

# ***FlueGard™-225***

---

## **Corrosion Protection Coating for Flue Gas Systems**



Kiln Baghouse



Process Ductwork



1807 Park 270 Drive, Suite 500, St. Louis, Missouri 63146 USA  
Telephone: 314-878-0143 • Fax: 314-878-0166  
industrial@penta.net  
www.Penta.net



FlueGard™-225 is a registered trademark of 3L&T, Inc.



Corrosion in baghouse

## Corrosion is Worse When...

- There is high condensation inside the equipment
  - Lower gas temperature due to new EPA requirement
  - Seasonal external temperatures
  - Frequent shut downs and start ups
- High sulfur in the fuels or limestone
- Use of alternative fuels
- High efficiency filters, less alkaline dust

## What is FlueGard™-225S?

A high temperature corrosion protection system, highly resistant to acid and alkali attacks, and fine particle dust abrasion up to 225°C (437°F) continuous exposure, with short term excursions to 300°C (572° F).

- Polymer-based, hybrid organic/inorganic material
- Supplied as a 2 component package
- Mixed in 1:1 ratio
- Gel time of several hours
- Applied by spray or by trowel
- Initial cure for 24 hours at 70°F
- Final cure at 160°C (4hrs) or 180°C (1hr)



Corrosion in a duct



Completed installation of FlueGard™-225S

## Benefits of FlueGard™-225

- Increased reliability of equipment
- Lower maintenance cost
- Reduce environmental leaks
- Pay back can be less than a year



Application of FlueGard™-225S in stack

## Where Can FlueGard™-225 Be Applied?

Any surface exposed to corrosive environments, especially:

- Baghouses
- Electrostatic Precipitators
- Stacks
- Ducts



FlueGard™-225S test plate in baghouse



Test Plate

## Why Does FlueGard™-225 Work So Well?

- High temperature resistance
  - Reinforcing inorganic components in the system
- Hot acid resistance
  - Highly cross-linked organic matrix
- Strong bonding to steel
  - Chemical reaction with steel substrate
- Fine particle abrasion resistance
  - Elastomeric backbone in the structure



New baghouse coated, one year later

## Why is FlueGard™-225 Cost Effective?

- Eliminate repairs of walls/hopper
- Eliminate repairs of tube sheets and thimbles
- Increase reliability of equipment
- Postpone the cost of new, replacement dust collector
- Reduce kiln downtime
- Eliminate environmental non-compliance fines
- Reduce exposure to safety hazards



Test sample after five months in a baghouse



Test sample cleaned after five months in a baghouse

## Application of FlueGard™-225

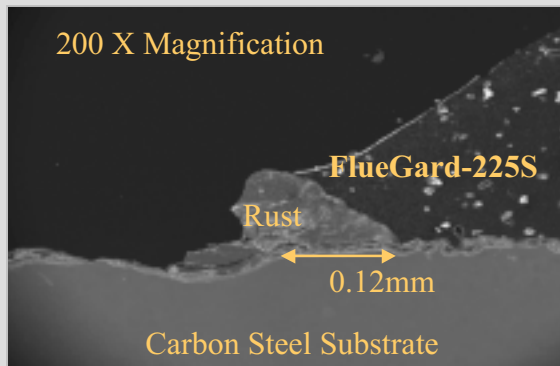
- Surface preparation
  - Sandblast to NACE #2 (SSPC-SP10 Near-White blast) with >3.0 mil profile
- Coating application options (one coat)
  - Solvent spray to 20 dry mils
  - Hot spray plural component to 20 mils
  - Trowel to 20 mils
- Two stage cure
  - Initial cure at 70°F for 24 hours, allows inspection
  - Final cure at 140°C for eight hours or 170°C for one hour
- Useful life and repair
  - Expected life up to 10 years, depending on service
  - Repairs bond to steel and to itself, recoat as needed



Left side corroded, right side coated



Test sample slice  
no delamination



Cross section of test sample

## Contact Penta Industrial for your installation!

1807 Park 270 Drive, Suite 500, St. Louis, Missouri 63146 USA

Telephone: 314-878-0143 • Fax: 314-878-0166

[industrial@penta.net](mailto:industrial@penta.net)

[www.penta.net](http://www.penta.net)