

## RIMLINE<sup>®</sup> SK 97007 Polyol

Pultrusion Polyol Blend

### CHEMICAL TYPE

Formulated Polyol Blend

### APPLICATIONS

Composites – Pultrusion Processing

### DESCRIPTION

RIMLINE<sup>®</sup> SK 97007 is a fully formulated polyol blend, including internal mold release (IMR), intended for use in pultrusion processing. Designed as part of a two-component system in conjunction with SUPRASEC<sup>®</sup> 9700 MDI-based isocyanate, the resin offers good wetting characteristics, accelerated line speeds, low pull forces and no VOC emissions. The complete polyol/isocyanate resin system is ideally suited for structural profiles in demanding applications where superior strength and durability are required.

### TYPICAL PROPERTIES OF NEAT RESIN

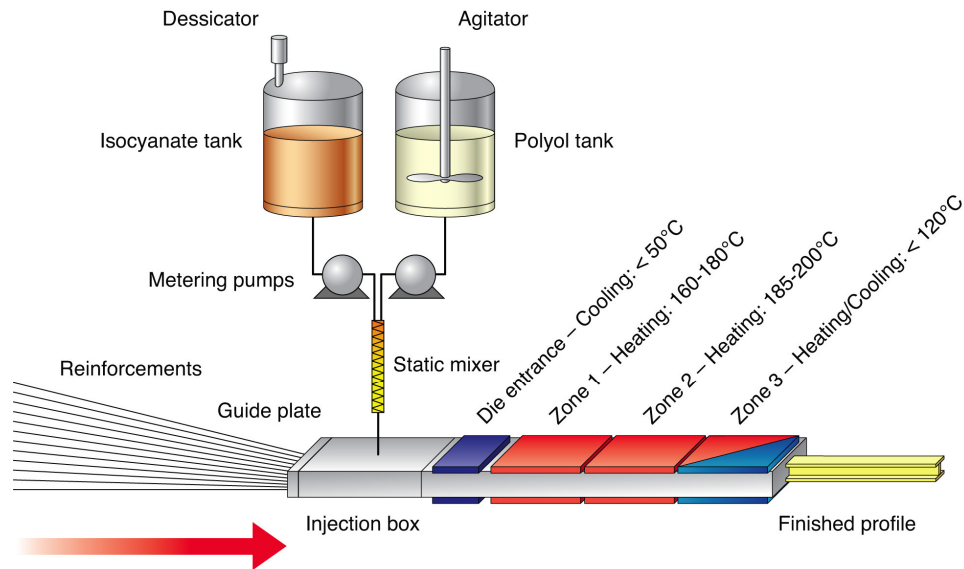
<b>Appearance</b>	Slightly opaque liquid
<b>Specific Gravity (25 °C)</b>	1.08
<b>Polyol Viscosity (25 °C, cP)</b>	950 – 1050
<b>Mix Ratio</b> <i>Isocyanate : Polyol</i>	1.4 : 1 (by wt) 1.2 : 1 (by vol)
<b>Initial Mixed Viscosity with SUPRASEC 9700 (25 °C, cP)</b>	1100-1200

### APPLICATIONS

- Structural components
- Load floors
- Flat springs
- Sporting goods
- Window lineals
- Architectural moldings
- Transportation panels

## PROCESS INSTRUCTIONS

- Temperature controlled die from 160 to 230 °C depending on profile dimensions and line speed
- Closed injection box or injection die
- Two-component metering pump and static mixer assembly
- RIMLINE SK 97007 polyol blend must be thoroughly mixed before and during use



### SCHMATIC OF A PULTRUSION SET-UP

As shown above, the die should be set up with cooling at the entrance (~10 cm) to prevent heat from diffusing into the injection box, causing die lock. At line speeds over 1.5-m/min, active cooling of the die may be necessary to keep the profile exit temperature below 140 °C and to limit potential warpage. Profile cooling with water after exiting the die is also useful to prevent damage by the pullers.

### TYPICAL END USE PROPERTIES

- Line speeds up to 2.0-meters/minute
- Good wetting characteristics
- Low pull forces
- Good profile surface quality
- No VOC emissions

## Properties of Cured Neat RIMLINE SK97007/SUPRASEC 9700 Resin

Property	Units	ASTM Test Method	Value
Flexural Modulus	GPa	D-790	2.96
Flexural Yield Strength	MPa		117
Flexural Break Strength	MPa		No Break
Strain at Yield	%		7.1
Strain at Failure	%		No Break
Tensile Modulus	GPa	D-638	2.9
Tensile Yield Strength	MPa		No Yield
Tensile Break Strength	MPa		83
Strain at Yield	%		No Yield
Strain at Failure	%		9.4
Hardness	Shore D	D-2240	81
Notched Izod	N/m	D-256	210
Specific Gravity		D-792	1.23
Tg by DMA E' Onset	°C	D-7028	131
Tg by DMA <i>tan δ</i> Peak			145
Heat Deflection Temperature	°C	D-648	122

<b>Properties of Representative Pultruded Profile</b>				
<b>RESIN SYSTEM</b>			<b>RIMLINE SK 97007 Polyol SUPRASEC 9700 Isocyanate</b>	
<b>Glass Layup</b>			<b>2 x 230 g/m<sup>2</sup> CFM 127 4400-Tex Rovings 2.41 mm Thick</b>	
<b>Property</b>	<b>Units</b>	<b>ASTM Test Method</b>	<b>PARA</b>	<b>PERP</b>
<b>Flexural Modulus</b>	GPa	D-790	23	10
<b>Flexural Strength</b>	MPa		945	131
<b>Strain at Failure</b>	%		4.8	1.6
<b>Tensile Modulus</b>	GPa	D-638	36.4	13.3
<b>Tensile Strength</b>	MPa		776	78
<b>Strain at Failure</b>	%		2.2	1.9
<b>Max. Load</b>	Kg	D-3763 Dynatup 12.5mm Tup 2.29 m/sec	420	
<b>Energy to Max. Load</b>	J		24.8	
<b>Total Energy</b>	J		38.4	
<b>Notched Izod</b>	J/cm	D-256	19.45	2.61
<b>Glass Content</b>	wt %	D-2584	68.2	68.3
<b>Specific Gravity</b>		D-792	1.89	1.90

## HANDLING AND STORAGE

RIMLINE SK 97007 polyol is supplied in 200 liter (55 gal.) open top drums or 1000 liter (250 gal.) IBCs. Systems are designed to offer very good storage stability but this is dependent on conditions, particularly temperature.

Due to the hygroscopic nature of the product, containers should be kept tightly sealed and away from direct sunlight. Under these conditions, the shelf life will be 6 months at 25°C (77 °F).

## ADDITIONAL INFORMATION

Before selecting this product, it is necessary that the user ensures its performance will meet all operational and end use requirements. Having satisfied these requirements, should changes be contemplated in method of application, materials, service conditions or any other change that could affect the ultimate performance of the end product, then further tests and trials should be carried out.

For assistance with particular problems and applications, please contact the Huntsman Technical Service Department. Inquiries should be addressed to the nearest Huntsman Sales Office or to:

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## HEALTH AND SAFETY

*The Safety and Health information in this data sheet does not contain sufficient detail for safe handling in all cases. For detailed safety and health information refer to the **Safety Data Sheet** for this product.*

### EMERGENCY CALLS:

**CHEMTREC - Spills, Leak, Fire 1-800-424-9300 (USA/Canada), 1-703-527-3887 (International)**

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