VICOTE™ COATINGS 705Blk

General Information

Product Description

VICOTE™ 705Blk (Black) Powder Coatings

VICOTE is the brand name for the Victrex range of powder coating resins. The VICOTE range of VICTREX® PEEK polymer is only available through Victrex or its preferred coater network. Contact Victrex for further details.

PROPERTIES

VICOTE 705Blk is a black pigmented version of the 705 grade. This grade has a nominal particle size of ~ 50 microns. The powder is dark grey in colour and is a low melt viscosity grade for lower film builds. Typical film thicknesses range from 50 - 80 microns. The final coating takes on a dark gun metal grey colour after stoving.

VICOTE Coatings, like other noncoating grades of VICTREX PEEK polymer, are thermoplastic in nature and exhibit flow above the melt temperature. When processed using the correct guidelines the coatings will exhibit the excellent properties that VICTREX PEEK polymer is renowned for.

Typical properties are high continuous use temperature of 260°C, excellent wear, abrasion and cut through resistance at these high temperatures combined with excellent chemical and radiation resistance. VICOTE Coatings have a low level of extractables and are hydrolysis resistant and inherently flame retardant.

SUBSTRATES AND PREPARATION

VICOTE Coatings can be applied to most ferrous and non ferrous metals. A primer is not required. Cast metals need to be de-gassed in an oven to prevent pin holes in the coating surface. Aluminium may be coated however the mechanical properties of the metal will be affected at the VICOTE Coating processing temperatures.

Substrates should be free from grease, oils and corrosion prior to coating. Solvent de-greasing and grit blasting with aluminium oxide with final solvent wash should ensure a suitable surface for coating.

Note: phosphate pre-treated substrates are not recommended for VICOTE Coating grades as the high processing temperatures required for processing can result in de-lamination of the coating.

PROCESSING

Conventional electrostatic spray equipment is suitable for VICOTE Coatings. Ovens should be capable of attaining up to 450°C. For general processing information consult the VICOTE powder coating guides.

By following the processing guide smooth coatings should be achievable. Because VICOTE Coatings are semi crystalline thermoplastics as with all these types of products shrinkage will take place when the coating cools. Depending on the mass of the substrate, coating thickness and rate of cooling will determine the amount of shrinkage.

Normally processed and cooled coatings should result in crystalline coatings which should not require further post processing treatment. However an increase in crystallinity may enhance certain properties such as wear and scratch resistance. To anneal the coating the part should be placed in an air circulating oven and the temperature raised at 10°C per minute to 250°C and held at that temperature for 30 minutes to 1 hour.

With coated parts that are subject to a high service temperature it may be beneficial to anneal the parts at 10°C above the maximum service temperature to prevent further volume change of the coating.

Note: The colour of the final coating when using VICOTE 705Blk may depend on the substrate. For example, if a very thin coating is applied the processing temperatures will affect the colour of the steel which in turn could influence the final colour of the coating.

STORAGE AND HANDLING CONSIDERATIONS

VICOTE boxes should be stored in a clean dry environment and should not be stored with the lids and internal liner opened as this may result in airborne dust contaminating the product, which could cause coating defects.

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VICOTE Coatings are packed in 10kg strong cardboard boxes with the VICOTE logo on the outside. Smaller quantities are available on request. The powders have an indefinite storage life if the powder is kept sealed in its original box.

Drying of the powders at 150°C for 3 hours or 120°C overnight is recommended before use.

SAFETY PRECAUTIONS
Before applying VICOTE Coatings, read the appropriate Material Safety Data Sheet (MSDS) and the processing guide, available from Victrex plc.

VICOTE Coatings should be only applied using suitable local exhaust ventilation system.

Care should be taken not to inhale dust, vapour and fumes evolved during processing. VICOTE Coatings must only be applied and processed where Local Extract Ventilation (LEV) is available. Washing of hands and good housekeeping are a pre requisite before handling these products.

Note: these products are not for human implantation.

Material Properties

Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.32	g/cm³	ISO 1183
Thermal	**Nominal Value**	**Unit**	**Test Method**
Continuous Use Temperature	260	°C	Internal Method
Glass Transition Temperature	143	°C	DSC
Melting Temperature	343	°C	DSC
RTI Elec	260	°C	UL 746B
RTI Imp	260	°C	UL 746B
RTI Str	260	°C	UL 746B
Additional Information	**Nominal Value**	**Unit**	**Test Method**
Konig Hardness	200	sec	ISO 1522

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