

# DuPont™ Voltatex® 7100A

## TECHNICAL DATA SHEET

### Chemical base: THEIC- modified polyester

Voltatex® 7100 A represents a class of magnet wire enamel based on a THEIC- modified polyester which is used as a basecoat for dual coated magnet wires with different solid contents such as Voltatex® 7140 A, Voltatex® 7145 A and Voltatex® 7150 A. In combination with a polyamideimide topcoat, which is dissolved in N-methylpyrrolidone (e.g. Voltatex® 8100, Voltatex® 8200, Voltatex® 8300), the production of dual coated wires with a temperature index of Tl/220 is possible.

### Voltatex® 7100 A exceeds the requirements of IEC 317-13.

Enamelled magnet wires coated with Voltatex® 7100 A show a top level profile of characteristics like high chemical resistance, excellent thermal stability, and outstanding mechanical strength during processing.

### Enamelling technology

Voltatex® 7100 A can be applied within a wire diameter range from approx. 0.20 mm up to approx. 3.00 mm, single and heavy build, by convection or recirculating air ovens, both horizontal and vertical types. The enamel can be applied with dies or felt.

Voltatex® 7100 A combined with polyamideimide topcoat enamelled wires is mainly used in motors and large electrical machineries achieving a very high level of operational reliability.

Voltatex® 7100 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® 7140 A	Voltatex® 7145 A	Voltatex® 7150 A
solid content (1g, 1h, 180 °C)	40 % ± 1 %	45 % ± 1 %	50 % ± 1 %
flow time (4 mm, 23 °C) ISO 2431	125 s – 225 s		
viscosity at 25 °C DIN 53015	500 mPa·s – 900 mPa·s	1,600 mPa·s – 2,000 mPa·s	3,500 mPa·s – 6,500 mPa·s
diluent	Voltatex® 9968	Voltatex® 9968	Voltatex® 9968

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**Table 2: Enamelling conditions**

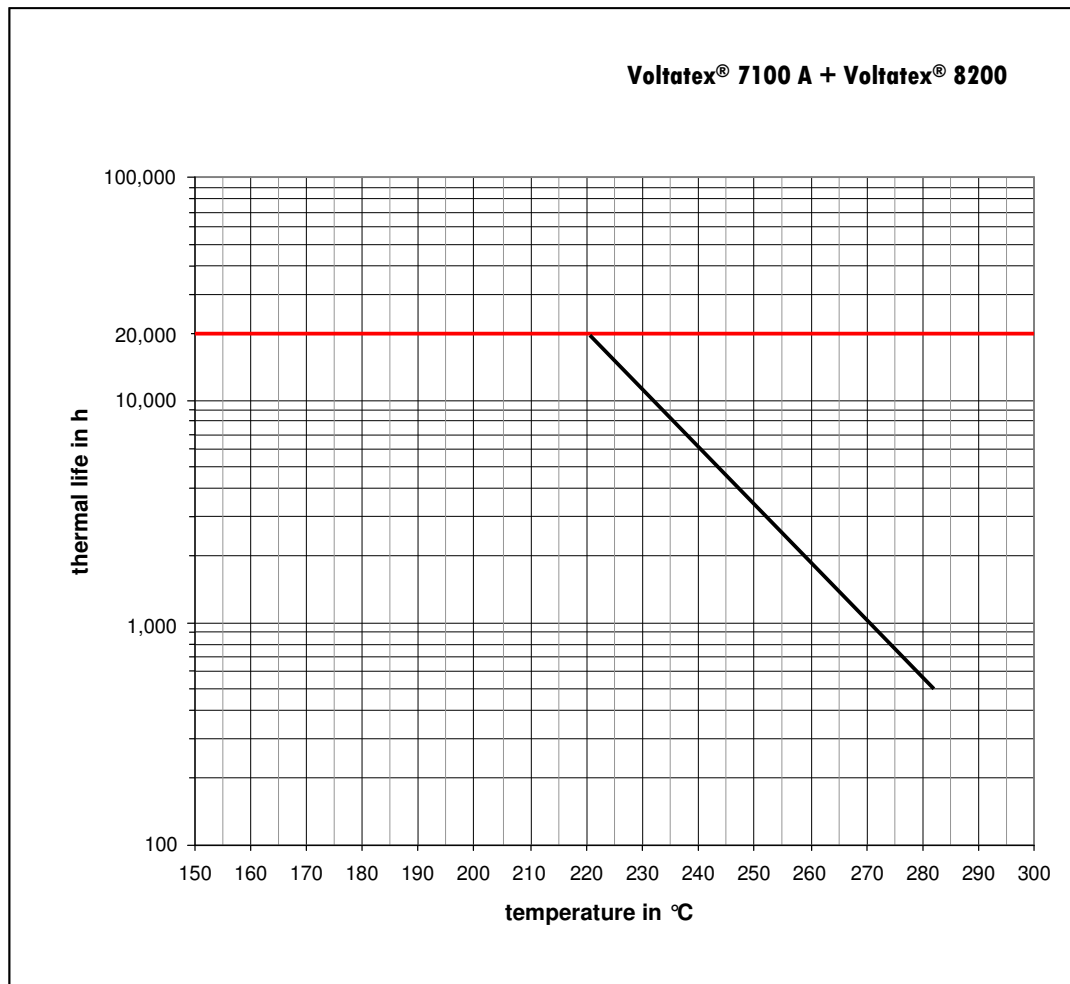
	<b>Voltatex® 7140 A</b>
wire enamel	
recirculating air oven	8 m, vertical
application	dies, 10 passes
oven temperature	550 °C
conductor diameter	1.0 mm
enamelling speed	45 m/min
increase in diameter	80 µm

**Table 3: Test results**

flexibility and adherence, mandrel test 1 x d with pre-stretching of	15 %
heat shock: 1xd, 30 min.	170 °C
cut-through temperature: tested	400 °C
dielectric breakdown voltage, twisted pair: at room temperature	5,000 - 9,999 V
dissipation factor tan δ-intersection point	170 °C
temperature index acc. to ASTM D 2307, 20,000 h value (figure 1)	TI/220

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