



DAMID

Rectangular enamelled conductor of copper, heat resistant, class 200

Product name

DAMID

UL approval

DAMID, E101843, MW 35

Specification

IEC 60317-29*
NEMA MW 36-C

Class 200

Temperature index $\geq 200^{\circ}\text{C}$ as per IEC 60172
Heat shock $\geq 220^{\circ}\text{C}$

Insulation

Base coat: THEIC-modified polyester(imide)
Over coat: Polyamid-imide

Properties

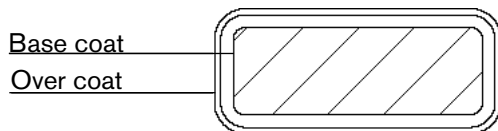
- Heat resistant
- Resistant to mineral oil
- Resistant to refrigerents

Field of application

- Stator and rotor coils
- Oil-cooled transformers
- Dry-insulated transformers
- Welding transformers

Reels

Reel 355, 500, 630



Conductor tolerances/mm

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

Conductor corner radius/mm

Thickness (T)	Radius (r)	Tolerance
$1,00 < T \leq 1,60$	0,50	$\pm 25\%$
$1,60 < T \leq 2,24$	0,65	$\pm 25\%$
$2,24 < T \leq 3,55$	0,80	$\pm 25\%$
$3,55 < T \leq 6,00$	1,00	$\pm 25\%$

Increase in dimension due to the insulation/mm = 0,10 - 0,21

Length as function of mass can be expressed:

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

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

* We fulfill all the requirements in IEC 60317-29 and IEC 60317-0-2 with the exception of clause 60317-0-2:4.4 which covers the tolerance of the increase of enamel. Nevertheless we remain well within the requirements of electric breakdown voltage and the other properties for the final product. For tolerances on the enamel thickness, see above.

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Properties for enamelled rectangular wire – DAMID

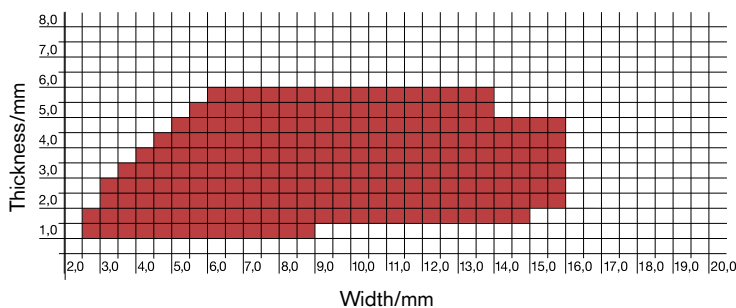
Characteristics	Test method	Interval	Acceptance criteria ¹	Typical test results
Mechanical properties				
Elongation at fracture	<i>IEC 60851 - 3.3.1</i>	$1,00 \leq T \leq 2,50$ $2,50 < T \leq 6,00$	$\geq 30 \%$ $\geq 32 \%$	45 % 45 %
Tensile strength	<i>IEC 60851 - 3.3.2</i>	$1,00 \leq T \leq 3,00$ $3,00 < T \leq 6,00$	200 - 270 N/mm ² ⁽⁴⁾ 200 - 260 N/mm ² ⁽⁴⁾	250 N/mm ² 250 N/mm ²
Springback	<i>IEC 60851 - 3.4.2</i>	$1,00 \leq T \leq 6,00$	$\leq 5,0^\circ$	4,1°
Flexibility – Edgewise and flatwise bending	<i>IEC 60851 - 3.5.1.2</i>	$2,00 \leq B \leq 10,0$ $10,0 < B \leq 16,0$ $1,00 \leq T \leq 6,00$	4 x W 5 x W 4 x T	3 x W 4 x W 3 x T
Adherence – Stretch of a cut sample	<i>IEC 60851 - 3.5.5.1</i>	$1,00 \leq T \leq 6,00$	15 % stretch Loss of adhesion $\leq 1 \times W$	30 % stretch Loss of adhesion $\leq \frac{1}{2} \times W$
Electrical properties (20°C)				
Conductor resistance (R)	<i>IEC 60851 - 5.3</i>	²⁾	0,01709 Ω mm ² /m	–
Conductivity	<i>1/R</i>	²⁾	$> 58 \text{ m}/(\Omega\text{mm}^2)$	–
Electrical breakdown voltage	<i>IEC 60851 - 5.4.2</i>	⁵⁾	2,0 kV	5,0 kV
Thermal properties				
Heat shock	<i>IEC 60851 - 6.3.1.2</i>	$1,00 \leq T \leq 6,00$	$\geq 220^\circ\text{C}$, 6 x T	–
Temperature index	<i>IEC 60851 - 6.5.1.2</i>	³⁾	$> 200^\circ\text{C}$	$> 230^\circ\text{C}$

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) This test shall be conducted on round wire, 1,00 mm Grade 2 according to IEC
- 4) Acceptance criteria as per EN 13601 for Cu-ETP
- 5) Property independent of dimension

Dimension range

DAMID, DAMIDFIBRE, DAMIOGLAS, DAMIDFIBRE EPOXY



The technical data included is up to date at the time of printing.
Dahréntråd reserve the right to make any amendments deemed necessary.

dahréntråd

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