smart8: the solution for your octagonal ducts

smart8
ductal
fast construction duct[al] system



Change duct!

P3ductal smart8 is an evolution of the P3ductal system, based on revolutionary duct construction and installation procedures. **P3ductal smart8** is characterized by an easy and fast construction and installation which guarantee economical advantages. **P3ductal smart8** consists of pre-cut panels ready to be assembled using a simple and quick inserting bayonet.

Valuable advantages

» **competitiveness:** the "smart solution" combines economical advantages with the usual technical performances of pre-insulated aluminium ducts;

» **fast to assemble:** pre-cut panels are supplied inside a box, few easy and fast moves are enough to complete the whole operation, also on the job site;

» **off-cuts reduction:** the pre-cut solution optimizes the use of the material itself by reducing the off-cuts.

The new **smart8** solution also reconfirms and guarantees all the technical characteristics which, for nearly 20 years, have been appreciated in all the rectangular versions (indoor and outdoor) of P3ductal system, such as:

» **total safety in case of fire:** Class B-s2,d0 according to the European UNI EN 13501-1 2005;

» **highest security in case of earthquake:** due to the high rigidity and lightness of materials;

» **very high hygiene and quality of the air:** thanks to the use of aluminium for the internal surface of ducts

» **complete respect of the environment:** our smart8 panels are made using the exclusive "Hydrotec" technology, which utilizes only water for the expansion of the polyurethane insulation. This solution avoids the use of the undesired greenhouse effect gases (CFC, HCFC, HFC, HC).

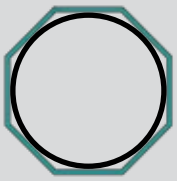
» **very good thermal insulation:** λi=0,022 W/(m °C) at 10 °C

» **very low friction losses:** thanks to the fact that the internal surfaces of duct have reduced roughness.

» **extraordinary air seal:** our special "labyrinth" bayonet, thanks to its particular shape, creates a true labyrinth which drastically reduces the air leaks. Thanks to the bayonet and the available frames a very good air seal is guaranteed.

Available solutions

	smart8.12	smart8.20	smart8.30
panel thickness	12 mm	20 mm	30 mm
type of aluminium external/internal	embossed/embossed	embossed/smooth (1)	embossed/smooth (1)
ideal for	low pressure systems	medium pressure systems	medium pressure systems
available diameter (2)	150	500	900
	250	600	1000
	350	700	1100
	300	800	1200
	350		
	400		



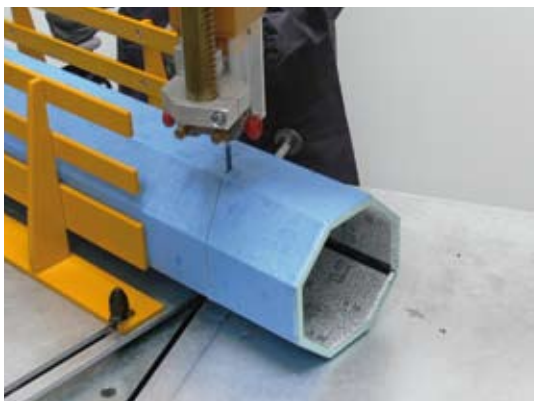
(2) the size indicates the internal diameter obtainable from the pre-cut panels

(1) the smooth aluminium is treated with a special antibacterial active principle

The secret: closing bayonet and 22,5° cuts

Closure with the labyrinth bayonet

Using the pre-cut panel you assemble the straight duct, by simply folding and closing it with the "labyrinth" bayonet (one bayonet for the **smart8.12** and **smart8.20** versions and two bayonets for the **smart8.30** version). The **smart8.12** kit includes both the panels and bayonets contained in the box. The **smart8.20** and **smart8.30** versions have the panels and bayonets sold separately.



From the straight duct to fitting with simple 22,5° cuts

In order to construct the fittings all you have to do is perform a series of transversal cuts on the straight duct obtaining a series of single components, which once reunited, generate the fitting.

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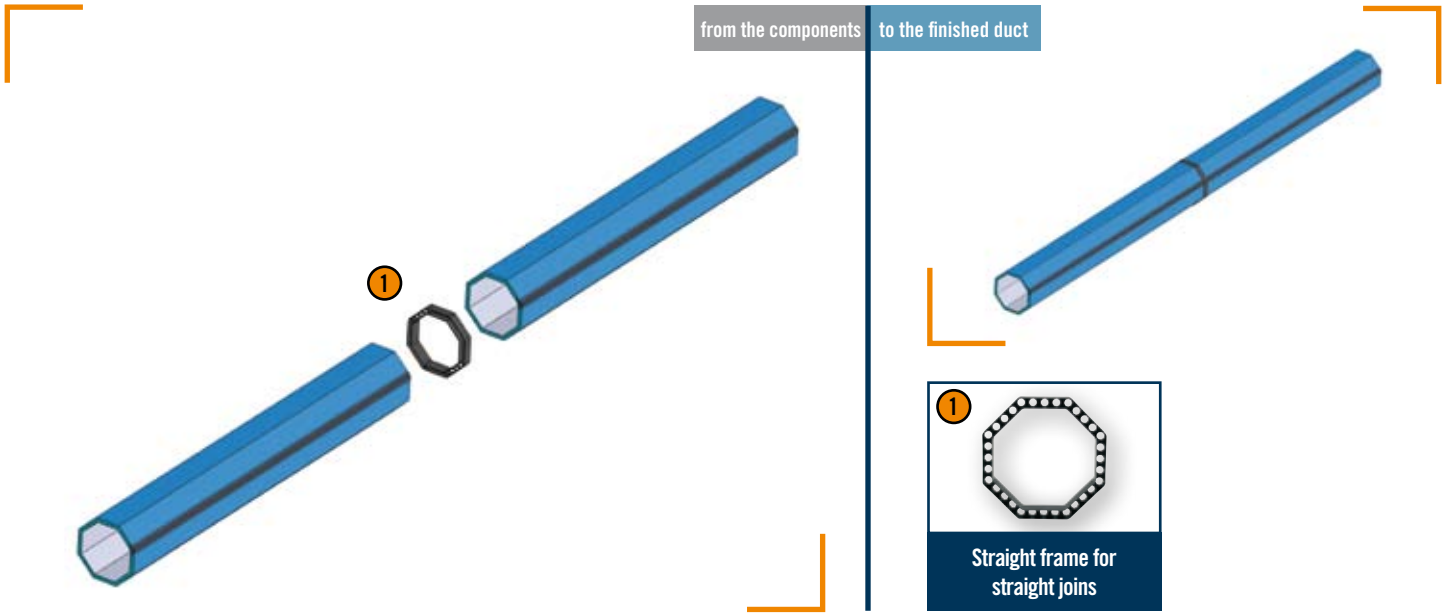
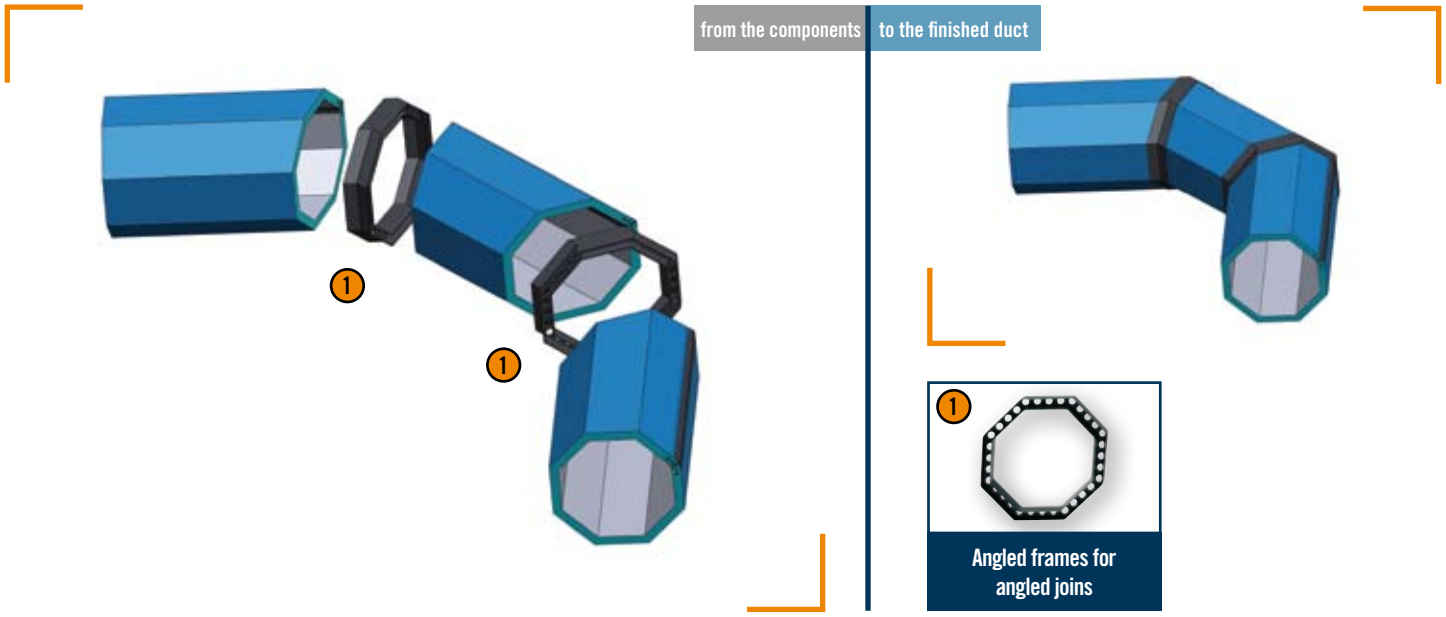
straight duct

With the appropriate straight frames you may join the single ducts in order to make any length of straight ducting for your system.



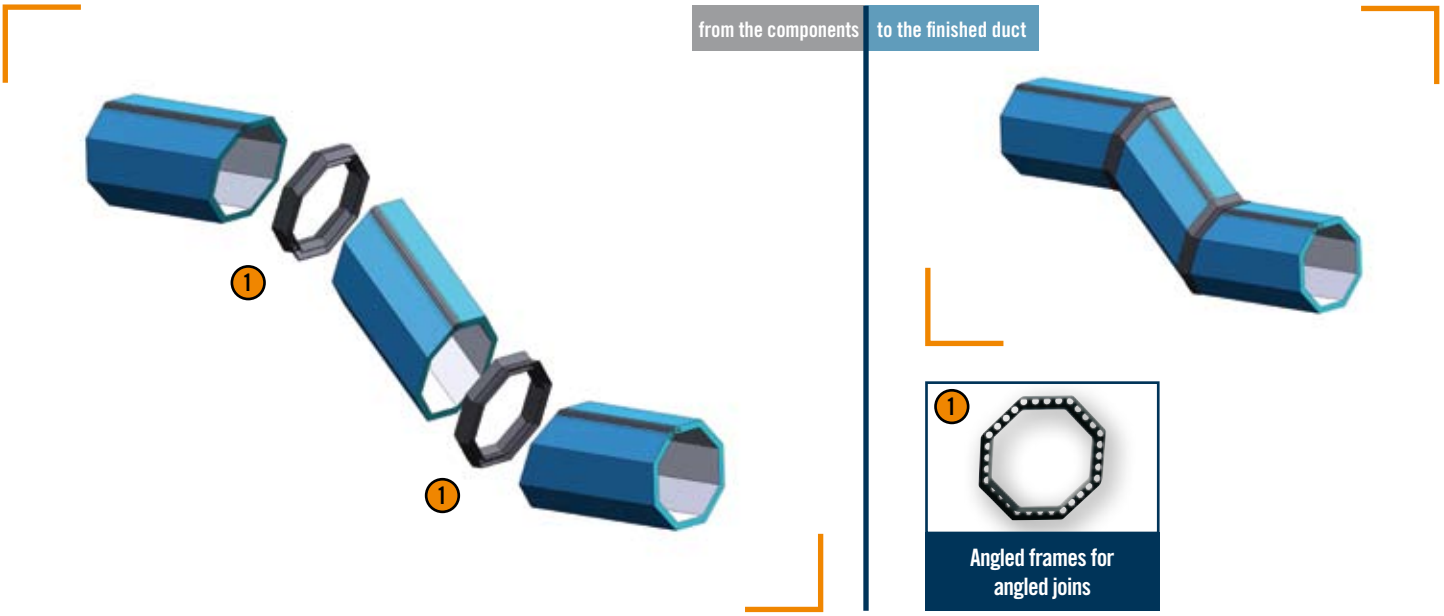
bend

The various components of the bend are united using the appropriate angled frames.



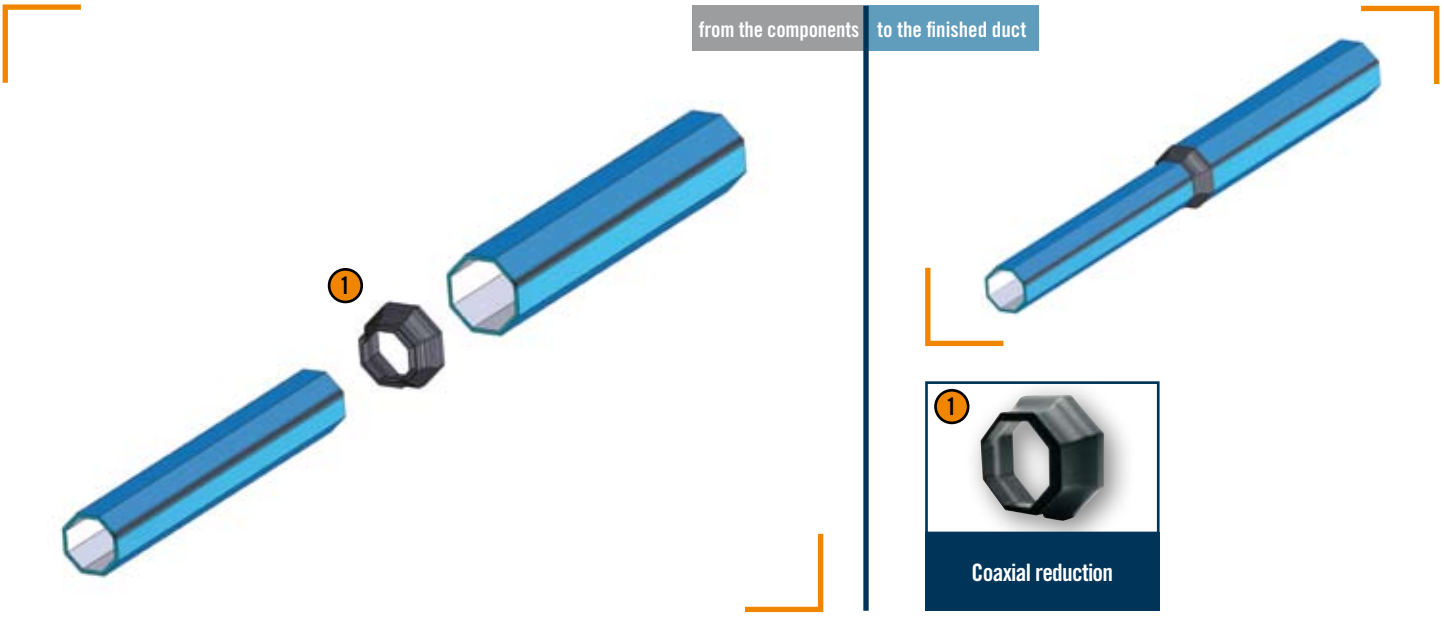
off-set

The various components of the off set are united using the appropriate angled frames.



reduction

For the reductions appropriate accessories are available at standard dimensions.



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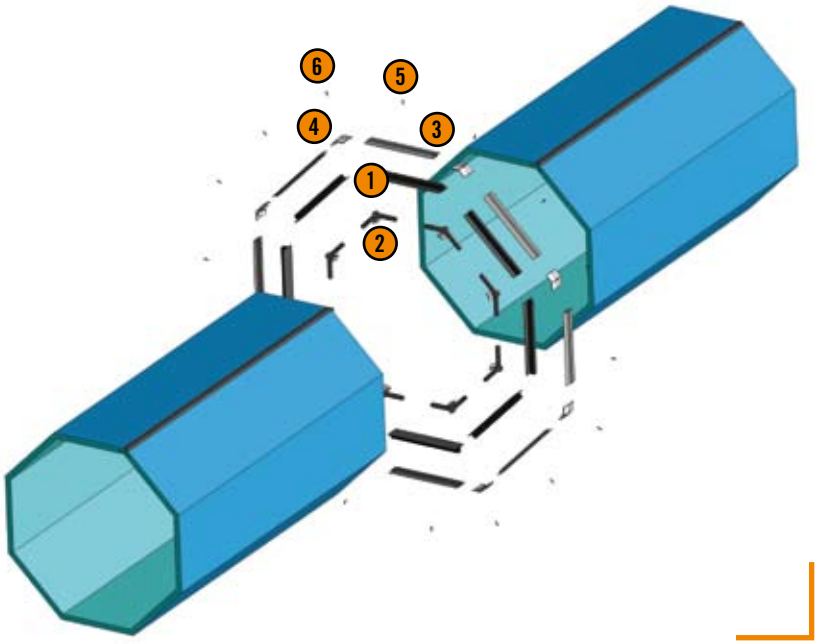
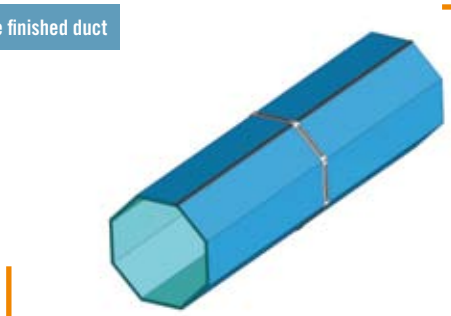
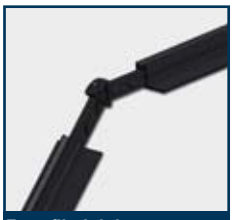
straight duct

Using the appropriate reinforcement corners (21SQ08) you build the internal octagonal structure by joining the eight segments of T profile (21PR22) provided already pre-cut at the correct length.
This structure fits perfectly in the internal diameter. The two straight ducts may now be united in this way. In order to guarantee a perfect air seal you will then apply a layer of silicon. Along the external perimeter, in order to further increase the air seal, we will then go and apply the segments of aluminium covering frames (21PR23), fixing them in the middle to the internal structure with self tapering screws (21RF04). In order to finish the join we will finally apply, in the eight corners, the appropriate covering angles (21FN20) that will be fixed with the appropriate screws (21RF05) to the reinforcement corners (21SQ08).

from the components to the finished duct







T profile joining reinforcement corner

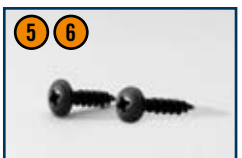
Straight joint profile

21PR22 T profile th. 20 mm

21SQ08 22,5° reinforcement corners th. 20 mm

21PR23 Aluminium covering frames

21FN20 22,5° covering angles

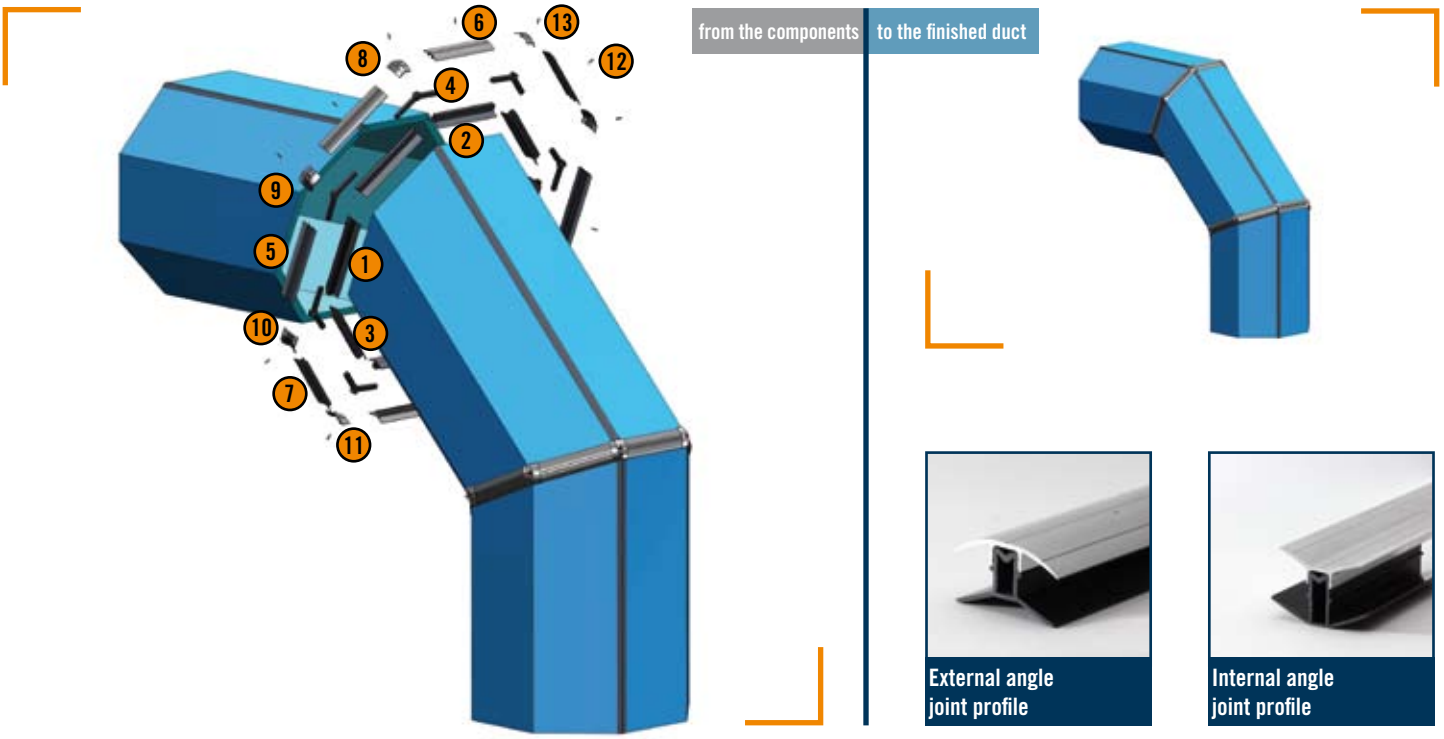


21RF04 Screw for 21PR23
21RF05 Screw for 21FN20

The straight joint components are supplied directly in kit format			
21GD50	**21GD60**	**21GD70**	**21GD80**
Straight joint kit 500 mm internal diameter	Straight joint kit 600 mm internal diameter	Straight joint kit 700 mm internal diameter	Straight joint kit 800 mm internal diameter

bend

Using the appropriate reinforcement corners (21SQ08) you build the internal octagonal structure by joining the eight segments of T profile supplied in different models for the straight side (21PR22), for the external radius (21PR26) and for internal radius (21PR27); all already pre-cut at the correct length. This structure fits perfectly in the internal diameter. The two straight ducts may now be united in this way. In order to guarantee a perfect air seal you will then apply a layer of silicon. Along the external perimeter, in order to further increase the air seal, we will then go and apply the segments of aluminium covering frames supplied in different models for the straight side (21PR23), for the external radius (21PR24) and for internal radius (21PR25), fixing them in the middle to the internal structure with self tapering screws (21RF04). In order to finish the join we will finally apply, in the eight corners, the appropriate covering angles (21FN23 for external radius, 21FN24 for mid-external radius, 21FN25 for mid-internal radius, 21FN26 for internal radius) that will be fixed with the appropriate screws (21RF05) to the reinforcement corners (21SQ08).



External angle joint profile

Internal angle joint profile

21PR22 T profile th. 20 mm

21PR26 T profile th. 20 mm for external angle

21PR27 T profile th. 20 mm for internal angle

21SQ08 22,5° reinforcement corners th. 20 mm

21PR23 Aluminium covering frames

21PR24 Aluminium covering frames for external angle

21PR25 Aluminium covering frames for external angle

21FN23 22,5° covering angles for external angle

21FN24 22,5° covering angles for mid- external angle

21FN25 22,5° covering angles for mid- internal angle

21FN26 22,5° covering angles for internal angle

21RF04 Screw for 21PR23/4/5
21RF05 Screw for 21FN23 and 21FN24/5/6

The bend joint components are supplied directly in kit format

21GC50	21GC60	21GC70	21GC80
Bend joint kit 500 mm internal diameter	Bend joint kit 600 mm internal diameter	Bend joint kit 700 mm internal diameter	Bend joint kit 800 mm internal diameter

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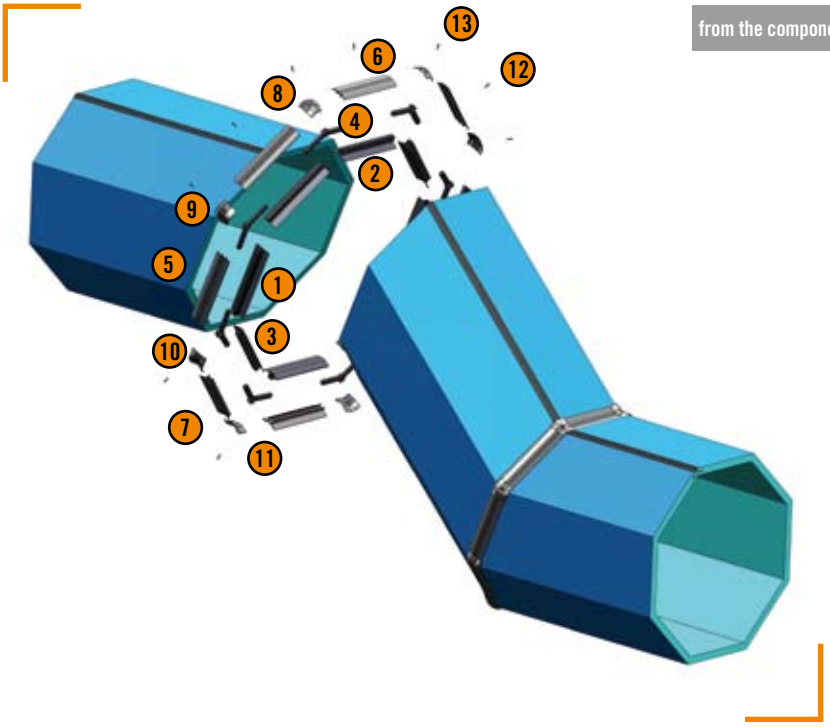
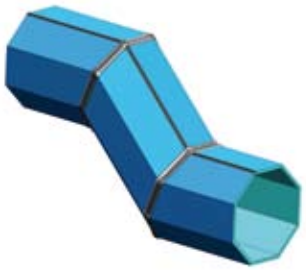
off-set

The off-set is assembled repeating twice the same joining procedure used for the bend and explained in the previous page.
In this particular situation, on the contrary to the bend, the last piece of duct has to be jointed with an inverted angle.



from the components | to the finished duct



External angle joint profile

Internal angle joint profile

21PR22 T profile th. 20 mm

21PR26 T profile th. 20 mm for external angle

21PR27 T profile th. 20 mm for internal angle

21SQ08 22,5° reinforcement corners th. 20 mm

21PR23 Aluminium covering frames

21PR24 Aluminium covering frames for external angle

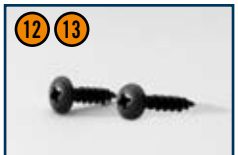
21PR25 Aluminium covering frames for external angle

21FN23 22,5° covering angles for external angle

21FN24 22,5° covering angles for mid- external angle

21FN25 22,5° covering angles for mid- internal angle

21FN26 22,5° covering angles for internal angle



21RF04 Screw for 21PR23/4/5
21RF05 Screw for 21FN23 and 21FN24/5/6

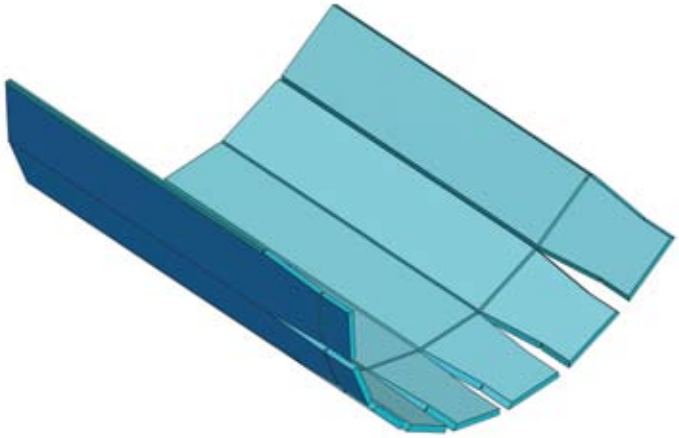
The bend joint components are supplied directly in kit format

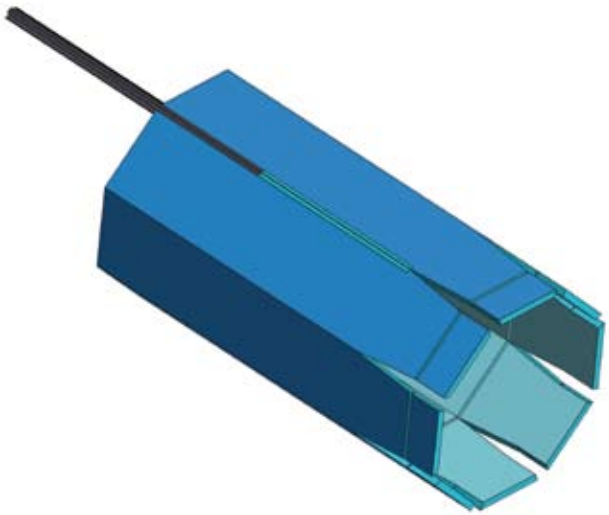
21GC50	21GC60	21GC70	21GC80
Bend joint kit 500 mm internal diameter	Bend joint kit 600 mm internal diameter	Bend joint kit 700 mm internal diameter	Bend joint kit 800 mm internal diameter

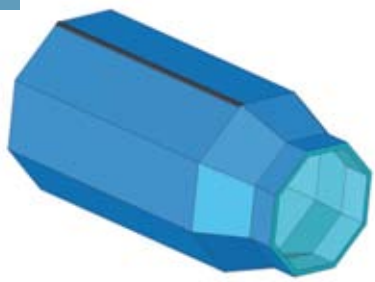
reduction

The reduction may be obtained directly from a straight pre-cut panel.

from the components to the finished duct







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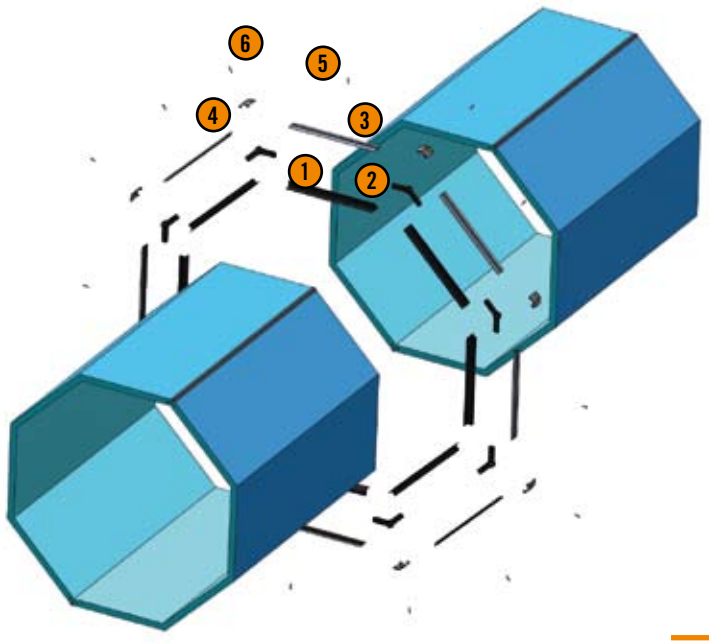
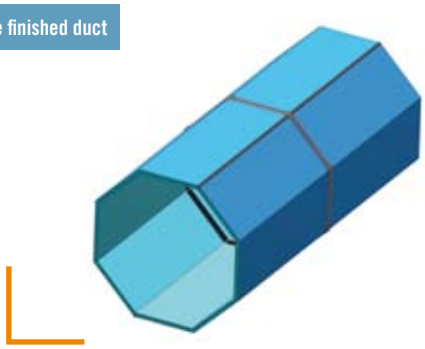
straight duct

Using the appropriate reinforcement corners (21SQ07) you build the internal octagonal structure by joining the eight segments of T profile (21PR20) provided already pre-cut at the correct length.
This structure fits perfectly in the internal diameter. The two straight ducts may now be united in this way. In order to guarantee a perfect air seal you will then apply a layer of silicon. Along the external perimeter, in order to further increase the air seal, we will then go and apply the segments of aluminium covering frames (21PR23), fixing them in the middle to the internal structure with self tapering screws (21RF04). In order to finish the join we will finally apply, in the eight corners, the appropriate covering angles (21FN20) that will be fixed with the appropriate screws (21RF05) to the reinforcement corners (21SQ07).

from the components to the finished duct





T profile joining reinforcement corner

Straight joint profile

21PR20 T profile th. 30 mm

21SQ07 22,5° reinforcement corners th. 30 mm

21PR23 Aluminium covering frames

21FN20 22,5° covering angles

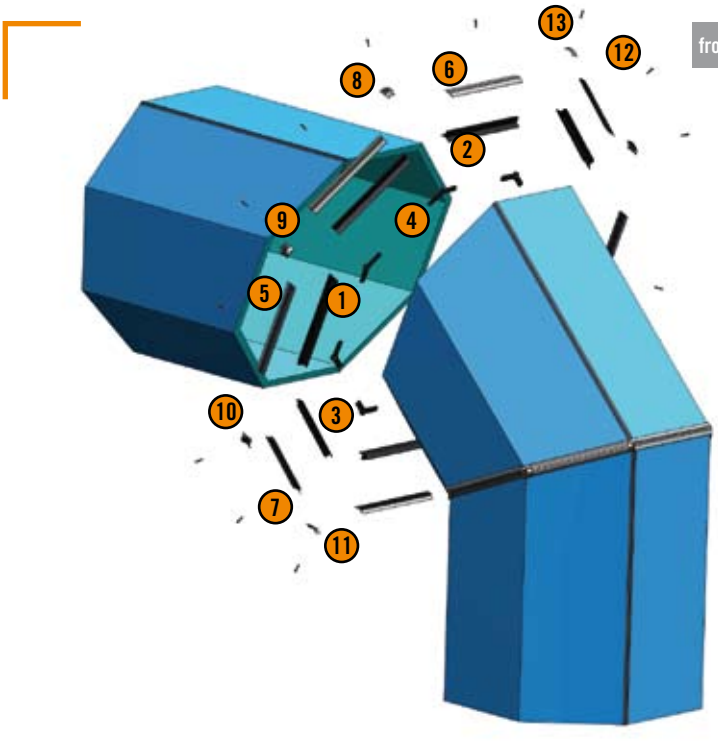
21RF04 Screw for 21PR23
21RF05 Screw for 21FN20

The straight joint components are supplied directly in kit format

21GD90	21GD100	21GD110	21GD120
Straight joint kit 900 mm internal diameter	Straight joint kit 1000 mm internal diameter	Straight joint kit 1100 mm internal diameter	Straight joint kit 1200 mm internal diameter

bend

Using the appropriate reinforcement corners (21SQ07) you build the internal octagonal structure by joining the eight segments of T profile supplied in different models for the straight side (21PR20), for the external radius (21PR30) and for internal radius (21PR31); all already pre-cut at the correct length. This structure fits perfectly in the internal diameter. The two straight ducts may now be united in this way. In order to guarantee a perfect air seal you will then apply a layer of silicon. Along the external perimeter, in order to further increase the air seal, we will then go and apply the segments of aluminium covering frames supplied in different models for the straight side (21PR23), for the external radius (21PR24) and for internal radius (21PR25), fixing them in the middle to the internal structure with self tapering screws (21RF04). In order to finish the join we will finally apply, in the eight corners, the appropriate covering angles (21FN23 for external radius, 21FN24 for mid-external radius, 21FN25 for mid-internal radius, 21FN26 for internal radius) that will be fixed with the appropriate screws (21RF05) to the reinforcement corners (21SQ07).



from the components to the finished duct

External angle joint profile

Internal angle joint profile

21PR20 T profile th. 30 mm

21PR30 T profile th. 30 mm for external angle

21PR31 T profile th. 30 mm for internal angle

21SQ07 22,5° reinforcement corners th. 30 mm

21PR23 Aluminium covering frames

21PR24 Aluminium covering frames for external angle

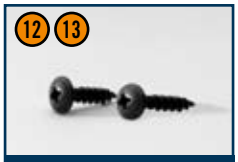
21PR25 Aluminium covering frames for external angle

21FN23 22,5° covering angles for external angle

21FN24 22,5° covering angles for mid- external angle

21FN25 22,5° covering angles for mid- internal angle

21FN26 22,5° covering angles for internal angle



21RF04 Screw for 21PR23/4/5
21RF05 Screw for 21FN23 and 21FN24/5/6

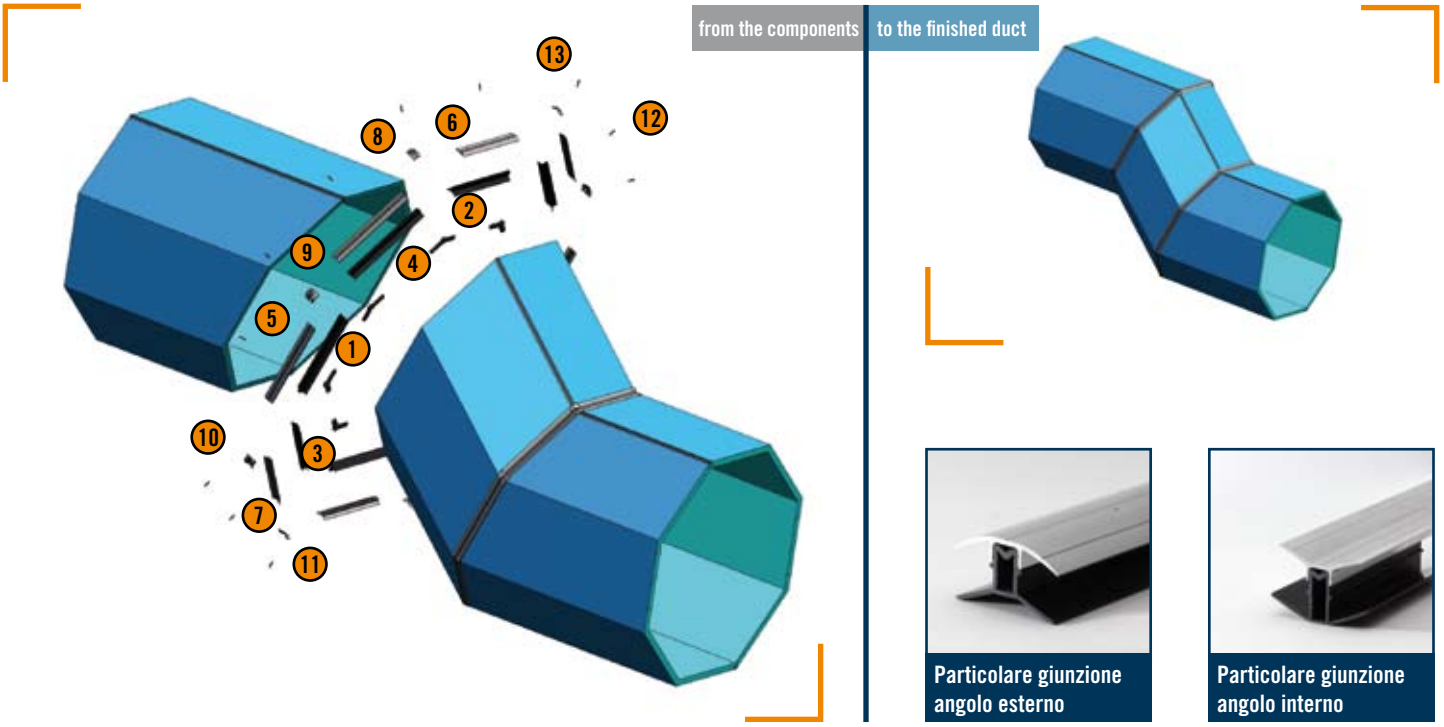
The bend joint components are supplied directly in kit format

21GD90	21GD100	21GD110	21GD120
Bend joint kit 900 mm internal diameter	Bend joint kit 1000 mm internal diameter	Bend joint kit 1100 mm internal diameter	Bend joint kit 1200 mm internal diameter

P3smart 8.30

off-set

The off-set is assembled repeating twice the same joining procedure used for the bend and explained in the previous page.
In this particular situation, on the contrary to the bend, the last piece of duct has to be jointed with an inverted angle.




Particolare giunzione angolo esterno

Particolare giunzione angolo interno


21PR20 T profile th. 30 mm


21PR30 T profile th. 30 mm for external angle


21PR31 T profile th. 30 mm for internal angle


21SQ07 22,5° reinforcement corners th. 30 mm


21PR23 Aluminium covering frames


21PR24 Aluminium covering frames for external angle


21PR25 Aluminium covering frames for external angle


21FN23 22,5° covering angles for external angle


21FN24 22,5° covering angles for mid- external angle


21FN25 22,5° covering angles for mid- internal angle


21FN26 22,5° covering angles for internal angle


21RF04 Screw for 21PR23/4/5
21RF05 Screw for 21FN23 and 21FN24/5/6

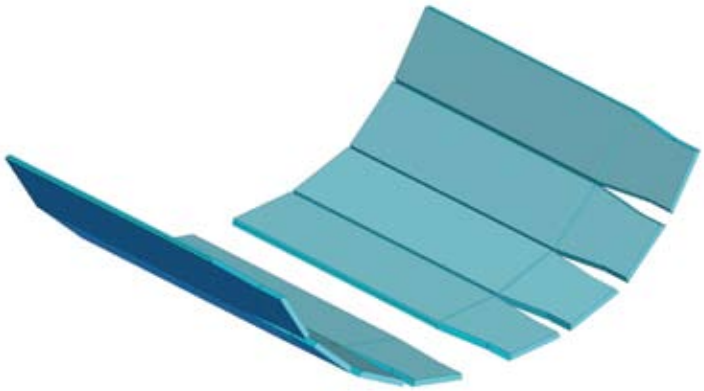
The bend joint components are supplied directly in kit format

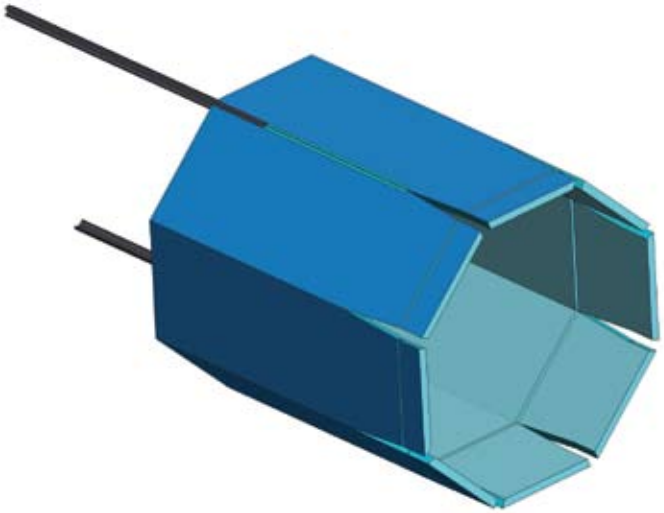
21GD90	21GD100	21GD110	21GD120
Bend joint kit 900 mm internal diameter	Bend joint kit 1000 mm internal diameter	Bend joint kit 1100 mm internal diameter	Bend joint kit 1200 mm internal diameter

reduction

The reduction may be obtained directly from a straight pre-cut panel.

from the components to the finished duct





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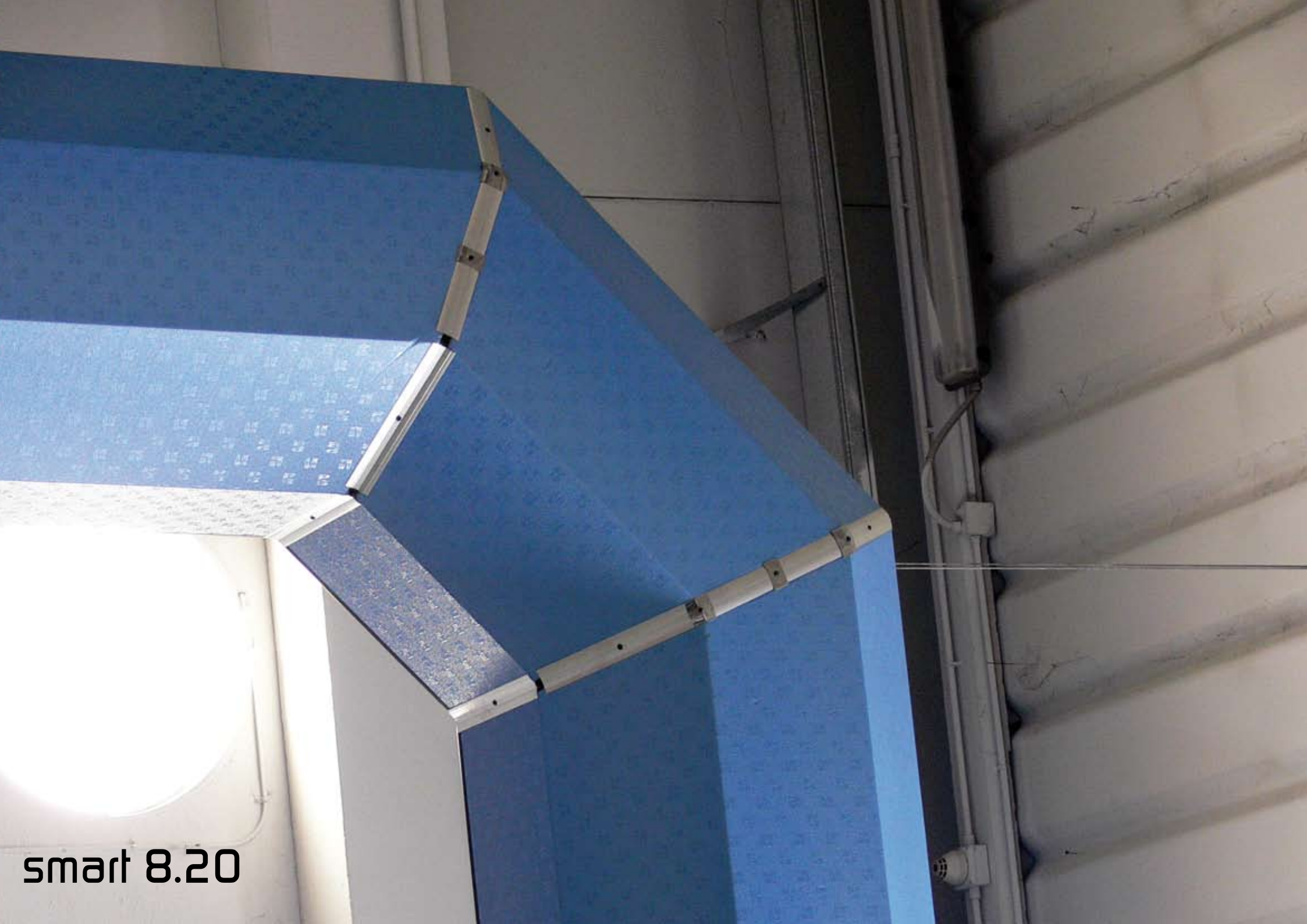

smart 8.20

Sintesi Comunicazione

P3 srl
Via Don G. Cortese, 3
35010 Villafranca Padovana Loc. Ronchi (Padova - Italy)
Tel. + 39 049 90 70 301 - Fax + 39 049 90 70 302
p3italy@p3italy.it - www.p3italy.it