TRI MO

TRIMOTERM

TRIMOTERM 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 FTV HL 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:

		TRIMOTERM FTV AND FTV HL					
		G	M8	M	V, V2	S	M2, M3
SHARP EDGED	TRANSVERSE	+	+	+	+	+	+
	LONGITUDINAL	+	+	+	+	+	+
ROUNDED	LONGITUDINAL	-	+	+	-	-	-

+ feasible | - not feasible

Table 1:Steel Sheet profile applicability

Corner side designations:
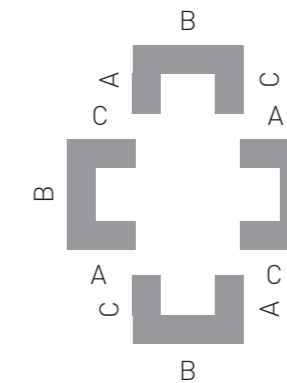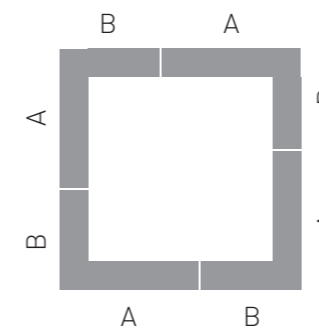
The principle for designing the sides of corner elements shown is a plan view of four corners of a building with side designations.

The principle for designing the sides of U-corner elements shown is a plan view of four corners of a building with side designations.

SHARP EDGED CORNER ELEMENTS

Single Transversal sharp edged corner elements

Bending angle:

Figure 1: Bending angle possibility 75 up to 175 degrees.
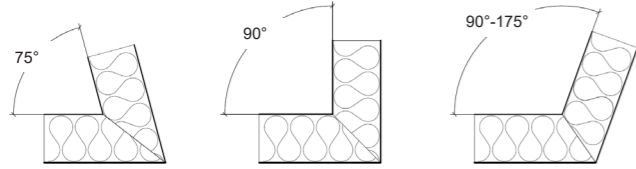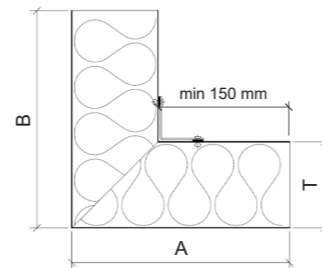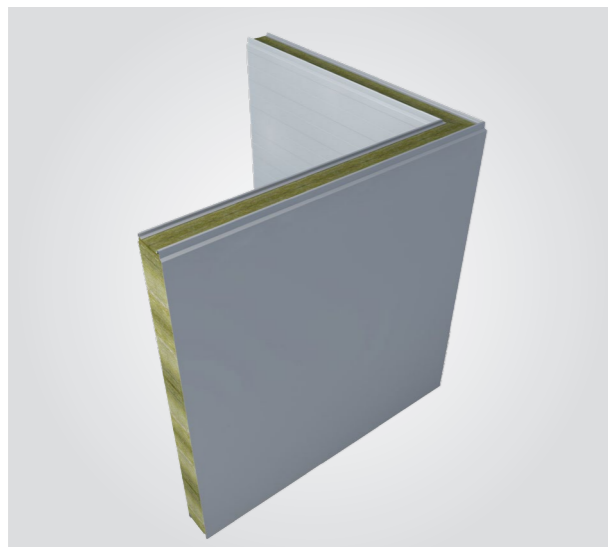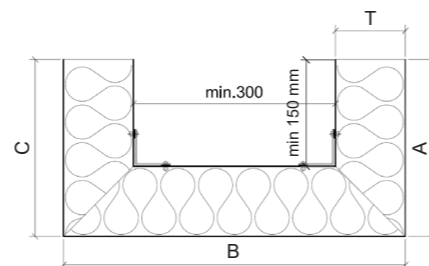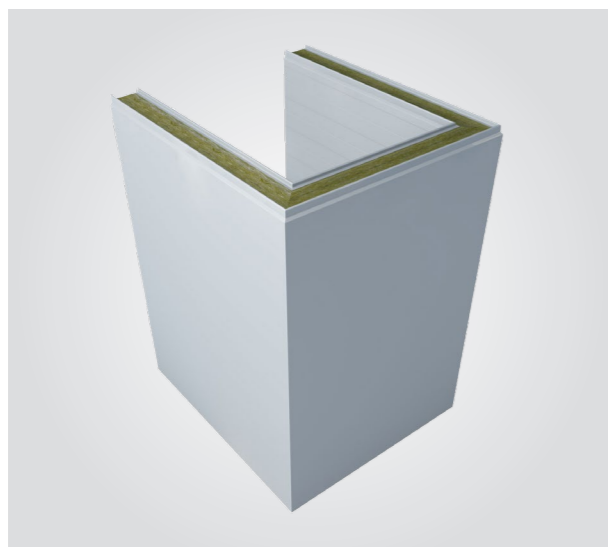
Transversal sharp edge corner element

Figure 2: Transversal sharp edge corner element dimensions

TRIMOTERM FTV STANDARD AND FTV HL INVISIO	
THICKNESS - T	50 - 250 mm
(A+B) min	2*T + 300 mm
(A+B) max	3.000 mm
A min = B min	T + 150 mm
A max (B max)	1.000 mm
B max (A max)	2.000 mm

Double transverse sharp-edged corner elements

Figure 3: Double transverse sharp-edged corner dimensions

THICKNESS - T	50 - 250 mm
L - panel module	600 - 1200 mm
(A+B+ C) max panel length	3.000 mm
B*min	B - 2T = 300 mm => Bmin = 300 mm + 2T
A min (C min)	T + 150 mm
A max (B max = C max)	1000 mm

Longitudinal sharp-edged corner elements
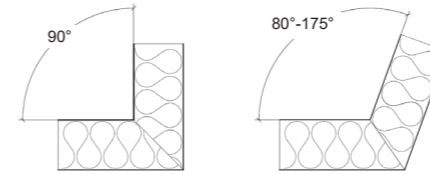
Bending angle:

Figure 4: Bending angle possibility 80 up to 175 degrees.

Longitudinal sharp-edged corner elements

Figure 5: Longitudinal sharp edged corner element dimensions
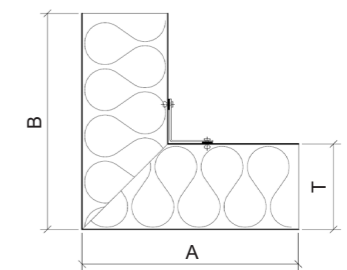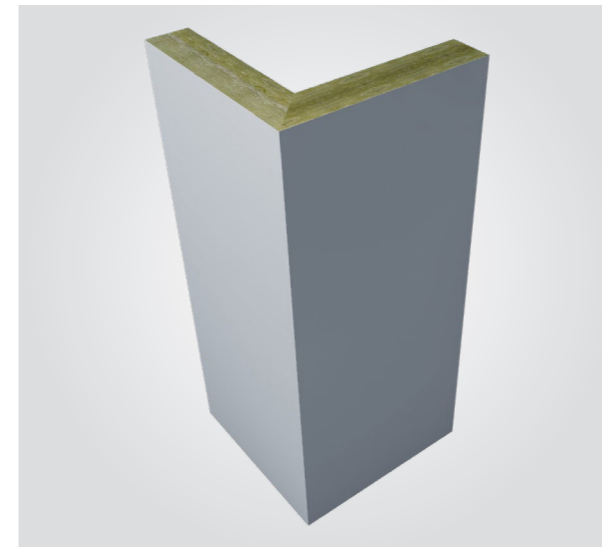
THICKNESS - T	50 - 150 mm
PANEL LENGTH - L	max. 8.000 mm
A min (B min)	T + 150 mm
A max (B max)	(module - 60 mm) - (T+150 mm)
(A+B) min	2T + 300 mm
(A+B) max	module - joint

A and B leg length definition:

TRIMOTERM FTV HL INVISIO PANEL CUT-OUT
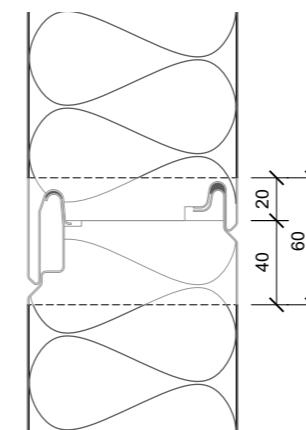
ROUNDED CORNER ELEMENTS

Longitudinal rounded corner elements

Longitudinal rounded corner elements made from FTV Standard and FTV HL INVISIO panels, the external side of which is made of micro lined sheet metal. (table 1). Panel thickness can be from 50 - 200 (250) mm, while the panel width dictates arm dimensions for the corner piece. 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 75° to 175°. Maximum length of corner pieces is L = 10 m.
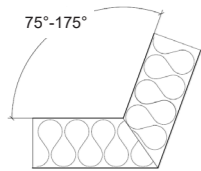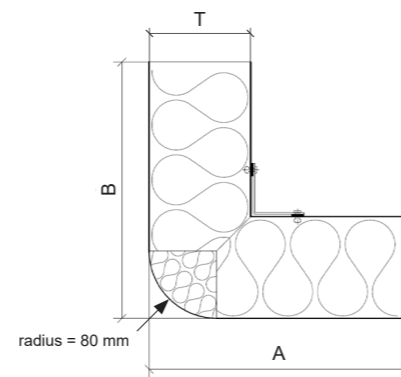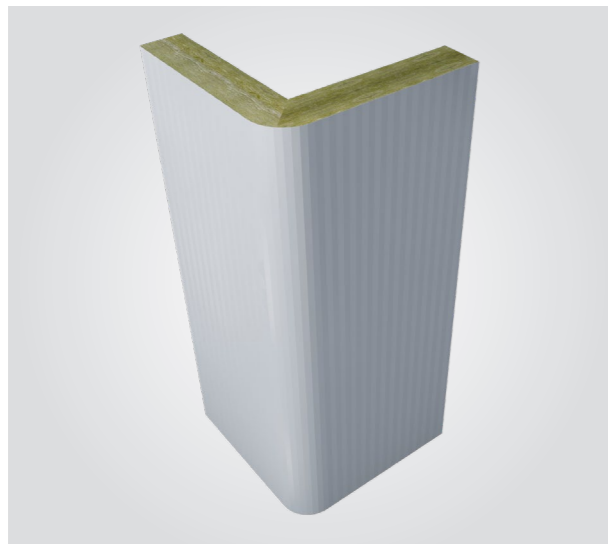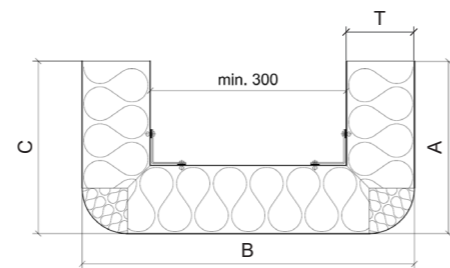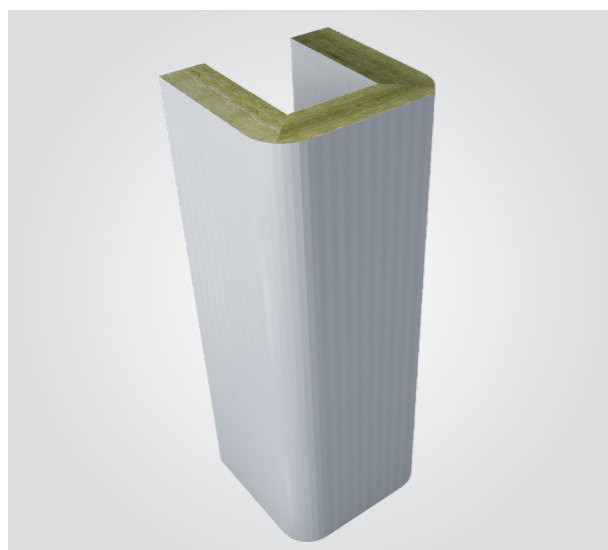
75°-175°

Single longitudinal rounded corner elements

radius = 80 mm

THICKNESS - T	50 - 250 mm
MODULE	600 - 1.200 mm
L	10.000 mm
(A+B) max	panel module
A min (B min)	T + 150 mm
A max (B max)	(module - 60 mm) - (T + 150 mm)

Figure 6: Longitudinal rounded corner element

Double longitudinal rounded corner pieces

min. 300

THICKNESS - T	50 - 250 mm
L	10.000 mm = panel length
(A+B+C) max	800 - 1.200 mm = panel module
MODULE	800 - 1.200 mm
B*min	B - 2T = 300 mm => B min = 300 mm + 2T
A min	C min = 150 mm + T

Figure 7: Double longitudinal rounded corner element

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	Panel module	8 m
PANEL THICKNESS	50 - 250 mm	50 - 250 mm	50 - 150 mm
SINGLE			
BENDING ANGLE	75°-175°	75°-175°	80°-175°
TOTAL WIDTH (A+B) min	2T + 300 mm	2T + 300 mm	2T + 300 mm
TOTAL WIDTH (A+B) max	Modular width - 60 mm	3.000	Modular width - 60 mm
A min	T + 150 mm	T + 150 mm	T + 150 mm
A max	(module - 60 mm) - B min	1000 (2000) mm	(module - 60 mm) - B min
B min	T + 150 mm	T + 150 mm	T + 150 mm
B max	(module - 60 mm) - A min	1000 (2000) mm	(module - 60 mm) - A min
DOUBLE			
BENDING ANGLE	90°-175°	90°-175°	
A min	T + 150 mm	T + 150 mm	
A max	(module) - (B min + C min)	1.000	
B min	2T + 300 mm	2T + 300mm	
B max	(module) - (A min + C min)	1.000	
C min	T + 150 mm	T + 150 mm	
C max	(module) - (A min+B min)	1.000	

Table 2: Summary of corner dimensions
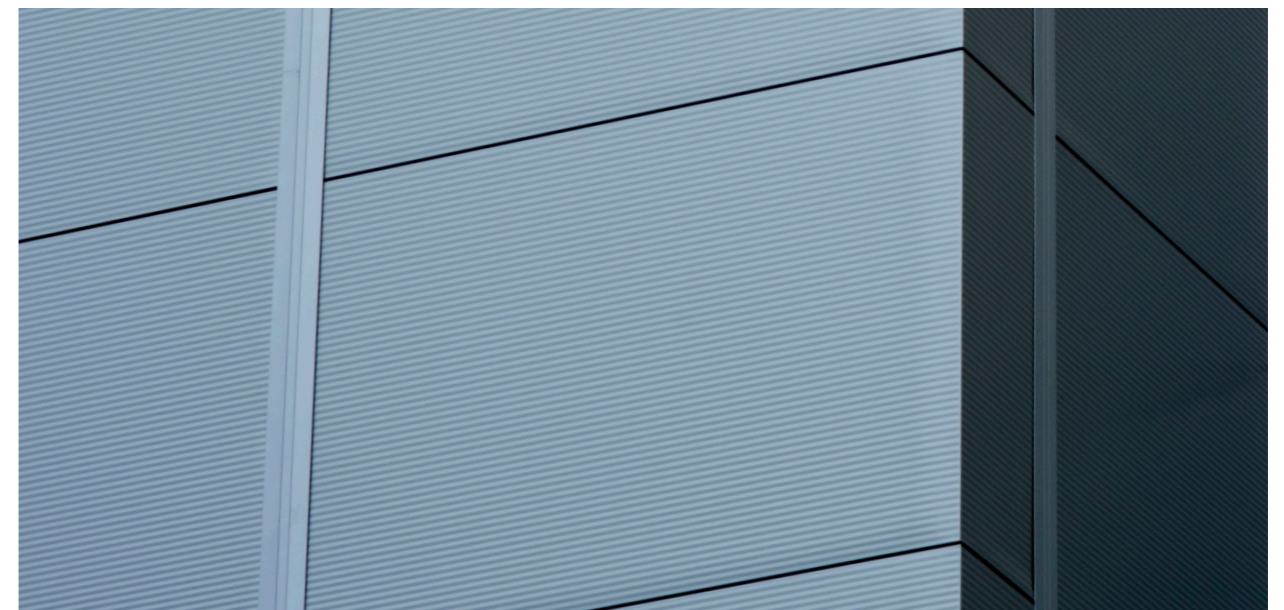
LINE SEGMENTED ELEMENTS

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 3 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 HL 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	26,598	31,031	35,464	39,897	44,331	48,764	53,197
150	29,947	34,946	39,946	44,945	49,954	54,944	59,944
172	34,399	40,132	45,865	51,598	57,331	63,064	68,797
200	39,931	46,597	53,264	59,930	66,596	73,262	79,929
220	43,999	51,332	58,665	65,998	73,332	80,665	87,998
240	47,918	55,918	63,917	71,917	79,917	87,916	95,916
250*	49,999	58,332	66,665	74,999	83,332	91,665	99,998

Table 3: Segmentation possibilities with flat panels
* Consult trimo's technical support to comply with regional legislation.

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.
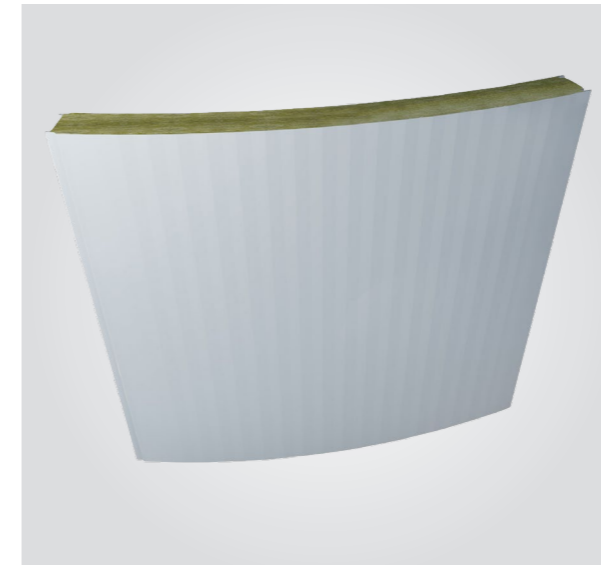
Longitudinal segmented panels (BVK, BVN)

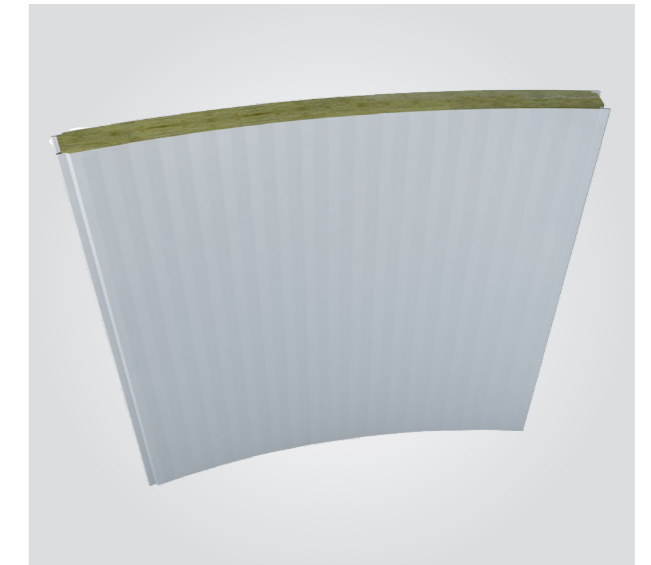Figure 8:Longitudinal segmented panel BVK (CONVEX)

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
220	5,2
240	5,6
250*	6,0

Table 4: Available radius at panel thickness
* Consult trimo's technical support to comply with regional legislation.

VISIBLE STEEL SHEET PROFILE	AESTHETICS
S	+
G	+
V,V2	+
M, M2, M3, M8	++

+++ bending lines hardly visible | ++ bending lines less visible | + bending lines visible
Table 5: Aesthetics performance
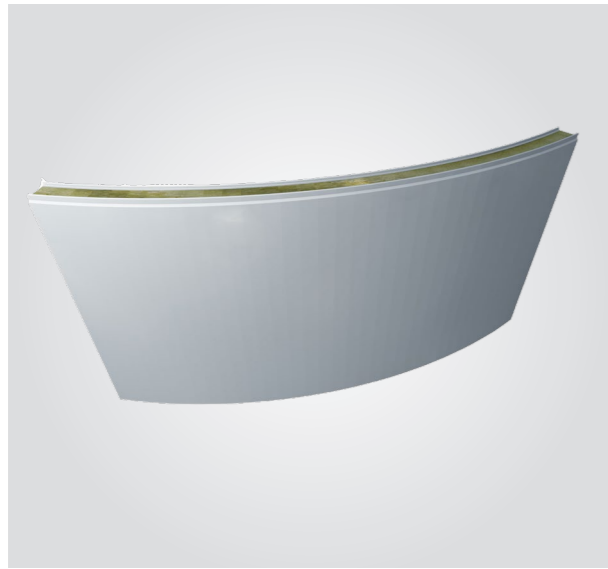
Transversal segmented panels (BPK, BPN)

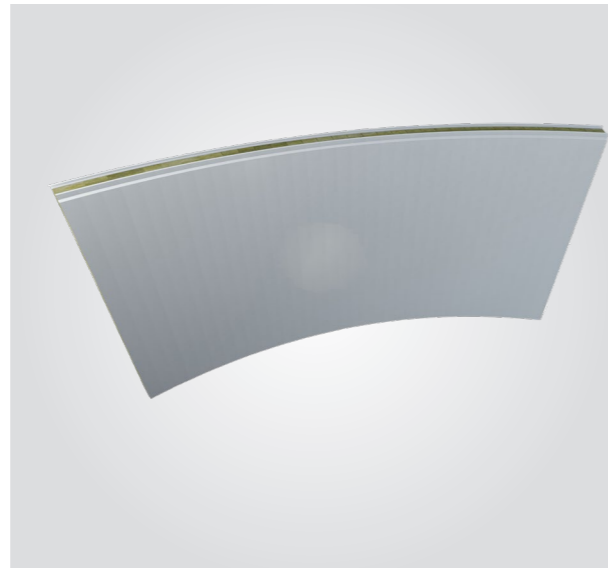Figure 10: Transversal segmented panel BPK (CONVEX)

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

Panel type: Trimoterm standard

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	3,0
80	3,9
100	4,9
120	5,9
133	6,5
150	7,3
172	8,4
200	9,8
220	11,5
240	12,5
250*	13,0

Table 7: Available radius at panel thickness
* Consult trimo's technical support to comply with regional legislation.

VISIBLE STEEL SHEET PROFILE	AESTHETICS
S	+
G	+
V,V2	+
M, M2, M3, M8	+

+bending lines visible

Table 8: Aesthetics performance

INTERNAL APPEARANCE – SEGMENTED PANELS

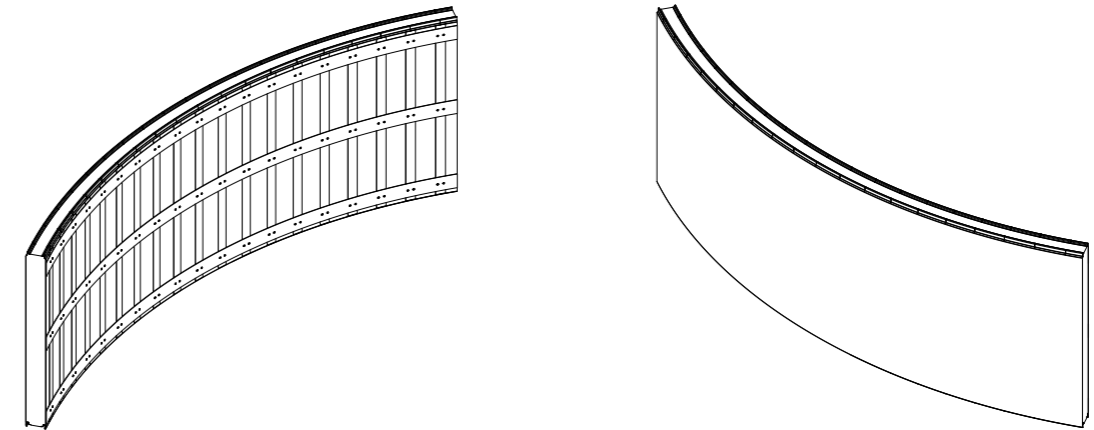Segmented panels are executed in cut-bend principle. Typical internal appearance can be found in figure 12.

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.

HEADQUARTERS

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