DuPont™ Voltatex® 7300 A

TECHNICAL DATA SHEET

Chemical base: THEIC- modified polyesterimide

Voltatex® 7300 A represents a class of magnet wire enamel based on a THEIC- modified polyesterimide resin with different solid contents such as Voltatex® 7325 A and Voltatex® 7338 A. Wires coated with Voltatex® 7300 A have very good mechanical properties, high thermal rating and good chemical resistance.

Voltatex® 7300 A is used widely on wires for electrical motors, refrigeration equipment, transformer windings and ballasts for fluorescent lamps.

Voltatex® 7300 A is UL listed for TI 200.

It is approved by Danfoss for use in hermetic compressors.

Transformer oil resistance test acc. IEC 60851-4 is passed.

An application combined with a polyamideimide based topcoat in N-methylpyrrolidone solvent e.g. Voltatex® 8100, Voltatex® 8200 or Voltatex® 8300 is possible.

Enamelling technology

Voltatex® 7300 A can be applied in a wire diameter range from approx. 0.03 mm up to approx. 3.00 mm, single and heavy build by convection or recirculating air ovens, both horizontal and vertical types.

Voltatex® 7300 A can be applied with dies or felt. Special enamel formulations required by latest generation of enamelling machines are available.

Voltatex® 7300 A can be supplied at different viscosities and solid contents as listed below in table 1 to fulfil specific machine and application requirements.

Table 1: Standard parameters

	Voltatex® 73255 A	Voltatex® 7338 A
solid content (1g, 1h, 180 °C)	27 % ± 1 %	38 % ± 1 %
flow time (4 mm, 23 °C) ISO 2431		
viscosity at 25 °C DIN 53015	43 mPa·s – 55 mPa·s	600 mPa·s – 1,400 mPa·s
diluent	Voltatex® 9968	Voltatex® 9968

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Table 2: Enamelling conditions

wire enamel	**Voltatex® 7338 A**
recirculating air oven	3 m, horizontal
application	dies, 8 passes
oven temperature	550 °C
conductor diameter	0.5 mm
enamelling speed	38 m/min
increase in diameter	66 µm

Table 3: Test results

flexibility and adherence, mandrel test 1 x d with pre-stretching of		20 %
heat shock: 1xd, 30 min., 2xd, 30 min.		200 °C 220 °C
cut-through temperature: tested		380 °C
resistance to abrasion:	medium force minimum force	11.6 N 10.2 N
resistance to solvents, given as pencil hardness:		
as delivered		4 H
IEC standard solvent		4 H
DuPont™ Voltatex® impregnating varnishes		4 H
DuPont™ Voltatex® UP-impregnating resins		4 H
DuPont™ Voltatex® EP-impregnating resins		4 H
dielectric breakdown voltage, twisted pair:		
at room temperature		9,960 V
at 185 °C		9,200 V
hermetic properties:		
Freon 22 – extractables		< 0.1 %
Freon 134a – extractables		< 0.1 %
blister test		passes
resistance to transformer oil, acc. to IEC 60851-4		passes
dissipation factor tan δ-intersection point		196 °C
temperature index acc. to ASTM D 2307, 20,000 h value (figure 1)		TI/223

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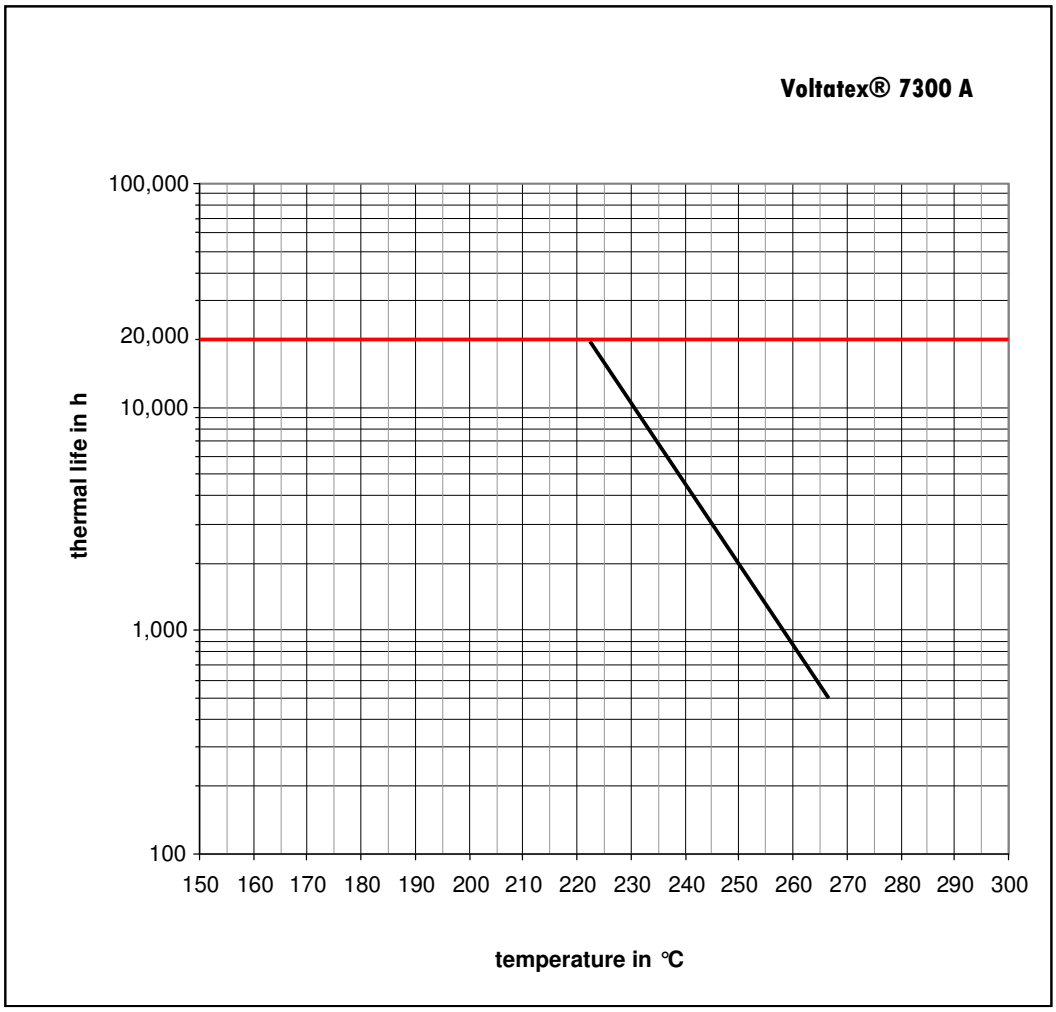

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