DAMIDFIBRE 180

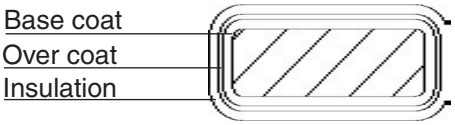
Rectangular enamelled and glass-fibre covered conductor of copper, class 180

Product name
DAMIDFIBRE 180

Specification
IEC 60317-31
NEMA MW 52-C

Class 180
Temperature index ≥ 180°C as per IEC 60172
Heat shock ≥ 200°C

Insulation
Base coat: THEIC-modified polyester(imide)
Over coat: Polyamide-imide
Insulation: 1-3 layers of glass-fibre yarn
Impregnation: Polyester-imide



Properties
- Heat resistant
- Resistant to mechanical stresses in windings

Field of application
- Dry-type transformers
- Welding transformers
- Windings with extreme mechanical stress
- Magnet coils

Reels
Reel 500, 630

Length as a function of mass can be expressed:

$$l(m) = \frac{1000\ m}{8{,}93\ A} \quad \text{for: } A = W\,T - (4 - \pi)r^2$$

l = length in m
m = mass in kg
A = cross section in mm²

Conductor tolerance/mm

Width (W)	Tolerance	Thickness (T)	Tolerance
2,00 ≤ W ≤ 3,15	± 0,03	1,00 ≤ T ≤ 3,15	± 0,03
3,15 < W ≤ 6,30	± 0,05	3,15 < T ≤ 6,00	± 0,05
6,30 < W ≤ 12,50	± 0,07		
12,50 < W ≤ 16,00	± 0,10		

Conductor corner radius/mm

Thickness(T)	Radius (r)	Tolerance
1,00 < T ≤ 1,60	0,50	± 25%
1,60 < T ≤ 2,24	0,65	± 25%
2,24 < T ≤ 3,55	0,80	± 25%
3,55 < T ≤ 6,00	1,00	± 25%

Increase and tolerance for the conductor insulation

Type of product	Conductor width	Nominal increase	Tolerance in width	Conductor thickness	Tolerance in thickness
DAMIDFIBRE 1 180	2,00 ≤ W ≤ 3,15	0,30	± 0,06	1,00 < T ≤ 6,00	± 0,06
	3,15 < W ≤ 6,30	0,32	± 0,06		
	6,30 < W ≤ 12,50	0,35	± 0,07		
	12,50 < W ≤ 16,00	0,38	± 0,08		
DAMIDFIBRE 2 180	2,00 ≤ W ≤ 3,15	0,44	± 0,07	1,00 < T ≤ 6,00	± 0,07
	3,15 < W ≤ 6,30	0,46	± 0,07		
	6,30 < W ≤ 12,50	0,50	± 0,07		
	12,50 < W ≤ 16,00	0,55	± 0,08		

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Certified according to ISO 9000

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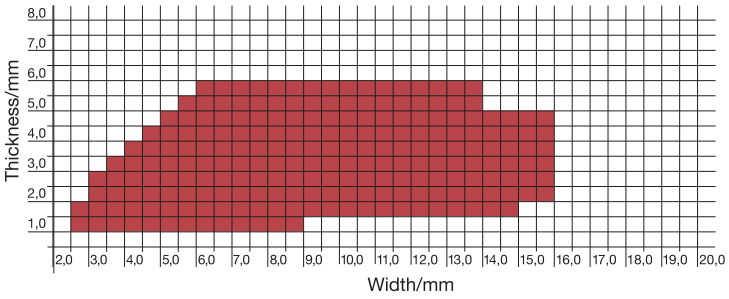
Properties for enamelled and glass-fibre covered rectangular wire - DAMIDFIBRE 180

Characteristics	Test method	Interval	Acceptance criteria[1)]	Typical test results
Mechanical properties Elongation at fracture	*IEC 60851 - 3.3.1*	1,00 ≤ T ≤ 2,50 2,50 < T ≤ 8,00	≥ 30 % ≥ 32 %	45 % 45 %
Tensile strength	*IEC 60851 - 3.3.2*	1,00 ≤ T ≤ 3,00 3,00 < T ≤ 8,00	200 - 270 N/mm^2 [3)] 200 - 260 N/mm^2 [3)]	250 N/mm^2 250 N/mm^2
Spring back	*IEC 60851 - 3.4.2*	1,00 ≤ T ≤ 8,00	≤ 5,5°	4,1 °
Flexibility - Edgewise and flatwise bending	*IEC 60851 - 3.5.1.2*	2,50 ≤ B ≤ 8,00 8,00 < B ≤ 19,0 1,00 ≤ T ≤ 8,00	10 x W 15 x W 10 x T	10 x W 15 x W 10 x T
Adherence - Stretch of a cut sample	*IEC 60851 - 3.5.5.1*	1,00 ≤ T ≤ 8,00	10 % stretch	15 % stretch
Electrical properties (20°C) Conductor resistance (R)	*IEC 60851 - 5.3*	2)	0,01709 Ωmm²/m	-
Conductivity	*1/R*	2)	> 58 m/(Ωmm^2)	-
Electrical breakdown voltage - Damidfibre 1 - Damidfibre 2	*IEC 60851 - 5.4.2*	4)	 1,5 kV 2,0 kV	 5,0 kV 5,0 kV

Comments:
[1)] Acceptance criteria are obtained from IEC 60317-0-2 and IEC 60317-29 unless otherwise is stated
[2)] The dependence of dimension is expressed by the unit
[3)] Acceptance criteria as per EN 13061 for Cu-ETP
[4)] Property independent of dimension

Dimension range

DAMID, DAMIDFIBRE,
DAMIDOGLAS, DAMIDFIBRE EPOXY



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