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## Waterproofing membrane FATRAFOL 911 T15

### PRODUCT DESCRIPTION

FATRAFOL 911 is a non-reinforced waterproofing membrane made on the basis of plasticised polyvinyl chloride (PVC-P), with a signal yellow layer.

### TECHNICAL PARAMETERS

Parameter	Standard	Value for assigned thickness
		1.50 mm
Water permeability	EN 14150	$< 10^{-6} \text{ m}^3 \cdot \text{m}^{-2} \cdot \text{d}^{-1}$
Tensile strength	EN ISO 527-1	$\geq 17 \text{ N/mm}^2$
Elongation	EN ISO 527-3	$\geq 300 \%$
Static puncture (CBR test)	EN ISO 12236	$\geq 1.8 \text{ kN}$
Tear strength (structural strength)	ISO 34-1 method B	$\geq 50 \text{ kN/m}$
Foldability at low temperature	EN 495-5	$\leq -30 \text{ }^\circ\text{C}$
Resistance to weathering - change in tensile strength - elongation change	EN 12224	$\leq 25 \%$
Resistance to oxidation - change in tensile strength	EN 14575	$\leq 25 \%$
Chemical resistance - change in tensile strength - elongation change	EN 14414 method B	$\leq 10 \%$
Resistance to root penetration	CEN/TS 14416	pass
Reaction to fire	EN 13501-1 EN ISO 11925-2	class E
Resistance to impact	EN 12691 method A	$\geq 1000 \text{ mm}$
	EN 12691 method B	$\geq 2000 \text{ mm}$
Water tightness (400 kPa)	EN 1928 method B	pass
Mass per unit area	EN 1849-2	$1.85 \text{ kg/m}^2$
Straightness	EN 1848-2	$\leq 50 \text{ mm}$
Joint strength	EN 12317-2	$\geq 840 \text{ N/50 mm}$
Tear resistance	EN 12310-1	$\geq 350 \text{ N}$
Dimensional stability	EN 1107-2	max. $\pm 2 \%$

Mass per unit area tolerance: -5 % / +10 %

## APPROVALS / CERTIFICATES

- Declaration of performance and CE marking according to harmonised standard EN 13491
- Environmental product declaration (EPD) according to ISO 14025

## DIMENSIONS

Thickness [mm] <sup>1)</sup> (EN 1849-2)	Width [mm] (EN 1848-2)	Length [m] (EN 1848-2)	Quantity on the roll [m <sup>2</sup> ] <sup>2)</sup>
1.50	2000	20	40

*Thickness tolerance: -5 % / +10 %, width tolerance: -0.5 % / +1 %, length tolerance: -0 % / +5 %*

*Other lengths can also be produced upon agreement between the manufacturer and the customer.*

1) total thickness (thickness of the signal layer: 0.20 mm)

2) informative value

## COLOUR AND APPEARANCE

FATRAFOL 911 is produced in black colour with a yellow signal layer.

The colour shade of various production batches of the membranes may differ. Minor colour differences are not considered justified grounds for a claim.

FATRAFOL 911 has a smooth matt surface.

## USAGE

FATRAFOL 911 is waterproofing membrane designed for:

- tunnels, driven by pressurized shield or by controlled blasting, as well as for excavated tunnels;
- underground structures which form part of tunnels.

FATRAFOL 911 is designed for structures loaded with hydrostatic pressure.

## APPLICATION

FATRAFOL 911 can be installed only by specialised firms whose workers have been trained properly.

FATRAFOL 911 is applied in compliance with the principles determined and described in the Construction and Technological Instruction FATRAFOL-T (PN 5421/2016), as amended at the time of the membrane's application, which is available at [www.fatrafol.cz](http://www.fatrafol.cz).

## STORAGE

Store at temperatures between -5 °C and +30 °C. On the site, it is necessary to protect the membrane against pollution. It is recommended to protect the membrane against weather effects until it is applied.

## MORE INFORMATION

For more information, please see the manufacturer's website [www.fatrafol.cz](http://www.fatrafol.cz).

## LEGAL CLAUSE

The technical data contained herein is based on our current knowledge and experience and relate to the use of the products under normal conditions for application. The information that is included in the current Technical Data Sheet is determined by the method of use and is incomplete. Before using this product, the user is obliged to check whether the product is suitable for the intended use. In addition to that, all users should contact the dealer or manufacturer of this product to obtain additional technical information regarding its use in case they are of the opinion that the information available to them requires some explanation, for both the standard and specific use of this product. Please always make sure that you have the latest version of the product's Technical Data Sheet at your disposal. This Data Sheet and additional information can be obtained from the sales or technical representative of the manufacturer or on the manufacturer's website.

## PRODUCER

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