

Arathane[®] 5814 IS

Arathane[®] 5814 PO

UL[®] Recognized for Flame Resistance and UV Resistance

UL[®] Recognized Thermal Index of 130°C

General

Arathane 5814 IS with Arathane 5814 PO is a flame and UV resistant two-component polyurethane system designed for casting and potting of electrical components. Typical applications for this system include potting transformers and pressure sensitive devices. This system can be used in applications for either outdoor or indoor service and for bushing type current transformers.

Applications

No TDI or MOCA[®]
High thermal conductivity
Excellent insulation properties
Flame retardance, UL[®] Recognized by UL 94 V-0 at 6 mm
Good UV stability
UL[®] recognized insulation component with Thermal Index of 130°C by UL 1446 for twisted pair and 180°C for helical coil

Typical Properties***Arathane 5814 IS**

Appearance	Clear Brown Liquid
Specific Gravity	1.24
Viscosity @ 25°C, cPs	150 – 220
Flash point, Closed Cup, °C	> 200

Arathane 5814 PO

Appearance	Black Viscous Liquid
Specific Gravity	1.54 – 1.58
Viscosity @ 25°C, cPs	6,000 – 12,000
Flash point, Closed Cup, °C	> 150

* Typical properties are based on Huntsman's test methods. Copies are available upon request.

Packaging & Storage

The products described in this instruction sheet should be stored in a dry place and, whenever possible, in the tightly closed original containers. Store at 70-90°F. If crust has formed, product is no longer usable. This product is moisture-sensitive and packaged under a blanket of dry nitrogen. Under these conditions shelf lives will be six months from date of shipping for Arathane 5814 IS and one year for Arathane 5814 PO. Contact Customer Service for packaging information.

Mix ratios

	Parts by weight	Parts by volume
Arathane 5814 IS	18	23
Arathane 5814 PO	100	100

Processing data

(average values)

Mixed viscosity @ 25°C, cPs	6,600
Pot life @ 25°C, min	50
Gel time, 10 g sample, min	
@ 25°C	90
@ 40°C	40
Recommended cure time @ 25°C, hours	24*

*Cure schedule results in approximately 90% of final properties. Additional room temperature or elevated temperature curing is required for 100% properties.

Processing and Cure

Mix using meter-mix dispensing equipment, or manually, as follows:

Weigh the desired amount of hardener into mixing container with resin. Mix thoroughly by means of mechanical mixer or manual stirring. Be sure to scrape the side and walls of the mixing container during mixing. Check for uniform color as a sign of complete mixing.

Vacuum de-airing is recommended to remove any entrapped air from the mixing procedure. To de-air most products, 1-2 minutes under full vacuum is recommended for each quart of volume of mixed material. Quickly dispense potting material into cavity or channel to be sealed; be certain not to trap air bubbles as viscosity builds.

To reduce the cure time, the casting is often allowed to gel at room temperature and then post-cured 2-6 hours at 60-80°C. Small castings can be processed and directly cured at slightly higher temperatures (40-90°C).

**Physical Properties
(typical values)**

Specific gravity at 25°C	1.50
Hardness, Shore D	75 – 80
Tensile strength, psi	1,850
Elongation at break, %	33
Glass transition temperature, °C	30
Coefficient of thermal expansion, in/in-°C	
Alpha 1	59×10^{-6}
Alpha 2	150×10^{-6}
Water absorption, 24 hours @ 23°C, %	0.11
Thermal Conductivity, W/m-K	0.7
Flame resistance, UL 94 V0	Passes @ 6 mm

**Electrical Properties
(typical values)**

Dielectric strength, V/mil @ 2 mm	528
Dielectric constant, 60 Hz @ 25°C	4.7
Dissipation factor, 60 Hz @ 25°C	0.05
Volume resistivity	7.5×10^{13}

**Handling/Safety
Precautions**

Mandatory and recommended industrial hygiene procedures should be followed whenever our products are being handled and processed. For additional information please consult the corresponding material safety data sheets.

Arathane 5814 IS

Warning! Harmful if inhaled. Causes skin and eye irritation. Causes allergic skin and respiratory reaction. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Arathane 5814 PO

Warning! Causes eye, skin, and respiratory irritation. May cause allergic skin and respiratory reactions. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

First Aid**In case of contact:**

Eyes: Flush eyes with plenty of water for 15 minutes and get prompt medical attention.

Skin: Wash skin thoroughly with mild soap and water; remove contaminated clothing before reuse. Discard contaminated shoes and other articles made of leather.

Inhalation: Remove person to fresh air.

Ingestion: **Do not** induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

Important

The following shall supersede any provision in Buyer's forms, letters and papers. **THERE IS NO WARRANTY OR CONDITION, WHETHER EXPRESS OR IMPLIED BY ANY STATUTE OR OTHERWISE, INCLUDING WARRANTIES AND CONDITIONS OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, FOR THE PRODUCT OR PRODUCTS REFERRED TO HEREIN. TECHNICAL ADVICE FURNISHED BY THE SELLER SHALL NOT CONSTITUTE A WARRANTY OR CONDITION, STATUTORY OR OTHERWISE, WHICH IS EXPRESSLY DISCLAIMED, ALL SUCH ADVICE BEING GIVEN AND ACCEPTED AT BUYER'S RISK.** While the information contained herein is believed to be accurate, Seller makes no representations as to the reliability of the results or as to the results of Buyer or as inducements to infringe any relevant patent, now or hereafter in existence. Testing for intended use is the sole responsibility of Buyer. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended, or for uses for which implantation within the human body is intended. **UNDER NO CIRCUMSTANCES SHALL SELLER BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES FROM ALLEGED NEGLIGENCE, BREACH OF WARRANTY OR CONDITION, STRICT LIABILITY OR ANY OTHER LEGAL THEORY, ARISING OUT OF MANUFACTURE, SALE, USE OR HANDLING OF THE PRODUCT OR PRODUCTS REFERRED TO HEREIN.** The sole remedy of Buyer and the sole liability of Seller for any claims shall be limited to Buyer's purchase price of the product(s) which is the subject of the claim or the amount actually paid for such product(s), whichever is less.

Note

Arathane[®] is a registered trademark of Huntsman LLC or an affiliate thereof in one or more countries, but not all countries.

**Huntsman Advanced Materials
Americas Inc.**
281 Fields Lane
Brewster, New York 10509
(914) 785-3000
Fax: (914) 785-3472

Arathane 5814 IS
with Arathane 5814 PO
May 2004