



European Technical Assessment

ETA 25/0378 of 14/05/2025

General Part

**Technical Assessment Body issuing the
ETA:**

TECNALIA RESEARCH & INNOVATION

Trade name of the construction product

LARGE CERAMIC FORMAT VISIBLE

**Product family to which the
construction product belongs**

Subframe and fixing kit for fastening
cladding elements and external wall
elements

Manufacturer

Gestora Integral
de Proyectos Especiales S.L.
Plaza Legión Española, 1-3º-4ª
46010 Valencia (Valencia) Spain

Manufacturing plant

Plant A

**This European Technical Assessment
contains**

16 pages including 4 Annexes which form
an integral part of this assessment.

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

EAD 090034-00-0404

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SPECIFIC PARTS

1. Technical description of the product

The kit is composed of subframe and fixings for fastening cladding elements – a kit comprising components which are factory-produced by the manufacturer or component suppliers. The kit manufacturer is ultimately responsible for all components of the kit specified in this ETA (European Technical Assessment).

The LARGE CERAMIC FORMAT VISIBLE kit consists of support and retention brackets, “T” and “L” shaped vertical profiles and clamps, which are the visible fixings of the cladding elements. The maximum distance between vertical profiles is 600 mm. The kit is a cladding element fixing devices according to Type 3 given in EAD 090034-00-0404. The cladding elements for the LARGE CERAMIC FORMAT VISIBLE kit is made of slim ceramic with thickness between 3 mm to 7 mm.

The respective components are identified in Table 1 and have the main characteristics and the geometrical characteristics defined in Annexes A to D.

	Components	References	Characteristics
Fixing devices	Bracket	LCFV System Bracket S150 ¹	See Annex A
		LCFV System Bracket R50 ²	
		LCFV System Bracket S100 ¹	
	Skin element visible fixing	LCFV System Clamp I/F	See Annex B
		LCFV System Clamp I/FL	
		LCFV System Clamp INT	
		LCFV System Clamp INTL	
	Self drilling screw, between vertical profile and brackets	LCFV System Screw PM	See Annex C
		Self drilling screw between vertical profile and skin element fixing	
	Subframe	“T”-shaped vertical profiles	LCFV System Profile T
“L”-shaped vertical profiles		LCFV System Profile L	

Table 1: Identification and characteristics of the kit components.

The LARGE CERAMIC FORMAT VISIBLE fixing devices are extruded aluminium clamps for ceramic skin elements. The clamps have an EPDM joint for a better coupling between facing and clamps in order to avoid movements due to wind action. One fixing bears one or two cladding elements. Four fixings are needed to support one cladding element.

In the LARGE CERAMIC FORMAT VISIBLE kit, the horizontal joint shall be at least 7 mm.

The LARGE CERAMIC FORMAT VISIBLE kit is made of mechanical components. Adhesives are not needed for assembly.

1 Lengths from 50 mm to 200 mm and thickness 3 mm and 5 mm.

2 Lengths from 50 mm to 180 mm and thickness 3 mm.



The following ventilated façade elements or components are not considered in this ETA:

- The cladding elements³.
- The fixings between the subframe and the supporting structure⁴.
- The other layers of the façade, like insulation and internal layers.
- Ancillary elements, like mastics, cavity fire barriers, thermostop elements...

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

2.1. Intended use

The LARGE CERAMIC FORMAT VISIBLE kit is intended to be used for fastening cladding elements, which can be fixed to the external walls of new or existing buildings.

The kit for fastening cladding elements is a non load-bearing construction system. It does not contribute to the stability of the wall on which it is installed. The kit is not intended to ensure the air tightness of the building structure.

The provisions made in this European Technical Assessment are based on an assumed working life of 25 years as minimum, provided that the kit is subject to appropriate use and maintenance.

The indications given on the working life cannot be interpreted as a guarantee given by the producer or Assessment Body, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

2.2. Manufacturing

The European Technical Assessment is issued for the kit of subframe and fixings for fastening cladding elements on the basis of agreed data/information, deposited at Tecnalia Research & Innovation, which identifies the kit that has been assessed.

Changes to the kit or production process, which could result in this deposited data/information being incorrect, shall be notified to Tecnalia Research & Innovation before the changes are introduced. Tecnalia Research & Innovation will decide whether or not such changes affect the ETA and consequently, the validity of the CE marking on the basis of the ETA; and if so, whether further assessment or alterations to the ETA shall be necessary.

2.3. Design and installation

The installation instructions including special installation techniques and provisions for the qualification of the personnel are given in the manufacturer's technical documentation.

³ Other EADs may apply (e.g. EAD 090062, EAD 090020, etc.).

⁴ The term "supporting structure" refers to both of followings descriptions:

- The wall, which in itself already meets the airtightness and mechanical strength requirements (resistance to static and dynamic loads). The substrate walls are made of masonry (clay, concrete or stone), concrete (cast on site or as prefabricated panels), timber or metal frame.
- The supporting structure of the building, which in itself does not meet the airtightness requirement but meets the mechanical strength requirements (resistance to static and dynamic loads). Usually, the supporting structures of the building are made of concrete (cast on site or prefabricated), timber or metal frame. In this case, the airtightness requirements are met by the internal leaves of the façade.





Design, installation and execution of the LARGE CERAMIC FORMAT VISIBLE kit are to be in conformity with national documents. Such documents and the level of their implementation in Member States' legislation are different. Therefore, the assessment and declaration of performance are done taking into account the general assumptions introduced in the EAD 090034-00-0404, which summarizes how information introduced in the ETA and related documents is intended to be used in the construction process and gives advice to all parties interested when normative documents are missing.

2.4. Packaging, transport and storage

The information on packaging, transport and storage is given in the manufacturer's technical documentation. It is the responsibility of the manufacturer(s) to ensure that this information is effectively communicated to the concerned people.

2.5. Use, maintenance and repair

The maintenance of the LARGE CERAMIC FORMAT VISIBLE kit includes inspections on site, taking into account the following aspects:

- Presence of corrosion or water accumulation on metallic components
- Necessary repairs should be done rapidly, using the same kit components and following the repair instructions given by ETA holder.

The information on use, maintenance and repair is given in the manufacturer's technical documentation. It is the responsibility of the manufacturer(s) to ensure that this information is effectively communicated to the concerned people.

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

The identification tests and the assessment for the intended use of the LARGE CERAMIC FORMAT VISIBLE kit according to the Basic Requirements (BWR) were carried out in compliance with EAD 090034-00-0404 *Kit composed by subframe and fixings for fastening cladding and external wall elements*. The characteristics of the components shall correspond to the respective values laid down in the technical documentation of this ETA, checked by Tecnalia Research & Innovation.

3.1. Safety in case of fire (BWR 2)

3.1.1. Reaction to fire

Reaction to fire of the LARGE CERAMIC FORMAT VISIBLE kit according to Commission Delegated Regulation (EU) 2016/364 and EN 13501-1 is Class A1 without need of testing according to Decision 96/603/EC as amended.

3.2. Safety and accessibility in use (BWR 4)

3.2.1. Wind load resistance

The test of wind suction resistance was carried out according to EAD 090034-00-0404, clause 2.2.2.

The withstood maximum load by the LARGE CERAMIC FORMAT VISIBLE kit with a distance between brackets of 600 mm was 3,000 Pa.





The kit's behaviour exposed to wind pressure is more favourable than when exposed to wind suction. The wind pressure test was omitted, and the wind pressure resistance of the kit can be considered as equal to the wind suction resistance.

3.2.2. Resistance to vertical load of the whole assembled system

The test of resistance to vertical load of the whole assembled system was carried out according to EAD 090034-00-0404, clause 2.2.3.

The number of skin element fixings supporting the vertical force (N) in the test was two. Each fixing device for the LARGE CERAMIC FORMAT VISIBLE kit supports 505 N (R_v). Therefore, the maximum vertical dead load considered in the test was 1,010 N. The dead load of the generic skin element (Q_w) was 193 N. The additional dead load (Q_{ad}) in the test had a value of 817 N.

The test was stopped 1 h after the beginning because the maximum deflection difference was 0.02 mm, so less than 0.1 mm as stated in EAD.

3.2.3. Resistance to vertical load of skin element fixings

The test of resistance to vertical load of the skin element fixings was carried out according to EAD 090034-00-0404, clause 2.2.4.

The mean and characteristic values are given in Table 2.

Skin element fixing	$F_{1\text{mm irreversible deformation}}$ (N)		F_{Failure} (N)	
	Mean value	Char. value	Mean value	Char. value
LCFV System Clamp I/FL	505	192	2,575	2,442

Table 2: Resistance to vertical load of skin element fixings.

3.2.4. Resistance to horizontal load of skin element fixings

The test of resistance to horizontal load of the skin element fixings was carried out according to EAD 090034-00-0404, clause 2.2.5.

The mean and characteristic values are given in table 3.

Skin element fixing	$F_{1\text{mm irreversible deformation}}$ (N)		F_{Failure} (N)	
	Mean value	Char. value	Mean value	Char. value
LCFV System Clamp I/FL	237	142	427	412

Table 3: Resistance to horizontal load of skin element fixings.

3.2.5. Resistance to pulsating load of skin element fixings

Not assessed.

3.2.6. Resistance of skin element fixings in case of inaccuracies of installation

This performance is not relevant for the LARGE CERAMIC FORMAT VISIBLE kit.





3.2.7. Pull-through resistance of fixings from profile

The test of pull-through resistance of fixings from profiles LARGE CERAMIC FORMAT VISIBLE kit was carried out according to EAD 090034-00-0404, clause 2.2.8. (see ETA Clause 3.2.8.).

3.2.8. Pull out resistance of fixings from profile

The test of pull-out resistance of fixings from profiles LARGE CERAMIC FORMAT VISIBLE kit was carried out according to EAD 090034-00-0404, clause 2.2.9. The pull-out resistance was determined using the combination of the pull-through and pull-out test in accordance with Annex G of EAD 090034-00-0404.

The failure mode was bend of profile and pull-out of the fixing from the profile.

The mean value of the resistance to combination of pull-through and pull-out and the characteristic value were 1,528 N and 1,114 N respectively.

3.2.9. Inertia and resistance of profiles

The following characteristics of the profiles are given in Annex D.

- Form and dimensions of the profiles sections.
- Inertia of the profiles sections.

3.2.10. Resistance to vertical load of brackets

The test of resistance to vertical load of brackets was carried out according to EAD 090034-00-0404, clause 2.2.11.

The mean and characteristic values are given in table 4.

Bracket	F_{1d} (N)		F_{3d} (N)		F_r (N)		F_s (N)	
	$\Delta L=1mm$		$\Delta L=3mm$					
	Mean value	Char. value	Mean value	Char. value	Mean value	Char. value	Mean value	Char. value
LCFV System Bracket R50	100	100	260	132	300	300	1,148	1,093
LCFV System Bracket S100	200	200	700	700	860	732	3,808	2,844
LCFV System Bracket S150	340	212	1,200	967	1,380	902	5,805	5,309

Table 4: Resistance to vertical load of brackets.

3.2.11. Resistance to horizontal load of brackets

The test of resistance to horizontal load of brackets was carried out according to EAD 090034-00-0404, clause 2.2.12.

The mean and characteristic values are given in table 5.





Bracket	F_m (N)		F_t (N)	
	Mean value	Char. value	Mean value	Char. value
LCFV System Bracket R50	2,020	1,916	2,205	2,191
LCFV System Bracket S100	3,760	2,467	4,006	2,742
LCFV System Bracket S150	3,400	2,307	3,857	2,832

Table 5: Resistance to horizontal load of brackets.

3.2.12. Mechanical characteristics of subframe fixings

Shear load strength of subframe fixings was tested (see Clause 3.2.8).

Tensile strength of subframe fixing at least meets the values of Clause 3.2.8. for pull-out resistance.

3.2.13. Corrosion

The material and corrosion protection of the LARGE CERAMIC FORMAT VISIBLE kit components are defined in the relevant tables of Annex A, Annex B, Annex C and Annex D.





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

According to the decision 2003/640/EC, as amended of the European Commission⁵, the systems of AVCP (see EC delegated regulation (EU) No 568/2014 amending Annex V to Regulation (EU) 305/2011) given in the following table applies.

Product(s)	Intended use(s)	Level(s) or class(es)	System(s)
Subframe and fixing kits for fastening cladding and external wall elements	External finishes of walls	Any	2+
	For uses subject to regulations on reaction to fire	A1	4

Table 6: Applicable AVCP Systems.

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 Assessment and Verification of Constancy of Performance (AVCP) system are laid down in the control plan deposited at Tecnalía Research & Innovation.

The Control Plan is a confidential part of the ETA and is only handed over to the notified body involved in the assessment and verification of constancy of performance.

Issued in Azpeitia, on 14/05/2025

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Innovation and Conformity Assessment Point
Tecnalía Research & Innovation

⁵ 2003/640/EC – Commission Decision of date 4 September 2003, published in the Official Journal of the European Union (OJEU) L226/21 of 10/09/2003.
ETA 25/0378, version 1, issued on 14/05/2025





Annex A - Characteristics of LCFV Brackets

The fixing to external walls of the LARGE CERAMIC FORMAT VISIBLE kit is done by adjustable support and retention brackets. They are made of extruded aluminum, which is an alloy of aluminum-magnesium-silicon of 6063 quality (Al Mg Si 0'5), with T-5 treatment.

The brackets dimensions will vary depending on project because factors like facing planimetry to recover or width of air chamber influence in geometry of spacers used. The maximum length is 180 mm for LCFV System Bracket R50 and 200 mm for LCFV System Bracket S150 and LCFV System Bracket S100.

ALUMINUM CHARACTERISTICS

DESIGNATION

Type	Al6063 T5 (EN AW – Al Mg Si)
Standard	EN 755-2, EN 12020-1 and EN 12020-2

PHYSICAL PROPERTIES

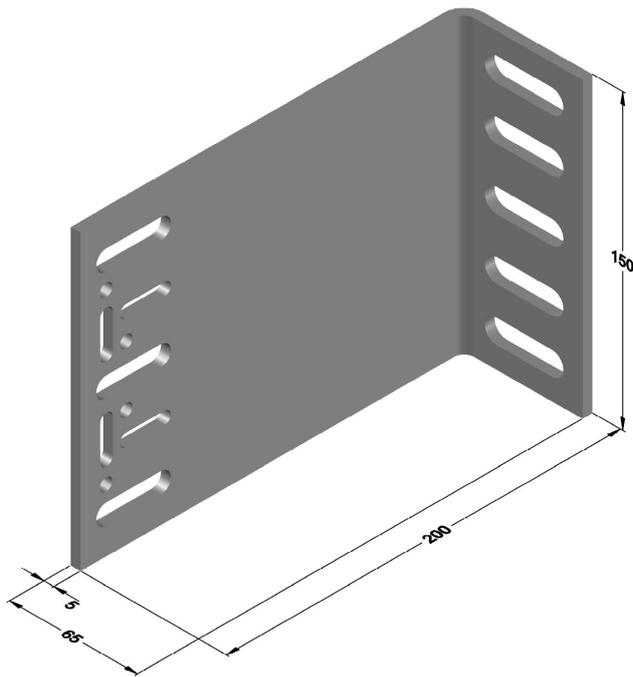
Specific weight	2,700 kg/m ³
Thermal dilatation coefficient 20-100°C (1/K)	23.6 x 10 ⁻⁶ K ⁻¹ (20/100°C)
Elasticity module	69,500 N/mm ²
Poisson coefficient	0.33

MECHANICAL PROPERTIES

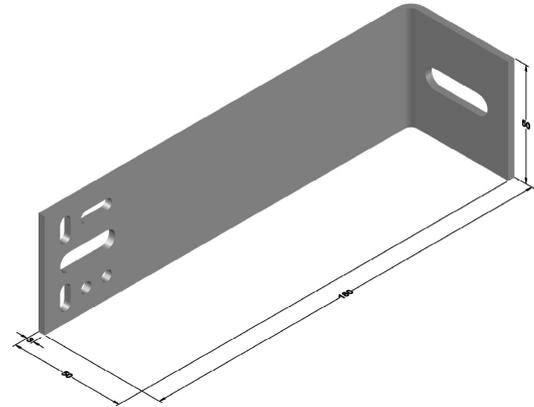
Tensile resistance (R _m)	215 N/mm ²
Shear resistance	140 N/mm ²
Elastic limit (R _{p0,2%})	145 N/mm ²
Lengthening (L _{0-mm})	12%
Lengthening (L _{50mm})	14%
Brinell hardness	70

Table 7: Characteristics of LCFV System Brackets.

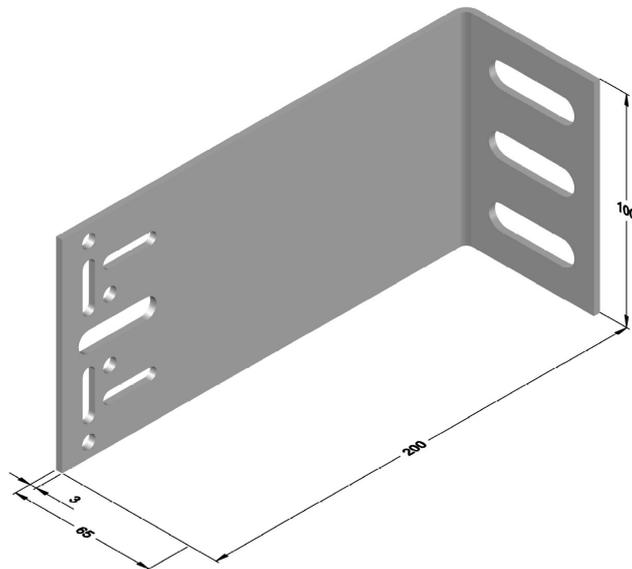




LCFV System Bracket S150



LCFV System Bracket R50



LCFV System Bracket S100

	Length (mm)									Thickness (mm)	
	50	60	75	100	125	150	175	200			
LCFV System Bracket S150	50	60	75	100	125	150	175	200	3	5	
LCFV System Bracket R50	50	60	80	100	120	140	160	175	180	3	
LCFV System Bracket S100	50	60	75	100	125	150	175	200	3	5	

Annex A

Characteristics of LCFV System Brackets





Annex B - Characteristics of LCFV System Clamps

The clamps to mechanical fixing of the LARGE CERAMIC FORMAT VISIBLE kit are made of extruded aluminum, which is an alloy of aluminum-magnesium-silicon of 6063 quality (Al Mg Si 0'5), with T-5 treatment.

The clamps dimensions will vary depending on the thickness of the cladding element between 3 mm to 7 mm and the position, start/end clamp or intermediate clamp.

ALUMINUM CHARACTERISTICS

DESIGNATION

Type	Al6063 T5 (EN AW – Al Mg Si)
Standard	EN 755-2, EN 12020-1 and EN 12020-2

PHYSICAL PROPERTIES

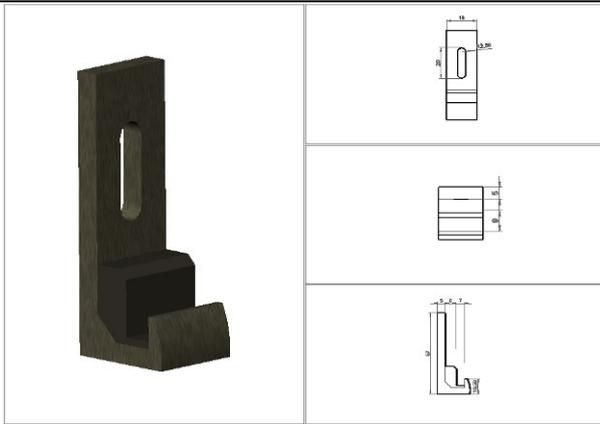
Specific weight	2,700 kg/m ³
Thermal dilatation coefficient 20-100°C (1/K)	23.6 x 10 ⁻⁶ K ⁻¹ (20/100°C)
Elasticity module	69,500 N/mm ²
Poisson coefficient	0.33

MECHANICAL PROPERTIES

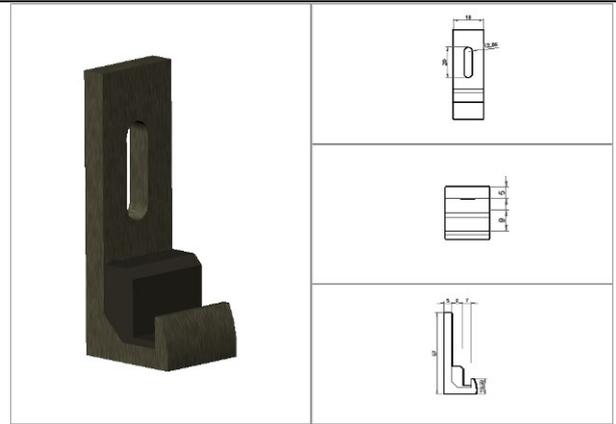
Tensile resistance (R _m)	215 N/mm ²
Shear resistance	140 N/mm ²
Elastic limit (R _{p0,2%})	145 N/mm ²
Lengthening (L _{0-mm})	12%
Lengthening (L _{50mm})	14%
Brinell hardness	70

Table 8: Characteristics of LCFV System Clamps.

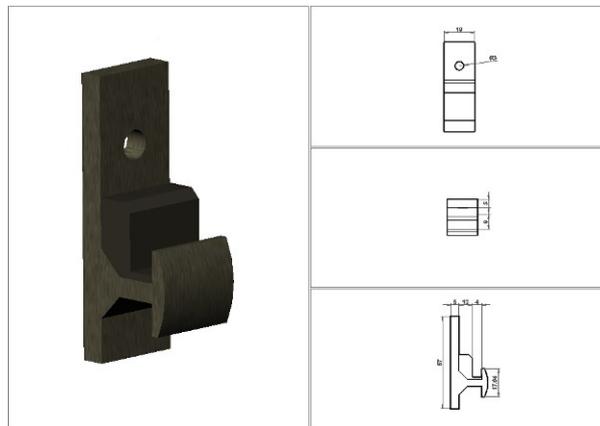




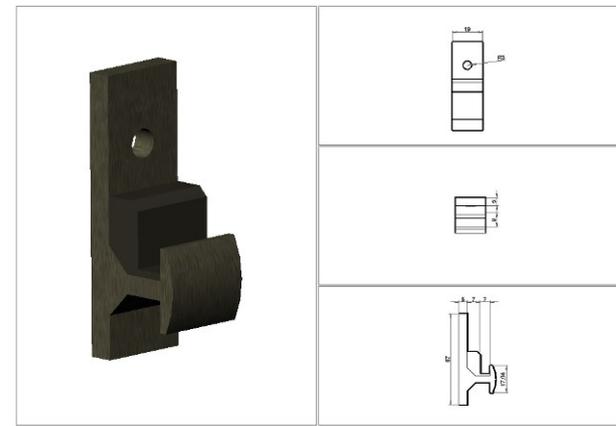
LCFV System Clamp I/F



LCFV System Clamp IF/L



LCFV System Clamp INT



LCFV System Clamp INTL

Annex B

Characteristics of StoVentre Clamps



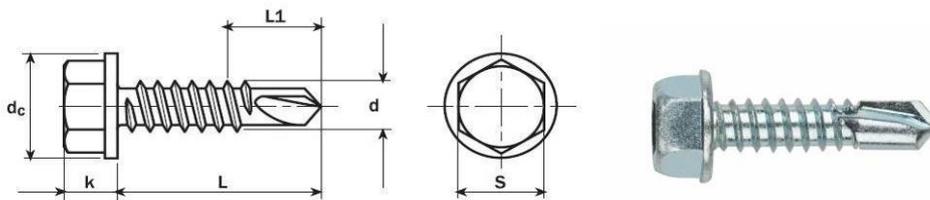


Annex C - Characteristics of LCFV System Screws

LCFV System Screw PM - LCFV System Profile a LCFV System Bracket.

For fixing the vertical profile to the brackets used self-drilling screws of hexagonal head, DIN 7504K, made of stainless steel A2/A4. The screws normally used are as follows:

- Ø6.3 mm and length L=25 mm. For fixed points of the support brackets.
- Ø6.3 mm and length L=25 mm with washer of EPDM. For floating points of the support brackets.
- Ø4.8mm and length L=19 mm with washer of EPDM. For floating points of the retention brackets.



LCFV System Screw PF - LCFV System Clamp a LCFV System Profile.

For fixing the clamps to the vertical profile used self-drilling screws of hexagonal head, DIN 7504K, made of stainless steel A2/A4, diameter Ø6.3 mm and length L=25 mm.





Annex D - Characteristics of LCFV System Profiles

The vertical profiles used in the LARGE CERAMIC FORMAT VISIBLE kit have a “T” and “L” shape. They are made of extruded aluminum, which is an alloy of aluminum-magnesium-silicon of 6063 quality (Al Mg Si 0’5), with T-5 treatment.

ALUMINUM CHARACTERISTICS

DESIGNATION

Type	Al6063 T5 (EN AW – Al Mg Si)
Standard	EN 755-2, EN 12020-1 and EN 12020-2

PHYSICAL PROPERTIES

Specific weight	2,700 kg/m ³
Thermal dilatation coefficient 20-100°C (1/K)	23.6 x 10 ⁻⁶ K ⁻¹ (20/100°C)
Elasticity module	69,500 N/mm ²
Poisson coefficient	0.33

MECHANICAL PROPERTIES

Tensile resistance (R _m)	215 N/mm ²
Shear resistance	140 N/mm ²
Elastic limit (R _{p0,2%})	145 N/mm ²
Lengthening (L _{0-mm})	12%
Lengthening (L _{50mm})	14%
Brinell hardness	70

Table 9: Characteristics of LCFV System Profiles.

The geometrical and mechanical characteristics of the vertical profiles are the next ones.

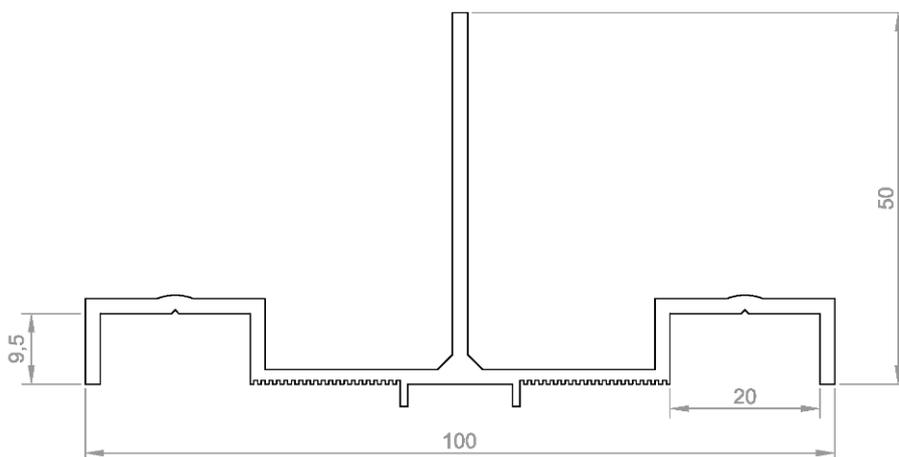
VERTICAL PROFILE CHARACTERISTICS

PROFILE	Section (mm ²)	Perimeter (mm)	Weight (kg/ml)	X axis			Y axis		
				x _c (mm)	I _{xc} (cm ⁴)	r _{xc} (mm)	y _c (mm)	I _{yc} (cm ⁴)	r _{yc} (mm)
T 100X50X2	374.86	426.75	1.010	50.00	5.40	12.01	39.32	28.67	27.65
L 50X50X2	216.43	244.37	0.584	28.05	4.41	14.27	35.58	3.12	12.00

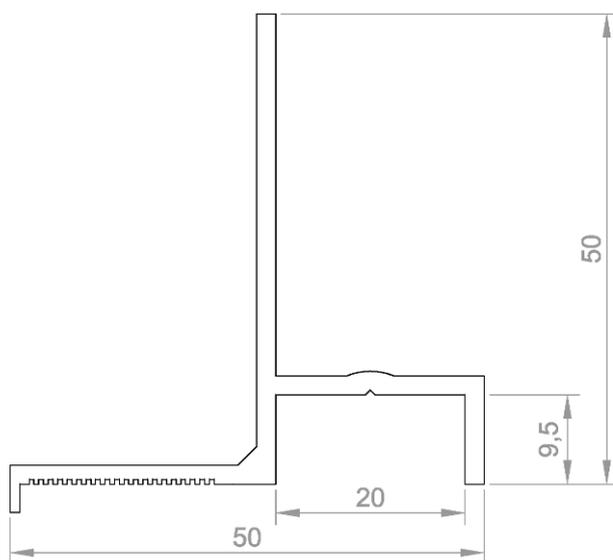
Table 10: Characteristics of LFV System Profiles.

The tolerances are according to EN 755-9 standard.





LCFV System Profile T



LCFV System Profile L

