WEAR SOLUTIONS

Application Bulletin

Superior Wear Protection for Catoxid® and Oxychlorination Reactors

Tungsten carbide and Stellite™ cladding provides maximum protection for reactor elements exposed to both erosive and corrosive wear

Sparger Assemblies, Cooling Coils, and U-Bends

...and other exposed components

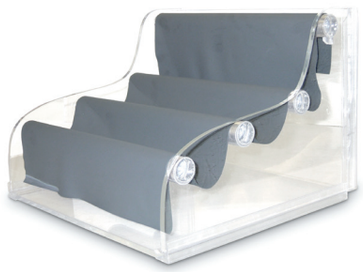
- Unique cladding technology conforms to complex geometries, allowing full protection of critical components
- Uniform cladding thickness >0.040"
- Range of tungsten carbide and Stellite™ grades specifically for erosive and corrosive environments
- Superior wear resistance vs HVOF or stainless steels

KENNAMETAL™
CONFORMA CLAD

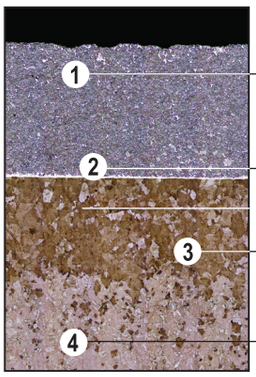
conformaclad.com

Flexible Tungsten Carbide and Stellite™ Cloth

The Conforma Clad™ process starts with a flexible organic cloth embedded with either tungsten carbide or Stellite alloy. This unique cloth technology enables our wear protection to perfectly conform to complex geometries such as sparger assemblies. The infiltration brazing process metallurgically bonds the tungsten carbide or Stellite alloy to the base material. The result is a hard, protective cladding that is extremely durable and wear resistant.



Cladding Photomicrograph



Cladding

Dense tungsten carbide loading with uniform carbide distribution: high wear resistance with predictable wear rates and continuous heat transfer

No interconnected porosity: superior corrosion and impact resistance

Bond Line

True metallurgical bond (>70,000 psi) with high interparticle bond strength: provides unsurpassed strength and prevents chipping, flaking, and check-cracking

Diffusion Zone

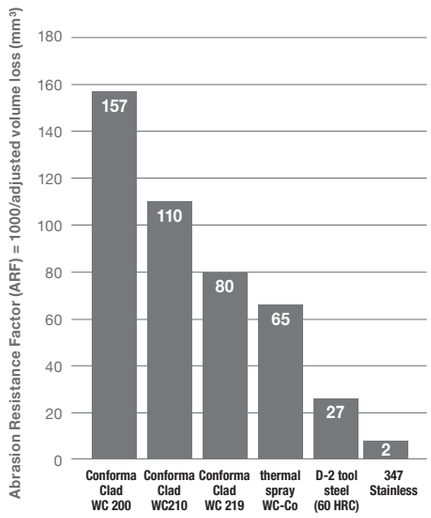
Minimal dilution: substrate retains uniform properties in diffusion zone

Substrate

Heat treatable: can be heat-treated after cladding process to restore substrate's mechanical properties

Performance Data

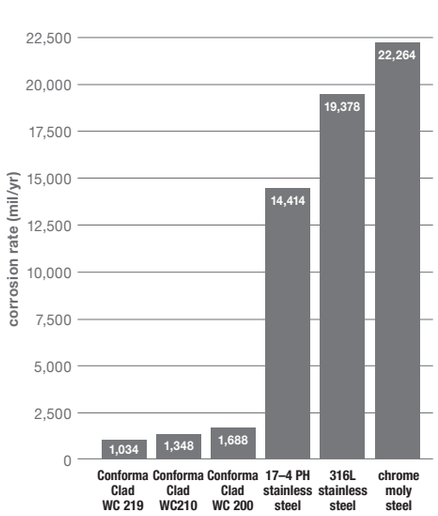
Dry Sand Abrasion Test (ASTM G65)



Significant Advantages
Abrasion Resistance vs. Steels

Corrosion Test (ASTM G31)

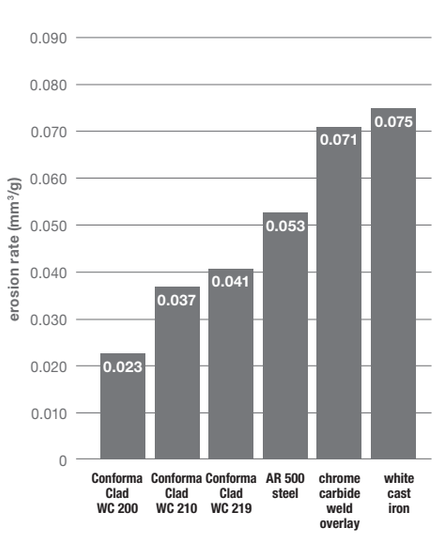
10% Hydrochloric Acid at 212°F (100°C)



Up To 14x Better
Corrosion Resistance vs. Stainless Steel

Erosion Test (ASTM G76)

45° Impingement Angle, 83 m/s, Alumina <63 micron



Up To 3x Better
Erosion Resistance vs. Chrome Carbide Weld Overlay

** Test results are for reference only*

CONTACT US

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