

Bayflex® 180 RRIM (20% Mica)

Polyurethane (Polyether, MDI)

Covestro - PUR

Message:

Bayflex 180 is a high-performance polymer system with excellent heat stability, low moisture absorption, low thermal expansion characteristics and excellent impact resistance. Parts made from this material have excellent surface and paint adhesion qualities and have a DOI (Distinction of Image) comparable to painted steel parts. A wide range of parts can be molded with the Bayflex 180 system, from thin wallstock rocker panels and trim to large, durable body panels and engine enclosures for specialty equipment. As with any product, use of the Bayflex 180 system in a given application must be tested (including field testing, etc.) in advance by the user to determine suitability.

The Bayflex 180 system is supplied as two reactive liquid components. Component A is a diphenylmethane diisocyanate (MDI) prepolymer and Component B is a polyether polyol.

General Information			
Filler / Reinforcement	Mica filler, 20% filler by weight		
Features	Low hygroscopicity		
	Impact resistance, good		
	Sprayable		
	Thermal stability, good		
	Excellent appearance		
Uses	Parts under the hood of a car		
	Application in Automobile Field		
	Automotive exterior parts		
	Car exterior decoration		
Forms	Liquid		
Processing Method	Reaction Injection Molding (RIM)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.25	g/cm ³	ASTM D792, ASTM D1622
Molding Shrinkage - Flow	0.55	%	Internal method
Water absorption-240 hr(3.81 mm)	0.20	%	Internal method
Heat Sag - 6 in Overhang ¹			ASTM D3769
121°C, 3.81 mm	1.02	mm	ASTM D3769
191°C, 3.81 mm	11.9	mm	ASTM D3769
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Break, 3.81 mm)	35.2	MPa	ASTM D638
Tensile Elongation (Break, 3.81 mm)	22	%	ASTM D638
Flexural Modulus (23°C, 3.81 mm)	2070	MPa	ASTM D790
Elastomers	Nominal Value	Unit	Test Method
Tensile Strength (Break, 3.81 mm)	35.2	MPa	ASTM D412
Tensile Elongation (Break, 3.81 mm)	22	%	ASTM D412
Tear Strength ² (3.81 mm)	140	kN/m	ASTM D624

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (3.81 mm)	110	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
CLTE - Flow (3.81 mm)	1.4E-4	cm/cm/°C	ASTM D696
Thermoset	Nominal Value	Unit	Test Method
Thermoset Components ³			
Component a	Mixing ratio by weight: 150		
Component B	Mixing ratio by weight: 100		
Shelf Life (32°C)	26	wk	
Additional Information	Nominal Value	Unit	Test Method

Part A

Type: Isocyanate

Appearance: Colorless to light yellow liquid

Specific Gravity @ 25°C: 1.1

Viscosity @25°C: 735 mPa-s

Flash Point PMCC: >93 °C

Part B

Type: Polyol

Appearance: Yellow to amber liquid

Specific Gravity @ 25°C: 1.01

Viscosity @25°C: 960 mPa-s

Flash Point PMCC: 164 °C

Molding Parameters

Material Temperature: 32 to 43 °C

Mold Temperature: 71 to 74 °C

Typical Cure Time, 0.125 in: 30 sec

Polyol Nucleation - Specific Gravity: 0.70 to 0.75 0

NOTE

1. 1 hr
2. C mould
3. 105 Index

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