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CE SERIES STAINLESS

Product Manual and Specifications

**STEEL PLUS CE SERIES-316
STAINLESS STEEL EPOXY**

10-808A Stainless Steel Gray

DESCRIPTION	2 to 1 mix Stainless Steel Pigmented Water Base Epoxy (see page 3 for available sizes)
USES	A tough, heavy duty, extremely chemical resistant epoxy Designed for maximum performance in severe environments.
APPEARANCE	Semi Gloss Stainless Steel Gray
RECOMMENDED PRIMERS	Steel Plus Epoxy Primer 30-0850 gray, Prime Solution 5250 Red / 5253 Gray

PHYSICAL PROPERTIES

WEIGHT PER GALLON	9.2 lbs.
SOLIDS BY WEIGHT	40.2%
SOLIDS BY VOLUME	33.5%
RECOMMENDED DFT	2.5 mils
INDUCTION TIME	NONE
WET FILM TO ACHIEVE DFT	7 to 8 mils
THEORETICAL COVERAGE	
@ 1 Mil DFT	536 sq. ft./gallon
PRACTICAL COVERAGE	185 sq. ft./gallon
@ RECOMMENDED DFT	
(Assumes 15% material loss)	
DRY TIMES @ 70°F - 80°F Tack Free	1 hour
(21° - 27°C) AND 50% RH Handle	2-4 hours
	Recoat 2 hours
	Fully Cured 7 days (rate can be accelerated)
	Heat cure @ 175°F for 30 minutes
POT LIFE	4 hours with no reduction of gloss
DRY HEAT RESISTANCE	300° F
SHELF LIFE	2 years
PACKAGING	See page 3

SURFACE PREPARATION

All Surfaces: Remove all dirt, grease, oil, salt and chemical contaminants by washing the surface with BC-4000 cleaner or other suitable cleaner. Thoroughly cured old coatings or new smooth metal may require scuff sanding for maximum adhesion.

Severe exposures:	Abrasive blast to SSPC-SP-10 near white blast before priming
Moderate exposures:	Abrasive blast to SSPC-SP-6 commercial blast before priming

APPLICATION Apply only when air and surface temperatures are between 50°F and 100°F and surface temperature is at least 5°F above the dew point.

THINNING

ROLLER/BRUSH Use as mixed. Thin with water as needed.

AIR-ATOMIZED SPRAY Thin 10% with water if needed.

AIRLESS SPRAY Normally not needed.

CLEANUP Soap and water.

EQUIPMENT RECOMMENDATIONS

BRUSH Quality synthetic bristle brush

ROLLER Use good quality roller cover.

AIR ATOMIZED SPRAY Follow equipment manufacturers nozzle and needle selection recommendation for use with medium viscosity paints. Spray at 45-60 PSI.

AIRLESS SPRAY 1800 - 2400 psi with a .017 to .021 tip.

HOT SPRAY 120°F

SAFETY INFORMATION

VOC 189g/l or 1.58 # per gallon

FLASH POINT N/A

WARNING

California Prop. 65 warning: Detectable amounts of chemicals known to the State of California to cause cancer, birth defects or other reproductive harm, may be found in this product or its vapors.

For specific information refer to the **Material Safety Data Sheet**.

FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN

PRODUCT ORDERING INFORMATION:

	<u>Product Number</u>	<u>Size</u>	<u>Wt./Case</u>	<u>Case Quantity</u>
Stainless Gray	10-808A-F4	Quart	15	6
Stainless Gray	10-808A-F1	Gallon	38	4
Stainless Gray	10-808A-F5	5 Gallon	50	1

BURKE INDUSTRIAL COATINGS

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Customer Service (800) 348-3245

10-808A Steel Plus CE 316 Epoxy and activator 16-Cure

GALLONS (2 to 1 Mix)							Total Liquid Gallons
Qty	10-808A		Qty	16-Cure	Qty	16-Cure	
1	F1		2	F4			1 1/2
2	F1		1	F1			3
3	F1		1	F1	2	F4	4 1/2
4	F1		2	F1			6
5	F1		2	F1	2	F4	7 1/2
6	F1		3	F1			9
7	F1		3	F1	2	F4	10 1/2
8	F1		4	F1			12
9	F1		4	F1	2	F4	13 1/2
10	F1		5	F1			15

QUARTS (2 to 1 Mix)							Total Liquid Quarts
Qty	10-808A		Qty	16-Cure	Qty	16-Cure	
1							
2	F4		1	F4			3
3							
4	F4		2	F4			6
5							
6	F4		3	F4			9

5 GALLON PAILS (2 to 1 Mix)								Total Liquid Gallons
Qty	10-808A		Qty	16-Cure	Qty	16-Cure	Qty	
1	F5		2	F1	2	F4		7 1/2
2	F5		1	F5				15
3	F5		1	F5	2	F1	2	22 1/2
4	F5		2	F5				30
5	F5		2	F5	2	F4		37 1/2
6	F5		3	F5				45
7	F5		3	F5	2	F1	2	52 1/2
8	F5		4	F5				60
9	F5		4	F5	2	F4		67 1/2
10	F5		5	F5				75

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Steel Plus CE Series-316 Epoxy
PRODUCT CODE: 10-808A-XX

HMIS CODES H F R P
1 0 0 F

SECTION I - MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME: BURKE INDUSTRIAL COATINGS
ADDRESS: 600 S. 74th Place, Suite 108, Ridgefield, WA 98642
EMERGENCY PHONE: (800)255-3924 **INFORMATION PHONE:** (360)887-8819
(CHEM-TEL)
EFFECTIVE DATE: 4-9-08 **NAME OF PREPARER:** DARRELL BADERTSCHER

SECTION II - HAZARDOUS INGREDIENTS SARA III INFORMATION

HAZARDOUS COMPONENTS	CAS NUMBER	VAPOR PRESSURE mm HG @ TEMP	WEIGHT PERCENT
DIACETONE ALCOHOL OSHA PEL: 50ppm, ACGIH 50ppm, NIOSH: 50ppm		<1MM 20°C	1

*** No toxic chemical (s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372 are present.***
No information available.

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING RANGE: ESTIMATED 212 F **SPECIFIC GRAVITY (H20=1):** 1.1
VAPOR DENSITY: LIGHTER THAN AIR **EVAPORATION RATE:** SLOWER THAN ETHER
COATING V.O.C.: 1.54 LB/GL MIXED
SOLUBILITY IN WATER: SOLUBLE
APPEARANCE AND ODOR: OPAQUE COATING, SWEET SMELL

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A **METHOD USED:** CLOSED CUP
FLAMMABLE LIMITS IN AIR BY VOLUME- **LOWER:** 1.8% **UPPER:** 6.9%

EXTINGUISHING MEDIA: FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER FOG

SPECIAL FIREFIGHTING PROCEDURES

USE FULL PROTECTIVE EQUIPMENT INCLUDING SELF-CONTAINED BREATHING APPARATUS TO PROTECT FIREFIGHTERS FROM HAZARDOUS COMBUSTION PRODUCTS. WATER MAY BE USED TO COOL CONTAINERS TO PREVENT EXPLOSION OF LIDS FROM PRESSURE BUILD-UP.

UNUSUAL FIRE AND EXPLOSION HAZARDS

CLOSED CONTAINERS MAY EXPLODE DUE TO BUILD UP OF STEAM WHEN EXPOSED TO EXTREME HEAT.

SECTION V - REACTIVITY DATA**STABILITY: STABLE****CONDITIONS TO AVOID N/A****INCOMPATIBILITY (MATERIALS TO AVOID): AVOID STRONG OXIDIZING AGENTS****HAZARDOUS DECOMPOSITION OR BYPRODUCTS: POSSIBLE OXIDES OF CARBON AND NITROGEN****HAZARDOUS POLYMERIZATION: WILL NOT OCCUR**

SECTION VI - HEALTH HAZARD DATA**INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE****INHALATION OF VAPOR OR MIST CAN CAUSE THE FOLLOW: HEADACHE; NAUSEA; IRRITATION OF NOSE, THROAT AND LUNGS.****SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE****DIRECT CONTACT WITH MATERIAL MAY CAUSE THE FOLLOWING: SLIGHT IRRITATION.****SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE****PROLONGED OR REPEATED SKIN CONTACT CAN CAUSE THE FOLLOWING: SLIGHT SKIN IRRITATION.****INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE****WHILE THIS MATERIAL HAS A LOW DEGREE OF TOXICITY, INGESTION OF EXCESSIVE QUANTITIES MAY CAUSE IRRITATION OF THE DIGESTIVE TRACT.****HEALTH HAZARDS (ACUTE AND CHRONIC)****INGESTION AND SKIN ABSORPTION: NO EVIDENCE OF ADVERSE EFFECTS FROM AVAILABLE INFORMATION. INHALATION: MAY BE IRRITATING TO MUCOUS MEMBRANES, RESPIRATORY TRACT, AND MAY PRODUCE SYMPTOMS OF HEADACHE OR NAUSEA IN POORLY VENTILATED AREAS. PROLONGED SKIN CONTACT MAY CAUSE REDDENING OF THE SKIN. DIRECT EYE CONTACT MAY CAUSE EYE IRRITATION.****CARCINOGENICITY: NTP: NO IARC MONOGRAPHS: NO OSHA REGULATED: NO****THIS MATERIAL HAS NOT BEEN IDENTIFIED AS A CARCINOGEN BY NTP, IARC OR OSHA.****MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE****PRE-EXISTING LUNG CONDITIONS MAY BE AGGRAVATED BY EXPOSURE TO THIS MATERIAL.****EMERGENCY AND FIRST AID PROCEDURES****SWALLOWING: NO HARMFUL EFFECTS EXPECTED. INHALATION: NO EMERGENCY CARE ANTICIPATED. EYES AND SKIN: IMMEDIATELY FLUSH EYES WITH WATER UNTIL WATER IS NO LONGER CLOUDY. WASH SKIN WITH SOAP AND WATER UNTIL WATER IS NO LONGER CLOUDY. IF CLOTHING IS SOAKED, REMOVE AND WASH BEFORE REUSE. TOXICOLOGY STUDIES OF SIMILAR MATERIALS HAVE SHOWN VERY LOW ACUTE TOXICITY. THERE IS NO SPECIFIC ANTIDOTE. TREATMENT OF OVER EXPOSURE SHOULD BE DIRECTED AT THE CONTROL OF SYMPTOMS AND THE CLINICAL CONDITION.**

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

RESTRICT AREA TO ONLY THOSE PERSONNEL NEEDED. MAJOR SPILLS SHOULD BE COLLECTED FOR DISPOSAL. MINOR SPILLS MAY BE FLUSHED INTO SEWER IF PERMITTED BY STATE, FEDERAL AND LOCAL REGULATIONS.

WASTE DISPOSAL METHOD

INCINERATE OR BURY IN SUITABLE LANDFILL WHERE PERMITTED BY APPROPRIATE GOVERNMENT REGULATIONS.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

KEEP CONTAINERS COOL AND DRY. USE AND STORE THIS PRODUCT WITH ADEQUATE VENTILATION. KEEP PRODUCT CONTAINERS CLOSED WHEN NOT IN USE. AVOID SUBJECTING THIS PRODUCT TO EXTREME TEMPERATURE VARIATIONS AND FREEZING.

OTHER PRECAUTIONS

DO NOT STORE BELOW 40 DEGREES FAHRENHEIT.

SECTION VIII - CONTROL MEASURES**RESPIRATORY PROTECTION**

RESPIRATORY PROTECTION MAY BE NECESSARY TO MINIMIZE EXPOSURE TO VAPORS DEPENDING ON THE NATURE AND CONCENTRATION OF THE AIRBORNE MATERIAL. USE A RESPIRATOR WITH APPROPRIATE FILTERS AND CARTRIDGES (NIOSH APPROVED) OR SUPPLIED AIR EQUIPMENT.

VENTILATION

IF CURRENT VENTILATION PRACTICES ARE NOT ADEQUATE TO MINIMIZE EXPOSURE, ADDITIONAL VENTILATION OR EXHAUST SYSTEMS MAY BE REQUIRED.

PROTECTIVE GLOVES

USE GLOVES MADE OF NEOPRENE, BUTYL RUBBER OR NATURAL RUBBER.

EYE PROTECTION

USE CHEMICAL SPLASH GOGGLES.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT

IT IS SUGGESTED THAT A SOURCE OF CLEAN WATER BE AVAILABLE IN THE WORK AREA FOR FLUSHING EYES AND SKIN. IMPERVIOUS CLOTHING SHOULD BE WORN AS NEEDED.

WORK/HYGIENIC PRACTICES

AFTER USING THIS PRODUCT, WASH HANDS THOROUGHLY PRIOR TO EATING OR SMOKING.

SECTION IX – TOXICOLOGICAL INFORMATION**Acute Data**

No toxicity data is available for this material. Based on the toxicity profiles for a number of other emulsions that are compositionally similar to this product, typical data might be:

Oral LD50 – rat: > 5000mg/kg
Dermal LD50 – rabbit: >5000mg/kg
Skin Irritation – rabbit: mild irritation
Eye Irritation – rabbit: mild irritation

SECTION X – ECOLOGICAL INFORMATION

No applicable data

SECTION XI - DISPOSAL CONSIDERATIONS

Keep spills and cleaning runoff out of drains. Dried material may be landfilled or incinerated. Wet material should be absorbed with absorbent material and landfilled or incinerated.

SECTION XII – TRANSPORT INFORMATION

DOT

Not regulated for transport

IMO/IMDG

Not regulated – not dangerous for transport

SECTION XIII – REGULATORY INFORMATION

Workplace classification

This product is considered non-hazardous under the OSHA Hazard Communication Standard (29CFR1910.1200).

This product is not a “controlled product” under the Canadian Workplace Hazardous Materials Information System (WHMIS).

SARA TITLE III: Section 311/312 – not covered

SARA TITLE III: Section 313 – does not contain a chemical listed in Section 313.

CERCLA Information – Releases of this material to air, land or water are not reportable to National Response or local or state emergency personnel.

TSCA – All components of this product are in compliance with the inventory listing requirements of the US Toxic Substance Control Act Chemical Substance Inventory.

SECTION XIV – DISCLAIMER

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH BURKE INDUSTRIAL COATINGS OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE AND SUITABLE TO THEIR CIRCUMSTANCES. TO OUR KNOWLEDGE, THIS MSDS COMPLIES WITH 29 CFR 1910, 1200.



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Steel Plus CE - 316

PRODUCT STRATEGY

Steel Plus CE-316 is an extremely quick dry Bis-F epoxy filled with 316 stainless steel flakes. It is 100% CE epoxy. In addition, it is cured with an aliphatic amine curative instead of the typical polyamide curative because the aliphatic amine will react multiple times with each reactive group on the epoxy chain while the polyamide will only have one chemical reaction with each group. When you have more reactions, you produce a much more dense film and therefore, tougher and more chemical resistant. Steel Plus CE-316 is used in both OEM and MRO applications.

Steel Plus CE-316 is the most chemical resistant product we make. It has proven itself over and over again in applications from offshore to mining to meat and poultry plants. We want to stress that what we have is the best of all worlds – stainless steel and CE epoxy – either one very chemical resistant on their own, but substantially more so when used together in the same product.



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Steel Plus CE Series - 316

FEATURES

Water Base

Stainless Steel Pigment

Bis-F Novolac Epoxy Resin

Non-Flammable

USDA/FDA Accepted

Low VOC

Two Component

BENEFITS

Thins with and cleans up with water
No expensive solvent to buy
No expensive solvent disposal
Worker safe – little or no odor
Minimal environmental impact
No expensive safety gear required

Protects against chemical attack
Inert to ultra-violet radiation
Will not chalk
Excellent in wash down areas
Less costly than stainless steel metal
Excellent in extreme weather conditions
Exceptional resistance to fade and loss of gloss
Hides surface imperfections

Fast dry
Superior hardness
Very flexible
Excellent abrasion resistance
Easy spray application
Excellent adhesion
Excellent chemical resistance
Cured with aliphatic amine

Reduces fire danger
Lowers insurance premiums
No special storage requirements
No hazardous shipping issues

Meets standards for incidental contact

Meets Clean Air regulations
Reduces government paper work

Easy 2 to 1 mix
No induction time
Long pot life



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Steel Plus CE Series - 316

MARKETS & APPLICATIONS

- OEM:**
- Food packaging equipment
 - Food processing equipment
 - Medical equipment
 - Power transmission equipment (motor/gear box)
 - Conveying equipment
 - Palletizers and de-palletizers
 - Robotic equipment
 - Semi bulk and dry powder equipment
 - Blowers / fans
 - Dryers
 - Freezers
 - Heat exchangers
 - HVAC equipment
 - Labelers
 - Motors
 - Pumps
 - Tanks
 - Valves
- Chemical:**
- Tanks
 - Ladders
 - Decking
 - Piping
 - Pumps
 - Valves
- Mining:**
- Conveyors
 - Equipment
 - Transportation
- General:**
- City/County/State
 - Parks – maintenance equipment, play equipment
 - Utility – transformers, electrical boxes
 - Transportation – sign posts, guard rails, bridges
 - Plant maintenance
 - Equipment maintenance



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STEEL PLUS CE SERIES 316 EPOXY

SPECIFICATIONS

<u>Impact Resistance</u>	ASTM D2794-93: 160’’# Direct, 160’’# Reverse
<u>Cross Hatch Adhesion</u>	ASTM D3359, Method B. Rates 5B on steel and aluminum
<u>Pull Off Adhesion</u>	ASTM D4541 and ISO 4624, 1085psi direct to metal, 3289 psi over Steel Plus Epoxy Primer
<u>Pencil Hardness</u>	ASTM D3363: 6H
<u>Mandrel Bend</u>	ASTM D522, Method B: Pass 1/8’’ Bend
<u>Sag Resistance</u>	ASTM D4400: No sag at 10 mils
<u>Cleaning/Thinning Solvent</u>	Water
<u>Humidity**</u>	ASTM D4585: No blisters after 1000 hours
<u>Salt Spray**</u>	ASTM B-117: 1500 Hours, no blisters, no undercut
<u>Temperature Range</u>	Cured: – 40°F to 300°F – will begin to yellow above 200°F.
<u>Odor</u>	Little to none
<u>VOC Content</u>	185 g/l or 1.54 #/gal

**Tested over Steel Plus Epoxy Primer. Items with no * were tested as a single coat with no primer.



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Burke Systems 2008

LIGHT DUTY SERVICE – dry duty, no washdown, no exterior exposure

Stainless Steel

1 coat Steel Tuff-316® or 1 coat Superlife-316 DTMR

Colors

1 coat Topcoat-1010

MEDIUM DUTY SERVICE – some moisture and exterior exposure, light chemical exposure

Stainless Steel

1 coat Prime Solution 5250 red or 5253 grey

1 coat Steel Tuff-316®

Colors

1 coat Prime Solution 5250 red or 5253 grey

1 coat Topcoat-1010

HEAVY DUTY SERVICE – chemical exposure, wet, humid atmosphere, normal food plant wash down

Stainless Steel

1 coat Steel Plus Epoxy Primer

1 coat Steel Plus 316

Optional: 1 coat Steel Plus CE Series Clear Epoxy

Colors

1 coat Steel Plus Epoxy Primer

1 coat Steel Plus Epoxy Enamel

Optional: 1 coat Steel Plus CE Series Clear Epoxy

SEVERE DUTY SERVICE – heavy chemical exposure, wash down in a meat or poultry plant, very wet environments

Stainless Steel

1 coat Steel Plus Epoxy Primer

1 coat Steel Plus CE Series-316 Epoxy

1 coat Steel Plus CE Series Clear Epoxy

Colors

1 coat Steel Plus Epoxy Primer

1 coat Steel Plus CE Series Enamel Epoxy

1 coat Steel Plus CE Series Clear Epoxy

The information provided is a suggested guide in determining a coating system using BIC products. Individual situations and chemicals present may require you to test to yield the appropriate combination of product finishes to obtain the results desired.