## PROPERTIES

The fixed access ladders made of Fiberglass Reinforced Polyester (FRP) have been specially developed for the electrical, chemical and water treatment industries.
More than $60 \%$ of the profiles consist of high-quality glass fiber. The outer and inner walls have reinforcements on all sides and are finished with a surface fleece. Inside the profiles, fibers lay in
continuous long bundles in the longitudinal direction of the ladder beams. This combination results in high rigidity and limited weight. The ladder rungs with a granulated anti-slip profile are also made of fibreglass reinforced polyester. The connection between the ladder rung and ladder beams is a glue connection: an optimal balance between flexibility, rigidity and strength.

## Material

| Fiber type | E-glass |
| :--- | :---: |
| Resin type | Isophthalic polyester |
| Fiber volume content | $60 \%$ glass (expressed in weight) |
| Production technique | Pultrusion |
| Colour | Yellow (coloured in the mass) |


| Mechanical properties |  |
| :--- | :---: |
| E-modulus | $27.000 \mathrm{~N} / \mathrm{mm}^{2}$ |
| Tensile strength | $>500 \mathrm{~N} / \mathrm{mm}^{2}$ |
| Specific weight | $1.850 \mathrm{~kg} / \mathrm{m}^{3}$ |

## Electrical properties

Breakdown voltage
$36 \mathrm{kV} / 3 \mathrm{~mm}$

## Profiles

## Ladder beams

Ladder rungs

Rectangle profile $70 \times 25 \mathrm{~mm}, 3 \mathrm{~mm}$ thick
Comfort ladder rung with flat standing surface and granulated anti-slip finishing, $28,3 \mathrm{~mm}$ deep $\times 27,7 \mathrm{~mm}$ high.

## Connections

All rungs go through one side of the ladder beam and are glued to the opposite side.

## Dimensions of the access ladder

The access ladder is available in 2 widths: 480 and 570 mm .
The step height is always 250 mm .

## Access ladder measurements and installation

The number of mounting brackets depends on the ladder length. The brackets and fasteners are made of X5CrNiLMo17-12-2 or AISI 316. The standard distance between ladder and wall is 150 mm .

Optional: mounting bracket with larger wall distance ( $+100 /+200 /+400 \mathrm{~mm}$ ).

The access ladders are supplied with wall brackets, brackets for floor mounting are also available.

## Standards and certification

The access ladders are in accordance with the following standards:
$\checkmark$ EN 14396
Fixed ladders for wells
$\checkmark$ EN 14122-4
Safety of machines - Permanent means of access to machines - Part 4: Fixed ladders
$\checkmark$ EN 131-1
Ladders: terms, types, functional dimensions
$\checkmark$ EN 131-2
Ladders: requirements, testing, marking

- EN 61478

Ladders made of insulating material


