

U L RECOGNIZED

CONATHANE® EN-14
(Formerly DPEN-21028)

CONATHANE® EN-14 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.

The initial low viscosity of the system allows good penetration into fine windings. EN-14 is fully transparent and can easily be cut to remove defective components. Repairs can be made by application of more of the liquid system.

CONATHANE® EN-14 is particularly recommended for potting and encapsulating strain and heat sensitive devices in modules, connectors, and units required to operate in the temperature range of -65°C to 130°C. It also has shown utility as a conformal coating and can be applied by casting, spraying, or bushing. Airless spray equipment can be used effectively.

TYPICAL PRODUCT CHARACTERISTICS

(THESE ARE TYPICAL DATA AND ARE NOT MEANT TO SERVE AS SPECIFICATIONS)

	<u>PART A</u>	<u>PART B</u>
Viscosity @ 25°C, cps	1500	1000
Specific Gravity	1.10	0.97
Color	Amber	Amber

TYPICAL CURED PROPERTIES

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Color.....	Transparent Lt. Amber
Hardness, Shore A	65
Specific Gravity @ 25°C	1.04
Tensile Strength, psi	700
Elongation, %	110
Tear Strength, pli	35
Dielectric Strength, volts/mil	>500
Arc Resistance, sec	>120
Thermal Shock, 10 cycles, 130°C to -65°C	Passes
Linear Shrinkage (in./in.).....	0.0031
Water Absorption @ 25°C (24 Hrs./7 days), %	0.40/0.79
Dielectric Constant @ 25°C (100Hz/1MHz).....	5.71/3.42
Dissipation Factor @ 25°C (100Hz/1MHz).....	0.123/0.038
Volume Resistivity @ 25°C, ohm-cm.....	3 x 10 ¹³
Surface Resistivity @ 25°C, ohms.....	1 x 10 ¹³
Flammability.....	UL 94V-2

RECOMMENDED PROCESSING PARAMETERS

Mix Ratio by weight, Resin/Hardener	100/90
Mix Ratio by volume, Resin/Hardener	1/1
Initial Mixed Viscosity @ 25°C.....	1200 cps
Work Life @ 25°C.....	15 minutes
Gel Time @ 25°C	20 minutes
Cure @ 25°C	3-4 days
Cure @ 60°C	3 hours

Mix the two components together thoroughly, degas at 1-5mm Hg vacuum and pour into molds. The fast setting characteristics of this system make it ideal for automatic mixing and dispensing which eliminates the need for vacuuming.

The two components should be mixed thoroughly in metal or glass containers using metal or glass stirrers. Degassing of the mixed system should be accomplished at room temperature at 1-5mm Hg vacuum. Containers should be large enough to allow for frothing during

degassing. To ensure void-free castings, any material or container that could introduce moisture to the system should be avoided. Do not heat the components of the system prior to mixing.

HANDLING AND STORAGE INSTRUCTIONS

The shelf life of CONATHANE® EN-14 is 15 months from date of manufacture when stored in the original unopened containers at temperatures of 65-85°F. If containers are opened and the contents only partially used, containers should be flushed with dry nitrogen (see *CONAP® Dri-Purge*) or dry air before being resealed to prevent waste of material.

CAUTION: FOR INDUSTRIAL USE ONLY ! DO NOT TAKE INTERNALLY.

The Part A component is a toluene diisocyanate (TDI)-based prepolymer. Use only in well-ventilated areas. Avoid breathing of vapors and protect skin and eyes from contact.

Should skin contact occur with either component, wash immediately with soap and water. In case of eye contact, flush immediately with plenty of water and obtain medical attention.

Request the Material Safety Data Sheet for complete details.

COLORING

CONATHANE® EN-14 cures to a transparent light amber solid. As a convenience to those who wish to pigment these systems, Cytec supplies color concentrates in four (4) standard colors (see *CONAP® DS-1830*).

CONAP® color concentrates are available in gallon and 5-gallon containers. Pigments must be added to Part B of the system.

AVAILABILITY

CONATHANE® EN-14 is available in quart, gallon, 5-gallon, and 55-gallon units. An EVALUATION KIT is available for a nominal fee.

"CONATHANE" is a registered trademark of Cytec Industries Inc.

The information presented here is based on carefully conducted laboratory tests and is believed to be accurate. However, results cannot be guaranteed and it is suggested that customers confirm results in their own laboratory before plant tests are made. Nothing contained in this bulletin shall be construed as a recommendation to use any product or process in violation of the claims of any patent now in effect.

NOTICE: Precautionary labels and Materials Safety Data Sheet(s) for all materials referred to, whether the materials are produced by CYTEC INDUSTRIES, INC. or other manufacturers, should be fully read and understood by all supervisory personnel and employees before using. For additional safety and health information, contact CYTEC INDUSTRIES INC. Purchaser has the responsibility for determining any applicability of and compliance with federal, state, and local laws and/or regulations involving labeling, use, and waste disposal, particularly in making consumer products.