

Texin® HM-1206

Polyurethane
Covestro - PUR

Message:

Texin HM-1206 resin is a clear, high performance thermoplastic polyurethane which possesses the stiffness and modulus of standard engineering thermoplastics.

General Information			
Features	Low CLTE		
	Low hygroscopicity		
	Impact resistance, good		
	Good wear resistance		
	Good chemical resistance		
	Heat resistance, high		
	Low shrinkage		
Appearance	Clear/transparent		
Processing Method	Extrusion		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.24	g/cm ³	ASTM D792, ISO 1183
Molding Shrinkage			
Flow: 2.54mm	0.50	%	ASTM D955
Flow direction: 2.54mm	0.50	%	ISO 2577
Water Absorption			
24 hr	0.17	%	ASTM D570
23°C, 24 hr	0.17	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			
Class m	87		ASTM D785
Class r	125		ASTM D785
M scale	87		ISO 2039-2
R scale	125		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2330	MPa	ASTM D638
Tensile Strength			ASTM D638
Yield	76.0	MPa	ASTM D638
Fracture	61.0	MPa	ASTM D638
Tensile Elongation			ASTM D638

Yield	7.8	%	ASTM D638
Fracture	170	%	ASTM D638
Flexural Modulus			ASTM D790, ISO 178
--	2340	MPa	ASTM D790, ISO 178
-- ¹	103	MPa	ASTM D790, ISO 178
Flexural Strength	110	MPa	ASTM D790, ISO 178
Taber Abrasion Resistance			
1000 Cycles, 1000g, H-18 wheel	39.0	mg	ISO 4649
1000 Cycles, 1000g, H-18 wheel	39.0	mg	ASTM D1044
Bending strain-at Maximum Stress			
--	7.0	%	ISO 178
--	7.0	%	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C, 3.18 mm)	70	J/m	ASTM D256
Unnotched Izod Impact			ASTM D256
-30°C, 3.18 mm	No Break		ASTM D256
23°C, 3.18 mm	No Break		ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	92.0	°C	ASTM D648
0.45 MPa, annealed ²	98.0	°C	ASTM D648
1.8 MPa, not annealed	77.0	°C	ASTM D648
1.8 MPa, annealed ³	89.0	°C	ASTM D648
Vicat Softening Temperature			ISO 306/A50
-- ⁴	128	°C	ASTM D1525 ⁵
--	110	°C	ASTM D1525 ⁶
CLTE - Flow	6.4E-5	cm/cm/°C	ASTM D696
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.605		ASTM D542
Transmittance			
3180 µm	90.0	%	ISO 3583
3180 µm	90.0	%	ASTM D1003
Haze			
3180 µm	3.0	%	ISO 3583
3180 µm	3.0	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature - Desiccant Dryer	104 - 121	°C	
Drying Time - Desiccant Dryer	4.0	hr	
Suggested Max Moisture	< 0.030	%	
Suggested Max Regrind	20	%	
Rear Temperature	235 - 246	°C	
Middle Temperature	238 - 249	°C	

Front Temperature	238 - 249	°C
Nozzle Temperature	243 - 254	°C
Processing (Melt) Temp	235 - 250	°C
Mold Temperature	43.0 - 66.0	°C
Injection Pressure	41.4 - 96.5	MPa
Injection Rate	Moderate	
Back Pressure	< 5.52	MPa
Screw Speed	40 - 80	rpm
Cushion	< 3.18	mm

Injection instructions

Hold Pressure: 60 to 80% of Injection Pressure

Extrusion	Nominal Value	Unit
Drying Temperature	104 - 121	°C
Drying Time	4.0	hr
Cylinder Zone 1 Temp.	225 - 250	°C
Cylinder Zone 2 Temp.	225 - 240	°C
Cylinder Zone 3 Temp.	225 - 240	°C
Melt Temperature	230	°C
Die Temperature	230 - 240	°C

NOTE

1. at 5% Strain
2. Post-cured for 2 hours at 230°F
3. Post-cured for 2 hours at 230°F
4. Post-cured for 2 hours at 230°F
5. 速率 A (50°C/h), 压力1 (10N)
6. 速率 A (50°C/h), 压力1 (10N)

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