



BAYDUR® 726 IBS

Structural Foam RIM System

Description

Baydur 726 IBS is a high-density polyurethane structural foam system used in the reaction injection molding (RIM) process. This system incorporates a specially engineered interactive blowing system (IBS) and is supplied as two reactive liquid components. Component A is a modified polymeric diphenylmethane diisocyanate (PMDI) prepolymer blend, and Component B is a formulated polyol system containing no CFC- or HCFC-blowing additives.

Baydur 726 IBS system is used in applications requiring a UL94 flammability rating* of V-0 and/or 5VA for use in electronic, equipment housing, and appliance markets. The applications typically take advantage of the material's strength, excellent surface finish, and large-part capability. As with any product, use of the Baydur 726 IBS system in a given application must be tested (including field testing, etc.) in advance by the user to determine suitability.

Typical Properties of System**

Property	ASTM Test Method (Other)	Density			
		40 pcf	45 pcf	50 pcf	55 pcf
Specific Gravity	D 792	0.64	0.72	0.80	0.88
Thickness		0.250 in	0.250 in	0.250 in	0.250 in
Hardness	D 2240	66D	70D	74D	81D
Mold Shrinkage	(Bayer)	0.70 - 0.90%	0.70 - 0.90%	0.70 - 0.90%	0.70 - 0.90%
Tensile Strength at Break	D 638	3,100 lb/in	3,300 lb/in ²	4,600 lb/in ²	4,800 lb/in ²
Elongation at Break	D 638	8%	8%	8%	8%
Flexural Modulus	D 790	160,000 lb/in ²	190,000 lb/in ²	220,000 lb/in ²	240,000 lb/in ²
Flexural Strength	D 790	5,600 lb/in ²	7,000 lb/in ²	8,200 lb/in ²	9,000 lb/in ²
Charpy Impact	(Bayer)	8 ft·lb/in ²	10 ft·lb/in ²	12 ft·lb/in ²	15 ft·lb/in ²
Deflection Temperature Under Load: 66 psi	D 648	83°C (181°F)	93°C (199°F)	96°C (205°F)	100°C (212°F)
UL94 Flame Class	(UL94)	V-0/5VA Rating	V-0/5VA Rating	V-0/5VA Rating	V-0/5VA Rating
Flammability - FMVSS 302	FMVSS 302	Pass	Pass	Pass	Pass

* Flammability results are based on small-scale laboratory tests for purposes of relative comparison and are not intended to reflect the hazards presented by this or any other material under actual fire conditions.

** These items are provided as general information only. They are approximate values and are not part of the product specifications.

Typical Properties* of Components

Property	Isocyanate (Component A)	Polyol (Component B)
Appearance	Dark brown liquid	Pale amber liquid
Specific Gravity at 25°C	1.24	1.108
Viscosity at 25°C, mPa·s	310	1,000
Flash Point, PMCC, °C	213	161
NCO, Wt. %	27.3	-
Water, Wt. %	-	0.39
Hydroxyl Number	-	500 mg KOH/g

Processing Conditions

Molding Parameters*	
Material Temperature, °C (°F)	32 - 35 (90 - 95)
Mold Temperature, °C (°F)	66 - 76 (150 - 170)
Hand Mix Reactivity @ 25°C:	
Cream Time, sec	19 - 29
Gel Time, sec	29 - 39
Tack-Free Time, sec	34 - 48
Free-Rise Density, lb/ft ³	12 - 20
Machine Reactivity @ 30°C	
Cream Time, sec	6 - 12
Gel Time, sec	15 - 19
Tack-Free Time, sec	19 - 22
Free-Rise Density, lb/ft ³	15 - 20
Polyol Nucleation; Specific Gravity	0.80 - 0.85
Maximum Shot Time, sec	7
Recommended Demold Time, min:	
0.250-in Thickness	3 - 4
Mixing Ratio, Isocyanate/Polyol, 110 Index:	
By Weight	155/100
By Volume	140/100

Storage and Handling

Component A (PMDI isocyanate blend) will react with moisture and must be stored in tightly closed containers and protected from contamination with moisture and other foreign materials, which can adversely affect processing. It will react slowly with water to form polyureas and carbon dioxide gas, which may cause sealed containers to expand and rupture. Storage temperatures should be maintained between 18° and 30°C (64° and 86°F).

Component B (polyol system) is hygroscopic and may absorb water. Containers must be kept closed and protected from moisture and foreign materials which can adversely affect processing. Recommended storage temperature is between 4° and 38°C (40° and 100°F). Note: Component B phase separates upon standing and must be mixed thoroughly via mechanical means prior to use.

Health And Safety Information

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling Baydur 726 IBS components. Before working with these products, you must read and become familiar with the available information on their hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets and product labels. Consult your local Bayer MaterialScience representative or contact Bayer's Product Safety and Regulatory Affairs Department in Pittsburgh, PA.

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This product is not designated as "Medical Grade" and therefore shall not be considered a candidate for the manufacture of a medical device or of intermediate products for medical devices, which are intended under normal use to be brought into direct contact with the patient's body (e.g., skin, body fluids or tissues, including indirect contact to blood)*. If the intended use of the product is for the manufacture of a medical device or of intermediate products for medical devices, Bayer MaterialScience LLC must be contacted in advance to provide its agreement to sell such product for such purpose. Nonetheless, any determination as to whether a product is appropriate for use in a medical device or intermediate products for medical devices must be made solely by the purchaser of the product without relying upon any representations by Bayer MaterialScience LLC. For further information, please contact bmsmedicalapplication@bayer.com.

*Please see the "Guidance on Use of Bayer MaterialScience Products in a Medical Application" document which can be located at baycareonline.com.

Note: The information contained in this bulletin is current as of May 2012, please contact Bayer MaterialScience to determine whether this publication has been revised.

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