

Enameled wires

Thermex® 200 CR

- **Enameled flat wire with excellent resistance to corona for inverter-driven motors**
- **Temperature Index 200**

General description

THERMEX® 200 CR rectangular wires are insulated with a basecoat of Theic-Polyesterimide and an overcoat of modified polyamide-imide varnish, resulting in good thermal and mechanical properties. It is specially designed for inverter-driven motors in low voltage applications. It's also suitable for other situations with voltage peaks coming from electronic switching devices such as used in high frequency applications. There are no fillers in this enamel as used in the first generation of corona resistant enameled wires. Therefore Thermex® 200 CR is not brittle and causes no problem when elongated.

Application

- Inverter-driven motors up to class 200°C
- Magnet and contactor coils which have to operate under voltage peaks.

Conventional Types

Rectangular copper wires:

- Thickness: 2.00 to 6.00 mm
- Width: 4.00 to 20.00 mm
- Cross-section: 8.00 to 80 mm²
- Coating class: Grade 2

The standard dimensions of the conductors (nominal dimension), the overall dimensions and the tolerances comply with the standard IEC 60317-0-2.

Standards

There are no existing standards for this product at today.

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
- 60851- 5 Electrical properties
- 60851- 6 Thermal properties

Processing Instructions

Thermex® 200 CR flat wires can be processed without reservation under the normal working conditions.

Pay special attention previously to not elongate the wire during the winding operations.

Storage Conditions

Thermex® 200 CR wires have to be stored protected from light. All reels must be covered during storage. Storage time is limited to 1 year at room temperature.

Order Data

Quantity, Designation, Supply form e.g.:

The designation shall comprise:

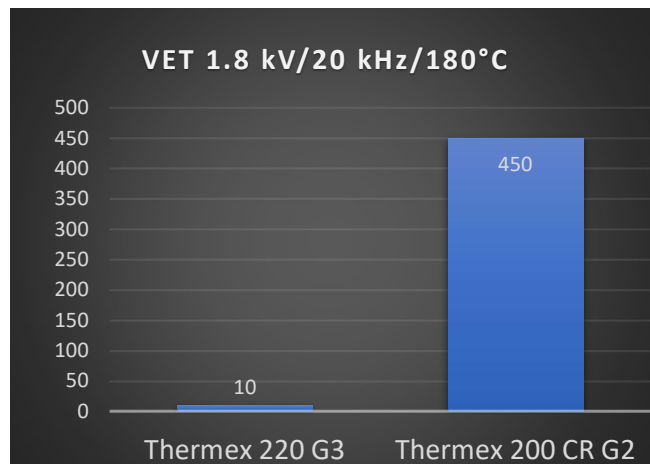
Nominal dimension in mm:	2.24 x 5.00
Conductor material:	Cu
Designation of the insulation:	Thermex 200 CR
Reel type: e.g.	VM630

Example of complete order:

2000 kg FL TX200 CR G2 2.24 x 5.00mm V630

Advantages

Due to a high resistance to corona discharges compared to standard grades (see diagram 1). Thermex® CR 200 has a much longer life time in inverter-driven low voltage motors.



		Thermex 200 CR G2	Test standard
Mechanical properties			
Elongation at break / thickness up to 2.5 mm	%	≥ 30	IEC 60851-3 test 6
Elongation at break / thickness above 2.5 mm	%	≥ 32	IEC 60851-3 test 6
Springiness /diameter above 1.60 mm	°	≤ 5.5	IEC60851-3 test 7
Flexibility - Flatwise bent on mandrel Ø 2 x thickness		no cracks	IEC60851-3 test 8
Flexibility - Edgewise bent on mandrel Ø 2 x width		no cracks	IEC60851-3 test 8
Adherence after elongation	20 %	no loss of adhesion	IEC60851-3 test 8
Electrical properties			
Breakdown voltage after bending	V	≥ 2000	IEC60851-5 test 13
Thermal properties			
Heat shock 30 min / 240 °C mandrel Ø 2 x width		no cracks	IEC60851-6 test 9

Appearance

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

The product properties set forth in this data sheet are based on the results of testing of typical material produced by the company Delle Fil SAS. 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. Delle Fil SAS 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. Delle Fil SAS 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. Delle Fil SAS makes no warranties whatsoever in this data sheet, expressed or implied, including any implied warranty or fitness for a particular use or purpose. Delle Fil SAS shall in no event be liable for incidental, exemplary, punitive or consequential damages.