

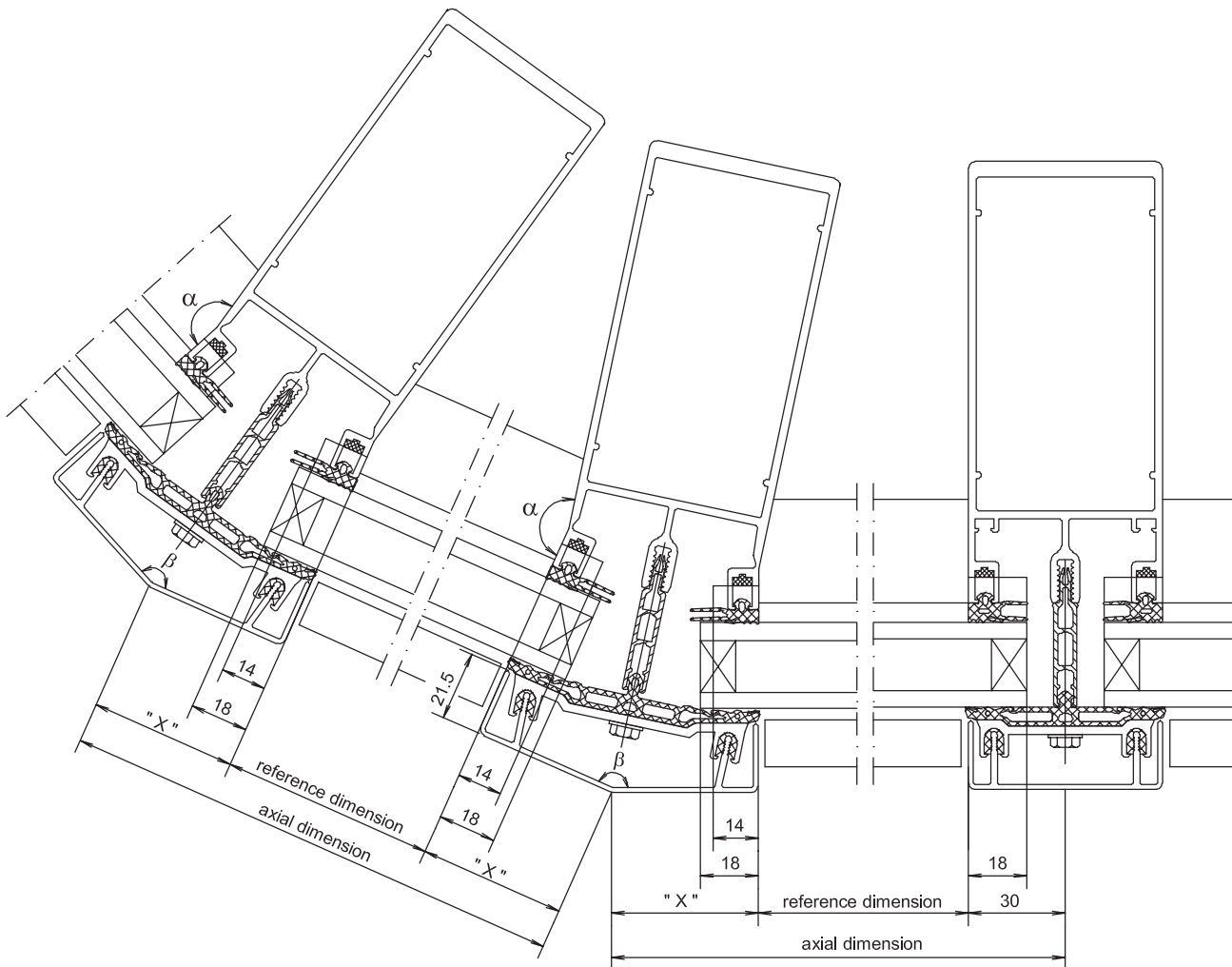
18.3.2 Cutting to length for 1.0 VF 60

Polygonal mullion VF 60 (thickness of insert elements between 20 and 28 mm)

α	174°	168°	162°	156°
β	168°	156°	144°	132°
mullion profile	523 110/115/120 423 144	523 111/116/121 423 143	523 112/117/122 423 142	523 113/118/123 423 141
spacer profile	910 067	910 067	910 067	910 068
pressure plate glazing gasket	911 831	911 832	911 834	911 834
pressure plate profile	419 405	419 406	419 408	419 410
façade fixing screw	911 916	911 915	911 915	911 917
cover profile	460 606	423 606	460 608	423 610
dimension "x" [mm]	37.5	45.5	58	62.5
transom length [mm]	reference dimension + 28	reference dimension + 28	reference dimension + 35	reference dimension + 25,5
glass dimension [mm]	reference dimension + 36	reference dimension + 36	reference dimension + 43	reference dimension + 33,5

reference dimension = axial dimension - 2 "X" (bending angle identical for both polygonal mullions)

reference dimension = axial dimension - "X"1 - "X"2 (the polygonal mullions possess different bending angles)



18.4 Angle determination for mullion profiles

In case of corner mullion combinations faceted on top, the angle setting in the sloping area is achieved by using polygonal mullions.

The angle can be calculated as follows:

$$\alpha_3 = 180 - 2 \cdot \arctan \left[\tan \alpha_1 \cdot \sin \left(\arctan \frac{\cos \alpha_1}{\tan \frac{\alpha_2}{2}} \right) \right]$$

α_1 = roof pitch

α_2 = angle of the mullion in the vertical area

α_3 = required angle of the mullion in the roof area

Example:

α_1 = roof pitch 30°

α_2 = 135°, corner mullion 519 112 (range of 144°-132°)

to be determined: α_3 or profile for hip rafter

$$\alpha_3 = 180 - 2 \cdot \arctan \left[\tan 30^\circ \cdot \sin \left(\arctan \frac{\cos 30^\circ}{\tan \frac{135^\circ}{2}} \right) \right]$$

$$\alpha_3 = 180 - 2 \cdot \arctan [0.577 \cdot \sin (\arctan 0.35872)]$$

arctan 0.35872 = 19.7341°

$$\alpha_3 = 180 - 2 \cdot \arctan 0.19499$$

arctan 0.19499 = 11.0337°

$$\alpha_3 = 157.9326^\circ (157^\circ 55' 57'')$$

According to the table in chapter 18.2, the profile 519 100 (range of 168°-156°) may be used in the hip rafter area.

Table value = α_3

140°	169,8	166,6	163,4	160,3	157,4	154,6	152,0	149,6	147,5	145,5
→ 135°	168,6	165,0	161,4	157,9	154,6	151,5	148,6	145,9	143,5	141,3
130°	167,4	163,4	159,4	155,6	151,9	148,5	145,2	142,2	139,5	137,0
125°	166,3	161,8	157,5	153,3	149,3	145,5	141,9	138,6	135,6	132,9
120°	165,1	160,3	155,6	151,0	146,7	142,5	138,6	134,9	131,6	128,7
115°	164,0	158,5	153,8	148,8	144,1	139,6	135,3	131,4	127,8	124,5
110°	163,0	157,4	152,0	146,7	141,6	136,7	132,1	127,9	124,0	120,4
105°	161,9	156,0	150,2	144,6	139,1	133,9	129,0	124,4	120,2	116,4
100°	160,8	154,6	148,5	142,5	136,7	131,2	125,9	121,0	116,5	112,3
95°	159,9	153,3	146,8	140,5	134,4	128,5	122,9	121,0	116,5	112,3
90°	158,9	152,0	145,2	138,6	132,1	125,9	120,0	114,4	109,2	104,5
85°	158,0	150,8	143,6	136,7	130,0	123,4	117,2	111,2	105,7	100,6
80°	157,1	149,6	142,2	135,0	127,9	121,0	114,4	108,1	102,3	96,9
75°	156,3	148,5	140,8	133,3	125,9	118,7	111,8	105,1	98,9	93,2
70°	155,5	147,5	139,5	131,6	124,0	116,5	109,2	102,3	95,7	89,6
65°	154,8	146,5	138,2	130,1	122,1	114,3	106,8	99,5	92,6	86,2
60°	154,1	145,5	137,0	128,7	120,4	112,3	104,5	96,9	89,6	82,8
55°	153,5	144,6	135,9	127,3	118,8	110,5	102,3	94,4	86,8	79,6
50°	152,9	143,9	135,0	126,1	117,4	108,7	100,3	92,1	84,1	76,6
45°	152,3	143,2	134,0	125,0	116,0	107,1	98,4	89,9	81,6	73,7
	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°

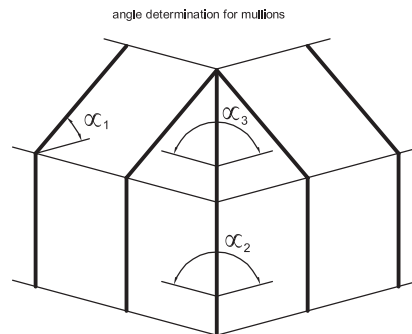
↑ — α_1 —

Table example:

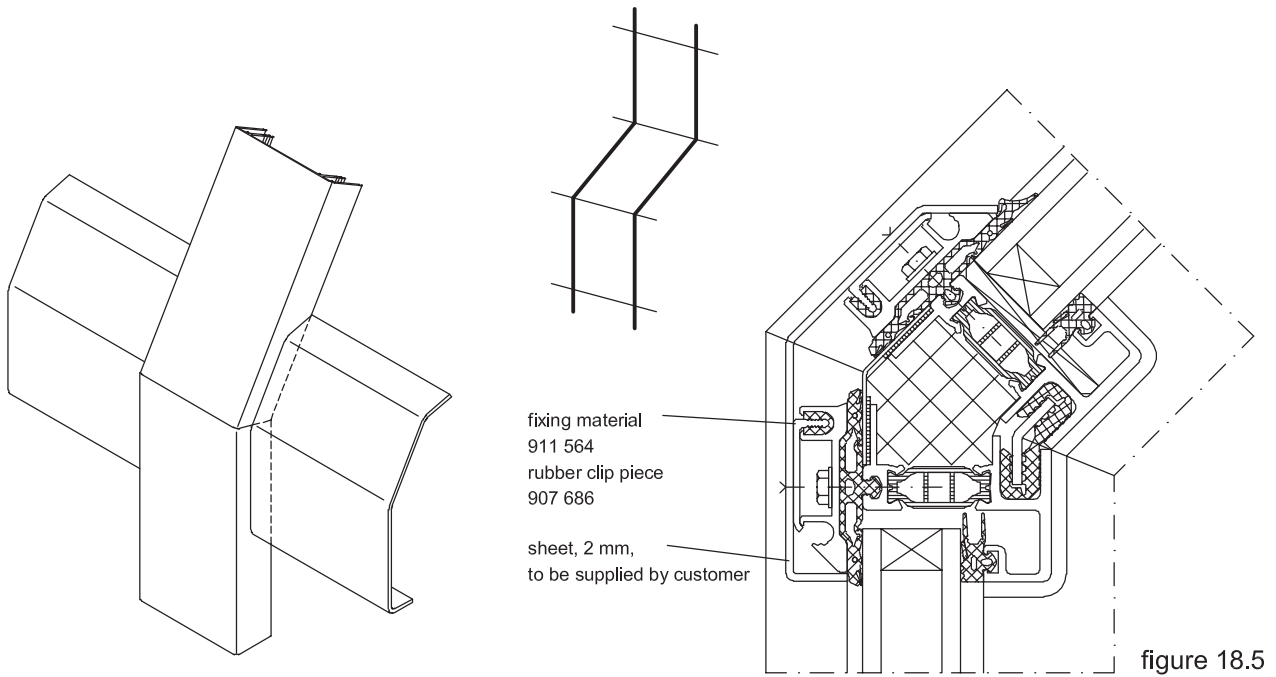
α_1 = roof pitch 30°

α_2 = 135° corner mullion

to be determined: α_3 = 157.9° mullion 519 110



18.4.1 Position of cover profiles for mullion profiles bent at façade level



18.4.2 Position of cover profiles for polygonal mullions bent at façade level

