

KDT HTA 1500

Ambient Curable Coating Resin (Product Code: K-1002)

KDT HTA 1500 is a liquid polysiloxazane-based coating resin that is specially designed for use in the formulation of ambient-curable coatings. KDT HTA 1500 is supplied as a 100% “solids” liquid of low viscosity. After application, a coating prepared using KDT HTA 1500 will be dry-to-touch within 1 hour, and will be ready-for-use after 2 hours dry time. KDT HTA 1500 is designed to be used as a resin in clear coating formulations that are cured at ambient conditions. KDT HTA 1500 can be blended with a variety of pigments, such as metal powders (zinc, aluminum, stainless steel), ceramic powder (silicon carbide, aluminum oxide, silicon nitride), or the like. Such compositions can be formulated with or without solvent and can be applied by dipping, spraying, or brushing onto a variety of substrates – metal, glass, ceramic, polymeric. For ultra-high temperature formulations, the coated part is then heated to at least 850 °F to promote conversion of the polymer to ceramic. Depending on the exact formulation, peak coating operating temperatures of 750 °C can be achieved.



Major Applications:

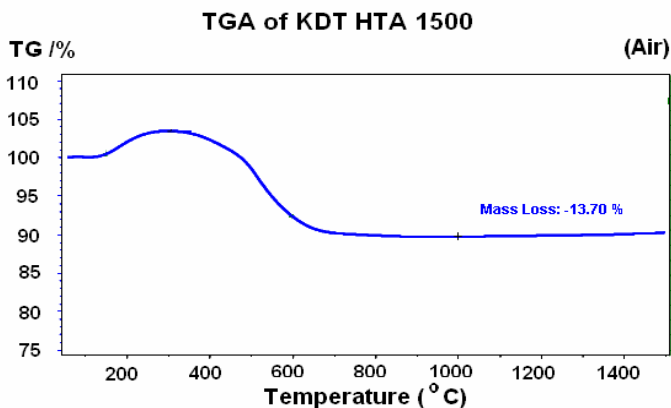
Protective Clear Coat for Ferrous and Non-Ferrous Metals and Alloys, Marine Coatings, Thermal Barrier Coatings, Anti-Graffiti Coatings, and Glass Coatings

Cure Conditions:

Coatings based on KDT HTA 1500 are dry-to-touch in 1 h; full cure is achieved in 2 – 3 days at ambient conditions.

Physical Properties of Resin

Color	Clear to pale yellow liquid
% Resin	100 % solids as a liquid
Flash Point	37 °C [99 °F]
Density of Liquid	0.967 g/cm ³
VOC	NA
Viscosity	80 cps @ 19 °C [67 °F]



KION DEFENSE TECHNOLOGIES, INC.

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Typical HTA 1500 Ceramic Coating Properties

Color	Variable depending on fillers	Hardness	Up to 9H
Finish	Matte to High Gloss	Adhesion	90-100 %
% Resin Solids	2 – 60	Chemical Resistance	Good
Film Thickness	5 – 50 µm	Thermal Resistance	800 °C
VOC	Depends on formulation	Thermal Shock	Fair

Formulation and Application:

KDT HTA 1500 is compatible with a wide variety of solvents including alkanes, aromatic hydrocarbons, ethers, ketones, and esters. Depending on application requirements, HTA 1500 may be added between 2 – 80 wt. %. The resin is compatible with most additives including ceramic and metal powders for ceramic coating formulations. Once formulated, the coatings may be applied by standard spray, brush, or dip application techniques.

Clean Up:

Clean tools immediately after use with acetone or mineral spirits. Solvent cleaning can be followed by a wash with soapy water. Cured material cannot be removed with solvent. Proper clean-up of equipment is essential.

Handling:

Storage Life: Minimum of 2 years for unopened containers.

Pot Life: Usable life will be determined by the precautions taken to keep containers tightly sealed and protected from moisture.

Solvents:

KDT HTA 1500 is miscible with dry aprotic solvents such as alkanes, aromatic hydrocarbons, ethers, ketones, and esters. KDT HTA 1500 is hydrolytically sensitive and will slowly generate ammonia upon contact with moisture. The polymer will also react with other protic substances such as acids, bases, and alcohols.

Safety:

Use safety glasses and adequate ventilation. Protect skin from exposure using gloves and appropriate clothing. Seek medical attention if ingestion or overexposure is suspected. Keep uncured product from flame, all ignition sources, and moisture. This product is intended for professional use by persons familiar with this product data sheet, the Material Safety Data Sheet (MSDS) that accompanies product shipments, and applicable health, safety, and environmental practices and regulations. Contact KDT for advice concerning this product's suitability for specific applications.

Disclaimer:

Information on this product sheet is subject to change without notice as a result of experience and ongoing product development. It is the user's responsibility to verify that this sheet is current prior to use. The user accepts all risk associated with any use of this product for any purpose other than as recommended herein.

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