

Advanced Materials

ARATHANE[®] CY 8877 Resin ARADUR[®] HY 8877 Hardener

ADVANCED POLYURETHANE FOR ENCAPSULATION & SEALING

Description

ARATHANE CY 8877 resin with ARADUR HY 8877 hardener is an advanced polyurethane that cures at room temperature or with heat to produce a highly flexible polymer. The system provides excellent wet out and adhesion to many substrates and a very rapid gelation and cure profile for high productivity. Typical applications for this system include potting and sealing of wire harnesses and bonding of wire bundles. It can also be used as a soft, flexible encapsulant for low-stress potting of printed circuit boards.

Applications

General potting of electronic devices especially wire bundles and wire harnesses
Encapsulation of stress-sensitive components

Features

Very low initial viscosity
100% solids, contains no mercury, TDI, or MOCA
Exceptional flexibility, tear resistance and thermal shock resistance
Rapid gelation and cure for high productivity
Excellent dielectric properties

Typical Properties

ARATHANE CY 8877

Test Values

Viscosity @ 25°C (77°F), Spindle 2 @ 10 rpm, cP	100 – 500
Specific gravity, g/cm ³	1.05 – 1.09
Flash point, °C (°F)	> 200 (392)
As supplied form	Liquid
Color	Brown

ARADUR HY 8877

Viscosity @ 25°C (77°F), Spindle 2 @ 10 rpm, cP	800 – 1,200
Specific gravity, g/cm ³	0.94 – 0.98
Flash point, °C (°F)	> 93 (200)
As supplied form	Liquid
Color	Black

Mixed

Gel time, 100g @ 25°C (77°F), min	5 – 10
Hardness, Shore A	15 – 35

* 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. Under these conditions their shelf lives will be one year from date of manufacture. Contact Customer Service for packaging information.

Processing

To reduce the cure time, the casting is often allowed to gel at room temperature and then post-cured with heat.

In case of humid environments ($\geq 75\%$ relative humidity) it is advisable to complete a full cure in an oven at 40-60°C (104-140°F) in order to prevent water absorption, leading to streaks on the surface of the castings and the possibility of bubbles due to reaction between the moisture and the resin.

Mix Ratios

	Parts by weight	Parts by volume
ARATHANE CY 8877	48	50
ARADUR HY 8877	100	100

Processing Data

(average values)

Test Values

Initial viscosity @ 25°C (77°F), cPs	550
Recommended cure time @ 25°C (77°F), hours	4 – 5
Peak Exotherm during cure at 25°C (77°F), 100 gram mass, °C (°F)	35 – 40 (95 – 104)

Physical Properties

(typical values)

Density, g/cm ³	1.03
Hardness, Shore A	15 - 35
Volume shrinkage, %	< 0.4
Elongation at break, psi	250
Tensile strength at break, psi (kg/cm ²)	
at 25°C (77°F)	180(13)
at -60°C (140°F)	285(20)
Tear Strength, lbs/inch (kg/cm)	27 (5)
Coefficient of thermal expansion by TMA, per °C	< 250 x 10 ⁻⁶
Water absorption, % by weight, 7 days at 25°C (77°F)	< 0.10
Thermal conductivity, Cal/cm.sec.°C (W/M-K)	1 x 10 ⁻⁴ (0.17)
Thermal Shock, -80°C to 130°C cycles	PASS

Electrical Properties

Volume Resistivity, ohms-cm	1.5 x 10 ¹⁴
Dielectric Strength, kV/mm	20
Dielectric Constant at 25°C (77°F) & 1 kHz	4.0
Dissipation Factor at 25°C (77°F) & 1 kHz	0.039

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 CY 8877

Warning! Harmful if inhaled. Causes skin and eye irritation. Causes allergic skin and respiratory reactions.

ARADUR HY 8877

Warning!: Causes skin and eye irritation.

First Aid!

In case of contact:

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

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

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

Inhalation: Remove person to fresh air.

Other: Referral to physician is recommended if there is any question about the seriousness of an injury

CAUTION:

Huntsman Advanced Materials Americas Inc. maintains up-to-date Material Safety Data Sheets (MSDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material. Copies of the latest MSDS may be requested by calling our customer service group at 888-564-9318 or emailing your request to electronics@huntsman.com.

**KEEP OUT OF REACH OF CHILDREN
FOR PROFESSIONAL AND INDUSTRIAL USE ONLY**

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Main Offices:
Huntsman Corporation
10003 Woodloch Forest Dr.
The Woodlands
Texas 77380
(281) 719-6000

**Huntsman Advanced Technology
Center**
8600 Gosling Rd.
The Woodlands
Texas 77381
(281) 719-7400

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