

# Enamelled wires

## VT THERM 200° Round Copper

- **Enameled winding wire with excellent mechanical, thermal and chemical properties**
- **Insulation based on (THEIC)modified polyesterimide overcoated with polyamide-imide**
- **Temperature Index 200**

### General description

VT THERM 200° round-shaped copper wires are insulated with an polyesterimide varnish overcoated with polyamide-imide. The insulation provides excellent mechanical and chemical properties.

### Application

Windings on high-speed automatic machines. Main applications are found in motors, generators, transformers.

### Conventional Types

Round copper wires:

- Diameters: 0,20 to 3,75 mm
- Coating class: Grade 1,2 and 3

Dimensions outside of this range on request

The standard dimensions of the conductors (nominal dimension) and the tolerances comply with the standard IEC 60317-13.

### Standards

VT THERM 200° round copper wires meet the requirements of **IEC 60317- 13**.

The test methods are based on IEC Publication 60851

60851-1 General

60851-2 Definition of dimensions

60851-3 Mechanical properties

60851-4 Chemical properties

The product properties set forth in this data sheet are based on the results of testing of typical material produced by the company VT GROUP. Some variation in product properties is typical. Comments or suggestions relating to any subject other than product properties are offered only to call the end-user's or other person's attention to considerations which may be relevant in the independent determination of the use and/or manner of use of product. VT Group does not claim or warrant that the use of its product will have the results described in this data sheet or that the information provided is complete, accurate or useful. The user should test the product to determine its properties and its suitability for the intended use. VT GROUP expressly disclaims any liability for any damage, harm, injury, cost or expense to any person resulting directly or indirectly from that person's reliance on any information contained in this data sheet. Nothing contained in this data sheet constitutes representation or warranty as to any matter whatsoever. VT GROUP makes no warranties whatsoever in this data sheet, expressed or implied, including any implied warranty or fitness for a particular use or purpose. VT GROUP shall in no event be liable for incidental, exemplary, punitive or consequential damages.

60851-5 Electrical properties

60851-6 Thermal properties

### Advantages

Round wires have excellent wind ability in all applications and good ageing resistance in oil for transformers and in silicon oil compatible with impregnation resin.

Thermal index is 200 IEC 60172.

### UL approval

OBMW2.E323336

### Appearance

Slight color variations are raw material or process-related and have no influence on the technical properties of the wire.

	Unit	Value	Test norm
<b>Thermal properties</b>			
Heat shock 30min / 220°C Mandrel winding (Up to and including 1,600mm)		No cracks	IEC 60851-6
Heat shock 30min / 220°C 25% elongation (over 1,600mm)		No cracks	IEC 60851-6
Cut-through 2min / 320°C (over 0,100mm up to and including 1,600mm)		No failure shall occur	IEC 60851-6
<b>Mechanical properties</b>			
Elongation	%	IEC 60317-0-1	IEC 60851-3
Springiness Up to and including 1,600mm	degree	IEC 60317-0-1	IEC 60851-3
Springiness Over 1,600mm	degree	Max. 5	IEC 60851-3
Flexibility and Adherence Mandrel winding test (Up to and including 1,600mm)		No crack	IEC 60851-3
Flexibility and Adherence Stretching test (over 1,600mm), elongated 32%		No crack	IEC 60851-3
Flexibility and Adherence Jerk test (Up to and including 1,000mm)		No crack	IEC 60851-3
Flexibility and Adherence Peel test (over 1,00mm, K=110mm)		No loss of adhesion	IEC 60851-3
<b>Electrical properties</b>			
Breakdown Voltage	V	IEC 60317-0-1	IEC 60851-5

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