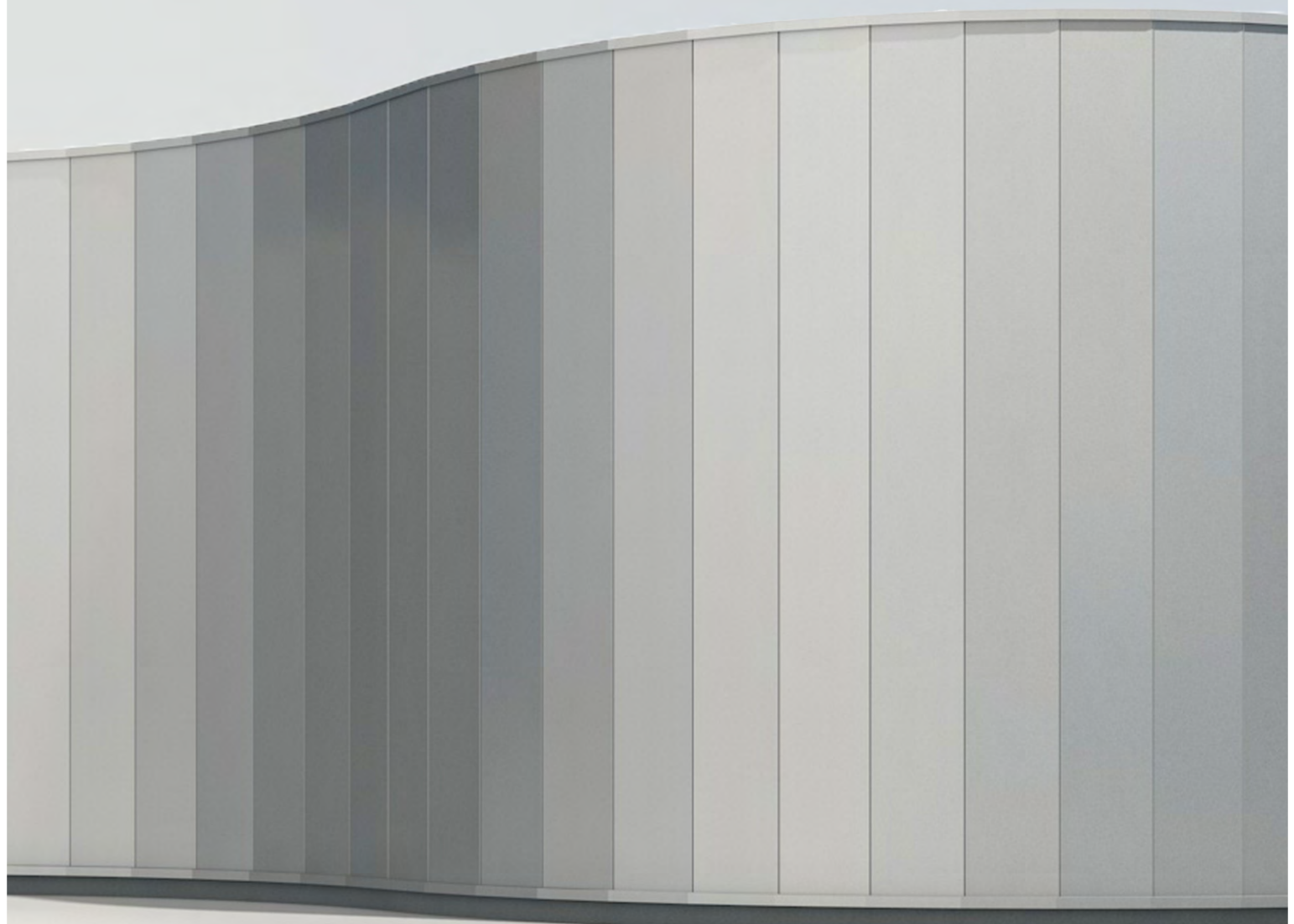


TRIMO TRIMOTERM



TRIMO TECHNICAL RECOMMENDATIONS
CORNER ELEMENTS | LINE SEGMENTED ELEMENTS

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INTRODUCTION

Execution boundary conditions of Prefabricated corners and Segmented elements made of Trimoterm panels are described in this document. For feasibility of use please check also project specific such as structural capacity, fire related requirements, etc. Document referring on Trimoterm Standard and Invisio panels.

All the drawings and sketches in this document are schematically drawn.

CORNER ELEMENTS

Depending on the production method used, the corner elements can be:

- Longitudinal and transverse,
- Rounded or sharp-edged,
- Single or double.

General applicability depends on Steel sheet profile:

		TRIMORERM FTV AND FTV INVISIO					
		G, g	mv	m	v,v2	s	m2, m3
SHARP EDGED	TRANSVERSE	+	+	+	+	+	+
	LONGITUDINAL	+	+	+	+	+	+
ROUNDED	LONGITUDINAL	-	-	+	-	-	-

Table 1: Steel Sheet profile applicability

SHARP EDGED CORNER ELEMENTS

Single Transversal sharp edged corner elements

Bending angle:

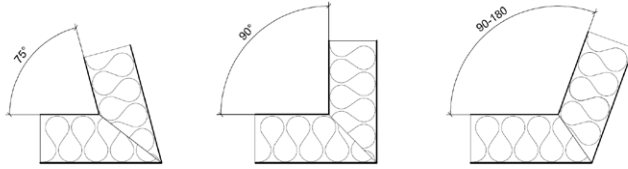


Figure 1: Bending angle possibility 75 up to 180 degrees

Transversal sharp edge corner element

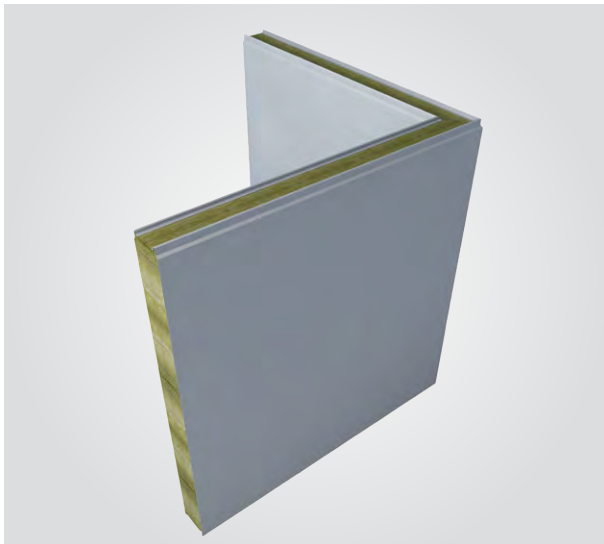
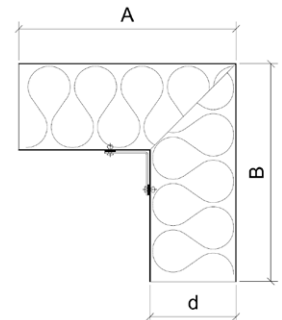


Figure 2: Transversal sharp edge corner element dimensions



TRIMORERM FTV STANDARD AND FTV INVISIO	
THICKNESS	60 - 240 mm
(A+B) min	2*d + 300 mm
(A+B) max	3000 mm
A min = B min	d + 150 mm
A max (B max)	1000 mm
B max (A max)	2000 mm

Double transverse sharp-edged corner elements

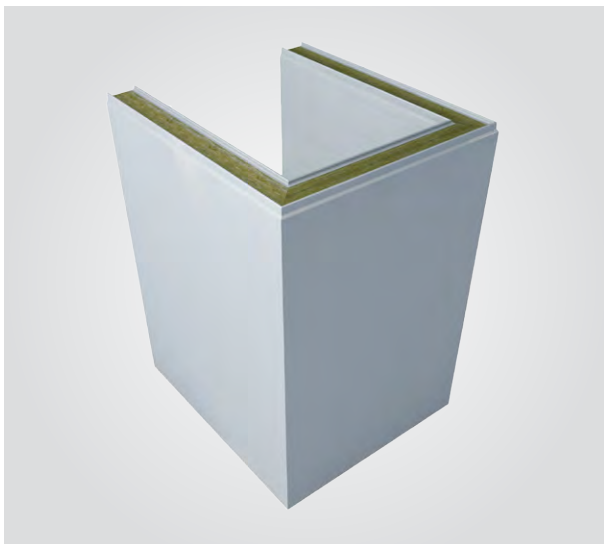
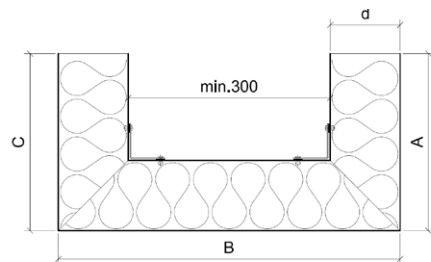


Figure 3: Double transverse sharp-edged corner dimensions



THICKNESS - d	60 - 200 mm
L - panel module	600 - 1200 mm
(A+B+ C) max panel length	3000 mm
B*min	$B - 2d = 300 \text{ mm} \Rightarrow B_{\text{min}} = 300 \text{ mm} + 2d$
A min (C min)	d + 150 mm
A max (B max = C max)	1000 mm

Longitudinal sharp-edged corner elements

Bending angle:

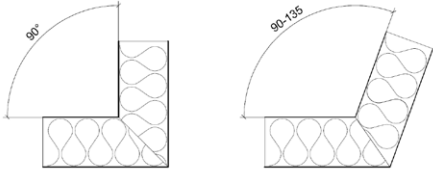


Figure 4: Bending angle possibility 75 up to 180 degrees

Longitudinal sharp-edged corner elements

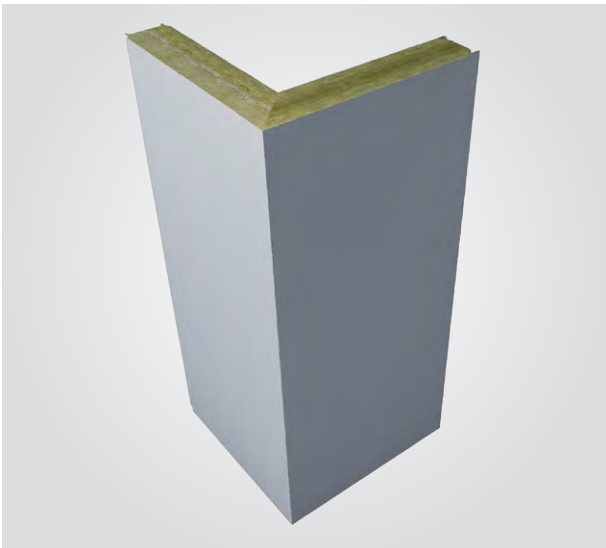
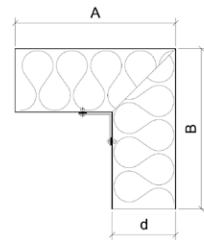


Figure 5: Longitudinal sharp edged corner element dimensions



THICKNESS - d	60 - 150 mm
PANEL LENGTH - L	8 m
A min (B min)	d + 150 mm
A max (B max)	panel width - (d+150 mm)
(A+B) min	2d + 300 mm
(A+B) max	module - joint

ROUNDED CORNER ELEMENTS

Longitudinal rounded corner elements

Longitudinal rounded corner elements made from FTV Standard and INVISIO panels, the external side of which is made of micro lined sheet metal. (table 1).

Panel thickness can be from 60 - 200 (240) mm, while the panel width dictates arm dimensions for the corner piece (Figure 22) - extended width of a corner piece is the same as nominal panel width (600 - 1200 mm).

Edge radius for a corner piece is 80 mm, regardless of panel thickness.

Angles of the corner pieces can vary from 60° to 180° (Figure 21).

Maximum length of corner pieces is $L = 10$ m

Single longitudinal rounded corner elements

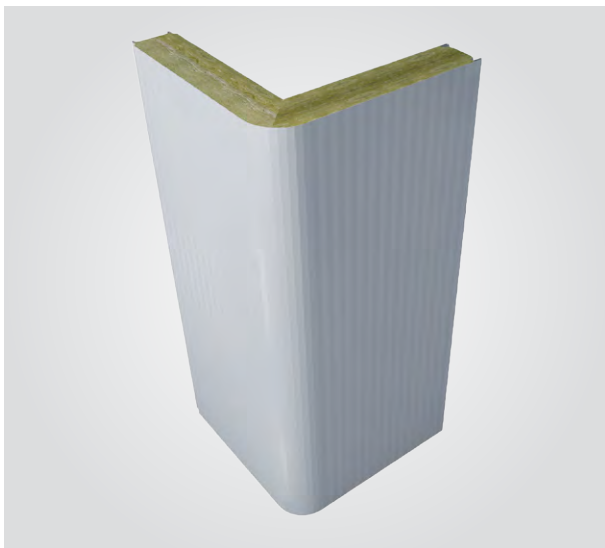
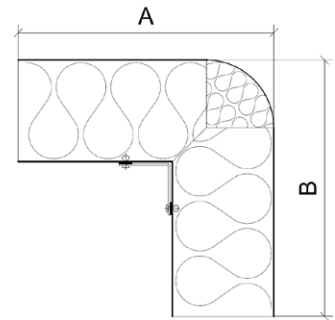


Figure 6: Longitudinal rounded corner element



THICKNESS (d)	60 - 200 mm
MODULE	600 - 1200 mm
L	10,000 mm
(A+B) max	panel module
A min (B min)	$d + 150$ mm
A max (B max)	panel module - B min (A min)

Double longitudinal rounded corner pieces

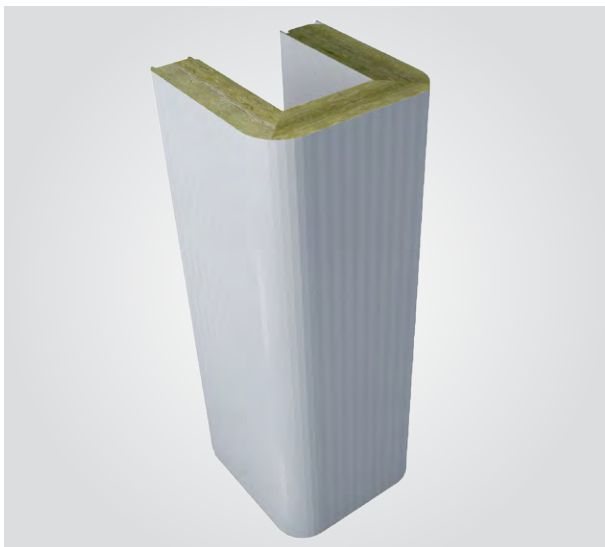
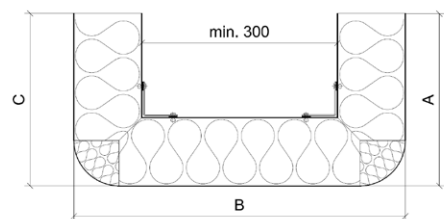


Figure 7: Double longitudinal rounded corner element



THICKNESS (d)	60 - 150 mm
L	10,000 mm = panel length
(A+B+C) max	$600 - 1200$ mm - (160 mm) = panel
Module	160 mm
B*min	$B - 2d = 300$ mm \Rightarrow Bmin = 300 mm + 2d
A min	$C_{min} = 150$ mm + d

SUMMARY: CORNER ELEMENTS

FEATURES	ROUNDED CORNERS	SHARP EDGED CORNERS	
	LONGITUDINAL	TRANSVERSAL	LONGUTUDINAL
PROFILES ON VISIBLE SIDE	m - micro lined	All	All
MAX. LENGTH	10 m	Not Applicable	8 m
PANEL THICKNESS	60 - 240	60 - 240	60 - 150
SINGLE			
BENDING ANGLE	75-180 deg	75-180 deg	90-135 deg
TOTAL WIDTH (A+B) min	2d+120 mm	2d+300 mm	2d + 300 mm
TOTAL WIDTH (A+B) max	Modular width - 60 mm	3000	Modular width - 60 mm
A min	d+150 mm	d+150 mm	d+150 mm
A max	(module-60mm)-Bmin	1000 (2000) mm	(module-60mm)-B min
B min	d+150 mm	d+150 mm	d+150 mm
B max	(module-60mm)-A min	1000 (2000) mm	(module-60mm)-A min
DOUBLE			
BENDING ANGLE	90-180 deg.	90-180 deg.	90-135 deg.
A min	d+150 mm	d+150 mm	d+150 mm
A max	(module-60 mm)- B min+C min	1000	(module-60 mm)-{B min+C min}
B min	2d+300 mm	2d+300mm	2d+300mm
B max	(module-60 mm)-{A min+C min}	1000	(module-60 mm)-{A min+C min}
C min	d+150 mm	d+150 mm	d+150 mm
C max	(module-60 mm)-{A min+B min}	1000	(module-60 mm)-{A min+B min}

Table 2:Summary: Corner dimensions

LINE SEGMENTED ELEMENTS

TRIMOTERM panels can manage Non-linear cladding lines using segmentation possibilities as described in following chapters. Document is dealing only with 2 Dimensional shapes.

Possibilities depends on:

- Panel thickness
- Radius to be achieved
- Shape of the radius.

And can be achieved either with:

- Flat standard panels TRIMOTERM Standard or/and TRIMOTERM Invisio
- Segmented panels

Segmentation possibilities with flat panels

With segmentation shown in Table 2 normal water tightness is assured. Radiuses as shown assure max joint opening which is still adopted by factory applied sealants/gaskets.

R min (m) FOR FTV STANDARD AND FTV INVISIO FLAT PANELS							
THICKNESS	Panel modular width (mm)						
	600	700	800	900	1000	1100	1200
60	11,972	13,971	15,970	17,969	19,967	21,966	23,965
80	15,968	18,633	21,299	23,965	26,631	29,296	31,962
100	19,962	23,295	26,627	29,960	33,292	36,625	39,958
120	23,956	27,956	31,955	35,954	39,954	43,953	47,952
133	26,552	30,985	35,418	39,850	44,287	48,716	53,149
150	29,947	34,946	39,946	44,945	49,954	54,944	59,944
172	34,340	40,072	45,806	51,538	57,276	63,004	64,737
200	39,931	46,597	53,264	59,930	66,596	73,262	79,929
240	47,918	55,918	63,917	71,917	79,917	87,916	95,916

Table 3: Segmentation possibilities with flat panels

SEGMENTED PANELS

Segmented panels are post production product made of flat panels and delivered on site as a ready to install element. Bending lines are visible.

Recommended support distance is 2m.

Longitudinal segmented panels (BVK, BVN)

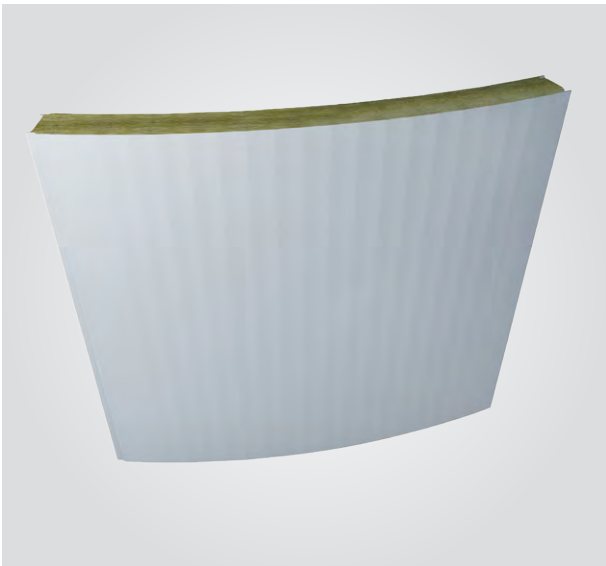


Figure 8: Longitudinal segmented panel BVK (CONVEX)

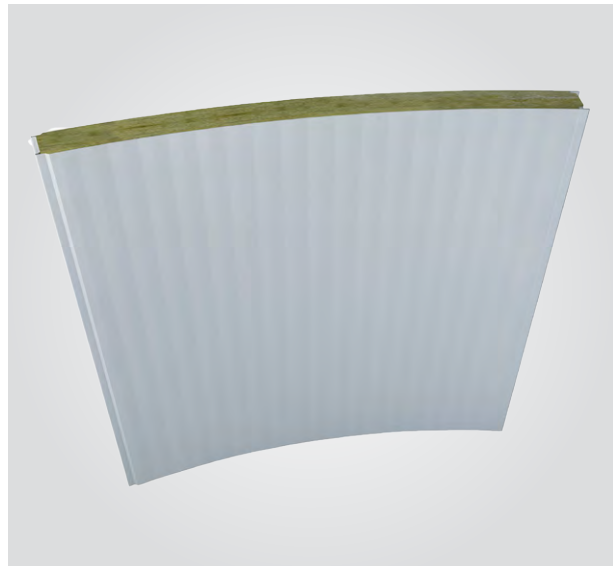


Figure 9: Longitudinal segmented panel BVN (CONCAVE)

Panel type: Trimoterm standard, Trimoterm Invisio

L max = 10 m

Panel thickness: 60-240 mm

Element marking:

BVK (convex longitudinally bended element)

BVN (concave longitudinally bended element)

PANEL THICKNESS (mm)	MINIMAL RADIUS (m)
60	1,5
80	1,9
100	2,4
120	2,9
133	3,2
150	3,5
172	4,1
200	4,8
240	5,5

Table 4: Available radius at panel thickness

VISIBLE STEEL SHEET PROFILE	AESTHETICS
s	++
G,g	+
v,v2	+
m, m2, m3	++
X01	+++

+++ bending lines hardly visible | ++ bending lines less visible | + bending lines visible

Table 5: Aesthetics performance

Transversal segmented panels (BPK, BPN)

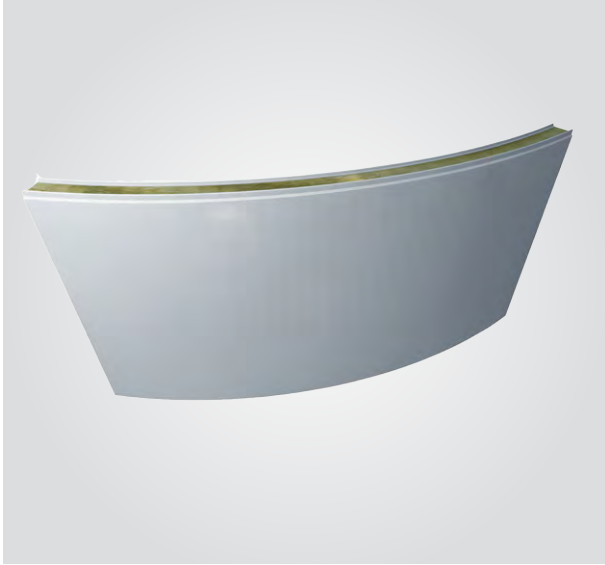


Figure 10: Transversal segmented panel BPK (CONVEX)

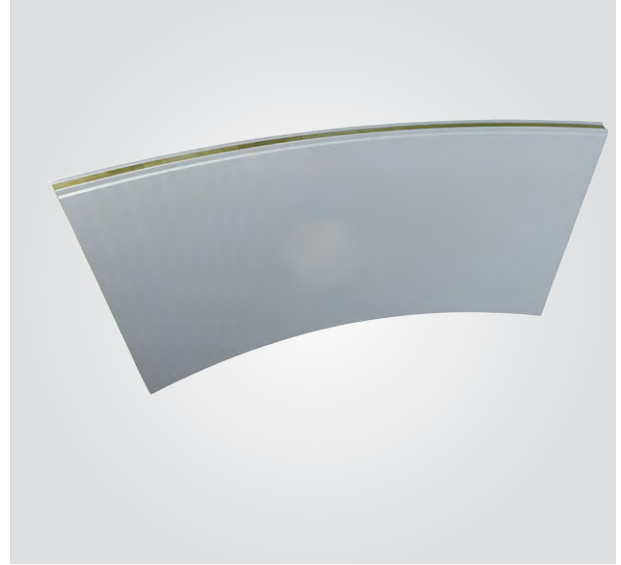


Figure 11: Transversal segmented panel BPK Transversal segmented panel BPN (CONCAVE)

Panel type: Trimoterm standard, Trimoterm Invisio

L max = 4 m

Panel thickness: 60-240 mm

Element marking:

BPK (convex transversal bended element)

BPN (concave transversal bended element)

PANEL THICKNESS (mm)	MINIMAL RADIUS (m)
60	3
80	3,9
100	4,9
120	5,9
133	6,5
150	7,3
172	8,4
200	9,8
240	12,5

Table 7: Available radius at panel thickness

VISIBLE STEEL SHEET PROFILE	AESTHETICS
s	+
G,g	+
v,v2	+
m, m2, m3	+
X01	+

+bending lines visible

Table 8: Aesthetics performance

INTERNAL APPEARANCE – SEGMENTED PANELS

Segmented panels are executed in cut-bend principle. Typical internal appearance can be found in figure 11.

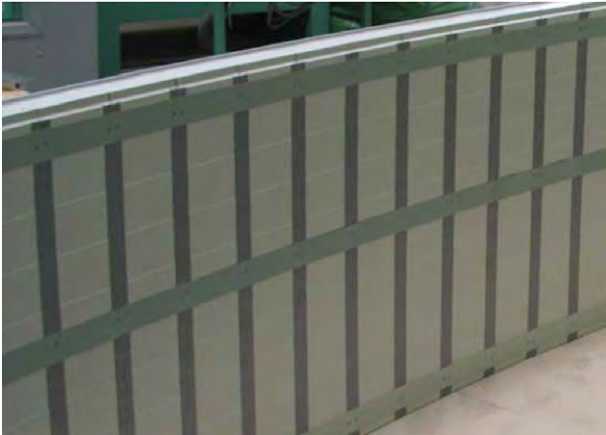


Figure 12: Segmented panels - typical appearance

CONCLUSION

Production Boundary conditions on Prefab Corner and Segmented elements. Please follow also system documentation and other TRIMO recommendations when designing with elements described in this document. Boundary conditions are set on the base of production, transporting and usage of the elements. In sense of robust and safe installation we recommend to use minimal possible dimensions where applicable.



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