Conforma Clad® Burner Components

Application Bulletin

Conforma Clad® Inc. is a leading provider of severe wear solutions for applications involving extreme abrasion, corrosion, impact and erosion. Our proprietary infiltration brazed tungsten carbide cladding is metallurgically bonded to burner components. Conforma Clad's cloth delivery system enables densely packed tungsten carbide to be uniformly applied to complex geometries, providing a protective barrier that wears at a uniform and predictable rate.

Conforma Clad protected burner components last longer and sustain maximum performance levels by maintaining critical component geometries for extended run times. The proven reliability of Conforma Clad components has made us an industry standard.

Cladding Specifications	
Substrates	Cladding can be applied to most carbon steels, precipitation hardened steels and stainless steels
Temperature	Continuous operation at temperatures up to 1900° F (649° C) with nominal performance impact. Able to withstand transients in excess of 2000° F.
Chemical Resistance	Compatible with chemicals commonly found in coal and fly ash, including hydrochloric acid, hydrogen fluoride and sulfuric acid.

WHY CHOOSE CONFORMA CLAD BURNER COMPONENTS?

❶ Increased Productivity

Extended burner component life results in fewer equipment shutdowns and component changes, lengthening run-times between maintenance windows.

❷ Enhanced Burner Performance

Decreased burner component wear leads to better NOx performance, leaving you with more credits for sale.

❸ Superior Erosion Resistance

One sixteenth inch (1.5 mm) of Conforma Clad's wear protection performs *FIFTEEN TIMES BETTER* against erosive wear than an equivalent layer of typical overlays and *FIFTY TIMES BETTER* than plain carbon steel. And it is up to *TWENTY-FIVE TIMES MORE EROSION RESISTANT* than high-temperature stainless steels.

❹ Proven Results

Conforma Clad's premium technology has been used in coal-fired power plants for more than 15 years, extending the life of burners, gas fans, thermowells, ash conveyance equipment, pitot tubes, pulverizer components and other plant equipment.

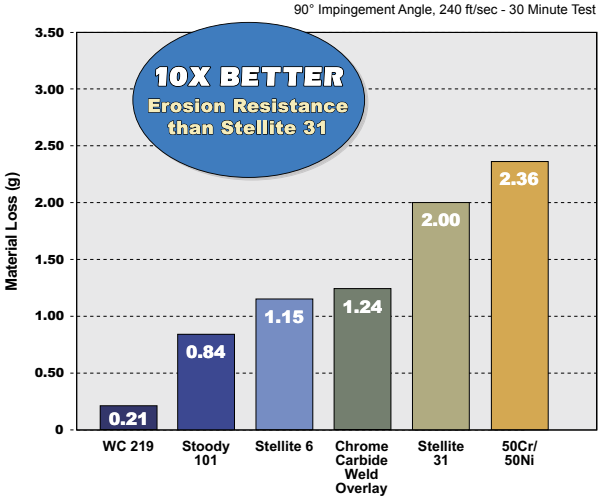
Burner components protected by Conforma Clad maintain critical geometries and coal distribution patterns.

Conforma Clad® Inc. by KENNAMETAL

CONFORMA CLAD PERFORMANCE

Conforma Clad's tungsten carbide cladding provides unmatched resistance against abrasion, impact, erosion and corrosion. Other methods may guard against one form of wear, but only Conforma Clad protects burner components from multiple modes of wear. Our cladding's high metallurgical bond strength, combined with its ability to withstand continuous operation at elevated temperatures makes Conform Clad the premium wear protection for burner applications.

Conforma Clad Burner Liner
Protects burner components from severe wear.



Babcock Power, CCV-DAZ Development Project #310003

Erosion Resistance

Riley Power conducted laboratory testing, following ASTM G73 standards, on low swirl coal spreaders to determine the best erosion protection from fine grit black beauty coal slag. Testing was conducted at a 90° impingement angle with a particle velocity of 240 ft/sec for 30 minutes.

Conforma Clad's WC 219 cladding provided top wear protection while retaining critical component geometries. ***Conforma Clad increased Riley Power's low swirl coal spreader life from 1-2 years to 3-4 years.***

PROVEN RESULTS

Conforma Clad protects low NOx burner components at coal-fired power plants throughout the country, including Wisconsin Electric, Valley Station's CCV® burner spreaders. Coal spreaders are essential components in distributing pulverized coal to the burner flame and are designed to enhance combustion by controlling the flame length and minimizing NOx and Unburned Carbon (UBC). In order to maintain critical geometries and coal distribution patterns, the coal spreader vanes are protected with Conforma Clad's tungsten carbide cladding.

The Valley Station plant's burner components experience increased erosion rates because of high burner velocities (approximately 87 ft/sec) and the coal's high silica and alumina content. ***Wisconsin Electric tripled the service life of their Riloy® 74 (50Cr/50Ni with Cb) spreaders by applying 0.040" of Conforma Clad tungsten carbide cladding to the spreader's leading edges.***

Low Swirl Coal Spreader
Wisconsin Electric ***tripled the service life*** of their Controlled Combustion Venturi® burner components with Conforma Clad.

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