

3M

Scotch-Weld™

Structural Adhesive Primer

EC-3924B

Technical Data

Issue No. 3

Introduction

3M™ Scotch-Weld™ Structural Adhesive Primer EC-3924B is a sprayable or brushable corrosion inhibiting adhesive primer. It provides a high degree of protection against corrosive environments both inside and outside the bond line. Primer EC-3924B is suggested for use with 3M™ Scotch-Weld™ Bonding Films.

Advantages

- Complete wetting of the adhesive to the adherends
- Can be spray, brush, or roller applied
- Improves durability of bonded joint
- Protects cleaned surfaces
- Can be used as a corrosion resistant coating

Description

Color:	Yellow
Base:	Synthetic Resin
Net Weight:	7.4 ± 0.2 lbs/gal (0.887 ± .024 Kg/liter)
Flash Point:	6°F (-14.4°C) [TEC]
Consistency:	Thin liquid
Solids Content:	6 ± 1.0%

General

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Application

A thoroughly cleaned, dry, grease free surface is essential for maximum performance. Cleaning methods which will produce a break-free water film on metal surfaces are generally satisfactory. Surface preparations should be fully evaluated with the adhesive primer, especially if resistance to specific environments are anticipated.

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Surface Application

Suggested Cleaning Procedure for Aluminum

1. Alkaline Degrease – Oakite 164 solution (9-11 oz./gallon of water) at 180-200°F (82-93°C) for 10-20 minutes. Rinse immediately in large quantities of cold running water.
2. Optimized FPL Etch Solution (1 liter):

<u>Material</u>	<u>Amount</u>
Distilled Water	700 ml plus balance of liter (see below)
Sodium Dichromate	28 to 67.3 grams
Sulfuric Acid	287.9 to 310.0 grams
Aluminum Chips	1.5 grams/liter of mixed solution

To prepare 1 liter of this solution, dissolve sodium dichromate in 700 ml of distilled water. Add sulfuric acid and mix well. Add additional distilled water to fill to 1 liter. Heat mixed solution to 66 to 71°C (150 to 160°F). Dissolve 1.5 grams of 2024 bare aluminum chips per liter of mixed solution. Gentle agitation will help aluminum dissolve in about 24 hours.

To FPL etch panels, place them in the above solution at 150 to 160°F (66 to 71°C) for 12 to 15 minutes.

3. Rinse – Rinse panels in clear running water.
4. Dry – Air dry 15 minutes; Force dry 10 minutes (minimum) at 140°F (60°C) maximum.
5. It is advisable to coat the freshly cleaned surfaces with Primer EC-3924B within 4 hours after surface preparation.
6. Care should be taken to avoid contaminating the cleaned aluminum by any substance which will hinder the wetting action of Primer EC-3924B.

Note: Read and follow component suppliers environmental safety and health recommendations prior to preparing the etch solution.

Surface Preparation

Scotch-Weld EC-3924B has been designed for spray, brush or roller application. Prior to use Scotch-Weld EC-3924B must be warmed to ambient temperature and thoroughly agitated to redisperse the pigment which settles upon storage. Agitation of small containers on a paint shaker for approximately 5 minutes is suggested. Agitation should also be provided during application. If product is sprayed, use functioning spray booth.

Primer Application:

The following spray procedure is suggested to obtain optimum results. Stir well before using.

Spray Gun	Binks No. 62 Siphon Feed	DeVilbiss JGHV-530
Air Cap	66S	46MP
Fluid Tip and Needle	66-365	FX (.042") or FF (.055")
Line Pressure	30-35 psi (206.7-241.2 MPa)	50 psi
Cup Pressure	O, (Siphon Feed)	10 psi (Cap Pressure)
Fan Adjustment		Wide Open
Fluid Adjustment		One turn open
Distance from Panel	6-9 inches (152.4-228.6 mm)	6-8 inches (152.4-203.2 mm)
Primer Thickness		(Inside Bond Line 0.05-.15 mils [1.27-3.81 µm]) (Outside Bond Line 0.05-.3 mils [1.27-7.62 µm])

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Surface Preparation (continued)

Primer Cleanup:

Excess primer and equipment may be cleaned up prior to curing with ketone* type solvents.

Primer Dry and Cure

Primer Bake Cycle (cure) 30 minutes at 75°F (24°C) followed by
60 minutes at 250°F ± 10°F (121°C ± 5.6°C).

Scotch-Weld EC-3924B has been used successfully with a two hour air dry at room temperature. Air dry must then be co-cured with the adhesive cure cycle.

For optimum long term adhesive bond durability, the use of the primer bake cycle is suggested. The primed surface should be protected from contamination introduced by dust, fingerprints, and oil.

Components primed with Scotch-Weld EC-3924B, which require storage prior to adhesive bonding, should be wrapped in unplasticized Kraft paper. If the primed surface is contaminated with dust, it may be cleaned prior to bonding by wiping with clean unsized cheesecloth moistened with methyl ethyl ketone.*

***Note:** When using solvents, extinguish all ignition sources and follow the manufacturer's precautions and directions for use.

Storage

Store new shipments behind older lots. Scotch-Weld EC-3924B must be shipped or stored at 0°F (-18°C) or lower. Rotate stock on a "first-in – first out" basis.

3M Standard Shelf Life for Scotch-Weld EC-3924B primer is 6 months from date of shipment from 3M when stored at 0°F (-18°C) or below and stored in its original unopened container.

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Precautionary Information

See Product Label and Material Safety Data Sheet for health and safety information before using this product. For additional health and safety information call 1-800-364-3577 or 651-737-6501.

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free (800) 235-2376. Our fax number is (417) 869-5219. Address correspondence to: 3M Aerospace Central, 3211 E. Chestnut Expressway, Springfield, MO 65802.

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This Adhesives Division product was manufactured under a 3M quality system registered to ISO 9002 standards.

For Additional Product Safety and Health Information, See Material Safety Data Sheet, or call:



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