

AeroTech Bonding



Advanced Bonding Technology

AeroTech is an advanced thermal bonding technology that combines speciality 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 light weight designs
- Economical repair of worn components

Applications

Coal Fired Power Plants

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

Other Applications

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

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.



AeroTech Specs	
Wear Materials:	High Density Alumina Ceramic Tungsten Carbide Boron Carbide Sintered Silicon Carbide
Base Materials:	Carbon and Stainless Steel Aluminum Fiberglass
Service Temperature	200°F/ 93°C - Dynamic 250°F/ 121°C - Static
Average Lap Sheer 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/ 11.17MPa at 120°C
Average Bond Strength: (ASTM D 4541-89)	5540 psi at 70°F/ 38.20 MPa at 21.1°C

AeroTech Properties				
	-67°F/ -55°C	75°F/ 24°C	180°F/ 82°C	250°F/ 120°C
Tensile Shear (Psi, MPa): Fed Standard MMM-A132A	6770/ 46.7	6840/ 47.2	6770/ 46.7	810/ 5.6
Blister Detiction (Psi, MPa): Fed Standard MM-A132A	5290/ 36.5	5050/ 34.8	4120/ 28.4	1240/ 8.6
Climbing Drum Metal-to-Metal Peel (in. lbs/ in., Nm/m) ASTM D- 1781-76	88/ 36.5	150/ 650	160/ 690	70/ 310
Floating Roller Peal (lbs/in, KN/m)	52/ 9.1	79/ 13.8	110/ 20	59/ 10.4