

# Bayflex® 257

Polyurethane (MDI)

Covestro - PUR

## Message:

Bayflex 257 is a fully compounded polyether-based polyurethane system consisting of two liquid components which can be water-blown. Component A is a modified diphenylmethane diisocyanate (MDI) prepolymer, and Component B is a polyether polyol system. The Bayflex 257 system is used in the outsole system of dual-density polyether shoe soles. Finished outsoles can be molded translucent to opaque.

The combination of durability, styling latitude and ease of processing makes the Bayflex 257 system a prime soling material for dual-density soles for casual, walking and light-duty shoes. As with any product, use of the Bayflex 257 system in a given application must be tested (including but not limited to field testing) in advance by the user to determine suitability.

General Information			
Forms	Liquid		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.05	g/cm <sup>3</sup>	Internal method
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A)	55 - 60		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Taber Abrasion Resistance (1000 Cycles, 1000 g, H-18 Wheel)	50.0	mg	ASTM D1044
Ross Flex - 0% Cut Growth			ASTM D1052
-29°C, 6.35 mm	> 5.0E+4	Cycles	ASTM D1052
23°C, 6.35 mm	> 1.0E+5	Cycles	ASTM D1052
Oil Resistance - Volume Swell		%	ASTM D5694
Elastomers	Nominal Value	Unit	Test Method
Tensile Strength (Break)	8.27 - 10.3	MPa	ASTM D412
Tensile Elongation (Break)	500 - 600	%	ASTM D412
Tear Strength <sup>1</sup>	35.0 - 43.8	kN/m	ASTM D1004
Thermoset	Nominal Value	Unit	Test Method
Thermoset Components <sup>2</sup>			
Component a	Mixing ratio by weight: 31		
Component B	Mixing ratio by weight: 100		
Additional Information	Nominal Value	Unit	Test Method

Part A

Type: Isocyanate

Appearance: Light yellow to yellow liquid

Specific Gravity @ 25°C: 1.21

Viscosity @25°C: 550 to 800 mPa

Flash Point, PMCC: 213°C

NCO: 22.6 to 23.1 wt%

Bulk Density at 25°C: 10.1 lb/gal

Part B

Type: Polyol

Appearance: Light yellow liquid

Specific Gravity @ 25°C: 1.05

Viscosity @25°C: 1100 mPa-s

Flash Point, PMCC: 135°C

Bulk Density at 25°C: 8.76 lb/gal

Water: 0.10 wt% max

Hydroxyl Number: 92

Material Temperatures: 25°C Mold Temperature: 49°C Demold Time: 2 min Linear Shrinkage at 0.50 g/cm<sup>3</sup>: <0.5% Hand Mix Reactivity at 25°C

Cream Time: 16 to 20 sec

Tack-Free Time: 31 to 51 sec

Pull Time: 60 to 70 sec

Free-Rise Density: 42 to 46 lb/ft<sup>3</sup>

NOTE

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