



# DAMIDFIBRE 180 AL

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

**Product name:**

Damidfibre 180 AL

**Specifications:**

Internal LWW or customer specification

**UL approval:**

Not approved

**Class: 180**

Temperature index  $\geq 180^{\circ}\text{C}$  acc. to experience

Heat shock:  $\geq 180^{\circ}\text{C}$

**Insulation:**

Basecoat: THEIC-modified polyester(imide)

Overcoat: Polyamide-imide

1-2 layers of glass-fibre yarn

Impregnation: Polyesterimide

**Properties:**

- Good resistance to mechanical stress
- Heat resistant

**Field of application:**

- Generators
- Electric machines

**Standard packaging:**

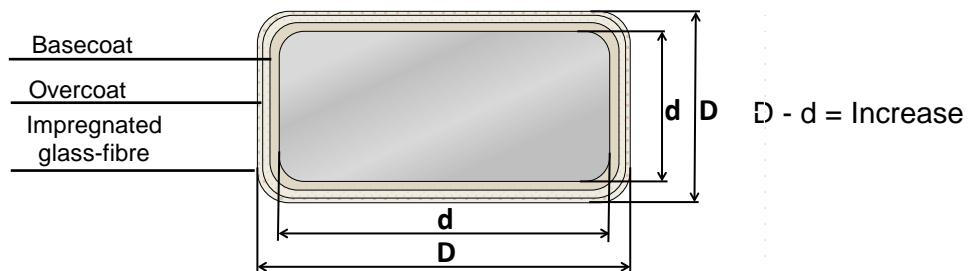
Drum 500 and 630

**Shelf life:**

5 years, under normal ambient conditions

**Conductor material:**

AL according to EN 1715



Conductor tolerances

| Nominal width or thickness of the conductor (mm) |                     | Tolerance +/- (mm) |
|--|---------------------|--------------------|
| Over   | Up to and including |                    |
| -  | 3,15                | 0,030              |
| 3,15   | 6,30                | 0,050              |
| 6,30   | 12,50               | 0,070              |
| 12,50  | -                   | 0,100              |

Conductor corner radius

| Nominal thickness of conductor (mm) |                     | Corner radius (mm)    | Tolerance |
|-------------------------------------|---------------------|-----------------------|-----------|
| Over                                | Up to and including |                       |           |
| -                                   | 1,00                | 0,5 nominal thickness | +/- 25%   |
| 1,00                                | 1,60                | 0,50                  | +/- 25%   |
| 1,60                                | 2,24                | 0,65                  | +/- 25%   |
| 2,24                                | 3,55                | 0,80                  | +/- 25%   |
| 3,55                                | -                   | 1,00                  | +/- 25%   |

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## Insulation increase

| Designation                       | Nominal width of conductor | Increase in thickness | Increase in width |
|-----------------------------------|----------------------------|-----------------------|-------------------|
| Damidfibre 180 AL 1               | $2,00 \leq W \leq 3,15$    | $0,30 \pm 0,06$       | max. 0,36         |
|                                   | $3,15 < W \leq 6,30$       | $0,32 \pm 0,06$       | max. 0,38         |
|                                   | $6,30 < W \leq 12,50$      | $0,35 \pm 0,07$       | max. 0,42         |
|                                   | $12,50 < W \leq 20,50$     | $0,38 \pm 0,08$       | max. 0,46         |
| Damidfibre 180 AL 2 <sup>1)</sup> | $2,00 \leq W \leq 3,15$    | $0,37 \pm 0,06$       | max. 0,51         |
|                                   | $3,15 < W \leq 6,30$       | $0,37 \pm 0,06$       | max. 0,53         |
|                                   | $6,30 < W \leq 12,50$      | $0,42 \pm 0,08$       | max. 0,57         |
|                                   | $12,50 < W \leq 20,50$     | $0,47 \pm 0,08$       | max. 0,63         |

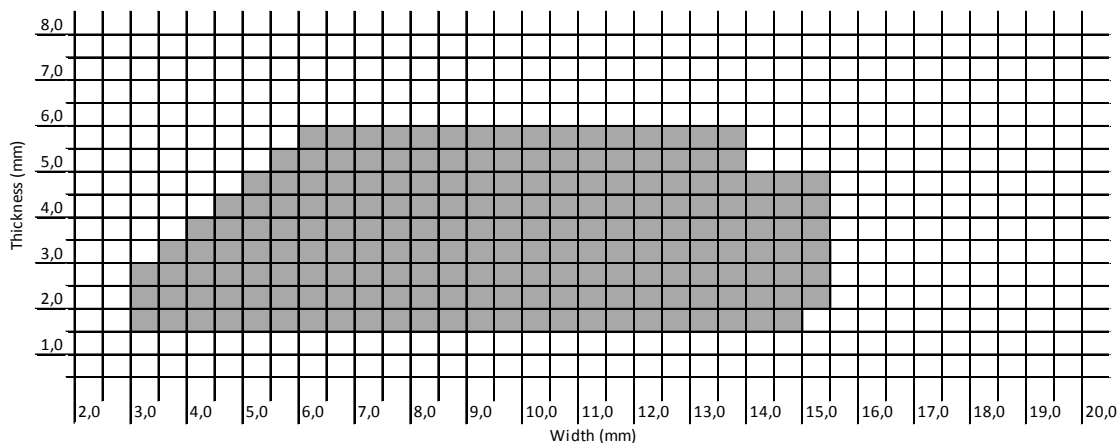
1. Not IEC standard, values modified to suit LWW production process

## Properties for DAMIDFIBRE 180 AL

| Main characteristics                           | Test method     | Interval      | Acceptance criteria                   |
|--|-----------------|---------------|---------------------------------------|
| <b>Electrical properties</b>                   |                 |               |                                       |
| Conductor resistance                           | IEC 60851 - 5.3 | 1)            | 0,02789 $\Omega\text{mm}^2/\text{m}$  |
| Conductivity                                   | 1/R             | 1)            | > 35,5 $\text{m}/(\Omega\text{mm}^2)$ |
| Breakdown voltage                              | IEC 60851 - 5.4 | All sizes     | 1,5 kV                                |
| - Damidfibre 180 AL 1<br>- Damidfibre 180 AL 2 |                 |               | 2,0 kV                                |
| <b>Mechanical properties</b>                   |                 |               |                                       |
| Elongation                                     | IEC 60851-3.3   | $T \leq 3,15$ | $\geq 15\%$                           |
|  |                 | $T > 3,15$    | $\geq 20\%$                           |
| Flexibility                                    | IEC 60851-3.5   | All sizes     | 10 x thickness                        |
| - Bending flatwise                             |                 |               |                                       |
| Adherence                                      | IEC 60851-3.5   | All sizes     | 10 % stretch, no loss of adhesion     |
| -Stretch                                       |                 |               |                                       |

1. Dependence of dimension is expressed by the unit

## Dimension range



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

Liljedahl Winding Wire

dahréntråd | isodraht | śląska | 利里达尔电磁线  
liljedahl winding wire