

## Technical Data Sheet Tuffbond<sup>®</sup> 314

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### Product Description

**Hernon<sup>®</sup> Tuffbond<sup>®</sup> 314** is a flexible and resilient two-part epoxy adhesive system. Due to its versatile and convenient working characteristics, it should be considered for any room temperature curing application where elevated temperature curing cycles can be used. By changing the ratio of resin and hardener, the cured adhesive can change from a tough and flexible to a hard and rigid system.

**Tuffbond<sup>®</sup> 314** is recommended for bonding metal, glass, wood, concrete, and rubber, and can be used for potting and encapsulation of electrical and electronic components.

### Typical Applications

- Tank lining
- Chemical resistant flooring
- Marine coating
- Underwater coating
- Potting electronic boards
- Encapsulating electrical and electronic components

### Product Benefits

- Excellent resistance to organic acids and bases
- Good mechanical properties
- Outstanding resistance to abrasion
- Low temperature cure – Non-critical mixing

### Typical Properties (Uncured)

Property	Part A	Part B
Base	Epoxy	Amine
Appearance	Clear	Amber
Viscosity at 25°C, cP	11,000 to 18,000	150 to 300
Specific Gravity	1.17	0.94
Mix Ratio by Weight	100	40 to 100

### Typical Curing Performance

#### Pot Life

Property	Mix Ratio (A : B)			
	100:40	100:50	100:60	100:100
Pot Life, mins.	110-130	100-120	90-110	80-100

### Typical Cured Performance

Shear strength, gritblasted lap-shear specimens, cured 24 hours at 22°C, tested in accordance with ISO 4587

Substrate	Shear Strength, N/mm <sup>2</sup> (psi)			
	Mix Ratio (A : B)			
	100:40	100:50	100:60	100:100
Steel	2230	2766	2730	1010
Aluminum	1850	1970	1910	460

### Typical Properties (Cured)

Cured 16 hours at 22°C followed by 2 hours at 100°C

#### Physical Properties

Property	Mix Ratio (A : B)			
	100:40	100:50	100:60	100:100
Tensile Strength Psi	8,600	8,300	7,600	1,850
Elongation at Break, %	6.0	6.4	6.9	7.9
Hardness Shore D	85	83	81	55
Water Absorption <sup>1</sup> % wt. gain	0.19	0.21	0.29	1.10
Weight Loss <sup>2</sup> % loss	0.53	0.64	0.72	1.73

<sup>1</sup> Percent weight gained after 24 hours immersion in water at 25°C.

<sup>2</sup> Percent weight loss after 24 hours at 150°C.

#### Operating Temperature

-54 to 82°C (-65 to 180°F)

#### Electrical Properties

Property	Mix Ratio (A : B)			
	100:40	100:50	100:60	100:100
Dielectric Constant <sup>3</sup>	3.57	3.57	3.58	3.71
Dissipation Factor <sup>3</sup>	0.020	0.021	0.032	0.041
Volume Resistivity at 25°C Ω·cm	1.0x10 <sup>16</sup>	9.0x10 <sup>16</sup>	1.0x10 <sup>14</sup>	1.1x10 <sup>13</sup>
Volume Resistivity at 66°C, Ω·cm	4.0x10 <sup>13</sup>	3.7x10 <sup>13</sup>	8.2x10 <sup>10</sup>	<10 <sup>9</sup>
Volume Resistivity at 93°C, Ω·cm	2.3x10 <sup>11</sup>	1.3x10 <sup>11</sup>	<10 <sup>9</sup>	<10 <sup>9</sup>

<sup>3</sup> Determined at 106 Hertz.

**General Information**

**This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.**

**For safe handling information on this product, consult the Material Safety Data Sheet (MSDS).**

**Storage**

**Tuffbond® 314** should be stored in a cool, dry location in unopened containers at a temperature between 46°F to 82°F (8°C to 28°C) unless otherwise labeled. Optimal storage is at the lower half of this temperature range. To prevent contamination of unused material, do not return any material to its original container.

**Dispensing Equipment**

**Hernon®** offers a complete line of semi and fully automated dispensing equipment. Contact **Hernon® Sales** for additional information.

These suggestions and data are based on information we believe to be reliable and accurate, but no guarantee of their accuracy is made. HERNON MANUFACTURING®, INC. shall not be liable for any damage, loss or injury, direct or consequential arising out of the use or the inability to use the product. In every case, we urge and recommend that purchasers, before using any product in full scale production, make their own tests to determine whether the product is of satisfactory quality and suitability for their operations, and the user assumes all risk and liability whatsoever, in connection therewith. Hernon's Quality Management System for the design and manufacture of high performance adhesives and sealants is registered to the ISO 9001 Quality Standard.