

DuPont™ Voltatex® 8100

TECHNICAL DATA SHEET

Chemical base: Polyamideimide

Voltatex® 8100 represents a class of magnet wire enamel based on a polyamideimide resin with different solid contents such as Voltatex® 8123, Voltatex® 8132 and Voltatex® 8137.

Voltatex® 8100 can be used as single coat as well as second layer in combination with a polyester or polyesterimide basecoat to improve the mechanical, chemical and thermal properties. Compared to Voltatex® 8200 it offers higher solid content at given viscosity.

Voltatex® 8100 is listed in UL file E102069.

Enamelling technology

Voltatex® 8100 can be applied in a wire diameter range from approx. 0.02 mm up to approx. 5.00 mm, single and heavy build by convection and recirculating air ovens, both horizontal and vertical types.

The enamel can be applied with dies or felt.

The enamel is dissolved in NMP (= N-methylpyrrolidon) and is not compatible with cresylic acid containing diluents or enamels. When used as an overcoat in combination with a conventional basecoat it must be carefully avoided that both enamels get in contact because of incompatibility.

Voltatex® 8100 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® 8123	Voltatex® 8132	Voltatex® 8137
solid content (1g, 1h, 180 °C)	23 % ± 1 %	32 % ± 1 %	37 % ± 1 %
flow time (4 mm, 23 °C) ISO 2431	20 s – 25 s		
viscosity at 25 °C DIN 53015	75 mPa·s – 115 mPa·s	600 mPa·s – 900 mPa·s	1,500 mPa·s – 2,500 mPa·s
diluent	Voltatex® 9935	Voltatex® 9935	Voltatex® 9935

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Table 2: Enamelling conditions

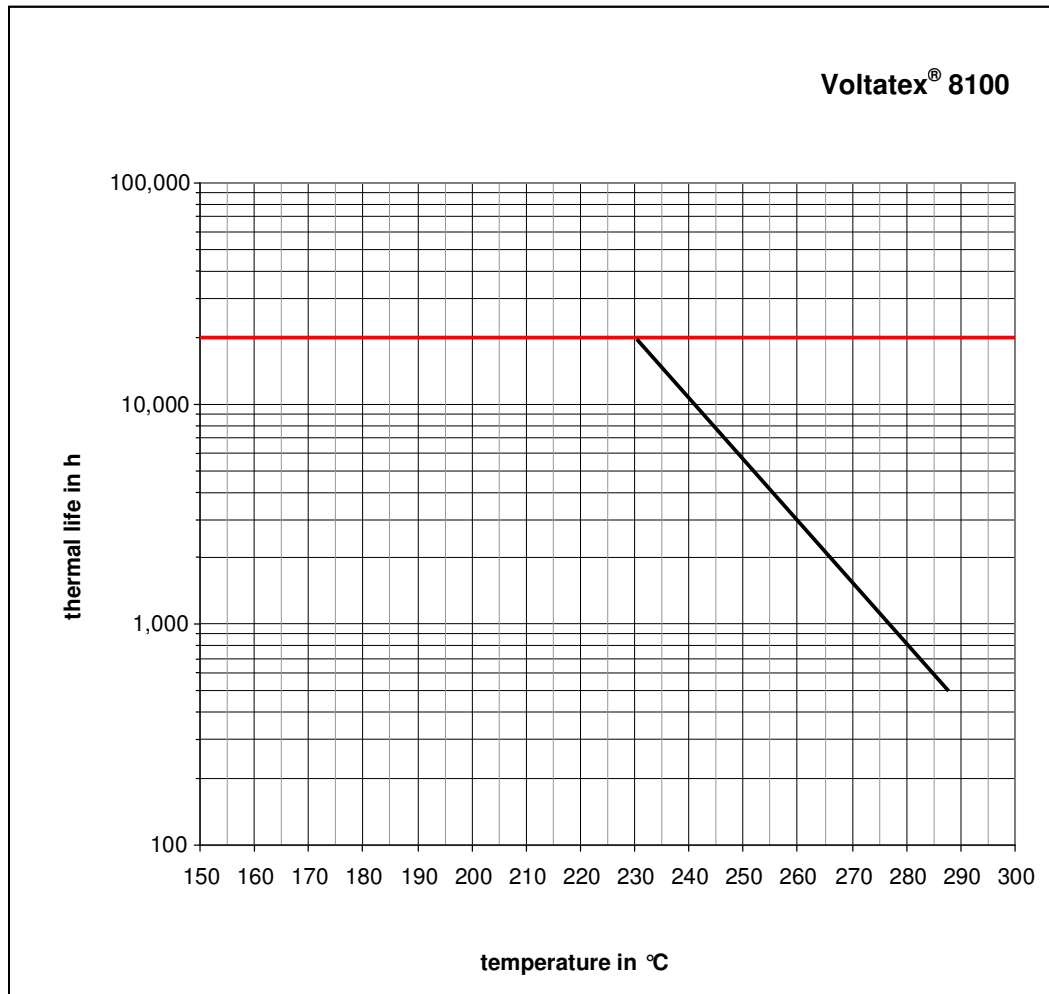
wire enamel	Voltatex® 8132
recirculating air oven	8 m, vertical
application	dies, 8 passes
oven temperature	550 °C
conductor diameter	1.0 mm
enamelling speed	45 m/min
increase in diameter	67 µm

Table 3: Test results

flexibility and adherence, mandrel test 1 x d with pre-stretching of	15 %
heat shock: 1xd, 30 min.	300 °C
cut- through temperature: measured	435 °C
NEMA scrape resistance: number of strokes	380
resistance to solvents, given as pencil hardness:	
as delivered	7- 8 H
IEC standard solvent	7- 8 H
DuPont™ Voltatex® impregnating varnishes	7- 8 H
DuPont™ Voltatex® UP-impregnating resins	7- 8 H
DuPont™ Voltatex® EP-impregnating resins	7- 8 H
dielectric breakdown voltage, in contact with a mandrel: at room temperature	6,420 V
dissipation factor tan δ-intersection point	257 °C
temperature index acc. to ASTM D 2307, 20,000 h value (figure 1)	TI/230

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