F 61

PRODUCT DISCRIPTION:

F61 is a single component ceramic coating specifically formulated to prevent corrosion and erosion of both carbon and stainless steel boiler tubing while providing increased thermal efficiency.

F61 is a high solids system which can be applied to a dry film thickness of 8 to 32 mils (200-800µm) and has no corrosive properties or VOC content.

F61 is thermally conductive and bonds well to properly prepared carbon steel or stainless steel substrates. Due to it's organic composition F61 is very stable and will neither outgas, nor cause skin irritations like many other high temperature coatings.
Working properties of the coating exhibit an extended pot life prior to exposure to air.

Upon curing F61 becomes a durable ceramic coating that will provide protection to boiler tubing and other steel substrates to 2,000° F (1093° C)

F61 may also be applied as a thermal spray sealer and under insulation or fire brick to prevent "cold side" and high heat corrosion.

PHYSICAL PROPERTIES:

Color	Green, Grey, White
Finish	Smooth
Maximum service temperature (substrate)	2,000° F (1093° C)
Bond Strength	3,000 psi
Tensile Strength	3,240 psi

Note: Physical properties were determined on specimens prepared under laboratory conditions using applicable ASTM procedures. Actual field conditions may vary and yield different results; therefore data is subject to reasonable deviation.

CHARACTERISTICS:

- Resistant to 2,000° F (1,093° C)
- Resistant to severe cyclic conditions
- Corrosion/Erosion resistant
- Thermally conductive, promotes heat transfer
- Reduces slagging
- Resist gases, oils, solvents and most acids
- Non-toxic and odorless
- Adheres to carbon steel, stainless steel, refractory and organic surfaces
- Good mechanical bonding

INDUSTRIES:

- Power Plants
- Refineries
- Chemical Facilities
- Cement Plants
- Pulp and Paper
- Steel Processing
- Waste to Energy Plants

USES:

- Boiler water wall tubes
- Superheater and reheater tubes
- Nose arch and slope tubes
- Stacks
- High heat ducts and piping
- Cold side corrosion under insulation

SPECIFICATION DATA:

Components	Non-flammable/non-reactive
Dry Time between coats @ 50% R.H., 70° F	1 hour
Volume Solids	88%
Theoretical Coverage @ 1 mil. D.F.T.	600 sq. ft./gal.
Metal Temperature during application	50° F – 200° F
Weight per gallon	14.5 lb
Storage Temperature	33° - 100° F (0.5° - 38° C)
Shelf life (before mixing)	1 year
Viscosity	21.06 (cSt)

SURFACE PREPARATION:

Surfaces to be coated must be dry and free of all chlorides, weld splatter, oil, dirt, grease, liquor and all other contaminants. Round off all rough welds and sharp edges.
Abrasive blast to a SSPC-SP5 (white blast) specification. Garnet or other hard sharp materials are recommended for abrasive blasting.

EQUIPMENT:

Conventional or airless spray is recommended. For conventional spray, use DeVilbiss MBC -510 (or equal), gun with a "E" fluid tip and 704 air cap (or equal)
For airless spray use a Graco 205-591, 208-663, (or equal) gun with fluid tip of 518 - 529 and a Graco Bulldog Pump at 30:1.
Adjust pressure as needed. Hold gun 10" to 12" from the surface at right angles.

APPLICATION INSTRUCTIONS:

Surface temperature must be a minimum of 5° F (3° C) above the dew point. Do not apply to steel temperatures below 50° F (10° C).

*Do not exceed dry film thickness recommendations.

F61 normally does not require thinning. It is recommended to screen the coating before application.

F61 is normally sprayed but if applied by brush mechanically mix container every 5 minutes during application to assure proper particle suspension.

WARNING! Do not thin F61 with thinner or water as poor film characteristics may occur.

Application to hot surfaces (+200° F, 93° C) tends to promote dry spray and may cause blistering to occur. F61 normally dries by ambient air drying. If the temperature is below 70° F (93° C) and the humidity is high slower drying will occur. Low temperature oven or heat drying may be used to accelerate the drying time. Do not exceed 200° F (93°C) during accelerated drying.

F61 should be applied in subsequent coats of 3 to 4 mils per coat. Each coat must dry to the touch before additional coats are applied. If heat cure is used to accelerate drying assure that the temperature does not exceed 200° F (93° C) If thicker coating is required allow each coat to completely dry before the additional coats are applied.

CURING:

Usually F61 can be cured using normal boiler start up procedures. If controlling the cure, do not exceed 200° F (93° C) for the first hour. After one hour the coating can be accelerated 100° F (38° C) per hour, until full boiler operating temperature is achieved.

MIXING:

Use mechanical agitation for mixing and also **during application**. Mix materials until smooth and uniform in consistency. Adjust mixing speed to allow for material suspension without cavitations.

CLEAN-UP:

All equipment should be cleaned with soap and water before the coating dries.

CAUTION:

Consult Material Safety Data Sheets and container label caution statements for any hazards in handling this material.