# TECHNICAL DATA SHEET

EPIC RESINS
POLYMERS FOR INDUSTRY SINCE 1958

## S7511 SERIES POLYURETHANE COMPOUNDS

EPIC S7511 is a series of two component polyurethane adhesives designed for adhesion to a variety of substrates that include plastic and metal surfaces. Features of EPIC S7511 include:

- Convenient 1:1 Volumetric Mix Ratio
- Excellent Adhesion to Most Plastic and Metal Substrates
- Low Viscosity or Thixotropic Versions Available
- Room Temperature Curing System
- Medium Shore D Durometer

EPIC S7511 is extremely versatile and may be used in a variety of applications including:

- Automotive and Outdoor Lighting
- Filter End Cap Adhesion
- Outdoor Sporting Goods Equipment
- General Adhesive Applications

Epic Resins offers many variations of this formula including different gel times and viscosities to fit any application. Epic Resins has over 50 years of experience in formulating and manufacturing epoxies and polyurethanes. Our experience offers many benefits to your company including:

- ISO 9001 and 14001 Recognized Management Systems
- Extensive Customer Support
- New Product Development
- Product Customization and Production Engineering
- Application Property Testing
- Local Field Technical Service – No Need to Work Through Distributors

## GENERAL PROPERTIES

| | |
|---|---|
| **Product Resin** | Polyurethane |
| **Component Count** | 2 |
| **Shelf Life @ 25˚C** | 6 – 12 Months, Varies by Version |
| **Color Part A** | Cloudy White |
| **Color Part B** | Straw |
| **Color Mixed** | Cloudy White |

## CURED PROPERTIES

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|---|---|
| **Cure Schedule** | 7 – 14 days @ 25˚C for full cure |
| **Compressive Strength** (ASTM D695) | 16,000 psi Minimum |
| **Shore Hardness** | 60 – 65 Shore D @ 25˚C |

**Elongation** (ASTM D638 or ASTM D412)

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|---|
| 234 – 252% @ 25˚C |
| 20 – 30% @ 0˚C |
| 20 – 30% @ -25˚C |

**Tensile Strength** (ASTM D638 or D412)

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|---|
| 2,990 – 3,330 psi @ 25˚C |
| 7,174 – 7,674 psi @ 0˚C |
| 9,163 – 9,407 psi @ -25˚C |

**Tensile Modulus** (ASTM D638)

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|---|
| 60,000 – 70,000 psi @ 0˚C |
| 15,000 – 15,500 psi @ 25˚C |
| 1,000 – 1,200 psi @ 50˚C |

**Lap Shear** (ASTM D1002)

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|---|
| 3000 – 3200 psi (Aluminum to Aluminum) |
| 550 psi min. (PVC to PVC) substrate failed (modified ASTM D 1002) |
| 510 psi min. (Plexiglass to Plexiglass) substrate failed (modified ASTM D 1002) |
| 900 psi min. (Centrex 814 ASA to ASA) substrate failed (modified ASTM D 1002) |
| 660 psi min. (Luran S778T ABS to ABS) |

| Product | Mix Ratio by Weight | Mix Ratio by Volume | Viscosity Part A (cps @ 25˚C) | Viscosity Part B (cps @ 25˚C) | Mixed Viscosity (cps @ 25˚C) | Gel Time | Weight/Gallon Part A lb/gal | Weight/Gallon Part B lb/gal | Weight/Gallon Mixed lb/gal |
|---|---|---|---|---|---|---|---|---|---|
| S7511 | 100:117.5 | 1:1 | 3,500 – 4,500 | 300 – 510 | 750 – 850 | 15 – 25 Min @25˚C, 100g | 8.23 – 8.33 | 9.60 – 9.75 | 8.91 – 9.04 |
| S7511-01 | 100:117.5 | 1:1 | 3,500 – 4,500 | 300 – 510 | 750 – 850 | 4 – 6 Min @ 25˚C, 22g | 8.23 – 8.33 | 9.60 – 9.75 | 8.91 – 9.04 |
| S7511-02 | 100:117.5 | 1:1 | 3,500 – 4,500 | 300 – 510 | 750 – 850 | 6 – 8 Min @ 25˚C, 22g | 8.23 – 8.33 | 9.60 – 9.75 | 8.91 – 9.04 |
| S7511-03 | 100:117.5 | 1:1 | 3,500 – 4,500 | 300 – 510 | 750 – 850 | 2.5 – 3.5 Min @ 25˚C, 22g | 8.23 – 8.33 | 9.60 – 9.75 | 8.91 – 9.04 |
| S7511-04 | 100:117.3 | 1:1 | 16,000 – 20,000 | 11,000 – 16,000 | 10,000 – 16,000 | 4 – 6 Min @ 25˚C, 22g | 8.20 – 8.40 | 9.70 – 9.88 | 8.95 – 9.14 |
| S7511-05 | 100:117.3 | 1:1 | 14,000 – 17,000 | 5,500 – 6,700 | 5,000 – 9,000 | 4 – 6 Min @ 25˚C, 22g | 8.20 – 8.40 | 9.70 – 9.88 | 8.95 – 9.14 |
| S7511-06 | 100:117.3 | 1:1 | 14,000 – 17,000 | 5,500 – 6,700 | 5,000 – 9,000 | 1 – 2 Min @ 25˚C, 22g | 8.20 – 8.40 | 9.70 – 9.88 | 8.95 – 9.14 |
| S7511-07 | 100:117.3 | 1:1 | 14,000 – 17,000 | 5,500 – 6,700 | 5,000 – 9,000 | 20 – 45 Sec @ 25˚C, 22g | 8.20 – 8.40 | 9.70 – 9.88 | 8.95 – 9.14 |
| S7511-08 | 100:117.3 | 1:1 | 14,000 – 17,000 | 5,500 – 6,700 | 5,000 – 9,000 | 1 – 2 Min @ 25˚C, 22g | 8.20 – 8.40 | 9.70 – 9.88 | 8.95 – 9.14 |
| S7511-09 | 100:117.3 | 1:1 | 14,000 – 17,000 | 5,500 – 6,700 | 5,000 – 9,000 | 35 – 65 Sec @ 25˚C, 22g | 8.20 – 8.40 | 9.70 – 9.88 | 8.95 – 9.14 |

## MIXING INSTRUCTIONS

When mixing two component polyurethanes, the ideal method is to mix by weight using a balance or digital scale. The mixing container should be placed on the scale and set to read zero, the appropriate amount of resin should be weighed followed by the appropriate amount of hardener. The material should then be stirred, ideally with a metal spatula, ensuring that the material is thoroughly mixed to a homogenous state by scraping the sides, bottom and the area where the sides meet the bottom of the container. Failure to do so can result in uncured sections of material or altered properties of the cured material. When mixing polyurethanes, precautions should be taken to prevent any moisture from contaminating the material. The use of wood stir sticks and paper cups should be avoided due to their porosity and ability to hold moisture. When reclosing partial containers, an inert gas purge should again be introduced to prevent moisture contamination.

## HANDLING AND STORAGE

Please refer to the Material Safety Data Sheet when determining the proper precautions to be used when storing or handling Epic S7511 Series products. This product contains 4,4' Diphenylmethane Diisocyanate (MDI), which is a respiratory sensitizer. Other health problems may be aggravated by exposure to this material. Great care should be taken to ensure employees are not exposed to this material above the ACGIH TLV. Epic Resins recommends that engineering controls be used to minimize employee exposure to this or any other industrial chemical.


**EPIC RESINS**

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