Adiabatics, Inc.

We Make More Possible!

AdiaBlock LT-450

Description: AdiaBlock LT-450 is a water-based, chemical-thermal-bonded slurry coating. This unique coating is a ceramic-metal "CERMET" composite material. It is easily applicable and cures to bind and seal the coating film at a temperature of 450 °F. The coating is comprised of solid powders mixed into a “slurry” using a dilute organic chrome phosphate liquid binder. This binder was developed primarily for aluminum alloys; however, it will also bind to stainless steels, alloyed steels, copper, titanium, and other metallic substrates upon a 450 °F heat curing of the slurry.

Figure 1: An exhaust manifold coated with AdiaBlock LT-450

Applications:

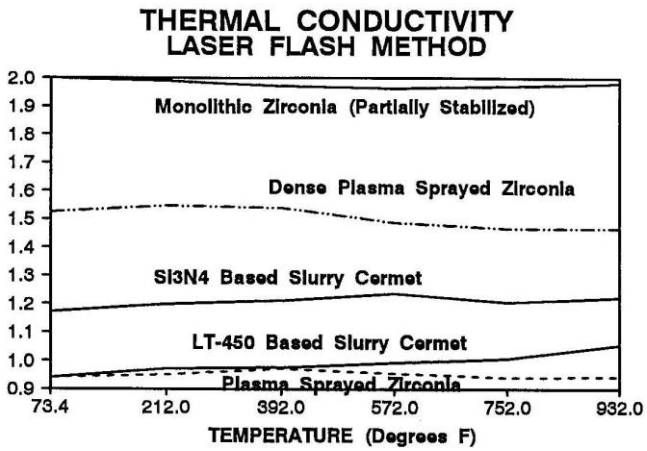
- Exhaust Manifolds
- Pistons
- Piston Rings
- Valves
- Turbochargers

Figure 2: Piston rings and valves coated with AdiaBlock LT-450

Properties:

- **Application Method:** Spraying, Brushing, or Dipping
- **Cure Temperature:** 232°C (450°F)
- **Coating is Machinable**
- **Thermal Conductivity:** 0.993 W/m-K at 580°C
- **Specific Heat:** 0.48 Ws/gm/°K at Room Temp.
- **Porosity:** Less than 2% open
- **Coating Hardness:** 1200 - 1400 Vickers at 100 gm Load
- **Cohesive Bond Strength:** Greater Than Thermal Sprayed Coatings
- **Maximum Use Temperature:** 649°C (1200°F)
- **Maximum Coating Thickness:** 0.05 – 0.38 mm

Figure 3: Turbochargers coated with AdiaBlock LT-450



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Advanced Engine Concepts & Engineered Coatings