Technical Process Bulletin

BONDERITE S-FN TM-001A
FUNCTIONAL COATING
(KNOWN AS EMRALON TM-001A)

Issued 7/16/2013

DESCRIPTION

BONDERITE S-FN TM-001A (known as EMRALON TM-001A) is one of a series of Henkel resin-bonded coatings designed to provide dry film lubrication and release in a variety of industrial and consumer applications. A flexible, water-based coating specially designed for flexible substrates, **BONDERITE S-FN TM-001A (known as EMRALON TM-001A)** is a resin-bonded PTFE lubricant that prevents binding, seizing, sticking, and tearing of rubber and plastic parts during production and assembly. **BONDERITE S-FN TM-001A (known as EMRALON TM-001A)** provides a clean dry film that protects substrates from oil, alcohol, gasoline, some inorganic acids, abrasive substances, dirt, and contaminants for longer wear life and reduced maintenance. **BONDERITE S-FN TM-001A (known as EMRALON TM-001A)** is an ideal low-friction coating for substrates where operational flexibility is a major consideration. **BONDERITE S-FN TM-001A (known as EMRALON TM-001A)** can easily be tinted with a variety of color pigments for easy identification of parts.

FEATURES

- Water based coating
- Remains flexible over a wide range of temperatures
- Good release properties with a low coefficient of friction
- Consistent and uniform dip spin or spray application performance

BENEFITS

- Environmentally and people friendly resulting in compliance and worker satisfaction
- Application for a variety of environmental performance requirements
- Ability to meet lubrication and assembly requirements for the component and application
- Versatile application techniques to minimize operation costs for application

TYPICAL APPLICATIONS

- Rubber o-rings
- Flexible diaphragms
- Valve seals
- Fiber bearings
- Leather washers
- Elastomeric gaskets

TYPICAL PROPERTIES (of wet product)		
	Color:	translucent
	Pigment:	PTFE
	Binder:	thermoset
	Carrier:	water
	Diluent:	water
	Consistency:	liquid
	Viscosity:	35 mPa·s
	Density:	1.07 kg/l (8.9 lb/gal)
	Solids content by weight:	20%
	Flash point:	none, contains water
	VOC:	41.0 g/l (0.30 lb/gal)
	Theoretical coverage:	4.94 m^2/kg @ 25μm (215 ft^2/gal) @ 1 mil) dry film thickness

TYPICAL PROPERTIES		
	Color:	translucent

BONDERITE S-FN TM-001A
FUNCTIONAL COATING
(KNOWN AS EMRALON TM-001A)

(as cured)	Coefficient of friction:	0.08 – 0.10 static
	Service temperature -continuous:	149°C (300°F)

METHOD OF USE

Surface Preparation
All substrates should be clean, dry, and free of contaminants such as dirt, grease, or powder. To ensure maximum adhesion, clean the parts chemically with methanol, acetone or other suitable solvent. If large amounts of powder or parting agent are encountered on molded parts, ultrasonic cleaning is recommended. Air dry all parts after chemical cleaning. A pre-bake can be used to drive off entrapped solvents. Rubber compounds should be tested for solvent compatibility, since prolonged contact with some solvents will cause swelling.

Mixing
Do not paint or shake as foaming will occur. Use low propeller mixing for uniformity.

Application
To obtain the most uniform coating, **BONDERITE S-FN TM-001A (known as EMRALON TM-001A)** should be applied by spray techniques to a thickness of 0.0002-0.0006 inches (0.005-0.015 millimeters), using two to four passes. A very thin initial spraying pass is recommended to increase wetting ability of the product and to permit enough drying to avoid runs. **BONDERITE S-FN TM-001A (known as EMRALON TM-001A)** may also be applied by brush or dip methods. Spills are easily cleaned up with water.

Curing
For optimum coating and lubrication performance, a curing cycle of 30 minutes at 150°C (300°F) is recommended using either a circulating oven or use of infrared lamps. A longer time, lower temperature cycle will not produce an equivalent cure. There is no pronounced color change to determine when curing is complete, but the glossy appearance and slight tackiness of an air-dried coating becomes dull and velvety when cured. Coatings of **BONDERITE S-FN TM-001A (known as EMRALON TM-001A)** may be air dried in some applications, such as gaskets or when coatings are applied to a hot surface, but lubricating and physical properties will be reduced.

STORAGE/ HANDLING

Shelf life for this product is 12 months from date of qualification under original seal. **BONDERITE S-FN TM-001A (known as EMRALON TM-001A)** should not come in contact with ketones. Prolonged storage of **BONDERITE S-FN TM-001A (known as EMRALON TM-001A)** at temperatures above 27°C (80°F) is not recommended, and under no circumstances should the product be allowed to freeze. Refrigerated storage at 5°-10°C (40°-50°F) will extend shelf life. Keep container tightly closed when not in use. Spraying should be done in an adequately ventilated booth. The curing oven room or area should also be ventilated. 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 TM-001A (known as EMRALON TM-001A)**. Visit our website www.henkelna.com/metals for more information and for the Henkel global location nearest you.

HEALTH & SAFETY

See separate Material Safety Data Sheet for health and safety details.

Henkel Corporation | 32100 Stephenson Highway | Madison Heights, MI 48071
PHONE: (248) 583-9300 | FAX: (248) 583-2976 | www.henkelna.com/