

# SOLARGel PES

Nanotechnology solar bi-tube for solar systems  
no dust - does not irritate



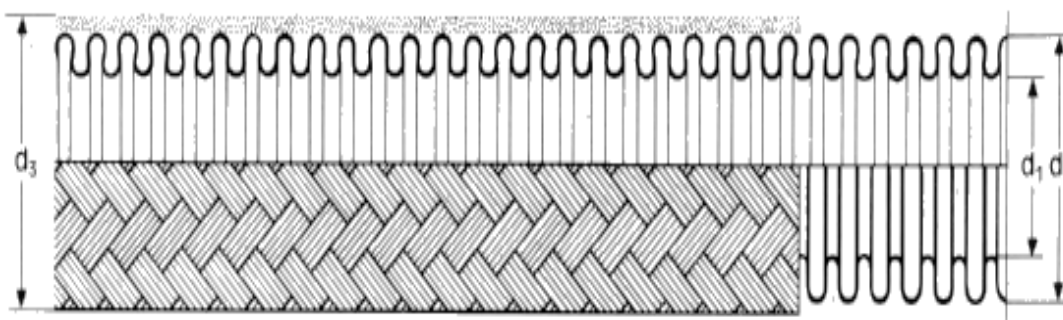
## DESCRIPTION:

The innovative flexible tube SOLARGel PES, made of flexible corrugated stainless steel AISI 304 L, is the result of the most advanced discoveries in nanotechnology: thanks to the use of these innovative materials, with only 5 mm of non-irritating insulating material, which does not make dust a very low thermal conductivity ( $\lambda$  0.029 W/mK @ 0 °C - 0.030 W/mK @ 10 °C) together with an extremely wide temperature range of use (-200 / + 260 °C) is obtained. The design of this product is conceived in such a way as not to require the use of external supports for the installation of the pipes, simplifying technician operations and reducing the working times. The insulation material is hypoallergenic and is externally covered by a layer of PVC protective material to add a high resistance to the weather and the sun's UV rays and high protection against various animal attacks such as insects, rodents and birds (anti-pitching).

The comparison with solar products currently on the market is clearly ahead **because the nanotechnology has enabled the development of materials which are indisputably superior in performance and duration, with smaller dimensions.**

## COMPOSITION OF THE PRODUCT:

Corrugated stainless steel tube AISI 304L, tested to BS EN ISO 10380, with nominal diameters  $\varnothing$  16 - 20 - 25 mm. Available in different sizes: 10 - 15 - 20 - 25 m, it is also available a revolutionary packaging system with sizes up to 150 m per reel.



## THICKNESS OF STEEL:

Nominal Diameter  $\varnothing$  16 mm = 0.18 mm

Nominal Diameter  $\varnothing$  20 mm = 0.18 mm

Nominal Diameter  $\varnothing$  25 mm = 0.20 mm



PRODOTTI CHIMICI E TECNICI - CHEMICAL AND TECHNICAL PRODUCTS

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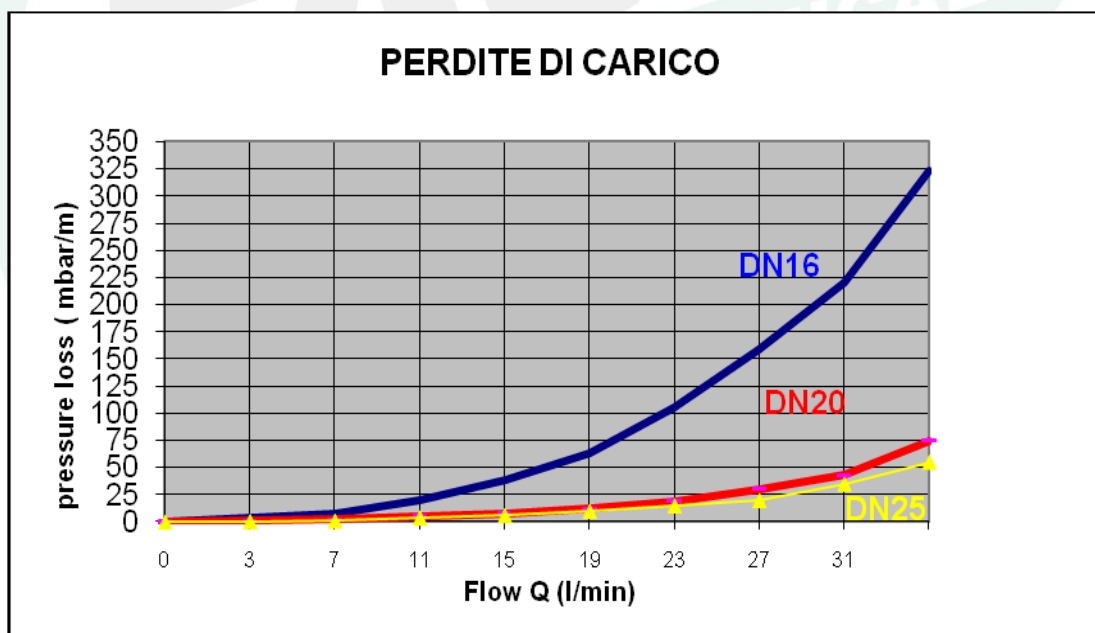


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In the table below you can see the different nominal diameters available, the relative internal and external diameters, the Warp Rays and the permissible operating pressures.

DIMENSIONS OF THE STAINLESS STEEL TUBE						
DN	Internal diameter	External diameter	Tol.	Min. bending radius	Nominal bending frequent bending radius	Possible working pressures N ISO 10380 @ 20 °C
-	D1	D2	D1, D2	r <sub>min</sub>	r <sub>n</sub>	P <sub>zul</sub>
16	16,50	21,30	± 0,3	27	100	10
20	20,60	26,10		30	120	7
25	25,60	31,80	± 0,2	39	130	4

In the table below are shown instead of the load losses of the corrugated tube in stainless steel, expressed in **mBar / m**, of different diameters according to the flow, expressed in **l / min**, passing through it.



**INSULATION:**

The Fibers PES is a fibrous material made of very thin polyester recycled fibers, developed in layers to be used as insulation for the pipes of the solar thermal panels. Its special structure allows you to wrap the pipe without leaving gaps that can reduce the effect of insulation. The outer surface has a greater resistance to compression to allow a better degree of attachment with the PVC or other laminated material.

Due to its origin, the material is completely recyclable as a PET material.

It does not require any special caution during processing and can be easily cut with a band saw blade without teeth (razor blade) or a blade with teeth of convex shape.

**FEATURES:**

- Low thermal conductivity
- Formaldehyde free
- Fully recyclable (100 % polyester)
- Ultrasonic welding capacity
- High compressive strength
- Differentiated structure, soft to adapt to the tube (inner side) and for the rigid PVC or laminate (outer side)
- Safe to handle: no release of hazardous substances during handling and / or processing and without dust
- Hypoallergenic.

**TECHNICAL DATA:**

Composition	100 % PES fibers
Colour	white
Raw material thickness	8 mm
Density	88 Kg/m <sup>3</sup>
Thermal conductivity (EN 12667)	0,029 W/mK @ 0 °C 0,030 W/mK @ 10 °C
Flash class (ISO 3795)	SE (Self extinguishing)
Temperatura di stabilità	+150 °C in continuo, con punte di +260 °C



**COUPLING FITTINGS:**

- Material: brass
- Max working pressure: 10 Bar
- Max working temperature: +200 °C

**Guide to install coupling fittings with quick connect fitting on SOLARGel PES**

EXTERNAL thread connection (male):

1/2" DN 16 - set 4 pieces, 3/4" DN 16 - set 4 pieces, 3/4" DN 20 - set 4 pieces, 1" DN 20 - set 4 pieces, 1 1/4" DN 25 - set 4 pieces

INTERNAL thread connection (female):

1/2" DN 16 - set 4 pieces, 3/4" DN 16 - set 4 pieces, 3/4" DN 20 - set 4 pieces, 1" DN 20 - set 4 pieces

Steel connection with copper exit:

DN 16 copper - 15 mm - set 4 pieces, DN 16 copper - 18/22 mm - set 4 pieces, DN 20 copper - 18/22 mm - set 4 pieces, DN 25 copper - 22 mm - set 4 pieces

Double connection: DN 16 - DN 16, DN 20 - DN 20, DN 25 - DN 25

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