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PRODUCT DATA SHEET: PowerKote™ CBC2 Cermet Thermal Barrier
Part#: CBC2

SELECTION DATA

PRODUCT DESCRIPTION:

CBC2 is a metallic ceramic coating designed to be used on either cast iron or aluminum combustion chamber surfaces. CBC2 is formulated to be used in all engines, both two- and four-stroke as well as rotary engines. CBC2 provides a hard, durable thermal barrier overlay to any component. Provides reduced part temperature, resistance to detonation, increased combustion chamber efficiency. More efficient oxidation of fuel also occurs, leading to increased power output. CBC2 allows minimal transfer of heat through the coated surface thus reducing part operating temperature as well as reducing the load on the cooling system. May be formulated with additional fillers to increase wear or abrasion resistance.

CBC2 may also be used on components and materials that cannot handle the cure temperature, in an air dry form, such as composites which will be exposed to extreme temperatures, and will still function as a thermal barrier and reflect heat. CBC2 mirrors the expansion and contraction rate of the substrate reducing the potential for cracking or flaking.

NOT RECOMMENDED FOR: Magnesium and any substrates that cannot handle the cure temperature.

TEMPERATURE RESISTANCE: (non-immersion) 700°F substrate, 1000°F maximum intermittent environmental

APPLIED FILM THICKNESS: .0005" to .00015"

HRC (Equivalent Rockwell C Scale): N/A

ADHESION (Tape Test ASTM D 3359): 5B

PENCIL HARDNESS TEST: 8+

IMPACT TEST (ASTM D2794 2 lb. Weight): pass at 48".

FLEXIBILITY/ BENDING ADHESION: 180° bend: PASS

THERMAL TEMPERATURE RESISTANCE: 1300°F constant and over 1600°F intermittent environmental.

SALT SPRAY RESISTANCE: 6000+ hours

CORROSION TEST DATA: Excellent

ACCEPTABLE SUBSTRATES FOR APPLICATION: Ferrous and non-ferrous substrates, plastics and composites that can handle the cure temperature. Do not use on magnesium.

ELECTRICAL PROPERTIES: Conductive

CHEMICAL RESISTANCE: Good

THERMAL SHOCK TESTING:

1. Immersed in liquid nitrogen (-273°C) for 1 hour
2. Plates immediately heated to +1300°C
3. Plates re-immersed in liquid nitrogen
4. Continues cycle of test for 8 hours

COATING ADHESION (ASTMD4541): 4.5 excellent

FLEXIBILITY (ASTMD522): 180° full load: No failure.

IMPACT(SABS 16): 14 Jules: Coatings intact with no failure.