Baydur® 646 (15 pcf)

Polyurethane (MDI)

Covestro - PUR

Message:

Baydur 646 is a rigid polyurethane structural foam system used in the reaction injection molding (RIM) process. The system is supplied as two reactive liquid components: Component A is a polymeric diphenylmethane diisocyanate (PMDI), and Component B is a formulated polyol system containing no CFC- or HCFC-blowing additives.
The Baydur 646 system is used to produce foam cores for composite applications, such as water skis, wake boards, snow boards, and various components for the transportation and marine markets. As with any product, use of the Baydur 646 system in a given application must be tested (including field testing, etc.) in advance by the user to determine suitability.

General Information			
Uses	Structural Foam		
	Ship application		
	Application in Automobile Field		
	Sporting goods		
Processing Method	Reaction Injection Molding (RIM)		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	0.239	g/cm³	ASTM D792
Molding Shrinkage - Flow (6.35 mm)	0.30 - 0.50	%	ASTM D955
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness			ASTM D2240
Shaw D, 6.35mm	28		ASTM D2240
Shaw D, 12.7mm	30		ASTM D2240
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength			ASTM D638
Fracture, 6.35mm	3.86	MPa	ASTM D638
Fracture, 12.7mm	3.79	MPa	ASTM D638
Tensile Elongation			ASTM D638
Fracture, 6.35mm	7.0	%	ASTM D638
Fracture, 12.7mm	9.0	%	ASTM D638
Flexural Modulus			ASTM D790
6.35 mm	221	MPa	ASTM D790
12.7 mm	186	MPa	ASTM D790
Flexural Strength			ASTM D790
6.35 mm	6.55	MPa	ASTM D790
12.7 mm	6.89	MPa	ASTM D790
Compressive Strength			ASTM D695
6.35 mm	2.96	MPa	ASTM D695
12.7 mm	1.90	MPa	ASTM D695
Impact	**Nominal Value**	**Unit**	**Test Method**

Charpy Unnotched Impact Strength			Internal method
-- [1]	4.0	kJ/m²	Internal method
-- [2]	3.8	kJ/m²	Internal method

Thermoset	Nominal Value
Thermoset Components	
Component a	Mixing ratio by weight: 110
Component B	Mixing ratio by weight: 100

Additional Information

Part A
Type: Isocyanate
Appearance: Dark brown to black liquid
Specific Gravity @ 25°C: 1.24
Viscosity @25°C: 200 cps
Flash Point PMCC: 199°C
NCO: 31.5 wt%
Part B
Type: Polyol
Appearance: Amber liquid
Specific Gravity @ 25°C: 1.08
Viscosity @25°C: 1200 cps
Flash Point PMCC: 123°C
Water: 1.05 wt%
Hydroxyl Number: 370 KOH/g
Material Temperatures: 29 to 38°CMold Temperature: 50 to 60°CHand Mix Reactivity at 25°C
Cream Time: 30 to 40 sec
Gel Time: 65 to 75 sec
Tack Free Time: 77 to 85 sec
Free-Rise Density: 5 to 7 lb/ft³
Machine Reactivity at 30°C
Cream Time: 10 to 20 sec
Gel Time: 30 to 40 sec
Tack Free Time: 50 to 60 sec
Free-Rise Density: 5 to 7 lb/ft³
Polyol Nucleation Specific Gravity: 0.8 to 0.9 0Typical cure Time, 0.500 in Thickness: 4 to 5 secMolded Density: 10 to 30 lb/ft³

NOTE	
1.	0.5
2.	0.25 in

Recommended distributors for this material

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