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to Article 29 of the Regulation (EU)
No 305/2011 of the European
Parliament and of the Council of 9
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MEMBER OF EOTA



European Technical Assessment ETA-24/0682 of 2025/01/15

General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the
construction product:

Fastening kit for façade panels (Center Point System)

Product family to which the
above construction product
belongs:

Kits for external wall claddings

Manufacturer:

SFS Group Schweiz AG
Rosenbergsaustrasse 10
CH-9435 Heerbrugg

Manufacturing plant:

SFS Production Plants

This European Technical
Assessment contains:

14 pages including 8 annexes which form an integral
part of the document

This European Technical
Assessment is issued in
accordance with Regulation
(EU) No 305/2011, on the
basis of:

EAD 090034-00-0404 – Kit composed by subframe
and fixings for fastening cladding and external wall
elements

This version replaces:

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II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of product

The Fastening kit for façade panels (Center Point System) are designated as subframe brackets type 6 according to EAD 090034-00-0404, chapter 1.1.

The Fastening kit for façade panels (Center Point System) consist of the following components:

- Fastening screw (SDA4-5,8xL for aluminium profiles or SX4-5,8xL for steel or aluminium substructures)
- Center point sleeve made from plastic or biodegradable materials (not part of the load bearing system) or fixed point inlay made of stainless steel 1.4301.
- Profiles made of Aluminum EN AW 6060 T6, EN AW 6060-T66, EN AW 6060-T5, EN AW 6063 T66, EN AW 6005A T6 or EN AW 6005A T66 with $R_m \geq 165$ N/mm² according to EN 573 or S250GD to S450GD according to EN 10346.

See annex 1, 2 and 6 for a description and drawings of the kit.

The Fastening kit for façade panels (Center Point System) is used for façade panels such as HPL according to EN 438-7. The façade panels are mounted to the profiles using the fastening screws SDA4-5,8xL (aluminium profiles) or SX4-5,8xL (steel or aluminium profiles). The facade panels shall have a maximum deflection of L/200 and a maximum weight of 32 kg/m². See annex 6 for specification of the geometry of the profiles.

2 Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)

The Fastening kit for façade panels (Center Point System) is intended to be used as subframe for façades with air space, ventilated or not, which can be fixed to supporting structure and the external wall in new or existing buildings. The supporting structure is made of masonry (bricks or blocks), concrete (cast on site or as prefabricated panels), timber or metal frame. An insulation layer is usually fixed on the external wall.

The kit is a non-load-bearing construction element. It does not contribute to the stability of the structure on which are installed, neither to ensure the airtightness of the building structure, but it can contribute to durability of the works by providing enhanced protection from the effect of weathering.

The installation should be carried out according to the ETA holder's specifications, using the specific kit

components, manufactured by suppliers of the ETA holder and carried out by appropriately qualified staff with supervision of the technical responsible of the site. Maintenance of the assembled systems or kit components includes inspections on site, taking into account the following aspects:

- any damage such as cracking or detachment due to permanent and irreversible deformation of the cladding elements.
- corrosion or water accumulation at metallic components.

Furthermore, necessary repairs should be done rapidly, using the same kit components and following the repair instructions given by ETA holder.

The façade kit is assessed as a system 6 in accordance with EAD 090034-00-0404.

The verification and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of at least 25 years, that the conditions lay down for the installation, packaging, transport and storage as well as appropriate use, maintenance and repair are met.

The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer but are to be regarded only as a means for choosing the right product in relation to the expected economically reasonable working life of the works

3 Performance of the product and references to the methods used for its assessment.

Characteristic	Assessment of characteristic
3.2 Safety in case of fire (BWR 2)	
Reaction to fire	The components of the kit are made from steel, stainless steel or aluminium classified as Euroclass A1 in accordance with EN 13501-1 and Commission Delegated Regulation 2016/364 and EC decision 96/603/EC, amended by EC Decision 2000/605/EC.
3.3 Hygiene, health and the environment (BWR 3)	
Content, emission and/ or release of dangerous substances	No performance assessed
3.4 Safety and accessibility in use (BWR 4)	
Wind load resistance	See annex 5
Resistance to vertical load of the whole assembled kit	See annex 5
Resistance to vertical load of skin element fixings	See annex 4
Resistance to horizontal load of skin element fixings	See annex 4
Resistance to pulsating load of skin element fixings	See annex 5
Resistance of skin element fixings in case of inaccuracies of installation	No performance assessed
Pull-through resistance of fixings (from profiles)	Not relevant
Pull-out resistance of fixings (from profiles)	See annex 4
Inertia and resistance of profiles	See annex 3
Resistance to vertical loads of brackets	Not relevant
Resistance to horizontal load of brackets	Not relevant
Mechanical characteristics of subframe fixings	Not relevant
Corrosion	<p>The components of the kit are made from stainless steel grade 1.4301, steel grade steel S250GD to S450GD according to EN 10346 or aluminium EN AW 6060 T6, EN AW 6060-T66, EN AW 6060-T5, EN AW 6063 T66, EN AW 6005A T6 or EN AW 6005A T66 according to EN 573</p> <p>The kits may be used in the following external atmosphere exposure: Rural environment, moderate industrial/urban environment, but excluding industrial and marine environment. The kits may be used in other external atmospheric conditions exposure if the components are protected as specified in EN 1999.</p>

3.5 Methods of verification

The product is fully covered by EAD 090034-00-0404.

3.6 General aspects related to the fitness for use of the product.

The European Technical Assessment is issued for the product based on agreed data/information, deposited with ETA-Danmark, which identifies the product that has been assessed and judged. Changes to the product or production process, which could result in this deposited data/information being incorrect, should be notified to ETA-Danmark before the changes are introduced. ETA-Danmark will decide if such changes affect the ETA and consequently the validity of the CE marking based on the ETA and if so whether further assessment or alterations to the ETA, shall be necessary.

The components of the kit are manufactured in accordance with the provisions of this European Technical Assessment using the manufacturing processes as identified in the inspection of the plant by the notified inspection body and laid down in the technical documentation.

4 Assessment and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base.

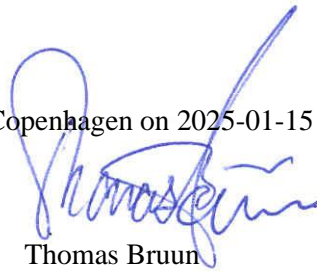
4.1 AVCP system

According to the decision 2003/640/EC of the European Commission, as amended, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) is 2+.

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD.

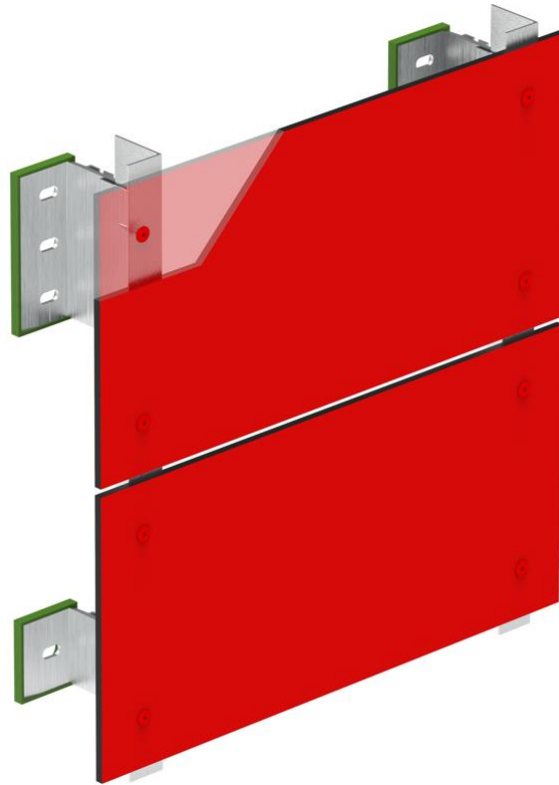
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at ETA-Danmark prior to CE marking.

Issued in Copenhagen on 2025-01-15 by



Thomas Bruun
Managing Director, ETA-Danmark

Description of the kit



The fastening kit for façade panels (center point system) contains:

- Fastening screw (SDA4-5,8xL for aluminum profiles or SX4-5,8xL for steel or aluminum profile)
- Centering sleeve (not part of the load bearing system)
- Fixed point sleeve made of stainless steel 1.4301 (or similar).
- Profiles (made of Aluminum alloy - EN 573 with $R_m \geq 165 \text{ N/mm}^2$ or steel S250GD to S450GD - EN 10346)

Terms and explanations

Annex 1

Fastening kit for façade panels (Center Point System)

Description of the kit

Dimensions

Design relevant dimensions are indicated as follows:

t_{II} Thickness of the profile

Resistance values

The resistance values of a connection are indicated as follows:

$N_{Rk,fastener}$ Characteristic pull out resistance of the fastener out of the profile

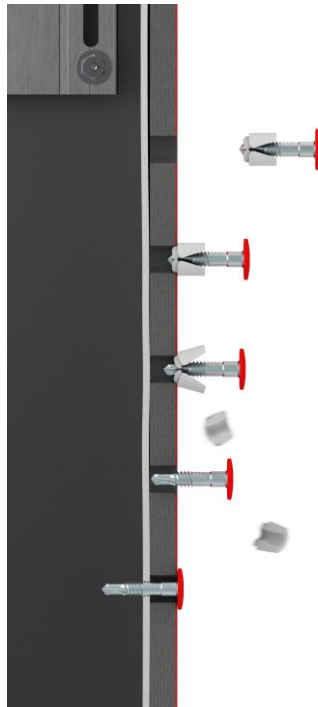
$V_{Rk,fastener}$ Characteristic shear resistance of the fastener in the profile

W_{eff} Effective bending resistance of the profile

$f_{y,k}$ Characteristic yield strength of the profile

To center the fastener, the following centering sleeves can be used (not part of the load-bearing system):

Figure 1: Centering sleeves



Terms and explanations

Fastening kit for façade panels (Center Point System)

Annex 2

Components of the kit

The following profiles may be used:

Profile	B [mm]	H [mm]	Thickness t_{II} [mm]	material	f_{yk} [N/mm ²]	W_{eff} [mm ³]
L-Profile 60x40x2,2	60	40	2.20	EN AW 6060 T6	150	890
				EN AW 6063 T66	160	870
				EN AW 6005A T6	215	770
L-Profile 40x40x2,0	40	40	2.00	EN AW 6060 T6	150	476
				EN AW 6063 T66	160	462
				EN AW 6005A T6	215	413
L-Profile 40x40x3,0	40	40	3.00	EN AW 6060 T6	150	934
				EN AW 6063 T66	160	916
				EN AW 6005A T6	215	831
L-Profile 40x60x2,0	40	60	2.00	EN AW 6060 T6	150	489
				EN AW 6063 T66	160	477
				EN AW 6005A T6	215	425
L-Profile 40x60x3,0	40	60	3.00	EN AW 6060 T6	150	974
				EN AW 6063 T66	160	954
				EN AW 6005A T6	215	864
T-Profile 100x40x2,0	100	40	2.00	EN AW 6060 T6	150	504
				EN AW 6063 T66	160	491
				EN AW 6005A T6	215	436
T-Profile 100x40x3,0	100	40	3.00	EN AW 6060 T6	150	1012
				EN AW 6063 T66	160	991
				EN AW 6005A T6	215	895
T-Profile 100x60x2,0	100	60	2.00	EN AW 6060 T6	150	799
				EN AW 6063 T66	160	777
				EN AW 6005A T6	215	684
T-Profile 100x60x3,0	100	60	3.00	EN AW 6060 T6	150	1664
				EN AW 6063 T66	160	1623
				EN AW 6005A T6	215	1443
Omega profile	-	-	1.00	S250GD	250	780

In case of deviating geometry of the profile, the bending resistance W_{eff} shall be determined according to EN 1999-1-1 or DIN EN 1993-1-1.

Resistance values

Annex 3

Fastening kit for façade panels (Center Point System)

The following fasteners may be used:

Fastener	t _{fl} * [mm]	Material of the profile	R _m [N/mm ²] of the profile	N _{Rk,fastener} [kN]	N _{mean,fastener} [kN]	V _{Rk,fastener} [kN]	V _{mean,fastener} [kN]
SDA4-5.8xL SX4-5.8xL	1.80	EN AW 6005A T6	260	1.57	1.81	3.72	4.19
		EN AW 6063-T66	245	1.57	1.81	3.59	4.04
		EN AW 6060-T66	215	1.33	1.53	3.15	3.55
		EN AW 6060-T6	190	1.17	1.35	2.78	3.14
		EN AW 6060-T5	160	0.99	1.14	2.34	2.64
	2.00	EN AW 6005A T6	260	1.74	2.01	4.12	4.64
		EN AW 6063-T66	245	1.74	2.01	3.98	4.48
		EN AW 6060-T66	215	1.47	1.70	3.49	3.93
		EN AW 6060-T6	190	1.30	1.50	3.08	3.47
		EN AW 6060-T5	160	1.10	1.26	2.60	2.92
	2.50	EN AW 6005A T6	260	3.27	3.27	4.25	4.79
		EN AW 6063-T66	245	3.27	3.24	4.10	4.62
		EN AW 6060-T66	215	2.87	2.98	3.60	4.05
		EN AW 6060-T6	190	2.53	2.65	3.18	3.58
		EN AW 6060-T5	160	2.20	2.30	2.68	3.02
	3.00	EN AW 6005A T6	260	4.20	4.30	4.25	4.79
		EN AW 6063-T66	245	4.20	4.30	4.10	4.62
		EN AW 6060-T66	215	3.68	3.78	3.60	4.05
		EN AW 6060-T6	190	3.25	2.89	3.18	3.58
		EN AW 6060-T5	160	2.74	3.33	2.68	3.02
4.00	EN AW 6005A T6	260	4.20	4.30	4.25	4.79	
	EN AW 6063-T66	245	4.20	4.30	4.10	4.62	
	EN AW 6060-T66	215	3.68	3.78	3.60	4.05	
	EN AW 6060-T6	190	3.25	2.89	3.18	3.58	
	EN AW 6060-T5	160	2.74	3.33	2.68	3.02	
SX4-5.8xL	1.00	S250GD	330	1.06	1.17	1.73	2.70
		S280GD	360	1.16	1.27	1.89	2.95
		S320GD	390	1.26	1.38	2.04	3.20
	1.20	S250GD	330	1.16	1.27	1.88	2.94
		S280GD	360	1.26	1.38	2.05	3.21
		S320GD	390	1.37	1.50	2.22	3.48
	1.50	S250GD	330	1.16	1.27	4.56	4.02
		S280GD	360	2.44	2.53	4.97	4.38
		S320GD	390	2.65	2.75	5.39	4.75
	2.00	S250GD	330	1.16	1.27	4.82	4.25
		S280GD	360	3.73	3.83	5.26	4.64
		S320GD	390	4.05	4.16	5.70	5.02
4.00	S250GD	330	1.16	1.27	4.82	4.25	
	S280GD	360	3.73	3.83	5.26	4.64	
	S320GD	390	4.05	4.16	5.70	5.02	
* Thickness of the profile							

Resistance values

Annex 4

Fastening kit for façade panels (Center Point System)

Resistance to wind loads

The wind load resistance of the kit is either limited by the pull out resistance of the fastener $N_{Rk,fastener}$ from the profile or the bending resistance of the profile $M_{Rk,profile}$.

with $N_{Rk,fastener}$ according to Annex 4.

$M_{Rk,Profile}$ is determined by

$$M_{Rk,profile} = W_{eff} * f_{yk}$$

with W_{eff} and f_{yk} according to Annex 3

Resistance to vertical load (dead load)

The vertical resistance of the kit is determined by

$$V_{kit,Rk} = V_{Rk,fastener}$$

with $V_{Rk,fastener}$ according to Annex 4.

Resistance to vertical load of the skin element fixing $V_{Rk,fastener}$

See table in Annex 3

Resistance to horizontal load of the skin element fixing $N_{Rk,fastener}$

See table in Annex 3

Resistance to pulsating loads of the skin element fixing

A reduction of 10% to the pull out resistance of the fasteners shall be used for aluminum profiles to take pulsating loads into account.

Recommendation for fastening HPL-Panels

The shear and tension tests to determine the characteristic values of load bearing capacity according to Annex 4 were performed using HPL-panels according to DIN EN 438-7 with a nominal thickness of 8.0 mm for component I. If no specification of the minimum edge distance and thickness for the HPL is available, a minimum edge distance of 20.0 mm and a minimum thickness of 8.0 mm is recommended.

The sufficient load bearing capacity of the panel, taking the used edge distances into account, has to be proven additionally, for example based on the approvals of the panel manufacturers.

Resistance values	Annex 5
Fastening kit for façade panels (Center Point System)	

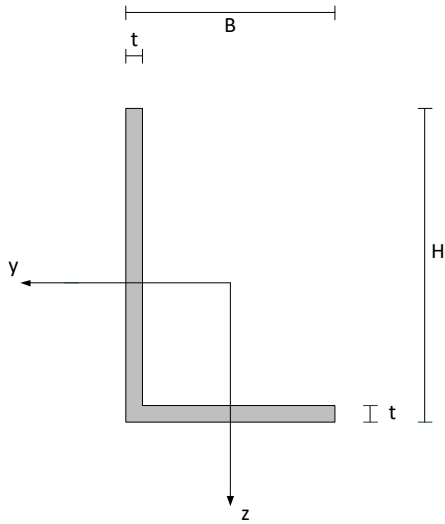


Figure 2: Geometry of the L-Profile

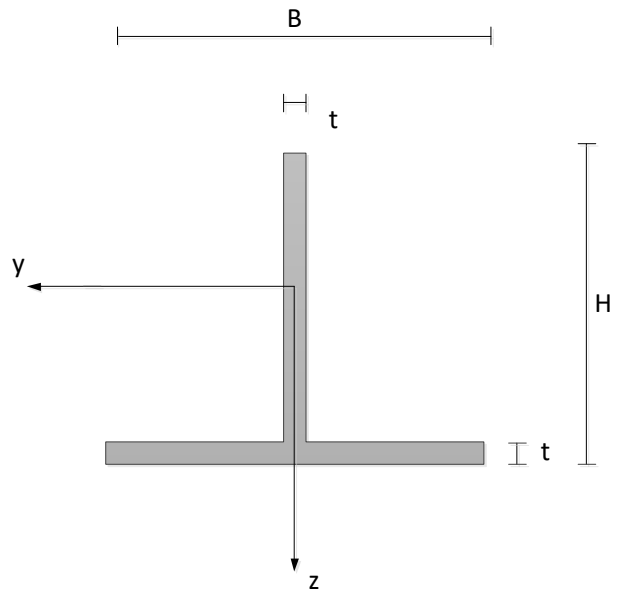
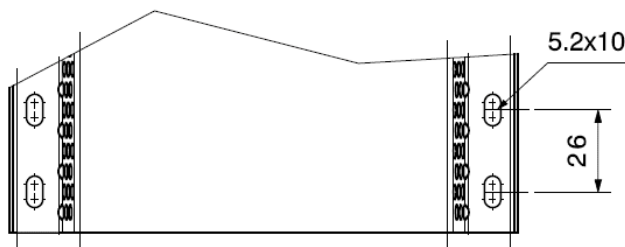
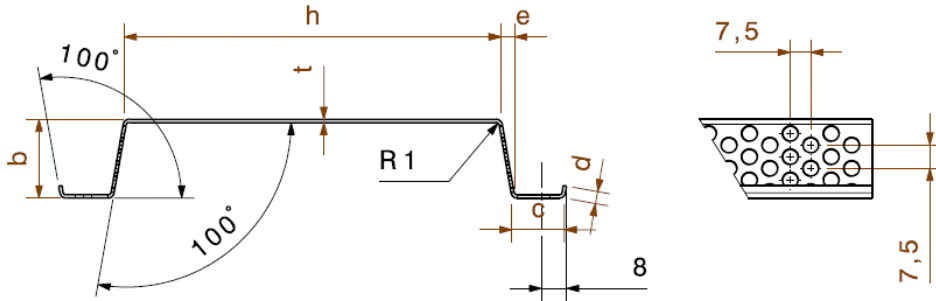


Figure 3: Geometry of the T-Profile



- $t = 1.0 \text{ mm}$
- $h = 120 \text{ mm}$
- $b = 24.5 \text{ mm}$
- $c = 15.5 \text{ mm}$
- $d = 3.0 \text{ mm}$
- $e = 4.5 \text{ mm}$

Figure 4: Geometry of the Omega-Profile

Geometry of the profiles

Annex 6

Fastening kit for façade panels (Center Point System)

Recommendation for design

The following equations shall be fulfilled:

Pull out of the fastener:

$$\frac{F_{Ed}}{N_{Rd}} = \frac{F_{Ed}}{N_{Rk}/\gamma_M} \leq 1$$

with

- F_{Ed} design value of tension force on a fastener
- N_{Rk} characteristic pull out resistance according to Annex 4
- γ_M = 1.33 unless otherwise stated in national regulations

Shear-force of the fastener in the profile:

$$\frac{V_{Ed}}{V_{Rd}} = \frac{V_{Ed}}{V_{Rk}/\gamma_M} \leq 1$$

with

- V_{Ed} design value of shear force on a fastener
- V_{Rk} characteristic shear resistance according to Annex 4
- γ_M = 1.33 unless otherwise stated in national regulations

Bending of the profile:

$$\frac{M_{Ed}}{M_{Rd,profile}} = \frac{M_{Ed}}{M_{Rk,profile}/\gamma_M} \leq 1$$

with

- M_{Ed} design value of bending moment in the profile
- M_{Rk} characteristic bending resistance according to Annex 5
- γ_M = 1.10 unless otherwise stated in national regulations

Additionally, the bending resistance of the panel shall be verified by

$$\frac{\sigma_{Sd}}{\sigma_{Rd}} \leq 1$$

with

- σ_{Sd} design value of bending tensile stress in the panel.
- σ_{Rd} design value of bending resistance of the panel.

Additionally, the pull thought resistance of the fastener shall be verified by

$$\frac{F_{Ed}}{N_{Rd,panel}} \leq 1$$

with

- F_{Ed} design value of tension loading on each fastener.
- $N_{Rd,panel}$ design value of pull through resistance of the fastener through the panel.

Additionally, the shear resistance of the panel shall be verified by

$$\frac{V_{Ed}}{V_{Rd,panel}} \leq 1$$

with

- F_{Ed} design value of tension loading on each fastener.

Recommendation for design	Annex 7
Fastening kit for façade panels (Center Point System)	

Example for the determination of V_{Ed} , F_{Ed} and M_{Ed}

This is only an example for the design. The design has to be done in each case based on the national regulations and the corresponding boundary condition.

The following figure shows the installation situation used for the example.

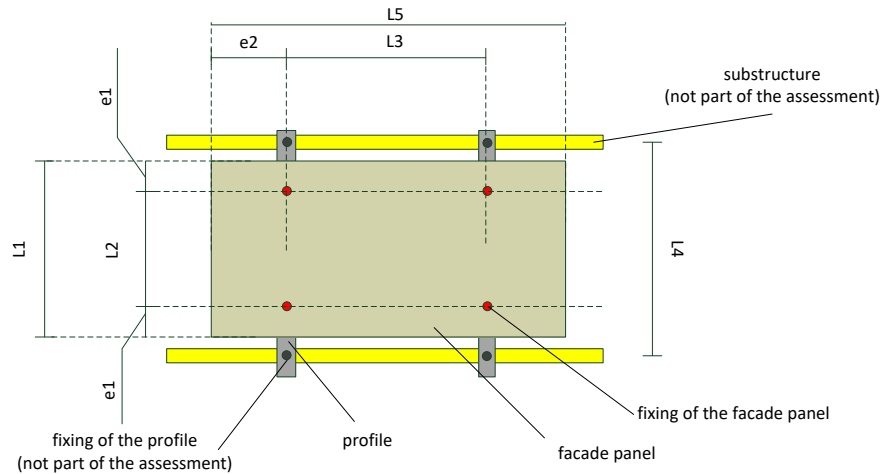


Figure 5: Example of an installation situation

For this example, the tension loading F_{Ed} for each fastener is determined by

$$F_{Ed} = \frac{q_{Ed} * L_1 * L_5}{4}$$

with

q_{Ed} design surface loading on the panel

L_1 height of the panel (see figure 5)

L_5 width of the panel (see figure 5)

For this example, the shear force V_{Ed} for each fastener is determined by (in this example, two vertical-fix-points and two vertical-sliding points are used)

$$V_{Ed} = \frac{V_{Sd}}{2}$$

with

V_{Sd} design value of total shear force resulting from the self-weight of the panel

For this example, the bending Moment M_{Ed} for the profile is determined by

$$M_{Ed} = F_{Ed} * \frac{L_4 - L_2}{2}$$

with

L_4 according to figure 5

L_2 according to figure 5

Recommendation for design - example

Annex 8

Fastening kit for façade panels (Center Point System)