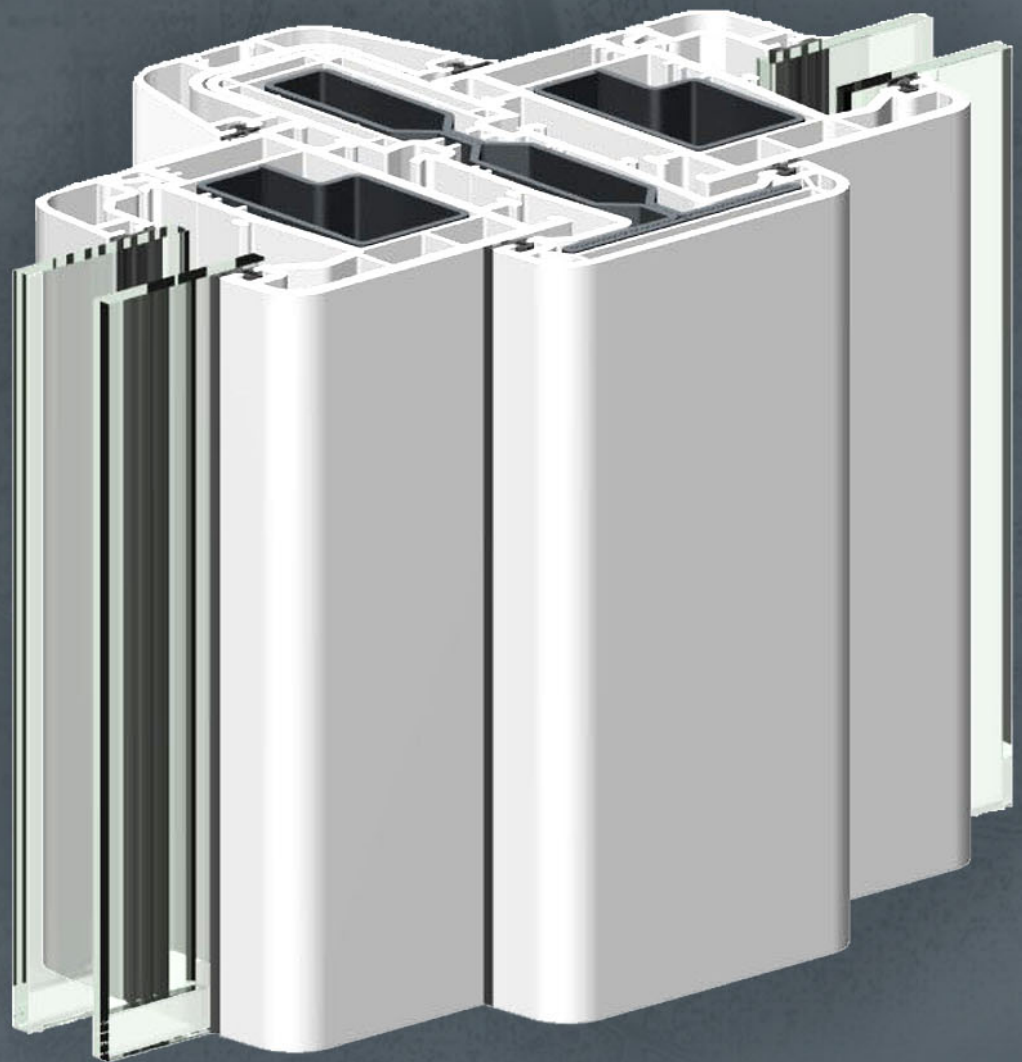




# Technical Manual

## 70 mm Coupling



## CONTENT

### 1. General

- 1.1. Main profiles
- 1.2. Accessory profiles
- 1.3. Profile sheets
- 1.4. Coupling types

### 2. Sections

- 2.1. Horizontally coupled elements
- 2.2. Vertically coupled elements
- 2.3. Composite elements

### 3. General guidelines

- 3.1. General guidelines

# GENERAL

MAIN PROFILES  
ACCESSORY PROFILES  
PROFILE SHEET  
COUPLING TYPES

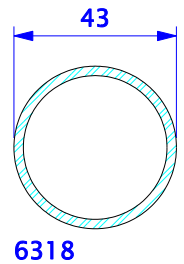
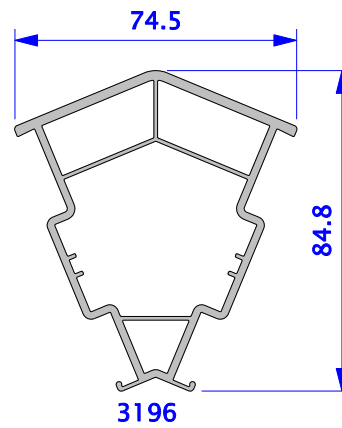
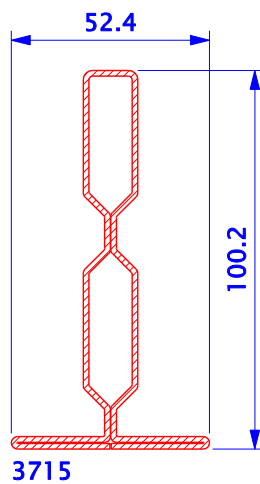
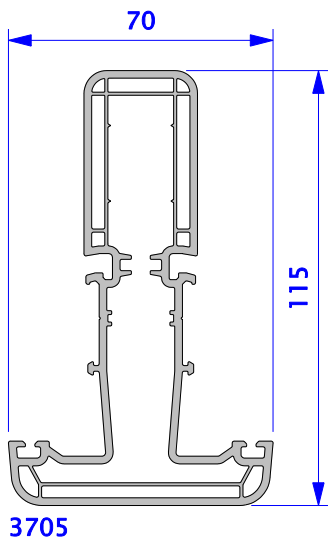
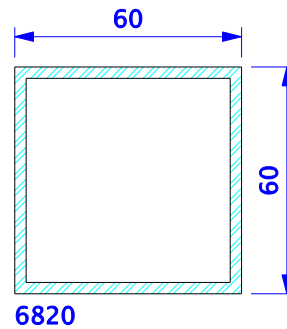
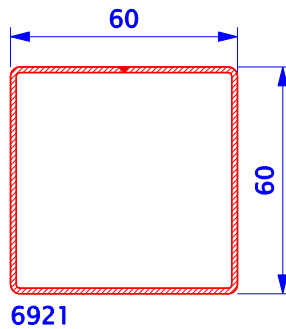
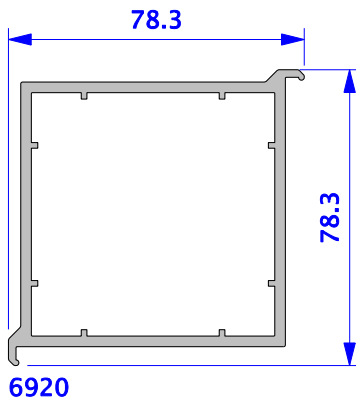
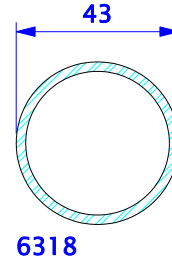
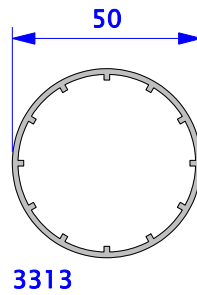
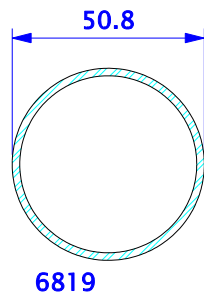
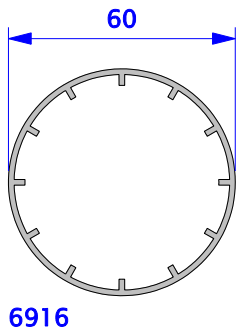
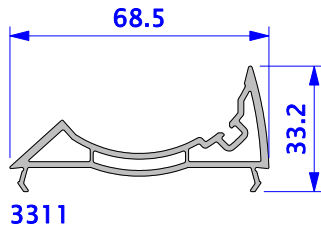
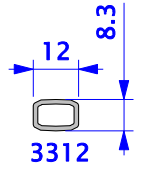
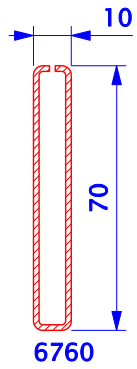
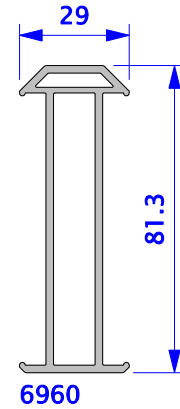
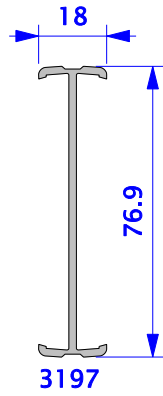
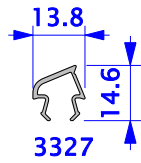
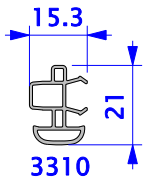
# GENERAL

MAIN PROFILES



# 70mm Coupling

## MAIN PROFILES

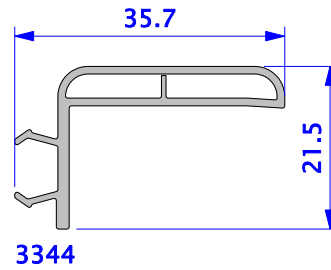
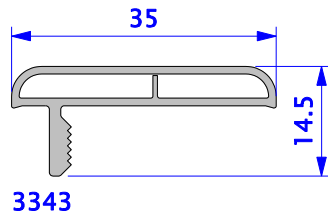
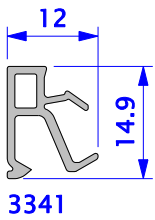
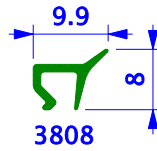
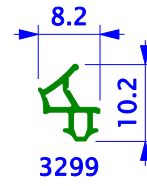
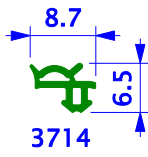
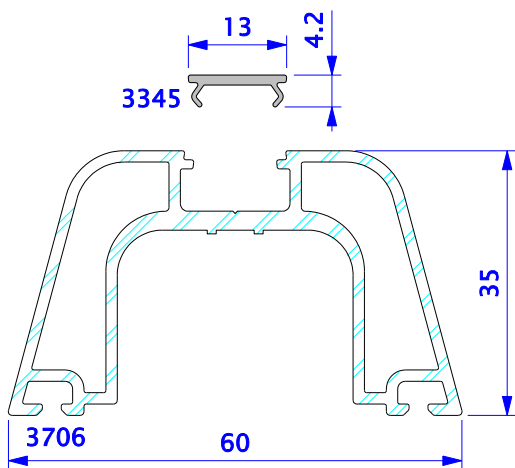


# GENERAL

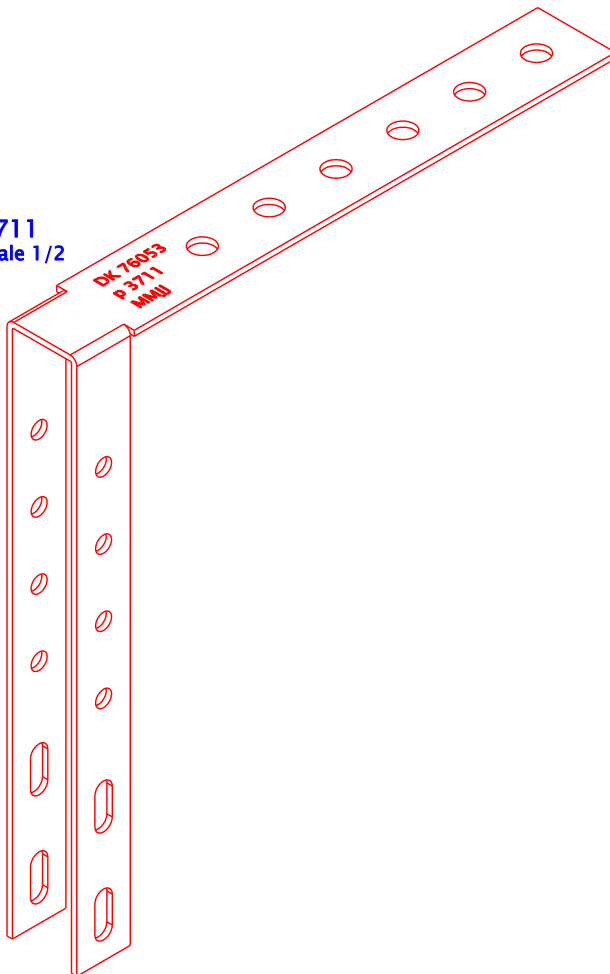
## ACCESSORY PROFILES

# 70mm Coupling

## ACCESSORY PROFILES



3711  
scale 1/2

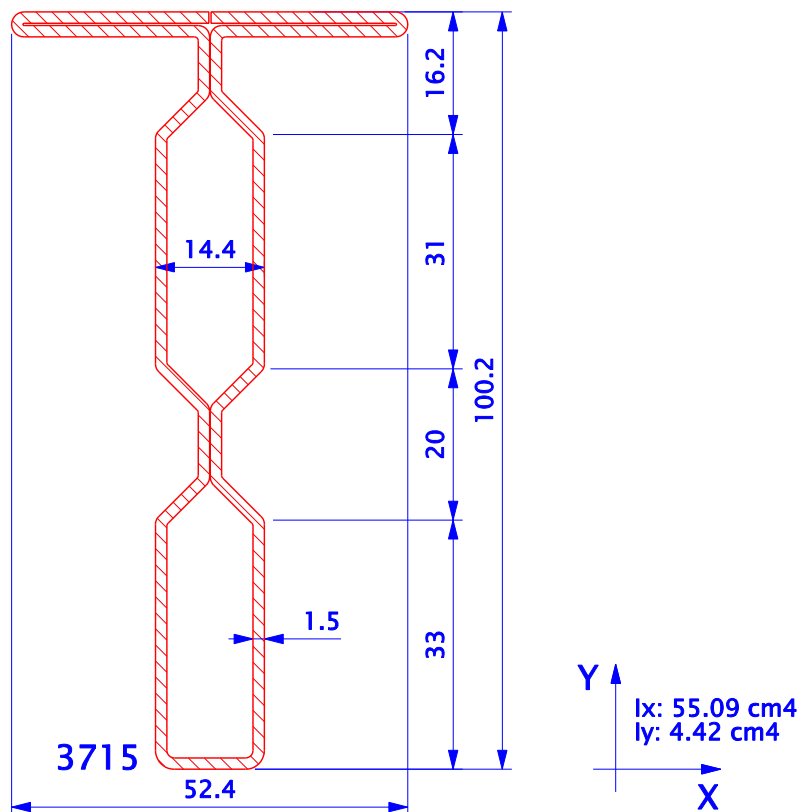
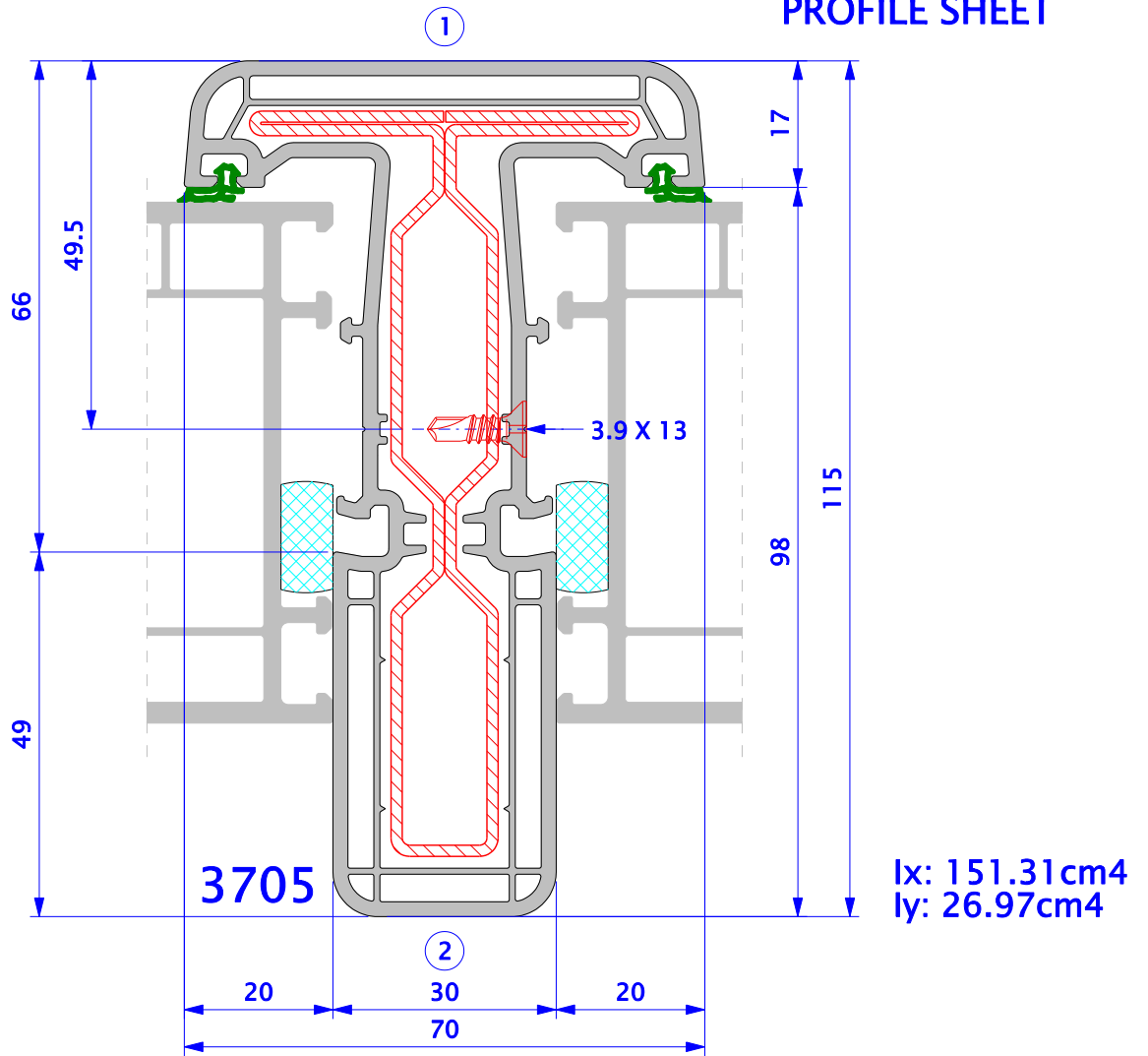


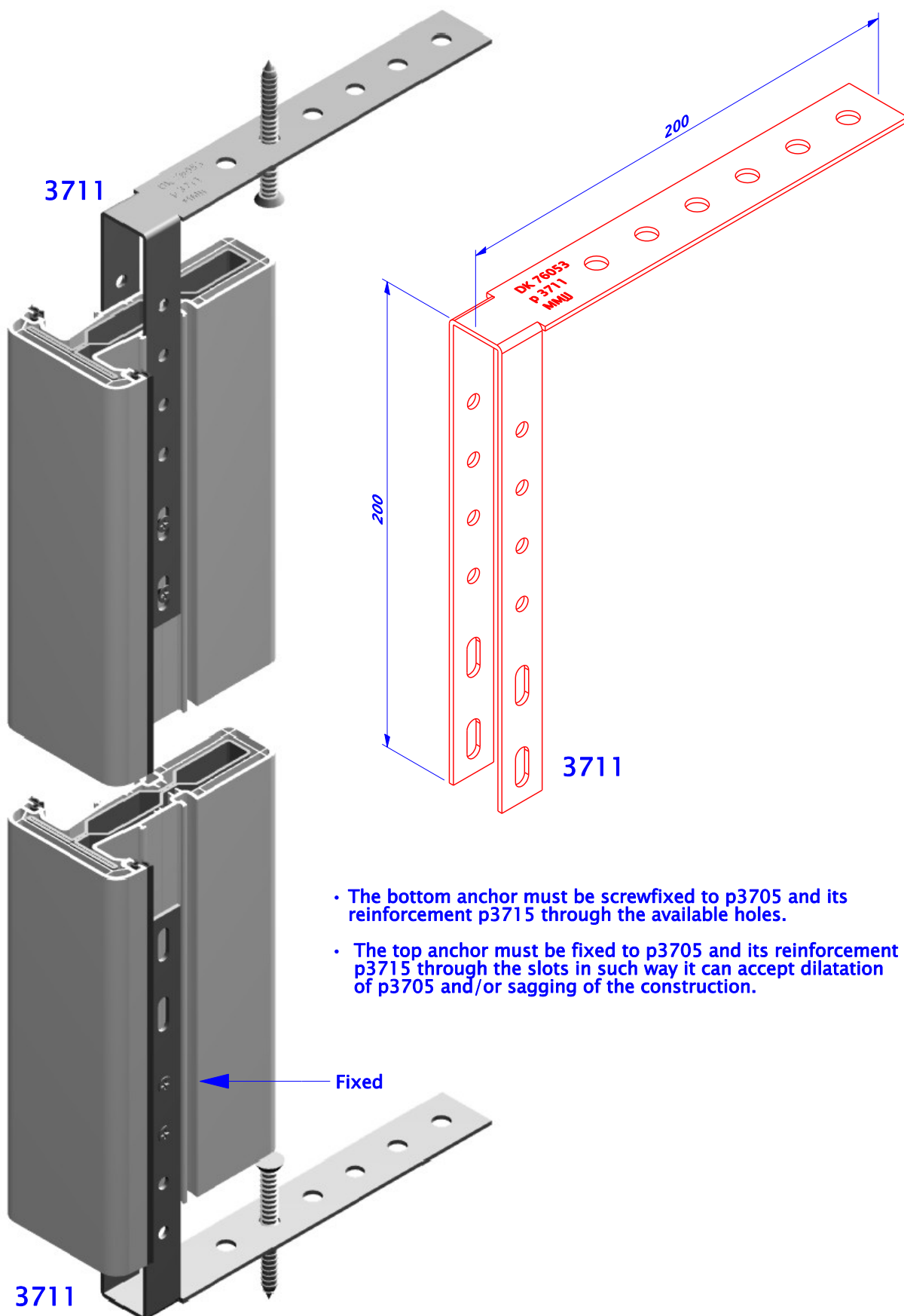
# GENERAL

PROFILE SHEETS

# 70mm Coupling

## PROFILE SHEET

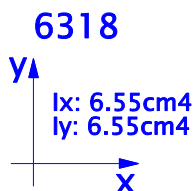
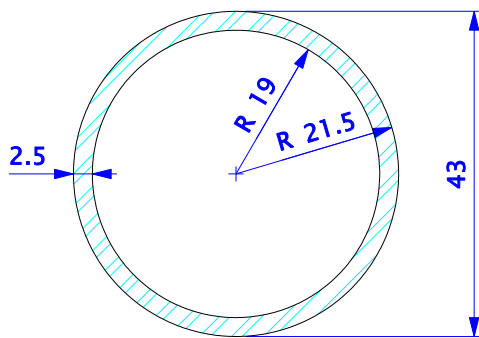
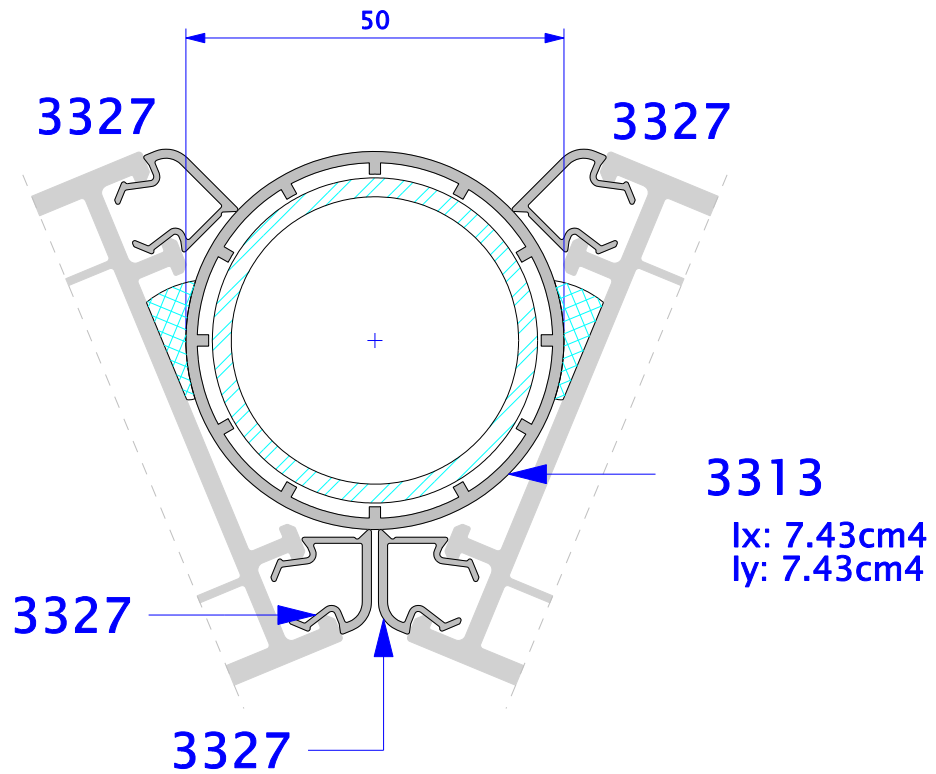




- The bottom anchor must be screwfixed to p3705 and its reinforcement p3715 through the available holes.
- The top anchor must be fixed to p3705 and its reinforcement p3715 through the slots in such way it can accept dilatation of p3705 and/or sagging of the construction.

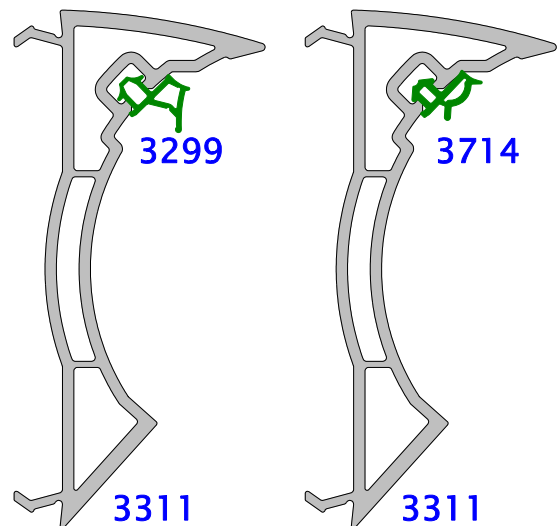
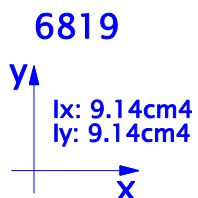
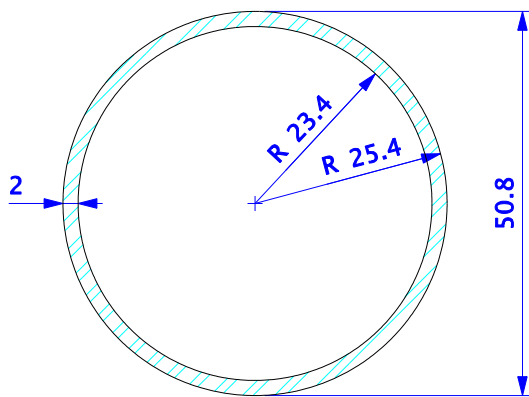
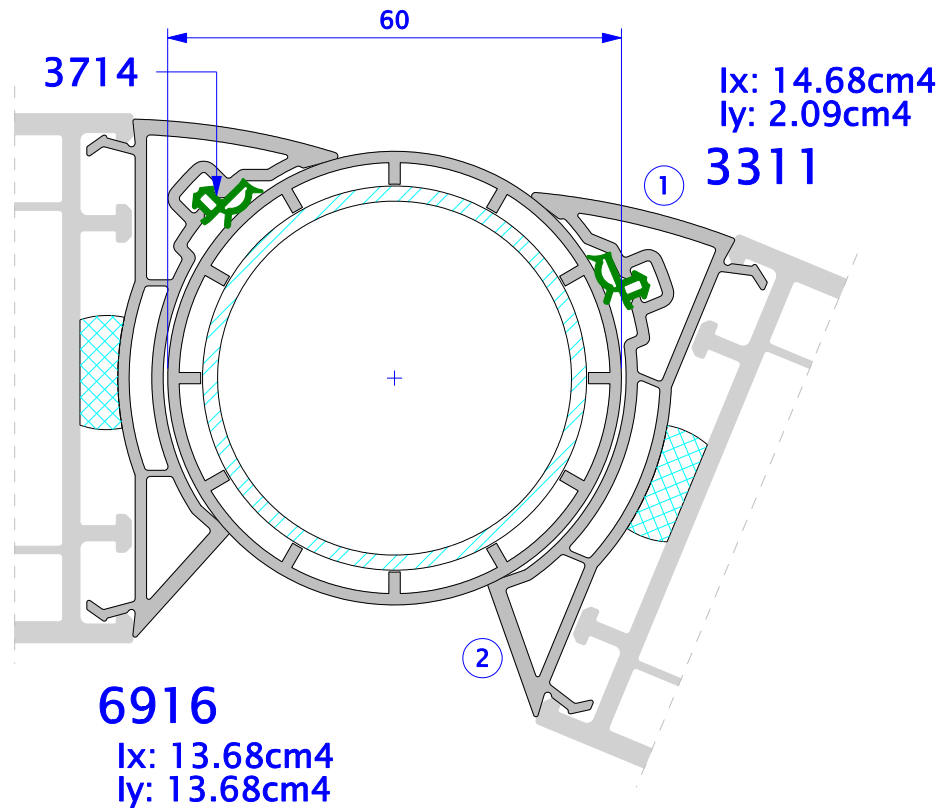
# 70mm Coupling

## PROFILE SHEET



# 70mm Coupling

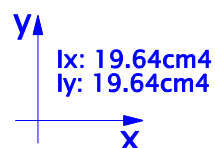
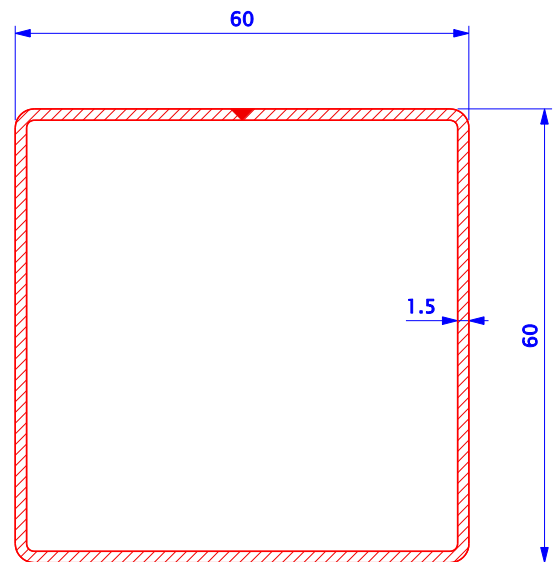
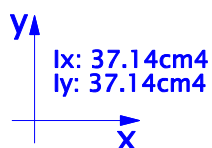
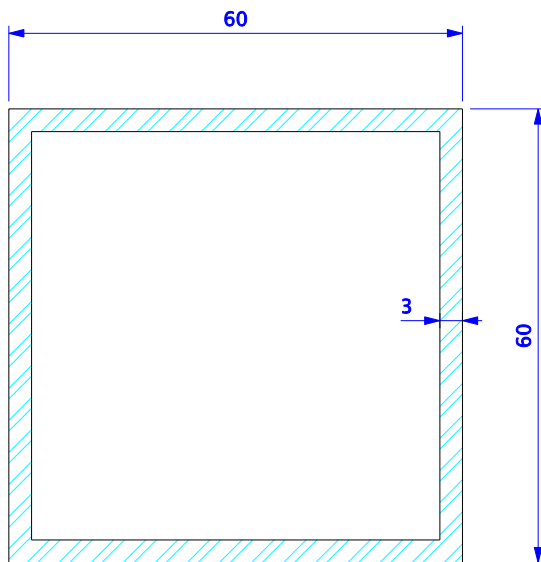
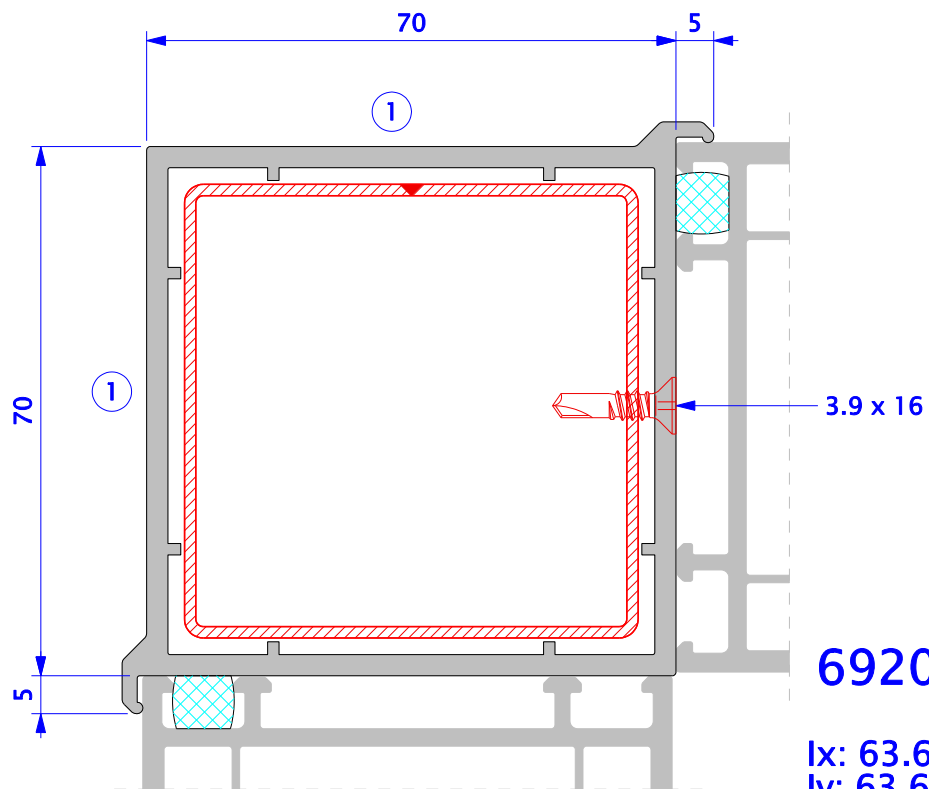
## PROFILE SHEET





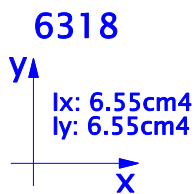
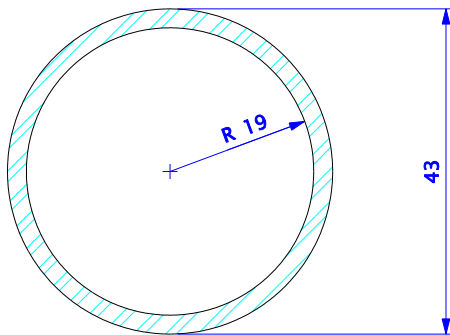
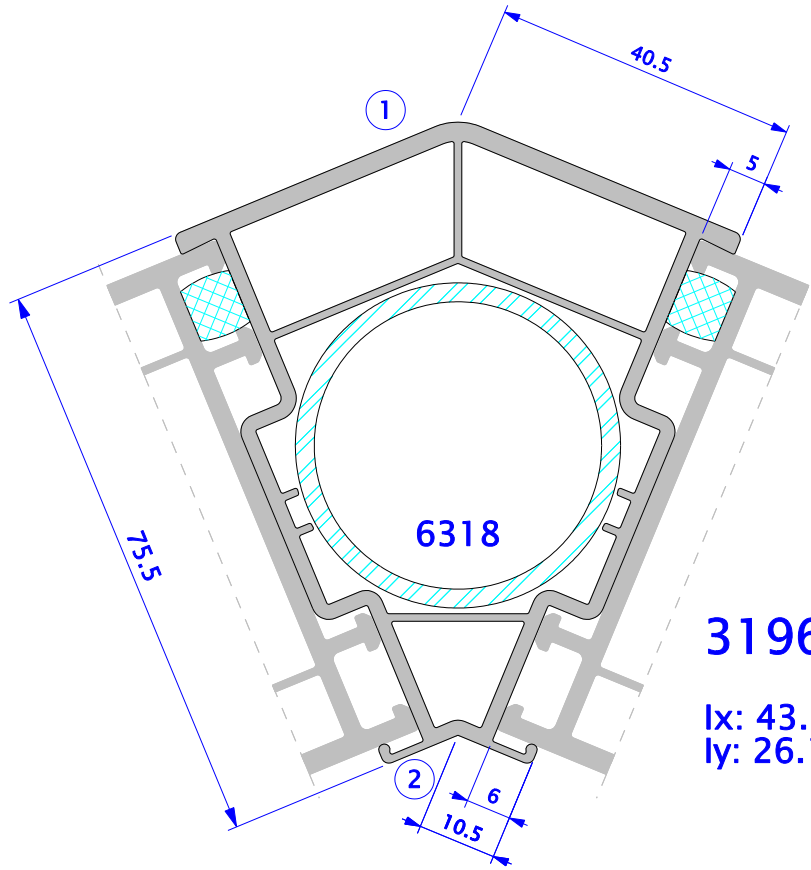
# 70mm Coupling

## PROFILE SHEET



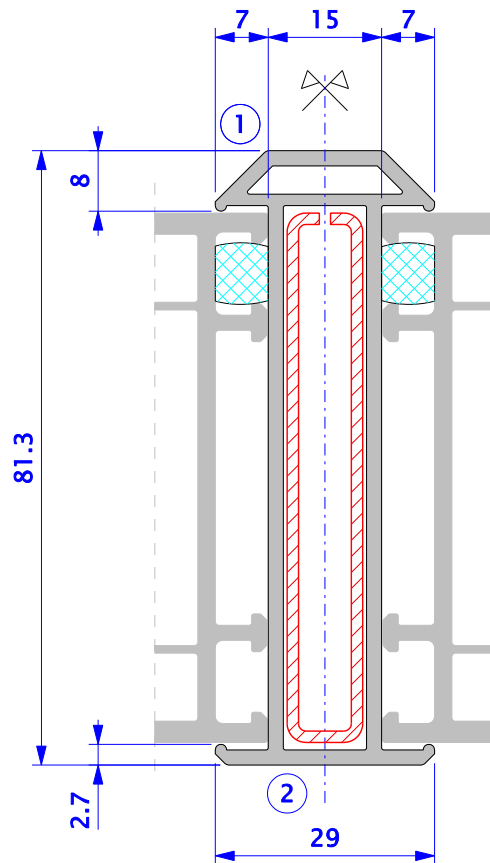
# 70mm Coupling

## PROFILE SHEET



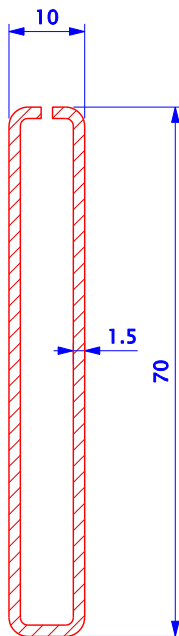
# 70mm Coupling

## PROFILE SHEET



6960

$I_x: 35.08\text{cm}^4$   
 $I_y: 2.26\text{cm}^4$



6760

$I_x: 10.23\text{cm}^4$   
 $I_y: 0.38\text{cm}^4$

# GENERAL

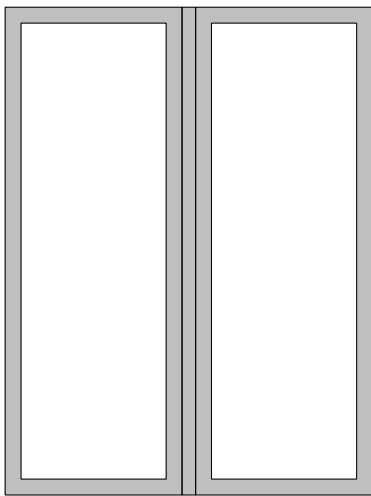
## COUPLING TYPES

# 70mm Coupling

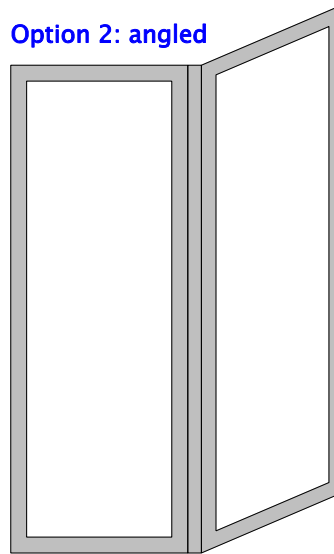
## COUPLING TYPES

### 1. Horizontally coupled elements

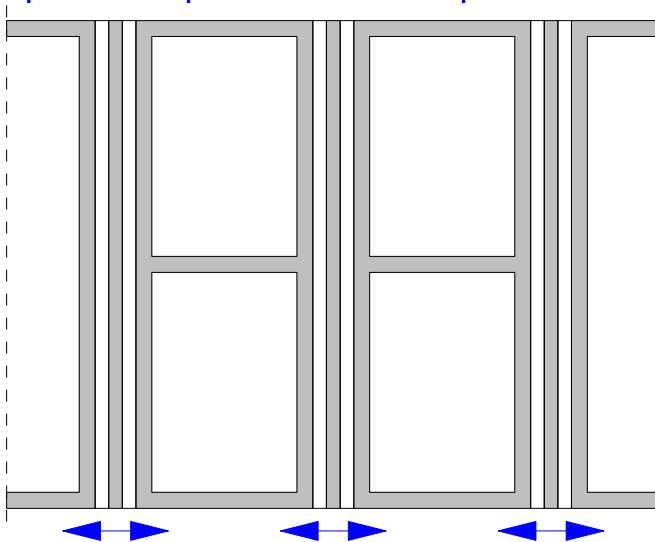
Option 1: inline frame to frame



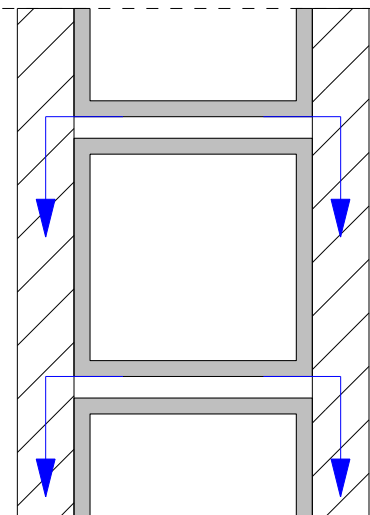
Option 2: angled



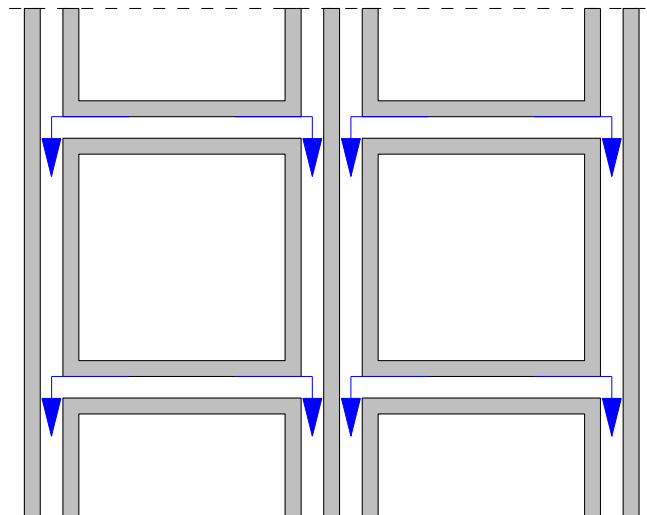
Option 3: multiple frames in the same plane



### 2. Vertically coupled elements



### 3. Composite elements



# SECTIONS

## HORIZONTALLY COUPLED ELEMENTS

OPTION 1: INLINE FRAME TO FRAME

- A. Non – structural
- B. Structural

OPTION 2: ANGLED CONNECTION

- A. Fixed angle
- B. Variable angle

OPTION 3: MULTIPLE FRAMES IN SAME PLANE

## VERTICALLY COUPLED ELEMENTS COMPOSITE ELEMENTS

# SECTIONS

## HORIZONTALLY COUPLED ELEMENTS

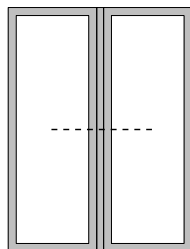
# 1. Horizontally coupled elements

# 70mm Coupling SECTIONS

## OPTION 1: INLINE FRAME TO FRAME

-> Coupling of two elements in the same plane

### 1A. Non-structural



#### FIXATION:

By screwing through the first frame and tightening the second frame against the coupling profile. The length of the screw depends on the choice of the frame and the coupling profile. A compressed seal is inserted over the full height of the coupling profile to avoid air leakage.

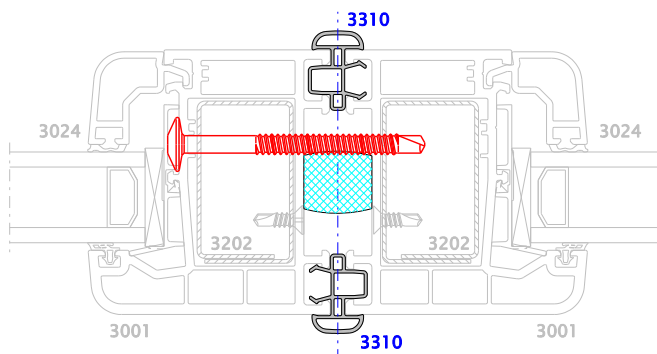
#### NOTE:

Not suited for coupling of coloured elements of which the linear expansion cannot be accepted at the opposite side.

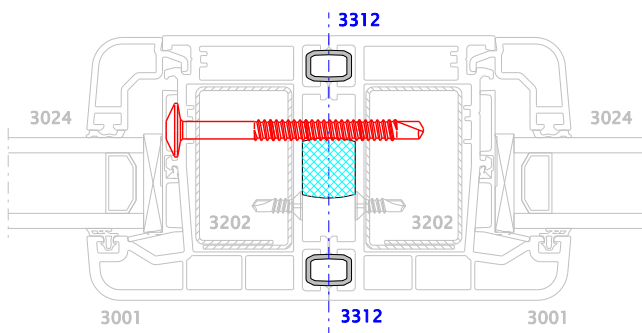
#### POSSIBILITIES:

Choice between hidden or visual solutions. The choice of the coupling type also depends on the loads the coupling section has to withstand. When the required inertia ( $I_x$ ) of the section is higher than the sum of the inertia's of both frames, choose for a structural coupling element.

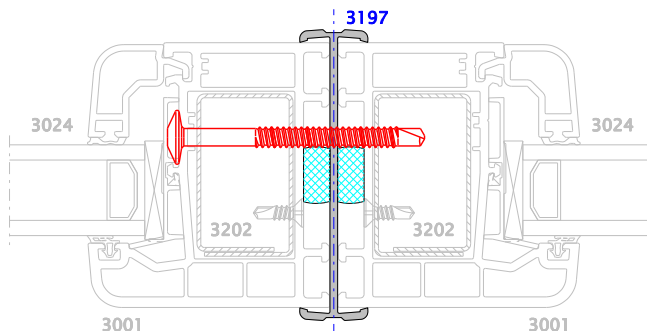
3310



3312



3197





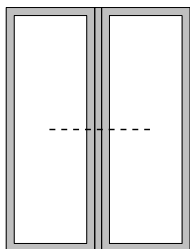
# 1. Horizontally coupled elements

# 70mm Coupling SECTIONS

## OPTION 1: INLINE FRAME TO FRAME

-> Coupling of two elements in the same plane

### 1 B. Structural



#### FIXATION:

By screwing the coupler to the first frame and tightening the second frame against the coupling profile. The length of the screw depends on the choice of the frame and the coupling profile. A compressed seal is inserted over the full height of the coupling profile to avoid air leakage.

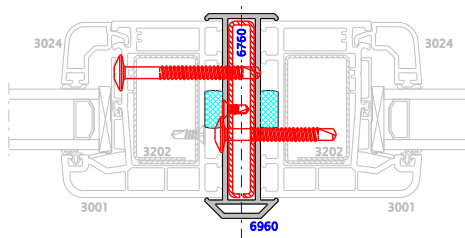
#### NOTE:

Not suited for coupling of coloured elements of which the linear expansion cannot be accepted at the opposite side.

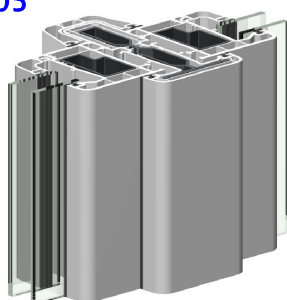
#### POSSIBILITIES:

The coupling element is always visual.

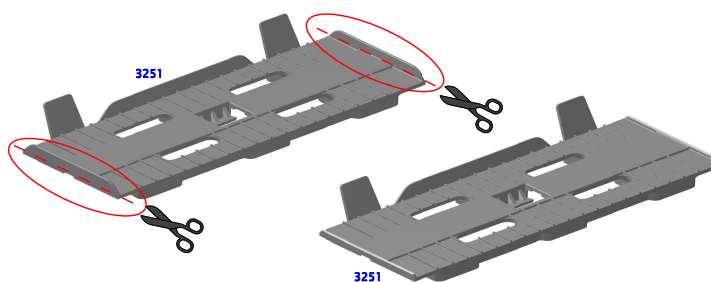
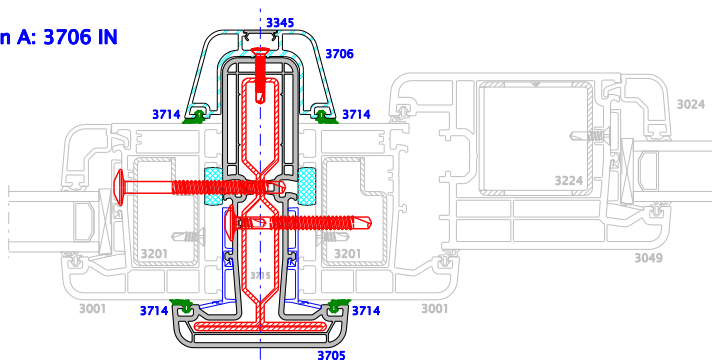
6960



3705



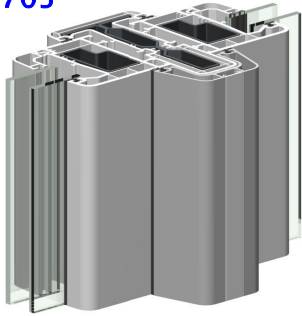
option A: 3706 IN



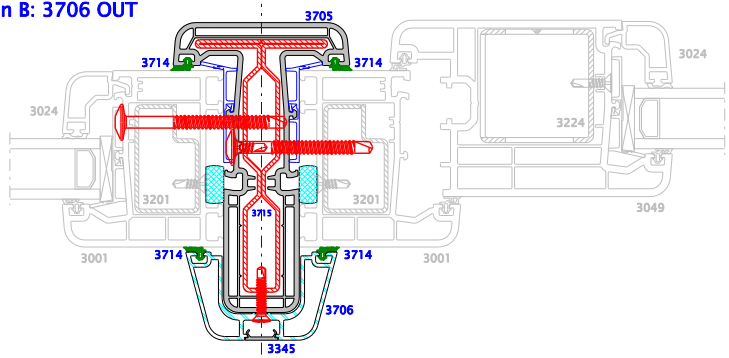
# 70mm Coupling

## SECTIONS

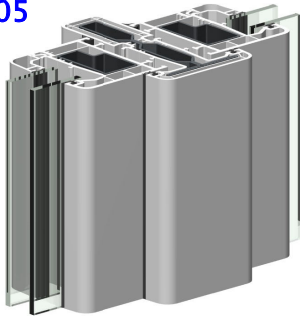
3705



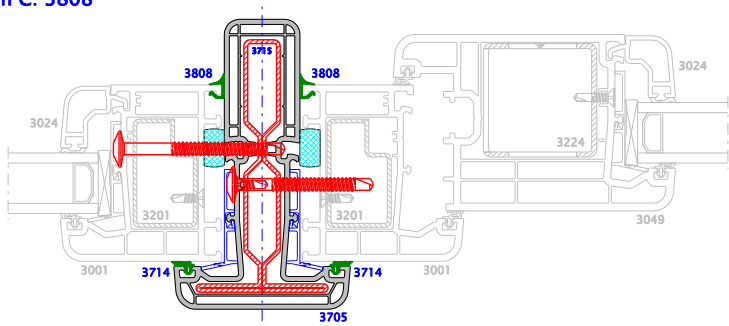
option B: 3706 OUT



3705



option C: 3808



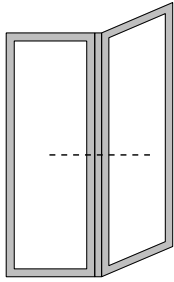
# 1. Horizontally coupled elements

# 70mm Coupling SECTIONS

## OPTION 2: CORNER CONNECTION

-> Coupling of two elements in a corner between 90° en 225°

### 2A. Fixed angle 90° or 135°



#### FIXATION:

Each element is screwed separately to the coupling profile.

#### NOTE:

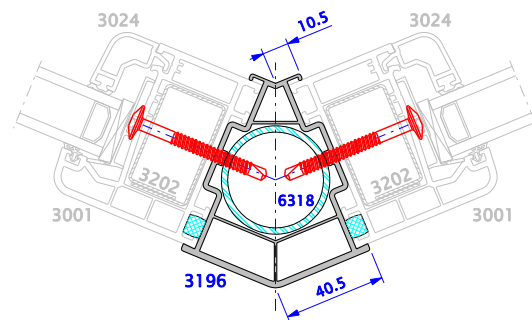
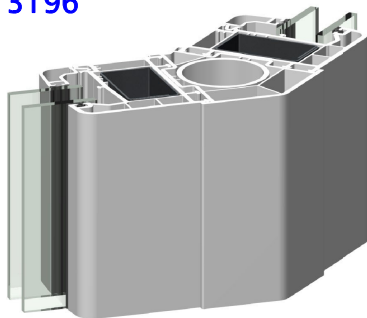
Not suited for coupling of coloured elements of which the linear expansion cannot be accepted at the opposite side.

#### POSSIBILITIES:

Fixed angle of 90°, 135° or variable angles with a range between 90° en 225°.

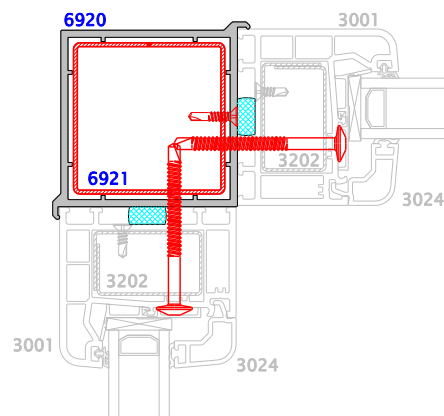
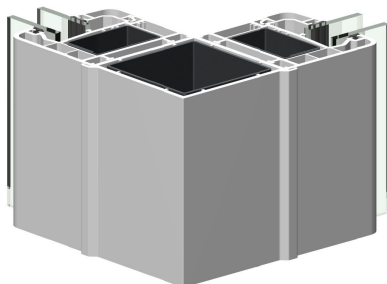
### FIXED ANGLE OF 135°

3196



### FIXED ANGLE OF 90°

6920



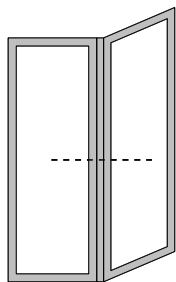
# 1. Horizontally coupled elements

# 70mm Coupling SECTIONS

## OPTION 2: CORNER CONNECTION

-> Coupling of two elements in a corner between 90° en 225°

### 2B. Variable angle



#### FIXATION:

Each element is screwed separately to the coupling profile.

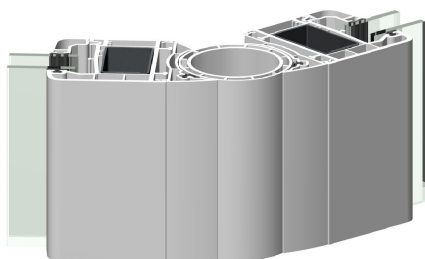
#### NOTE:

Not suited for coupling of coloured elements of which the linear expansion cannot be accepted at the opposite side.

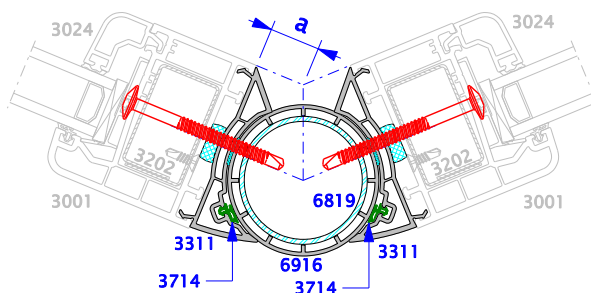
#### POSSIBILITIES:

Fixed angle of 90°, 135° or variable angles with a range between 90° en 225°.

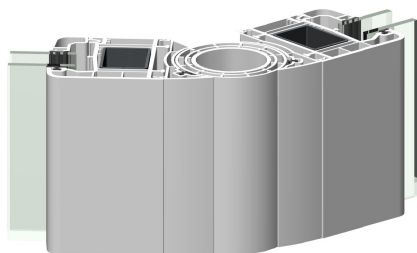
6916



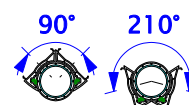
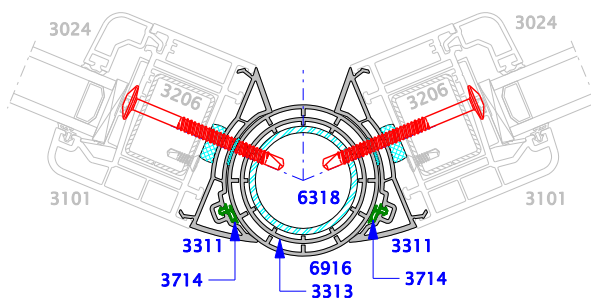
6916 with 3311



6916



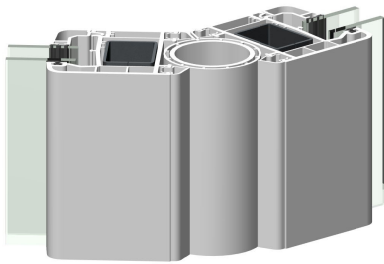
6916 with 3313  
Thermally improved version



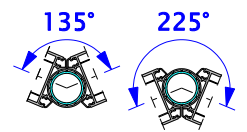
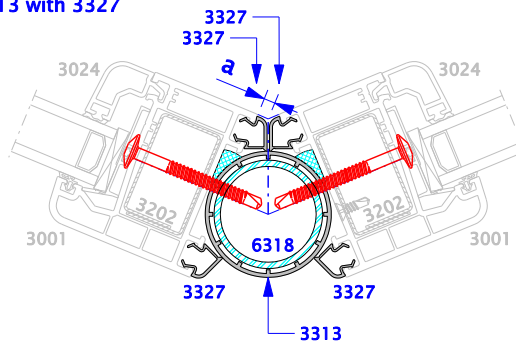
	(a) mm
90°	0
95°	2.5
100°	5.2
105°	7.7
110°	10.1
115°	12.3
120°	14.4
125°	16.4
130°	18.3
135°	20.1
140°	21.9
145°	23.6
150°	25.2
155°	26.8
160°	28.3
165°	30
170°	31.5
175°	33.1
180°	34.6
185°	36.1
190°	37.6
195°	39.1
200°	40.8
205°	42.4
210°	44
215°	-
220°	-
225°	-

# 70mm Coupling SECTIONS

3313

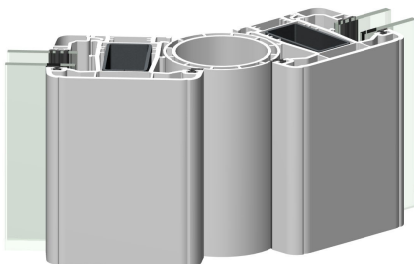


3313 with 3327

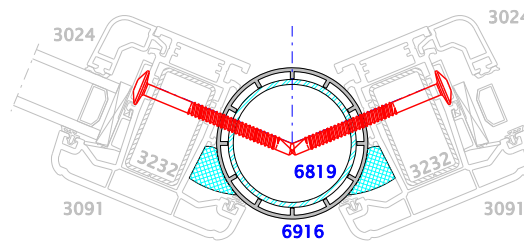


	(a) mm
90°	-
95°	-
100°	-
105°	-
110°	-
115°	-
120°	-
125°	-
130°	-
135°	3.8
140°	5.5
145°	7.2
150°	8.9
155°	10.6
160°	12.3
165°	14
170°	15.7
175°	17.4
180°	19.1
185°	20.8
190°	22.5
195°	24.1
200°	25.7
205°	27.3
210°	28.9
215°	30.4
220°	32
225°	33.5

6916



6916 with 3091

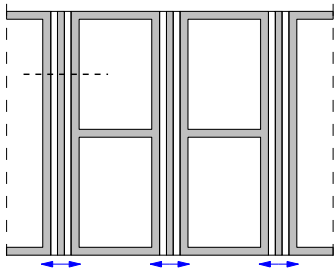


# 1. Horizontally coupled elements

# 70mm Coupling SECTIONS

## OPTION 3: MORE COMPLEX COUPLING OF ELEMENTS IN THE SAME PLANE

-> More than 2 elements or connection where there is a need for linear expansion in the coupling section.



### FIXATION:

By means of a threaded rod (e.g. Ø 6 mm) with a blind rivet nut with cylindrical head. This fixation method allows linear expansion of the frames. The length of the rod depends on the choice of the frame.

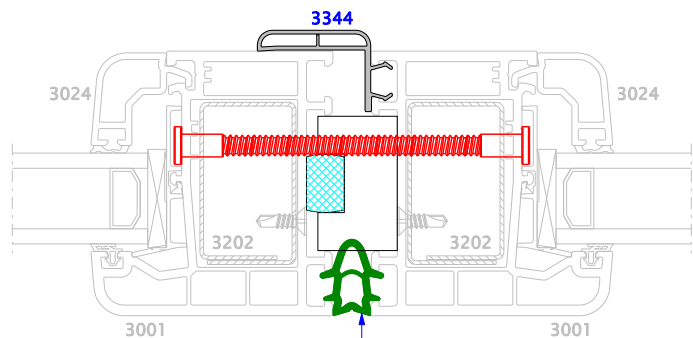
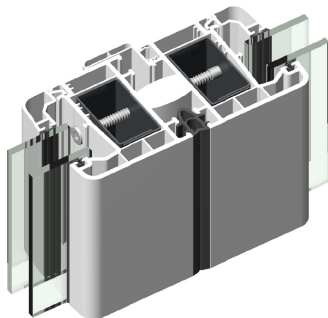
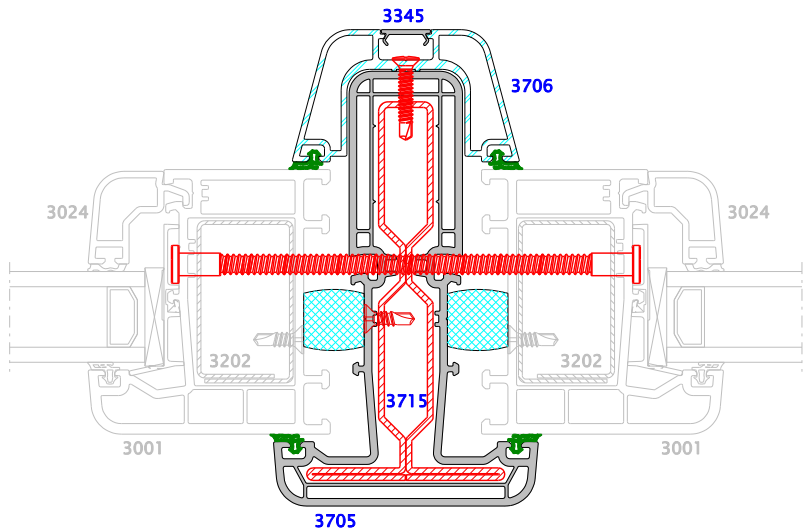
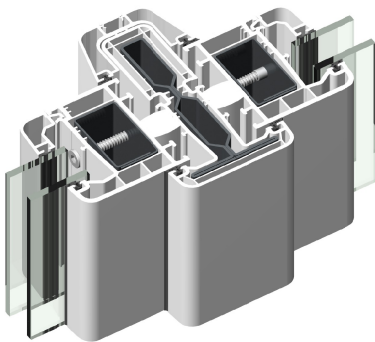
### NOTE:

Provide room for linear expansion.

### POSSIBILITIES:

Depending of the load this connection type can be established with or without coupling profile. The room for linear expansion can be covered by the coupling profile or by a finishing profile or special designed seal. Pay attention that the frames are guided, so lined up with each other.

The linear expansion is depending on installation method, fixation of reinforcement, length, colour and temperature of installation. For example take a standard reinforced length of 1,5m, installed by a temperature of 10°C, the maximum expansion can run up till 2,5mm in total.



principle of wedge gasket

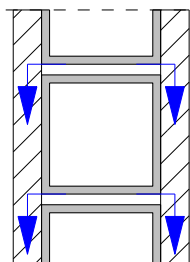
# SECTIONS

VERTICALLY COUPLED ELEMENTS

## 2. Vertically coupled elements

-> Constuction where the elements are put above each other

# 70mm Coupling SECTIONS



### FIXATION:

The load of the frame (& glazing) must be directly transferred to the building without charging the underlying element. This can be done by means of an anchor that can be screwed and then fixed onto the construction. The definition of the anchor is determined by the above element: weight, fixation possibilities, ... and used for the alignment.

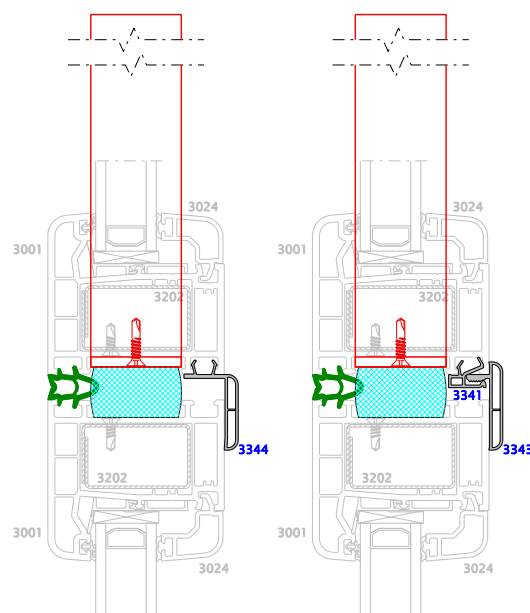
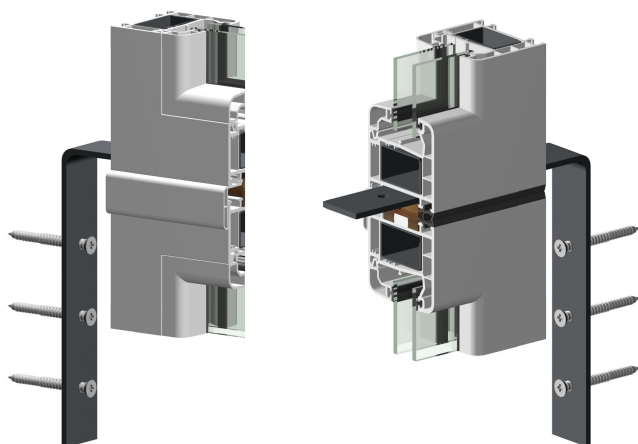
### NOTE:

Provide room for lineair and structural expansion.

### POSSIBILITIES:

The room for lineair expansion can be covered by the coupling profile or by a finishing profile or special designed seal. Pay attention that the frames are guided, so lined up with each other.

The linear expansion is depending on installation method, fixation of reinforcement, length, colour and temperature of installation. For example take a standard reinforced length of 1,5m, installed by a temperature of 10°C, the maximum expansion can run up till 2,5mm in total.



Principle of wedge gasket.



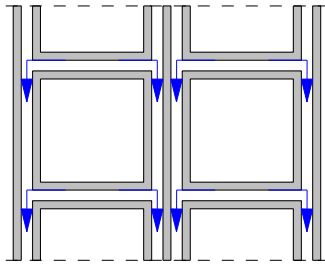
# SECTIONS

COMPOSITE ELEMENTS

### 3. Composite elements

-> Constuction with combination of horizontal and vertical coupling.

# 70mm Coupling SECTIONS



#### FIXATION:

The load of the frame (& glazing) must be directly transferred to the building/mullion without charging the underlying element. This can be done by means of an anchor that can be screwed and then fixed onto the construction. The definition of the anchor is determined by the above element: weight, fixation possibilities, ... and used for the alignment.

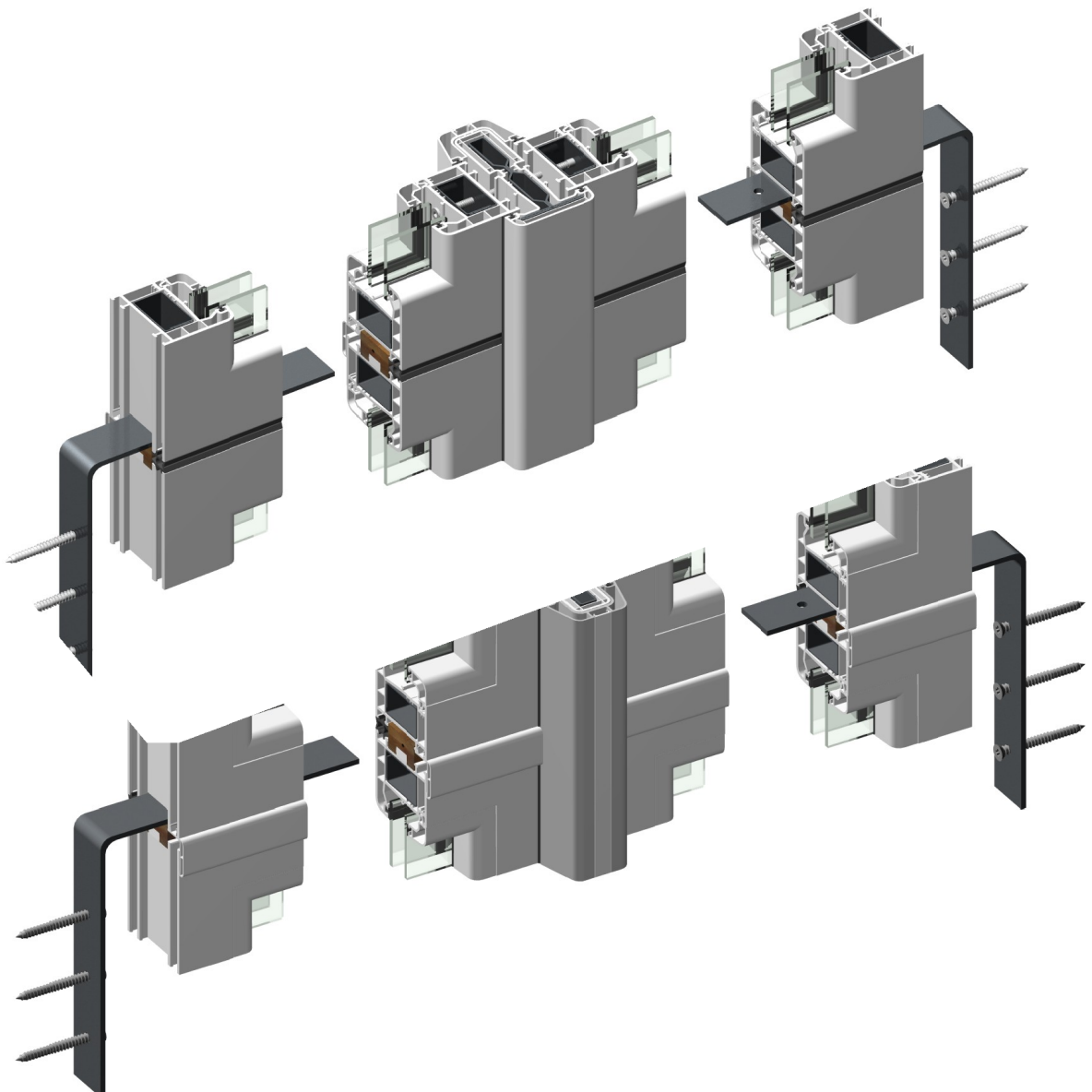
#### NOTE:

Provide room for lineair and structural expansion. If 3705 is used as structural mullion, pay attention that the length can be withstand the buckling.

#### POSSIBILITIES:

The room for lineair expansion can be covered by the coupling profile or by a finishing profile or special designed seal. Pay attention that the frames are guided, so lined up with each other.

The lineair expansion is depending on installation method, fixation of reinforcement, length, colour and temperature of installation. For example take a standard reinforced length of 1,5m, installed by a temperature of 10°C, the maximum expansion can run up till 2,5mm in total.



- The coupler must be fixed max. 30 cm from top & bottom and at max. 60 cm between the fixations. The strength of the reinforcements can help to withstand the windloading.
- We advise to reinforce all frame parts of the coupling side
- All the cut lengths of the reinforcements must be a minimum of 85% of the cut length of the PVC profile, and must be inderted in one continuous length, not in several small pieces.
- All coloured profiles must be completely reinforced regardless of span.
- The positioning of reinforcement screws may not be bigger than 300 mm centres and a maximum of 100 mm from each end.
- Any internal chamber which is sealed, should be vented. This will release all the air pressure that may have been built up in the internal chambers, hence reducing the possibility of profile deformation. As a general guide, with the standard drainage provision, you achieve this. For the remaining unvented chambers a small and discreetly positioned 4 mm hole is sufficient.
- Mind that the fixation of the element is well defined according to the application.