BluSeal Is The Next-Generation Splice Sealing Solution For Wire Harnesses

BluSeal provides superior protection against ingression of water and contaminants caused by capillary wicking, and pressure differentials due to changes in temperature.

BluSeal Features

BluSeal is a low viscosity liquid sealer that cures quickly forming a durable, semi-flexible barrier. A unique automotive-grade formulation, BluSeal has excellent bend characteristics over a wide range of temperatures and has extremely robust moisture and chemical resistance. Used in conjunction with a secondary insulator, BluSeal is designed to provide a permanent and effective sealed splice or terminal over the life of the wire harness.

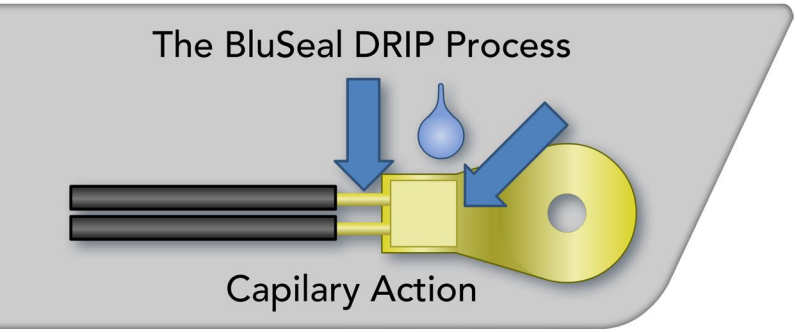
Unlike other splice sealing methods, BluSeal works by penetrating between each wire strand and deep under the wire insulating jacket, then curing into a non-penetrable bond. Once BluSeal is in place, water and contaminants are permanently blocked and can no longer wick, leading to corrosion failures.

Since this advanced sealing method works at the wire-strand level, BluSeal can provide sealing on most splices even with high wire count and substandard construction, where adhesive lined heat shrink tubing and butyl could fail.

As with any splice sealing technology, design and process validation is recommended prior to serial production activity on your application.

BluSeal Application

BluSeal can be applied to a terminal using a precision drop application or by dipping an entire splice into a BluSeal bath. The method will depend on the splice construction and manufacture's desired process.

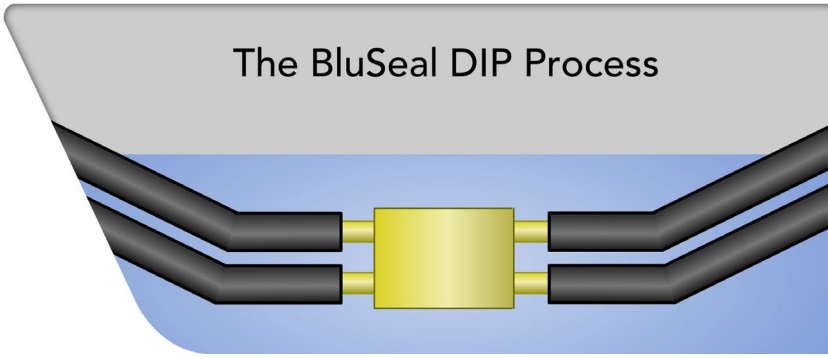


DRIP Process

BluSeal is applied to every point that water could penetrate the crimp, welded nugget, and wire lead. BluSeal applied at one side of a crimp or weld nugget will be drawn in through any existing gaps or cavities. It will also be drawn under the wire insulator. For complex configurations, it may be necessary to apply BluSeal to more than one application site around the bundle to insure it comes in direct contact with each individual wire strand.

DIP Process

Recommended for more complex splices where cavities are formed in the center of a bundle core, resulting in wire leads that are not accessible using perimeter applications. It may be necessary to remove excess BluSeal prior to surface cure processing.



Curing

BluSeal will cure quickly and natuarally inside the splice nugget and under the wire insulators within a few minutes. However, in order for parts to be immediately stacked and handled, an aided surface cure process is recommended. Surface curing can be achieved in under 10 seconds using a curing station provided by Eurotech.

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BluSeal™
sealing system

Technical Specifications

Product Facts

- Proprietary formulation
- Very low viscosity sealer
- Excellent wicking properties
- Cures semi-flexible
- Excellent adhesion to typical wiring materials
- PVC, XPE, Silicone
- CU, ALU, etc…
- Rated from -40 to 125°C @ 3000 hrs
- Excellent chemical resistance

BluSeal Results

- Wicking is eliminated
- Anti-Capillary

Sealing Independent of Splice Construction

- Splice sealing simplified
- Larger processing window
- No wire count limit
- Improved reliability

BluSeal Technology

- Apply at every entry point (Crimp, welded nugget, wire lead)
- BluSeal wicks between wire strands and insulators
- Penetrates like water through gaps and cavities
- Cures to a flexible permanent seal

Test Method	Parameters
Bubble test	@ 7.5 PSI for 30 seconds
Chemical Resistance	Automotive Chemicals
Long term aging	125°C for 3000h
Impact testing	Cold temp, 200g hammer
Vibration testing	10-500hz, 8h
Environmental testing	10 days, various humidity/temps
Flexibility	Full range bend
Flame Resistance	FMVSS302
Corrosion testing	Salt spray, various temps
Thermal Shock	144 cycles, -40°C to 100°C
Hot water jet test	IP-9K high-pressure

Application Equipment

Eurotech can provide turnkey equipment in the following categories:

- Manual station for dip or drip application
- Semi-Automated drip application
- Fully-automated dip or drip application

Packaging, Storage, Safety

- 50 and 500 gram bottles
- Shelf life of 6 months
- See Eurotech Safety Data Sheet: ETD-55 for complete safety guidelines when handling and processing BluSeal

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