

Fiber-insulated wires

Daglas enameled round

- **Enameled round copper wire insulated with a glass/polyester fiber blend**
- **Winding wire with excellent thermal and mechanical properties**
- **Temperature Index 180 or 200**

Nominal Bare Wire Diameter d (mm)	Max. Increase in Dimensions (mm)	
	Daglas Covering over Grade 2 Enamelled Conductor	
	Single Covering	Double Covering
0.20 ≤ d ≤ 2.40	0.20 to 0.23	0.28 to 0.32
2.40 ≤ d ≤ 3.50	0.21 to 0.24	0.33 to 0.36
d > 3.50	0.23 to 0.26	0.33 to 0.36

General description

THERMEX® 200 enameled round wires are insulated with a single or double covering of a glass and polyester fibers blend, available in three different versions:

V180: impregnated with modified polyesterimide varnish.

V180K: impregnated with modified polyesterimide varnish in a thermal-adhesive version.

VSi: impregnated with silicone-based varnish.

Silicone impregnation is not available in the thermal-adhesive version.

Application

- Windings of motors up to 6 kV
- Motors and magnet coils subjected to constantly high thermal and mechanical stress

Conventional Types

Covered enameled copper wires THERMEX® 200 Grade 2, insulated with:

- 1 covering layer (1Daglas)
- 2 covering layers (2Daglas)
- optional: varnish impregnation
- coating varnishes: polyesterimide (also as 'B'-staged varnish), or silicone.

Conductor diameter: 0,30 to 6,00 mm

The standard diameters of the conductors (nominal diameter), the tolerances and the overall diameters of the enameled wire comply with the IEC standard 60317-0-10

Build Criteria Round Wire

Standards

DAGLAS-covered round enameled copper wires meets the requirements of IEC-Publications 60317-0-10 and 60317-70-1 (TI155 fused, without impregnation)
 60317-71 (TI180) --> V180
 60317-72 (TI200) --> VSi

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

Advantages

- Covering with high mechanical and bonding strength
- Great resistance to abrasion and scraping
- Good resistance to impregnating varnish solvents (for more information, consult our customer service)

Processing Instructions

Can be processed without reservation under normal working conditions. For the items with a thermal adhesive bond coat (K), the storage time is limited to 1 year at room temperature and 60 % relative humidity.

Order Data

Quantity, Designation, Supply Form e.g.:

The designation shall comprise:

For round shape:	RD
Enamelled wire:	Thermex200 Grade 2
Designation of the yarn covering:	1Daglas V180
Nominal dimension in mm:	2.24mm
Reel type: e.g.	DIN 355

Example of complete order:

2000 Kg RD TX200 G2 1Daglas V180 2.24mm D355



		TX200 G2 1 or 2Daglas not impregnated	TX200 G2 1 or 2Daglas V180 (K)	TX200 G2 1 or 2Daglas VSi	Test standard
Mechanical properties					
Springiness /diameter above 1.60 mm	°	<= 5.5	<= 5.5	<= 5.5	IEC60851-3 test 7
Flexibility - Mandrel winding 8xd		no cracks	no cracks	no cracks	IEC60851-3 test 8
Adherence after elongation	20 %	no loss of adhesion	no loss of adhesion	no loss of adhesion	IEC60851-3 test 8
Shear strength (for V180K only)	N/mm ²	na	>= 3	na	Delle test 1.47.14
Electrical properties					
Breakdown voltage after winding 8xd (1x Daglas)	V	>= 2750	>= 2750	>= 2750	IEC60851-5 test 13
Breakdown voltage after winding 8xd (2x Daglas)	V	>= 3000	>= 3000	>= 3000	IEC60851-5 test 13
Thermal properties					
Heatshock 30 min / 180 °C after winding 10xd		no cracks			IEC60851-6 test 9
Heatshock 30 min / 200 °C after winding 10xd		na	no cracks	no cracks	IEC60851-6 test 9
Thermal endurance	Tl	155	180	200	NEMA MW 1000

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.