

# BONDERITE S-FN 334 ACHESON DRYFILM COATING (KNOWN AS EMRALON 334)

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**DESCRIPTION**

**BONDERITE S-FN 334 ACHESON (known as EMRALON 334)** is one of a series of Acheson resin bonded lubricant coatings designed to provide dry film lubrication and release properties in a variety of industrial and consumer applications.

**BONDERITE S-FN 334 ACHESON (known as EMRALON 334)** consists of a fluoropolymer lubricant dispersed in an organic resin and solvent system. Its superior physical properties, 500°F (260°C) service temperature capabilities, and excellent salt spray resistance make it particularly suitable for the lubricant coating of automotive components. This coating's low coefficients of static and dynamic friction offer significant advantages for carburetor parts; where elimination of stick-slip motion is a major factor in achieving good fuel economy.

**TYPICAL  
APPLICATIONS**

- Carburetor Shafts
- Carburetor links and levers
- Business machine parts
- Paper handling equipment
- Domestic appliance components
- Coil coating

**TYPICAL  
PROPERTIES  
(as supplied)**

Lubricant:	fluoropolymer
Binder:	polyamide-imide resin
Consistency:	liquid
Density:	9.4 lb/gal (1.128 kg/l)
Color:	black
Diluent:	BONDERITE L-FG SB-3 ACHESON (known as SB-3)
Flash point:	130°F (54°C)
Theoretical coverage:	300 sq ft/gal @ 0.001 inch (7.4 sq meters/liter @ 25.4 µm)
Solids content by weight:	30%
VOC:	6.6 lb/gal (790 g/l)

**TYPICAL  
PROPERTIES  
(as cured)**

Color:	black
Coefficient of friction:	0.07 (static); 0.08 (kinetic)
Service temperature	
continuous:	400°-450°F (204°-232°C)
intermittent:	500°F (260°C)
Hartman Wear Test*:	280,000 cycles (180 lb test load)
Taber Abrasion Test (CS-10 Wheel):	weight loss, 25.3 mg/1000 cycles
Humidity Test*:	98% humidity at 120°F (49°C)
for 500+ hours	
Salt Spray* ASTM B117-64:	500+ hours at 5% concentration

\*over phosphated steel substrate at 1.0 mil (25.4 microns) dry film thickness



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**TYPICAL PROPERTIES**

(as cured)  
(continued)

**Solvent and Chemical Resistance**

<b>Chemical</b>	<b>Concentration</b>	<b>Resistance</b>	
Hydrochloric Acid	35%	Excellent	
Sodium Hydroxide	50%	Very Good	
Nitric Acid	35%	Good	
Sulfuric Acid	80%	Excellent	
Methyl Ethyl Ketone	100%	Excellent	
Methylene Chloride	100%	Excellent	
Xylene	100%	Excellent	
Sodium Chloride	100%	Excellent	

(Exposure: 168 hours at room temperature)

**Note:** The information in the table above is given only to illustrate the excellent chemical and solvent resistance of this coating. It is recommended that test panels be coated and evaluated in the actual corrosive environment of the application prior to use.

**APPLICATION DETAILS****Surface Preparation**

Substrates must be dry and free of contaminants (dirt, grease, powder, other residues) before application of **BONDERITE S-FN 334 ACHESON (known as EMRALON 334)**. Excellent results can be obtained without pretreatment. However, for maximum wear characteristics, the following pretreatments are recommended: heat stable phosphate coating\* or grit blasting for steel; grit blasting or heat stable conversion coating for aluminum.

\*Detrex Chemical Company, Redford, Michigan; Henkel Corporation, Madison Heights, Michigan; and others.

**Mixing**

**BONDERITE S-FN 334 ACHESON (known as EMRALON 334)** is supplied ready for use, but it should be mixed thoroughly by stirring. For best results, use a low-speed propeller type mixer. Do not vortex or agitate violently, as air entrapment or foaming may cause separation of solids.

**Application**

**BONDERITE S-FN 334 ACHESON (known as EMRALON 334)** is normally spray applied. An external atomizing type gun using a MBC #30 nozzle is recommended. Optimum coating thickness is 0.001 inch (25.4 μm). USE ONLY ACHESON SB-3 SOLVENT FOR CLEANUP. Incompatible solvents will cause gun blockage.

**Overcoating**

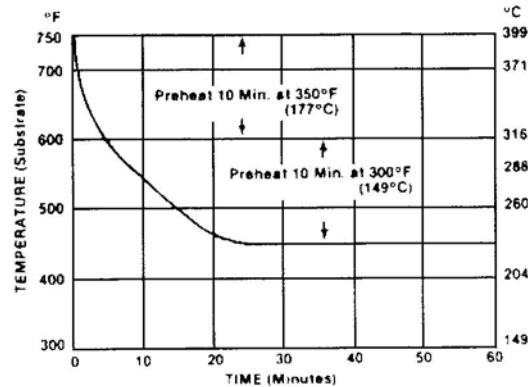
**BONDERITE S-FN 334 ACHESON (known as EMRALON 334)** can be overcoated for repair purposes without removing the entire original film. Sand lightly or use steel wool to feather the edges of the area to be repaired. Light abrasion of the surrounding areas is also recommended for maximum adhesion. Then apply **BONDERITE S-FN 334 ACHESON (known as EMRALON 334)**, using the same spray procedure as for the initial application. Follow the standard cure cycle as stated on this product data sheet.



## BONDERITE S-FN 334 ACHESON DRYFILM COATING (KNOWN AS EMRALON 334)

### Curing

**BONDERITE S-FN 334 ACHESON (known as EMRALON 334)** may be cured by exposure to any of the time/temperature conditions indicated on the following graph:



It is essential that the high boiling solvents in **BONDERITE S-FN 334 ACHESON (known as EMRALON 334)** be removed gradually before the cure is completed or the coating will be marred by blisters. Remove the solvent gradually by preheating the coating for ten minutes at 300°F (149°C) or 350°F (177°C) before curing, as indicated.

For example, typical cure cycles are:

PREHEAT	then	CURE
SUBSTRATE TEMP/TIME		SUBSTRATE TEMP/TIME
(a) 300°F (149°C)/10 min.		500°F (260°C)/15 min.
(b) 300°F (149°C)/10 min.		550°F (288°C)/9 min.
(c) 300°F (149°C)/10 min.		600°F (316°C)/5 min.
(d) 350°F (177°C)/10 min.		700°F (371°C)/1 min.
(e) 350°F (177°C)/10 min.		750°F (399°C)/1/2 min.

For optimum properties, cure at 500°F (260°C) or above.

The properties listed in this data sheet were measured on coatings cured at conditions (c) above.

### STORAGE/SHIPPING/HANDLING

Shelf life for this product is 2 years from date of qualification under original seal at 75°F (24°C). Prolonged storage of **BONDERITE S-FN 334 ACHESON (known as EMRALON 334)** at temperatures higher than 80°F (27°C) is not recommended. Keep container tightly closed when not in use. Store in a cool, well ventilated area. Keep away from heat, sparks, and open flame. Protect material from direct sunlight. Ground and bond containers when transferring materials. Empty containers may retain hazardous properties. Follow all MSDS/label warnings even after container is emptied.



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### APPLICATION ASSISTANCE

Henkel's Application Specialists are available to assist you in production start-up with **BONDERITE S-FN 334 ACHESON (known as EMRALON 334)**.

### HEALTH & SAFETY

**Flammable.** Harmful if swallowed, inhaled, or absorbed through skin. May cause eye irritation. Wash thoroughly after handling. Keep away from heat, sparks, and open flame. Keep container tightly closed when not in use. Use with adequate ventilation. Avoid breathing vapor, product contains fluorocarbon resin. Vapors may be hazardous when product is heated in excess of 600°F (315°C). Avoid contamination of cigarettes and other substances which may be burned and the resulting gases inhaled. See Henkel's Material Safety Data Sheet for proper first aid instructions.

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