

BONDERITE S-FN 310 ACHESON

DRY FILM COATING

(KNOWN AS EMRALON 310))

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DESCRIPTION

Bonderite S-FN 310 Acheson (Known As Emralon 310) is a phenolic resin-bonded PTFE coating and lubricant which has excellent surface adhesion and provides low coefficient of friction, corrosion resistance and good release properties. Easily applied to materials such as wood, metal, rubber and plastics; coatings of **Bonderite S-FN 310 Acheson (Known As Emralon 310)** have a longer wear life than pure PTFE coatings and can be applied with a more uniform thickness. The low temperature cure (300°F/149°C) of **Bonderite S-FN 310 Acheson (Known As Emralon 310)** allows use in many applications where conventional PTFE coatings cannot even be considered.

TYPICAL PROPERTIES

Package:	2 components ready for mixing
(typical) Color:	light green (cured)
Density:	as applied, 8.2 lb/gal
"A" component:	13.0 lb/gal
"B" component:	7.5 lb/gal
Consistency:	liquid
Service temperature:	350°F (177°C)
Intermittent temperature:	400°F (204°C)
Flash point:	46°F (9°C)

APPLICATION DETAILS

Coating Properties

The friction coefficient (static) of the coating, as applied, will be between 0.05-0.07. The coating is moderately resistant to many inorganic corrosives such as sulfuric acid and sodium hydroxide, but contact with organic solvents such as alcohols, esters and ketones should be avoided. Temperatures in excess of 400°F (204°C) should also be avoided.

Surface Preparation

Prior to the application of **Bonderite S-FN 310 Acheson (Known As Emralon 310)**, substrate should be dry and free from contaminants and residues such as dirt, grease or powder. For critical applications requiring optimum results, refer to the following methods of pretreatment:

Wood:	Roughen smooth surfaces, wipe clean.
Steel:	Degrease, sandblast and/or phosphate coat.
Stainless Steel:	Degrease, sandblast and/or "Bonderite" 70.
Aluminum:	Degrease, sandblast and/or anodize or "Bonderite."
Copper Alloys:	Degrease, sandblast and/or acid etch or chromate.
Rubber; Plastics:	Clean with solvent that will not affect substrate.



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Mixing

Bonderite S-FN 310 Acheson (Known As Emralon 310) is supplied as a two-package system to be mixed at the point of use. The white "A" Component should be added slowly to the "B" Component with continuous, thorough agitation by a propeller-type mixer or equivalent. The rate of addition and agitation should be such that the "A" Component does not build up as a layer on the bottom of the container. The resulting mixture should be a smooth dispersion. Avoid violent or prolonged agitation which may cause curdling. The mixture is then ready for use although it should be periodically agitated gently if left standing for an extended period. *Only enough for immediate use should be mixed.* If smaller amounts of mix are needed, 22 parts by weight of the white "A" Component should be used for every 100 parts by weight of the blue "B" Component. After mixing, the pot life of **Bonderite S-FN 310 Acheson (Known As Emralon 310)** is 24 hours.

Application

Bonderite S-FN 310 Acheson (Known As Emralon 310) must be applied using spray techniques. It is preferable to use a spray gun of the external-atomizing type with air pressures of 35 to 50 psi. For optimum lubricity, it is recommended that the coating thickness be between 0.2 to 0.7 mils, approximately 4-6 passes with spray. Through experience, this thickness can be obtained quite consistently by observation of color density. For flexible substrates, thin coatings have less tendency to craze. If a very heavy coating should be desired, it is preferable to make multiple passes, with air-drying between passes, rather than to attempt to make one very heavy pass. When properly applied, the coating will be continuous and smooth. It should be allowed to air-dry to touch before curing.

Electrostatic spray methods can be employed to reduce the amount of overspray should this become a problem. The product cannot be dipped or brushed, however, since such techniques cause the pigment to agglomerate. Spray gun cleaning is most easily accomplished with acetone or MIBK. *Be sure to avoid contaminating Emralon® 310 with these solvents.*

Cure

Coatings of **Bonderite S-FN 310 Acheson (Known As Emralon 310)** should be allowed to dry to the touch (generally 5-10 minutes) prior to being placed in the curing oven. The drying time can be decreased by a slight warming as with a heat lamp. Care should be exercised in warming the "wet" coating, for heat applied too rapidly could cause blistering of the coating.

The most popular curing cycles for **Bonderite S-FN 310 Acheson (Known As Emralon 310)** are based on an average coating thickness of 0.0003 inch, cured in an air circulating oven.

1. 60 minutes @ 300°F (149°C)
2. 10 minutes @ 350°F (177°C)
3. 8 minutes @ 400°F (204°C)
4. 4 minutes @ 500°F (260°C)

Many other curing cycles within these ranges are feasible and it is suggested that experimentation be conducted on a small scale prior to any deviation from the above.

Caution should be observed in the higher temperature, shorter time periods since larger parts, such as lawn mower housings, may not heat up fast enough in an oven at 4 minutes @ 500°F (260°C) . . . or the oven may not come up to the proper curing temperature (once opened and the coated item inserted) rapidly enough. Suggest affixing a temperature measuring instrument directly to the surface on large parts.



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STORAGE/SHIPPING/HANDLING

Shelf life for this product is 12 months for Part A and 24 months for Part B from date of qualification under original seal. Keep from freezing. Keep container tightly closed when not in use. Store in a cool, well ventilated area. Empty containers may retain hazardous properties. Follow all MSDS/label warnings even after container is emptied.

APPLICATION ASSISTANCE

Henkel's **Application Specialists** are available to assist you in production start-up with **Bonderite S-FN 310 Acheson (Known As Emralon 310)**. For more information, contact Henkel, (866) 332-7024, or visit our website at www.henkelna.com/metals for the Henkel global location nearest you.

HEALTH & SAFETY

Customary safeguards employed in storing, handling and applying flammable materials of this type should be used. Spraying should be done in an adequately ventilated booth. The curing oven room or area should also be ventilated. PTFE decomposes at a slow rate above 400°F (204°C) and evolves small amounts of toxic vapors. It would be good practice to avoid contamination of cigarettes and other substances which may be burned and the resulting gases inhaled. Prolonged storage of **Bonderite S-FN 310 Acheson (Known As Emralon 310)** components at temperatures higher than 80°F (27°C) is not recommended. The "A" Component should not be permitted to freeze, although refrigerated storage at 40°-50°F (4°-10°C) will extend shelf life. Harmful if swallowed, inhaled, or absorbed through skin. May cause eye irritation. Wash thoroughly after handling. Keep container tightly closed when not in use. Use with adequate ventilation. Avoid breathing vapor. See Henkel's Material Safety Data Sheet for proper first aid instructions.

NOTE

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