

AeroTech Bonding

Advanced Thermal Bonding

AeroTech is an advanced thermal bonding technology that combines specialty structural adhesives, wear resistant materials and controlled processing.

Applications requiring high reliability, impact resistance and wear protection are ideal candidates for AeroTech bonding solutions. Valuable features of AeroTech Bonded materials include:

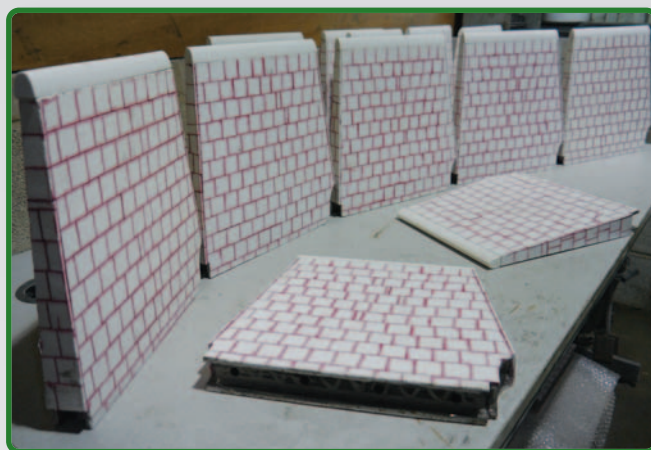
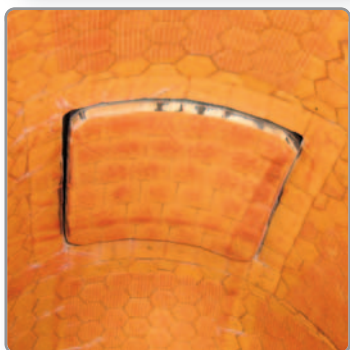
- Increased effective impact resistance of hard wear resistant ceramics.
- Unparalleled performance in dynamic applications.
- Tested high shear strength.
- Proven performance in lightweight designs.
- Economical repair of worn components.



AeroTech Solutions:

Providing wear protection to industrial equipment requires a comprehensive understanding of materials and applications. With years of experience in providing engineered solutions, we offer proven designs and materials to protect your equipment.

AeroTech Bonding is an ideal solution in many tough applications such as coal fuel piping, pulveriser components, exhauster fans, pumps, screw conveyor and specialty wear parts.



Coal Fired Power Applications

- Exhauster Fan Blades
- Spider Arms
- Bullnoses
- Exhauster Housing
- Whizzer Disc & Blades
- Periphery Liners
- Inlet Elbows
- Riffle Housing

Other Applications

- Valve Gates
- Mill Paddles
- Pump Volutes
- Eddy Current Separator Drums
- Mixer Housings / Blades
- Cyclones
- Grain Chutes / Hoppers

“Enhancing the performance of our customers plant & equipment”

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AeroTech Properties

AeroTech Bonding allows design engineers greater freedom to extend the use of advanced wear resistant materials. In weight sensitive applications, AeroTech can be combined with thin ceramic tiles to replace common metals. This can actually reduce a component's weight while improving performance. In many instances, where impact is a concern, AeroTech's shock-absorbing bonding layer allows hard wear materials to be used in extreme stress environments not suitable for traditional installation methods.

As an authorised manufacturer of the process with the added benefit of producing from our Woodville UK facility, Greenbank deliver a fast, direct service utilising the latest and most sophisticated materials.

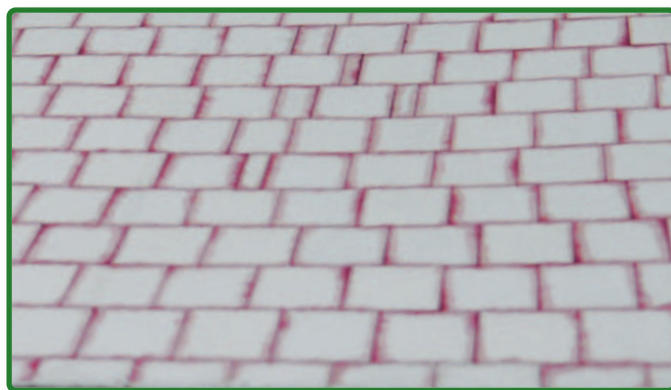
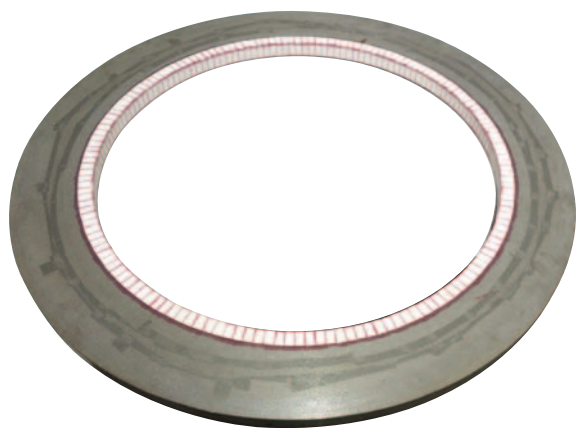
Advanced ceramic is specified for general applications while silicon and tungsten carbides can be applied in the most aggressive environments.

Specification

Wear Materials: High Density Alumina Ceramic, Tungsten Carbide, Boron Carbide and Sintered Silicon Carbide.

Base Material: Carbon & Stainless Steel, Aluminum, Fiberglass.

Service Temperature: 200°F / 93°C – Dynamic, 250°F / 121°C – Static.



Average Bond Strength (ASTM D 4541-89):

5540 psi at 70°F / 38.20 MPa at 21.1°C

Average Lap Shear Strength:

5240 psi at 70°F / 36.13 MPa at 21.1°C

3410 psi at 180°F / 23.53 MPa at 82°C

1620 psi at 250°F / 11.17 MPa at 120°C

Blister Detection (Psi, MPa):

-67°F / -55°C ... 5290 / 36.5

75°F / 24°C ... 5050 / 34.8

180°F / 82°C ... 4120 / 28.4

250°F / 120°C ... 1240 / 8.6

Tensile Shear (Psi, MPa):

-67°F / -55°C ... 6770 / 46.7

75°F / 24°C ... 6840 / 47.2

180°F / 82°C ... 6770 / 46.7

250°F / 120°C ... 810 / 5.6

Blister Detection (Psi, MPa):

-67°F / -55°C ... 52 / 9.1

75°F / 24°C ... 79 / 13.8

180°F / 0°C ... 110 / 20

250°F / 120°C ... 59 / 10.4

Climbing Drum Metal to - Metal Peel (in. lbs/in., Nm/m) ASTM D-1781-76:

-67°F / -55°C ... 88 / 36.5

75°F / 24°C ... 150 / 650,

180°F / 0°C ... 160 / 690

250°F / 120°C ... 70 / 310



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