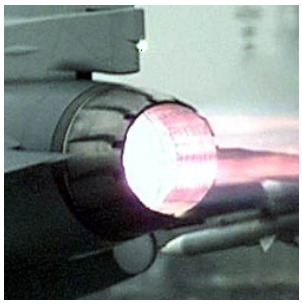
KDT Boroset 60

Boron-Containing Polymer *(Product Code: B-1000)*



KDT Boroset 60 is a low viscosity borosiloxane polymer that is a liquid that can be thermoset to a solid by heating to 250 °C without a catalyst. Upon heating to higher temperatures the resin converts to a composition that is a borosilicate glass. Boroset 60 finds application as either an oxidation inhibitor for carbon-carbon composites or as a coating resin for high temperature, corrosion resistant ceramic coatings. When used in carbon-carbon composites Boroset 60 is blended with the carbon precursor matrix resin and upon heating forms a glass that protects the carbon matrix against oxidation. Boroset 60 possesses the perfect combination of wetting properties, glass formation at low temperature and viscosity to flow and seal cracks formed during thermal oxidative stress.

In ceramic coating applications KDT Boroset 60 has been found to provide exceptional thermal stability and oxidation- and corrosion-resistance. Coatings formulated with Boroset 60 can be cured at 200 °C and convert to a glassy coating composition upon exposure to higher temperatures. At very high temperatures the Boroset 60 fluxes the coating film and creates a liquid phase which flows and seals microcracks that may form upon thermal excursions. Boroset 60 is compatible with a variety of fillers including metal and ceramic powders.

Major Applications:

Boroset 60 can be used as a matrix component in carbon-carbon composites to prevent oxidation or as a base Resin for high temperature coating formulations. KDT Boroset 60 can also address a wide variety of other coating needs, depending on the exact formulation used. Suggested applications include automotive engine coatings, gas turbine engine coatings, industrial furnace coatings, high temperature coatings.

Cure and Pyrolysis Conditions:

Depending on the free radical initiator employed, cure from liquid to solid can be accomplished over a temperature range of 180 – 250 °C. The peroxides are typically dissolved in solvent free polymer at the 0.5 to 1.0wt% level based on the weight of polymer employed. Cure without the use of a peroxide can be effected by heating to 250 °C. Pyrolysis of cured KDT Boroset 60 results in progressive conversion of the polymer to a borosilicate glass.

KION DEFENSE TECHNOLOGIES, INC.
1957-A Pioneer Road
Huntingdon Valley, PA 19006
(215) 957-6100