The Ultimate Corrosion Protection under Insulation

Technical Workshop NACE Jubail

December 10th 2015
The (old) problem

- What you can’t see, isn’t there??
- Insulation should insulate, not cut away to inspect
- This problem has been solved 10 years ago
What to achieve!

- 100 % reliable protection
- Impenetrable layer for moisture and oxygen to eliminate corrosion
- Damaging of the layer is impossible during installation and use
- High temperature resistance
- No inspection needed
- Lifetime protection
The three T’s

- **Total barrier**
- **Timeless protection**
- **Total costs of ownership low**
How to achieve this

One answer:

- Thermally Sprayed Aluminium
Molten aluminum strikes a surface at a high velocity:
- An exothermic reaction.
- Increased degree of diffusion bonding.

The result:
An extremely hard and flexible microstructure.
Technical

- Surface preparation: Grit-blasting Sa 2 ½
- Dry film thickness 200-400 microns.
- Adhesion tests 12 Mpa minimum
Hard but flexible

- 1 mohs below diamond.
- Steel deforms, TSA follows
- Resists under severe stress.
- TSA dents and does not crack.
TSA combats corrosion

- An improbable cause...
- TSA provide corrosion protection by excluding the environment and acting as a barrier coating.
- Unlike typical barrier coatings TSA also provides sacrificial anodic protection.
Suitable for extreme conditions

- Sun and sand storm resistant.
- Sea water resistant.
- Suitable for buried pipelines.
- Temperature resistant up to 600°C.
- PH resistant between 4 – 9.
Environmental friendly

- Cleaner and safer production process.
- Sustainable due to life time protection.
- No chemical waste.
TSA has unique properties:

- Corrosion protection 50 years and more
- Dry film thickness 200–400 microns
- Hardness 1 Mhos below diamond
- Resistant to extreme conditions
- Environmental friendly
Common way of TSA application

- Hand application:
  - Heavy guns
  - High temperatures
  - Dust
  - Only a small application stripe
  - Precise overlapping required
State of the art TSA application

- MCS Robotized process:
  - Constant high quality
  - High application capacity
  - High level of safety
  - High skill jobs
  - Easy scalable
Production Plant Jubail

- Jubail Industrial City
  Support Industrial Area No. 3
  Street No. 114
  Al Jubail 35729
TSA

- Comfort
- Under
- Insulation
Questions & Answers

By the management of MCS
More information www.mcscoating.com

or contact the MCS management:

IR. MARCEL F. DE KEIZER
CEO
MFDEKEIZER@MCSCOATING.COM
M +31 (0)653 2860 53

SULAIMAN J. ENIZI
ADVISOR TO THE CEO
SULAIMAN@MCSCOATING.COM
M +31 (0)652 4201 08

DRS ING. PETER M.H.H. BEX
CFO
PBEX@MCSCOATING.COM
M +31 (0)652 4201 08