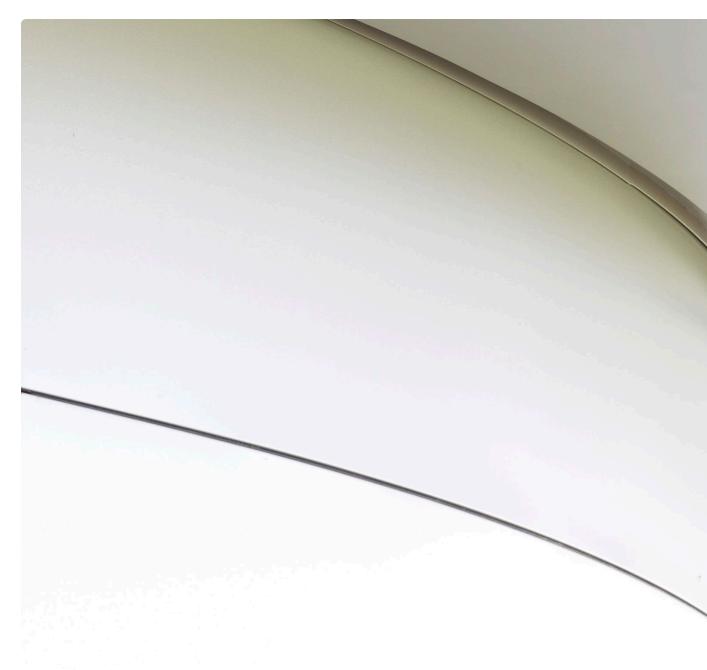
# TRI MO TRIMOTERM



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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:

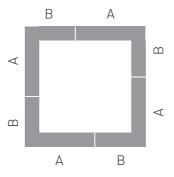
- Longitudinal and transverse,
- Rounded or sharp-edged,
- Single or double.

#### General applicability depends on Steel sheet profile:

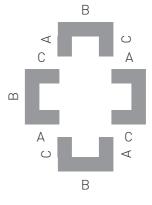
|             |              |   | TR | IMOTERM | FTV AND F | TV HL |        |
|-------------|--------------|---|----|---------|-----------|-------|--------|
|             |              | G | M8 | М       | V, V2     | S     | M2, M3 |
|             | TRANSVERSE   | + | +  | +       | +         | +     | +      |
| SHARP EDGED | LONGITUDINAL | + | +  | +       | +         | +     | +      |
| ROUNDED     | LONGITUDINAL | - | +  | +       | -         | -     | -      |

<sup>+</sup> feasible | - not feasible

#### **Corner side designations:**



The principle for designing the sides of corner The principle for designing the sides of U-corner building with side designations.



elements shown is a plan view of four corners of a elements shown is a plan view of four corners of a building with side designations.

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 175 degrees.

## Transversal sharp edge corner element

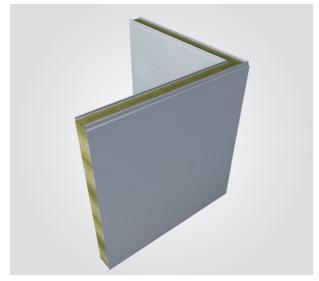
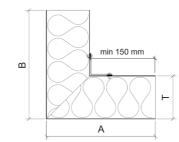
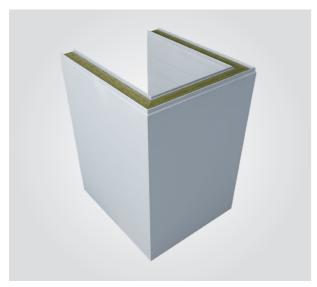


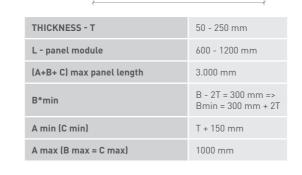
Figure 2: Transversal sharp edge corner element dimensions



| 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





O

Figure 3: Double transverse sharp-edged corner dimensions

## Longitudinal sharp-edged corner elements

#### Bending angle:

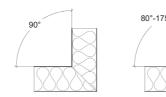


Figure 4: Bending angle possibility 80 up to 175 degrees.

## Longitudinal sharp-edged corner elements

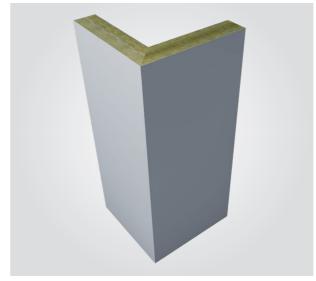


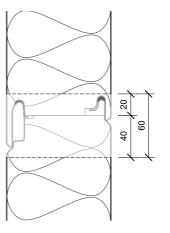
Figure 5: Longitudinal sharp edged corner element dimensions

| _ | _ | ZOOO |          |
|---|---|------|----------|
| a |   |      | <b>⊢</b> |

| 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:

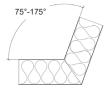
#### TRIMOTERM FTV HL INVISIO PANEL CUT-OUT



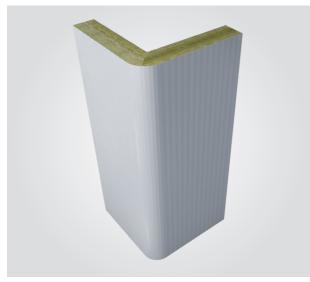
#### **ROUNDED CORNER ELEMENTS**

#### Longitudinal rounded corner elements

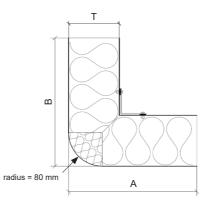
Longitudinal rounded corner elements made from FTV Standard and FTV HL INVISIO panels, the external side of which is made of micro lined sheet metal. (table 1). Panel thickness can be from 50 - 200 (250) mm, while the panel width dictates arm dimensions for the corner piece. Extended width of a corner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



## Single longitudinal rounded corner elements

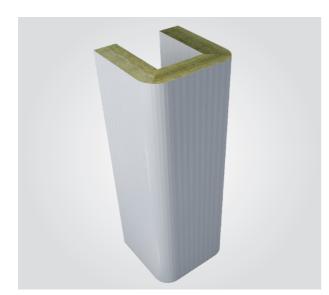






| THICKNESS - T | 50 - 250 mm                     |
|---------------|---------------------------------|
| MODULE        | 600 - 1.200 mm                  |
| L             | 10.000 mm                       |
| (A+B) max     | panel module                    |
| A min (B min) | T + 150 mm            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

### Double longitudinal rounded corner pieces



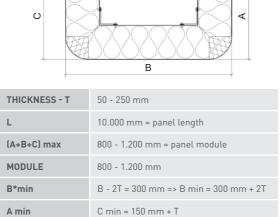


Figure 7: Double longitudinal rounded corner element

## SUMMARY: CORNER ELEMENTS

| FEATURES                 | ROUNDED CORNERS            | SHARP EDGED CORNERS |                          |  |
|--------------------------|----------------------------|---------------------|--------------------------|--|
| FEATURES                 | 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              |  |
|                          | SING                       | LE                  |                          |  |
| 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 |                          |        |        |        |        |        |        |
|---|--------------------------|--------|--------|--------|--------|--------|--------|
|   | Panel modular width (mm) |        |        |        |        |        |        |
| THICKNESS   | 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 |

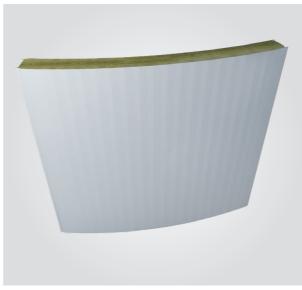
Table 3: Segmentation possibilities with flat panels

#### **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)







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



Figure 9: Longitudinal segmented panel BVN (CONCAVE)

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

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

Table 5: Aesthetics performance

<sup>\*</sup> Consult trimo's technical support to comply with regional legislation.

<sup>\*</sup> Consult trimo's technical support to comply with regional legislation.

#### Transversal segmented panels (BPK, BPN)

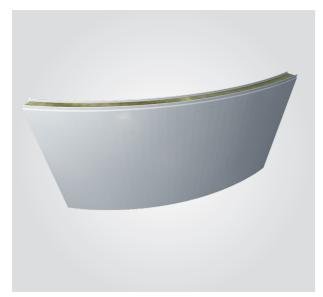


Figure 10: Transversal segmented panel BPK (CONVEX)

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

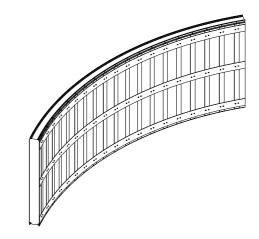
| VISIBLE STEEL SHEET PROFILE | AESTHETICS |
|-----------------------------|------------|
| S                           | +          |
| G                           | ÷          |
| V,V2                        | +          |
| M, M2, M3, M8               | +          |

+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.



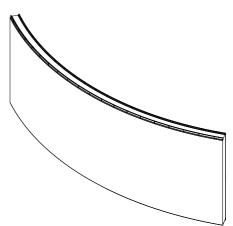


Figure 12: Segmented panels - typical appearance

#### 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.

 $<sup>\</sup>ensuremath{^{*}}$  Consult trimo's technical support to comply with regional legislation.

# **HEADQUARTERS**

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