

# Electrical & Electronic Systems

## Polyurethane Potting And Casting Compounds

Product	Description
<b>CONATHANE® EN-7</b>	<b>CONATHANE® EN-7 and EN-8</b> are two-component, non-MbOCA-based high, strength liquid polyurethane resin systems designed to ensure the performance of electrical/electronic assemblies exposed to severe environmental extremes.
<b>CONATHANE® EN-8</b>	<b>CONATHANE® EN-7 and EN-8</b> are two-component, non-MbOCA-based high, strength liquid polyurethane resin systems designed to ensure the performance of electrical/electronic assemblies exposed to severe environmental extremes.
<b>CONATHANE® EN-9</b>	<b>CONATHANE® EN-9</b> is a two-component, non-MbOCA, high strength liquid polyurethane potting and molding system designed to ensure the performance of electrical/electronic assemblies exposed to severe environmental extremes. Elastomers prepared from EN-9 exhibit the following outstanding properties:
<b>CONATHANE® EN-9OZR</b>	<b>CONATHANE® EN-9 OZR</b> is a two-component, ozone resistant, Non-MbOCA based, high strength liquid polyurethane potting and molding system developed specifically to replace MbOCA-based systems currently approved for use under Military Specification MIL-M-24041, including our own CONATHANE® EN-1554. Elastomers prepared from EN-9 OZR exhibit the following outstanding properties:
<b>CONATHANE® EN-11</b>	<b>CONATHANE® EN-11 and EN-12</b> are two-component, highly flexible liquid polyurethane molding and encapsulating systems, that ensure the performance of electrical/electronic assemblies exposed to severe environmental extremes. Elastomers prepared from these systems exhibit the following outstanding properties:
<b>CONATHANE® EN-12</b>	<b>CONATHANE® EN-11 and EN-12</b> are two-component, highly flexible liquid polyurethane molding and encapsulating systems, that ensure the performance of electrical/electronic assemblies exposed to severe environmental extremes. Elastomers prepared from these systems exhibit the following outstanding properties:
<b>CONATHANE® EN-13</b>	<b>CONATHANE® EN-13</b> is a non-mercury version of CONATHANE® EN-2. EN-13 is an unfilled, two-part, room temperature curing, tough, highly flexible polyurethane resin system. The system is easily processed at room temperature and cures without bubbles or pin-holes. Surfaces of castings prepared under normal ambient conditions are tack-free. Cured castings have excellent water resistance, good high and low temperature properties, and exceptional electrical properties.
<b>CONATHANE® EN-14</b>	<b>CONATHANE® EN-14</b> is a two-component, unfilled, low viscosity, fast-gelling, fast-curing, flexible polyurethane elastomer system for potting and encapsulation. EN-14 is a non-mercury version of CONATHANE® DPEN-8536. The cured system features excellent water resistance, thermal shock resistance, and electrical properties.

<b>CONATHANE® EN-1554</b>	<b>CONATHANE® EN-1554</b> is a polyether based polyurethane resin system primarily intended for use as a molding, encapsulating and potting compound for harness breakouts, watertight electrical connectors, cables, cable end seals, printed circuitry and other electrical components. The system also has utility in the casting or molding of mechanical parts and as a lining material for pumps, chutes and conveyors, where outstanding abrasion resistance is a necessity.
<b>CONATHANE® EN-1556</b>	<b>CONATHANE® EN-1556</b> is a polyether based, non-MBOCA, polyurethane resin system primarily intended for use as a molding, encapsulating, and potting compound for harness breakouts, watertight electrical connectors, cables, cable end seals, printed circuitry, and other electrical components. The system also has use in the casting or molding of mechanical parts and as a lining material for pumps, chutes, and conveyors where outstanding abrasion resistance is a necessity.
<b>CONATHANE® EN-20</b>	<b>CONATHANE® EN-20</b> is a two-component, liquid, low viscosity, low toxicity, room temperature curing polyurethane resin system. This system was formulated specifically for the potting, casting, embedding, and encapsulation of electronic circuits, components, and power devices.
<b>CONATHANE® EN-21</b>	<b>CONATHANE® EN-21</b> is a two-component, liquid, low viscosity, low toxicity, room temperature curing polyurethane resin system. This system was formulated specifically for the potting, casting, embedding, and encapsulation of electronic circuits, components, and power devices.
<b>CONATHANE® EN-2521</b>	<b>CONATHANE® EN-2521</b> is a two-part, filled polyurethane resin system. The system features good handling properties and working life. EN-2521 can be cured at room or elevated temperatures without the formation of voids. The cured compound has excellent water resistance and is exceptionally resistant to thermal shock. Other outstanding properties of this system include; low exotherm, very low stresses during cure, low shrinkage and very good electrical properties.
<b>CONATHANE® EN-2523</b>	<b>CONATHANE® EN-2523</b> is a two-part, filled polyurethane casting system. It consists of two low viscosity liquids that have low vapor pressure and good handling properties at room temperature. CONATHANE® EN-2523 can be cured at room or elevated temperatures without the formation of voids. Low exotherm, low stress build-up during cure, low shrinkage, and excellent electrical properties are other outstanding features of this system.
<b>CONATHANE® EN-2534</b>	<b>CONATHANE® EN-2534 Black</b> is a two-part, non-mercury, fast setting, filled, flexible polyurethane potting system, that consists of two low viscosity liquids that have low vapor pressure and good handling properties at room temperature. CONATHANE® EN-2534 Black can be cured at room or elevated temperatures without the formation of voids. Low exotherm, low stress build-up during cure, low shrinkage, and excellent electrical properties are other outstanding features of this system.
<b>CONATHANE® EN-2550</b>	<b>CONATHANE® EN-2550</b> is representative of an entirely new family of polyurethanes. EN-2550 is a two-part, filled polyurethane resin system

and a non-mercury version of CONATHANE® EN-2549. The system features good handling properties at room temperature, good working life, and minimum processing hazards.

**CONATHANE® EN-2551** **CONATHANE® EN-2551** is a filled two-component urethane system, designed for use as a potting and encapsulating material for electronic components where critical thermal cycling characteristics are a factor. EN-2551 has excellent electrical properties, low shrinkage, low stress buildup, and can be hand-mixed or machine dispensed.

**CONATHANE® EN-2552** **CONATHANE® EN-2552** is a filled two-component urethane system designed for use as a potting and encapsulating material for electronic components where critical thermal cycling characteristics are a factor. EN-2552 has excellent electrical properties, low shrinkage, low stress buildup, and can be hand-mixed or machine dispensed.

**CONATHANE® EN-2553** **CONATHANE® EN-2553** is a filled two-component polyurethane designed for use as a potting and encapsulating material for electronic components where critical thermal cycling characteristics are a factor. EN-2553 has excellent electrical properties, low shrinkage, low stress build-up, and can be hand mixed or machine dispensed.

**CONATHANE® EN-3010** **CONATHANE® EN-3010** is a filled, two-component polyurethane system formulated for Surface Mount Technology (SMT) applications. EN-3010 has been tested by Underwriters Laboratories to be RoHS compliant and recognized to UL 94V-0.

**CONATHANE® EN-4020** **CONATHANE® EN-4020** is a filled, flame retardant urethane system formulated casting high-voltage transformers and other electrical/electronic devices used in demanding outdoor applications. EN-4020 has been tested by Underwriters Laboratories and is recognized to UL 94V-0.

#### Low Density (Foam) Encapsulants

Product	Description
<b>CONATHANE® UF-3</b>	<b>CONATHANE® UF-3</b> is a unique polyurethane foam characterized by low vapor pressure. UF-3 is unaffected by grease, oils, and most solvents. Also, it is ozone resistant, has excellent insulation characteristics, is dimensionally stable and will not rot or mildew.

#### Flame Retardant Potting And Casting Compounds

Product	Description
<b>CONATHANE® EN-2541</b>	<b>CONATHANES® EN-2541 and EN-2543</b> are filled, flame resistant polyurethane resins, specially formulated for general purpose electrical/electronic potting, casting and encapsulation. When tested in accordance with UL-94, flame resistance ratings of 94V-O are obtained. EN-2541 and EN-2543 have excellent handling properties at room temperature. Cure can be accomplished at room or elevated temperatures.
<b>CONATHANE® EN-2543</b>	<b>CONATHANES® EN-2541 and EN-2543</b> are filled, flame resistant polyurethane resins, specially formulated for general purpose electrical/electronic potting, casting and encapsulation. When tested in

accordance with UL-94, flame resistance ratings of 94V-O are obtained. EN-2541 and EN-2543 have excellent handling properties at room temperature. Cure can be accomplished at room or elevated temperatures.

### Epoxy Potting And Casting Compounds

Product	Description
<b>CONAPOXY® FR-1046</b>	<b>CONAPOXY® FR-1046</b> is a low cost, epoxy potting and casting system. Major characteristics include: low viscosity, low shrinkage, low exotherm, excellent resistance to thermal shock, and very good electrical insulation properties. When cured with any of the hardeners presented below, a hardness of 85-90 Shore D durometer is obtained. FR-1046 is an excellent choice when automatic meter, mix, and dispensing equipment is used because of non-abrasive fillers in the resin.
<b>CONAPOXY® FR-1047</b>	<b>CONAPOXY® FR-1047</b> is an inexpensive, flame retardant, non-abrasive epoxy potting and casting system. It has excellent resistance to thermal shock, low exotherm, and good electrical properties, typified by very good arc resistance. When cured with any of the hardeners presented below, a hardness of 80-90 Shore D durometer is obtained.
<b>CONAPOXY® FR-1080</b>	<b>CONAPOXY® FR-1080</b> is a two-part high temperature epoxy potting system designed to meet Class H (180°C) operating requirements.
<b>CONAPOXY® FR-1210</b>	<b>CONAPOXY® FR-1210</b> is a filled epoxy potting casting resin. When cured with any of the hardeners listed below, systems possessing low shrinkage, low coefficient of expansion, good resistance to mechanical and thermal shock and good electrical properties are obtained. Hardness of these systems ranges from 80-90 Shore D. <b>CONAPOXY® FR-1212</b> is the Black version of <b>CONAPOXY® FR-1210</b> .
<b>CONAPOXY® FR-1273</b>	<b>CONAPOXY® FR-1273</b> is a two-component, low exotherm, long pot life epoxy potting and casting system with excellent handling properties. Because of its excellent thermal shock resistance, <b>CONAPOXY® FR-1273</b> is recommended for the encapsulation of strain sensitive devices. FR-1273 is also an excellent system for potting and encapsulating of electrical/electronic devices such as modules, transformers and coils.
<b>CONAPOXY® FR-1274</b>	<b>CONAPOXY® FR-1274</b> is a two-component, low exotherm, flame retardant, long pot life epoxy potting and casting system with excellent handling properties. Because of its excellent thermal shock resistance, <b>CONAPOXY® FR-1274</b> is recommended for the encapsulation of strain sensitive devices. FR-1274 is also an excellent system for potting and encapsulating of electrical/electronic devices such as modules, transformers and coils.
<b>CONAPOXY® FR-1610</b>	<b>CONAPOXY® FR-1610</b> with <b>CONACURE® EA-039</b> is a high performance flexible epoxy potting and encapsulating system. Flexibility has been built into the cured compound without degradation of electrical properties at elevated temperatures. It cures with minimum strain on potted components; and there is little change in hardness after aging at 155°C.
<b>CONAPOXY® FR-1612-1</b>	<b>CONAPOXY® FR-1612-1</b> with <b>CONACURE® EA-039</b> is a high performance

flexible epoxy potting and encapsulating system. Flexibility has been built into the cured compound without degradation of electrical properties at elevated temperatures. It cures with minimum strain on potted components; and there is little change in hardness after aging at 155°C.

**CONAPOXY® FR-1810**

**CONAPOXY® FR-1810** is a flexible two-component, low exotherm, flame retardant, long pot life epoxy potting and casting system with excellent handling properties. CONAPOXY FR-1810 is filled with a non-abrasive filler to reduce wear on machine metering/dispensing equipment. FR-1810 has been tested by Underwriters Laboratories to be RoHS compliant and recognized to UL 94V-0.

**CONAPOXY® FR-1820**

**CONAPOXY® FR-1820** is a two component, flame retardant, short pot life epoxy potting and casting system with excellent handling properties. CONAPOXY® FR-1820 is filled with a non abrasive filler to reduce wear on machine metering/dispensing. CONAPOXY® FR-1820 has been tested by Underwriters Laboratories to be RoHS compliant and recognized to UL 94V-0.

**CONAPOXY® FR-1830**

**CONAPOXY® FR-1830** is an ambient cure two component, low viscosity, flame retardant epoxy potting, casting and coating system with excellent handling properties. CONAPOXY® FR-1830 is filled with a non abrasive filler to reduce wear on machine metering/dispensing equipment. CONAPOXY® FR-1830 is recognized to UL 94V-0 and is RoHS compliant. Products produced using CONAPOXY®FR-1830 can be shipped into the EU; however, shipment is restricted into the European Union of uncured part A and part B.

**CONAPOXY® RN-1000**

**CONAPOXY® RN-1000** is a diluted epoxy potting and casting resin. When CONAPOXY® RN-1000 is cured with the hardeners listed below, these systems possess low shrinkage, low exotherm, good thermal shock and electrical properties, with a hardness range of 80-90 Shore D are obtained.

**CONAPOXY® RN-1200**

**CONAPOXY® RN-1200** is an undiluted, epoxy potting and casting resin. When cured with any of the hardeners presented below, these systems possess low viscosity, low shrinkage, low exotherm, excellent resistance to thermal shock, good electrical properties and hardnesses of 75-85 Shore D are obtained.