

Bluesil™ ESA 6016 A&B

October 2017

Silicones Dielectric Gel

Description **Bluesil™ ESA 6016 A&B** is a pourable, two component silicone rubber that cures at room temperature by a polyaddition reaction, to a soft silicone gel.

- Applications**
- Protection of electronic modules
 - Encapsulation of electronic components for automotive and power electronics
 - Encapsulation of solar cells
 - Damping systems

- Advantages**
- Easy processing due to good fluidity of Parts A and B and a mix ratio of 1:1
 - Good pourability
 - Clear to slight straw color
 - Room temperature cure or accelerated heat cure
 - Inherent tack
 - Outstanding dielectric properties
 - Good heat stability in confined space
 - Protection of encapsulated/potted electronics against mechanical stress due to temperature variations and vibration

Characteristics

Typical Properties – Heat cured 1 hour at 70°C	
<u>Property (1:1 mix ratio by weight)</u>	<u>Value</u>
• Part A Viscosity, 25°C (77°F), mPa-s	525
• Part B Viscosity, 25°C (77°F), mPa-s	412
• Mixed Viscosity, 25°C (77°F), mPa-s	463
• Potlife, 25°C (77°F), hr	> 6
• Working Time, 25°C (77°F), hr	4.6
• Specific Gravity	0.97
• Penetration, 1/10 mm	44.4*
• Penetration, 1/10 mm	92**
• Appearance	Colorless to Light Straw
Typical Properties – Cured 24 hours at 25°C	
<u>Property (1:1 mix ratio by weight)</u>	<u>Value</u>
• Volume Resistivity, Ω-cm	5.24 x 10 ¹⁴
• Dielectric Strength, kV/mm (V/mil)	9.9 (252)
• Dielectric Constant @ 1kHz	2.23
• Dissipation Factor @ 1kHz	0.00024

Please note: The typical properties listed in this bulletin are not intended for use in preparing specifications for any particular application of silicone materials. Please contact our Technical Service Department for assistance in writing specifications.

*Pendulum Foot, Diameter ¼”, cylindrical with half-round end

**Precision Universal ¼ Scale Penetrometer with small cone tip

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Instructions for use

1. Mix Part A and Part B components in a (1:1) ratio. The two components are thoroughly mixed using an electrical or pneumatic mixer, on a low speed setting so as to limit the inclusion of air in the mixture. A dispensing machine can also be used.

2. After mixing A and B parts, it is preferable to deair the product to eliminate the air bubbles that would be visible in the finished part and which would reduce the mechanical and dielectric properties. Deairing is generally carried out with a vacuum of 30 to 50 mbar releasing the vacuum several times during the operation. A recipient with a high diameter/height ratio is better suited to quick deairing; however the height must be sufficient to contain the swelling of the elastomer under vacuum conditions.

3. **Bluesil™ ESA 6016 A&B** is poured slowly and regularly. In the case of a high thickness coating operation, the casting must be made at the lowest point in the volume to be filled; this avoids forming and including air bubbles in the volume. It should not be filled totally to allow expansion of the **Bluesil™ ESA 6016 A&B** at service temperatures.

Curing

Curing can be achieved at room temperature after 24-36 hours. However, the preferred method is to heat cure the material for 1 hour at 70°C.

Packaging

Bluesil™ ESA 6016 A&B are delivered in 18 kg and 180 kg drums.

Storage and shelf life

Bluesil™ ESA 6016 A&B can be stored up to 12 months from date of manufacture, if stored at 24°C (77°F) in its original, unopened container.

Safety

Consult the Safety Data Sheet (SDS) for **BLUESIL™ ESA 6016 A&B**.

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Warning to the users

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