10min	ISO 1133
Molding Shrinkage	0.40 to 0.70	%	ISO 294-4
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength [3] (Break)	7100	psi	ASTM D638
Tensile Stress (Break)	6530	psi	ISO 527-2/50
Tensile Elongation [3] (Break)	2.0	%	ASTM D638
Tensile Strain (Break)	5.0	%	ISO 527-2/50
Flexural Modulus [4]	440000	psi	ASTM D790
Flexural Modulus [5]	348000	psi	ISO 178
Flexural Strength [4]	9800	psi	ASTM D790
Flexural Stress [5]	9860	psi	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179
-22°F	1.2	ft·lb/in²	
73°F	1.4	ft·lb/in²	
Notched Izod Impact			ASTM D256
73°F, 0.126 in	0.33	ft·lb/in	
73°F, 0.252 in	0.31	ft·lb/in	
Notched Izod Impact Strength			ISO 180/1A
-22°F	0.86	ft·lb/in²	
73°F	0.95	ft·lb/in²	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	80		ASTM D785
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (264 psi, Unannealed)	176	°F	ISO 75-2/A
Heat Deflection Temperature (264 psi, Annealed)	201	°F	ISO 75-2/A
Vicat Softening Temperature	207	°F	ASTM D1525 [6]

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Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature			
--	205	°F	ISO 306/A50
--	198	°F	ISO 306/B50
CLTE - Flow	2.8E-5 to 4.4E-5	in/in/°F	ISO 11359-2
Heat Deflection Temperature			ASTM D648
Annealed	201	°F	
Unannealed	183	°F	

Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.06 in)	HB		UL 94

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	176	°F
Drying Time	2.0 to 3.0	hr
Rear Temperature	320 to 356	°F
Middle Temperature	374 to 410	°F
Front Temperature	365 to 401	°F
Mold Temperature	104 to 158	°F

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] 23°C

[3] 0.24 in/min

[4] 0.11 in/min

[5] 0.079 in/min

[6] Rate A (50°C/h), Loading 1 (10 N)