



XP- 61 PRODUCT DESCRIPTION

XP- 61 is an advanced high emissivity, thin film, spray applied ceramic coating specifically formulated to provide external abrasion resistance and corrosion protection of both carbon and stainless steel boiler tubing while increasing thermal efficiency. The coating is a high solids system which can be applied to a dry film thickness of 4 to 12 mils (100 to 300 microns) and has no volatile organic compound (VOC) content.

XP- 61 bonds well to properly prepared carbon steel or stainless steel substrates. Due to its organic composition, XP- 61 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 shelf life prior to exposure to air. Upon curing, XP- 61 becomes a durable ceramic coating that will provide protection to boiler and furnace tubing and other steel substrates to 1600°F (871°C) and will withstand thermal cyclic conditions to 1800°F (982°C).

XP- 61 may also be applied as a thermal spray sealer to prevent permeation in high temperature environments.

PHYSICAL PROPERTIES

Color: Green

Finish: Flat

Max. Service Temp.: 1800 °F (982°C)

Bond Strength: 3,680 psi

Tensile Strength: 3,816 psi

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

CHARACTERISTICS

- Resistant to 1800°F (982°C)
- Resistant to severe cyclic conditions
- Corrosion/ Erosion resistant
- Non-insulating
- Reduces slagging
- Resist gases, oils, solvents and most acids
- Non-toxic and odorless
- Good mechanical bonding: adheres to carbon & stainless steel, refractory & organic surfaces
- High emissivity



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
- Sootblower lanes and wall blowers
- Stacks
- Kilns
- High heat ducts and piping
- Radiant furnace tubing

SPECIFICATION DATA

Component: Single

Dry time: 1 hour (between coats @ 50% R.H., 70° F)

Volume solids: 88%

Theoretical coverage: 600 sq.ft./gal.(@ 1 mil. D.F.T.)

Thinning liquid: None

Metal temp. during application: 50° F – 150° F(10° C - 66° C)

Weight per gallon: 14.8 lbs

Storage temp.: 33° - 100° F (0.5° - 38° C)

Shelf life (before mixing): 1 year

Cure conversion temp. begins at: + 400° F (204° C)

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 achieve a NACE 1/ SSPC-SP5 (white blast) specification. Garnet or other hard sharp materials are recommended for abrasive blasting. A three mil (75 surface profile is recommended).

EQUIPMENT

Conventional or airless spray is recommended. Adjust pressure as needed. Hold gun 10" to 12" from the surface at right angles. Lap each pass 50 percent.



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.

XP-61 is normally sprayed but if applied by brush mechanically mix container every five minutes during application to assure proper particle suspension.

WARNING! Do not thin XP-61 with any thinner 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. XP-61 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.

XP-61 should be applied in minimum of two coats of 2 mils per coat. Each coat must completely dry to the touch before the second coat is 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 to the touch before subsequent coats are applied. Moderate heating can be applied between coats if required.

CURING REQUIREMENTS

After application allow the coating to air dry above 50°F or 10°C for minimum 16 hours.

Cure for 90 minutes at 180°F to 200°F (82°C to 93°C).

Cure for one hour at 300°F to 350°F (149°C to 177°C).

Cure for one hour at 425°F to 460°F (218°C to 238°C).

MIXING

Use mechanical agitation for mixing and during application. Mix materials until smooth and uniform in consistency. Adjust mixing speed to allow for material suspension without cavitations. It is recommended to screen the material before application.

CLEAN-UP

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

CAUTION

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