Fiber-insulated wires

Daglas round

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

General description
Daglas-covered round wires are insulated with a double covering of a glass and polyester fibre blend, available in 4 different versions:

V155: only fused, not impregnated

V180: impregnated with modified polyesterimide varnish.

V180K: impregnated with modified polesterimide 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 and dry transformers
- Motors and magnet coils subjected to constantly high thermal and mechanical stress

Conventional Types
Covered bare copper wires , insulated with:

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

Conductor diameter: 0.80 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

Nominal bare wire diameter d (mm)	Max. increase in dimension (mm)
	Daglas covering over bare conductor
	Double covering 2Daglas
0.80 bis 2.40	0.18 to 0.21
> 2.40	0.22 to 0.25

Build Criteria Round Wire

Standards
DAGLAS-covered round bare copper wires meets the requirements of IEC-Publications 60317-0-10,
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
Designation of the insulation:	2Daglas V180
Nominal dimension in mm:	2.24
Reel type: e.g.	DIN 355

Example of complete order:

2000 Kg RD 2Daglas V180 2.24mm D355

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		2Daglas not impregnated	2Daglas V180 (K)	2Daglas VSi	Test standard
Mechanical properties					
Springiness /diameter above 1.60 mm	°	≤ 5.0	≤ 5.0	≤ 5.0	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	V/mm	≥ 2200	≥ 2200	≥ 2200	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	TI	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.

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