

LOCTITE EF 9890 AERO

Expanding Syntactic Film

(KNOWN AS SynSpand[®] EA 9890)

INTRODUCTION

LOCTITE EF 9890 AERO is an expanding modified epoxy film that cures @ 250°F/121°C. Commonly used for abradable seals, which require high abrasion and corrosion resistance. Additional features include expansion and low density upon cure. LOCTITE EF 9890 AERO is supplied as a continuous film of controlled areal weight and width.

FEATURES

- 250°F/121°C Cure
- Abrasion & Erosion Resistance
- Expanding, Low Density
- User Friendly Processing

Product Forms

Film Areal Weight: 0.40 ± 0.04 lbs/ft² (1.95 ± 0.2 kg/m²)
Film Widths: Standard 20 in (50.8 cm) nominal
Roll Lengths: Standard 50 feet (15.2 m)

Handling

Store @ 0°F/-18°C.

This product is in film form and is ready to use as received. Material should be removed from cold storage and allowed to warm to room temperature before removing the protective packaging. This material has protective liners on it which must be removed prior to parts assembly (see "Applying" below). The liners will always be a contrasting color from the material to allow the user easy confirmation of removal.

Application

Warranty Life - LOCTITE EF 9890 AERO requires refrigerated storage. Store @ 0°F/-18°C or below for maximum storage life. Warranted life @ 0°F/-18°C or below is 12 months. Store in sealed desiccated MIL B 131 H Class 1 Type 1 bag provided. Allow adequate time for the container to warm to room temperature before opening for use.

Applying - LOCTITE EF 9890 AERO is a pliable film with tack and drape. LOCTITE EF 9890 can be cut to any desired shape using ordinary razor knives or scissors. Razor knives using templates as guides work best. After cutting the material, you can remove the polyethylene release film by peeling them back from a corner.

Open Assembly Time - LOCTITE EF 9890 AERO must be used within the following schedule after removing from cold storage:

- @ 77°F/25°C - at least 15 days
- @ 90°F/32°C - 5 days

Curing - Cure is accomplished in 2 hours @ 250°F/121°C.

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Cleanup - Little cleanup should be required. However, uncured material may be removed effectively with ketone solvents in well ventilated areas. Saturate cloth or industrial wipes with solvent and apply just enough to do the job. Avoid contaminating uncured parts with spray or spillage. Wear respirators equipped with organic vapor cartridges, impervious rubber gloves, and safety goggles when handling solvents. Consult solvent container labels for skin and flame warnings.

Typical Mechanical Performance Properties

Typical Uncured Properties

Pliable and drapable @ 77°F/25°C

15 day working life @ 77°F/25°C

4% minimum flow at 30 psi/0.21 MPa, 250°F/121°C

Typical Cured Properties¹

Density per ASTM D792 - 25lbs/ft³ (0.40 g/cm³)

Flexural Strength per ASTM D790

Flexural Strength, psi (MPa)	Test Temperature @	
	77°F/24°C	180°F/82°C
Dry	1600 (11.0)	800 (5.5)
Wet ²	1600 (11.0)	500 (3.4)
<u>Fluid Exposures³</u>		
Skydrol	1600 (11.0)	700 (4.8)
Cleaning Reference Fluid	1600 (11.0)	600 (4.1)
Jet A Fuel	1600 (11.0)	700 (4.8)
Lubricating Fluid	1600 (11.0)	700 (4.8)
De-icing Fluid	1600 (11.0)	700 (4.8)
Flexural Modulus, ksi (MPa)		
Dry	50.0 (344.8)	28.0 (193.0)
Wet ¹	50.0 (344.8)	7.0 (48.3)

Note:

1. Specimen cure cycle was between 6°F and 9°F (3°C and 5°C)/minute heat-up, 120 ± 10 minutes @ 250°F ± 10°F (121°C ± 6°C) inside of a fixed volume cavity.
2. Immersing specimens in 75°F/24°C water for 14 days attained wet conditioning.
3. Fluid exposure specimens were immersed for 7 days @ 75°F/24°C. De-icing fluid was at 32°F/0°C.



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Handling Precautions

Do not handle or use until the Material Safety Data Sheet has been read and understood. For industrial use only.

DISPOSAL INFORMATION

Dispose of spent remover and paint residue per local, state and regional regulations. Refer to HENKEL TECHNOLOGIES MATERIAL SAFETY DATA SHEET for additional disposal information.

PRECAUTIONARY INFORMATION

General:

As with most epoxy based systems, use this product with adequate ventilation. Do not get in eyes or on skin. Avoid breathing the vapors. Wash thoroughly with soap and water after handling.

Before using this product refer to container label and HENKEL TECHNOLOGIES MATERIAL SAFETY DATA SHEET for additional precautionary, handling and first aid information.

Note

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