



## HUECK system pass for façades according to EN 13830

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### Basic principles

EN 13830 (2020 – 11)  
Curtain walls

### Test reports

Refer to point 5

### Contents

1. Overview
2. General information about the Hueck system pass
3. Brief description of the product family
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### Instructions for use

The Hueck system pass shows the general performance of the designated product family in accordance with the requirements of the product standard.

The classes relate to the item described in the individual certificates and to the application range defined in the Hueck system pass. The performance properties in the listed test certificates have overriding validity. Changes and omissions excepted.

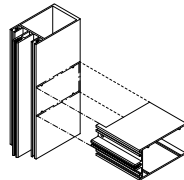
The national building regulations as well as the contractual agreements apply to the application of performance characteristics.

**System supplier:** HUECK System GmbH & Co. KG

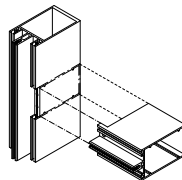
**System:** HUECK Trigon FS 060 SG

**Product family:** Mullion transom design

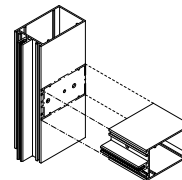
### Variants



**Variant 1 (PE III with RE I)**  
Variant 1: Mullion transom [ III / I ]  
with overlapping transom connection



**Variant 2 (PE III with RE II)**  
Variant 2: Mullion transom [ III / II ]  
with inlet transom connection



**Variant 3 (RE II with RE II)**  
Variant 3: Mullion transom [ II / II ]  
for equal profile geometry

**Frame material:** Aluminium profile with plastic insulators

### Properties / Classes (according to EN 13830, CWCT and ASTM)

Resistance to wind load	Resistance to dead load	Shock resistance	Air permeability	Water tightness	Airborne sound insulation	Heat transfer
Design ± 2.4 Safety ± 3.6 kN/m <sup>2</sup>	1)	I5/E5	AE900	RE750	R <sub>w</sub> up to 45 dB	see section 4.14
Fire resistance	Fire behaviour	Fire propagation	Durability	Water vapour permeability	Equipotential bonding	Earthquake stability
npd	Class E	1)	2)	1)	according to DIN	1)
Thermal shock resistance	Resistance to horizontal load					
1)	1)					

### Additional characteristics / evidence

European technical approval	Mullion-transom connection	Burglar resistance	Toggle pull-out values	Fall protection	Load capacity
see section 6.1	see section 6.2	see section 6.3	see section 6.4	see section 6.5	see section 6.6

## 2. General information about the HUECK system pass

The listed performance characteristics were tested and classified by approved testing laboratories in accordance with the test and classification standards listed in the product standard EN 13830 (rev. 2020).

The test certificates on which the system pass is based are cited in section 4. Please refer to the test reports for the detailed description of the samples on which the individual tests are based.

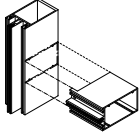
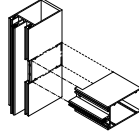
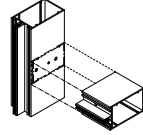













## 3. Product family

Short description of the HUECK Trigon FS 060 SG façade system	
<b>Variants</b>	<p><b>Variant 1</b> Mullion transom [III/I] with overlapping transom connection</p> <p><b>Variant 2</b> Mullion transom [III/II] with inlet transom connection</p> <p><b>Variant 3</b> Mullion transom [II/II] for equal profile geometry</p>
<b>Frame material</b> Elevation width Profile depth	<p>Aluminium – EN AW-6060 according to EN 755</p> <p>60 mm</p> <p>43 - 250 mm</p>
<b>Connection</b>	<p><b>Variant 1</b> Mullion transom [III/I] with overlapping transom connection</p> <p><b>Variant 2</b> Mullion transom [III/II] with inlet transom connection</p> <p>or</p> <p><b>Variant 3</b> Mullion transom [II/II] for equal profile geometry</p>
<b>Sealing</b>	<p><b>Variant 1</b> with Z 923588 transom housing gasket for sealing the mullion notching for the transom overlap</p> <p><b>Variant 2</b> with Z 923589 transom housing gasket</p> <p><b>Variant 3</b> with Z 923592 transom housing gasket</p>
<b>Glazing</b>	<p>Multi-pane insulating glass or panels.</p> <p>The production of the insulating glass panes as well as the bonding of the glass panes to the corresponding profiles for glass panel production is subject to the European Technical Approval ETA-22/0339 and includes an external monitoring of the production.</p>

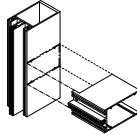
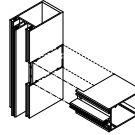
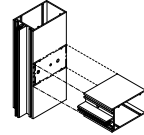



## 3. Product family

Short description of the HUECK Trigon FS 060 SG façade system	
<b>Glass sealing</b> outside	with prefabricated EPDM sealing profiles Joints between panels bonded (DOWSIL 791 / Sikasil WS-605 S) on support profile Z 914 399 or sealed with sealing profile Z 917 081.
inside	Sealing profiles with different thickness (4 to 16 mm) depending on glass or panel thickness, horizontally continuous up to the rebate area, vertically butt-jointed and bonded to horizontally running sealing profile with elastic sealant <b>alternatively</b> vulcanized frames
Insulators	plastic spacer profiles with different depths <b>alternatively</b> foamed insulation profiles with different depths
<b>Vapor pressure equalization / Drainage</b>	via transom rebate in mullion rebate Vapor pressure equalization / drainage at lower or upper facade point, alternatively, ventilation by means of ventilation moldings in fields









## 4. Results according to EN 13830, CWCT and ASTM

	Section of the product standard EN 13830		Standard acc. to EN 13830, CWCT and ASTM	Product family		
						
				Mullion transom façade Variant 1 [ III / I ]	Mullion transom façade Variant 2 [ III / II ]	Mullion transom façade Variant 3 [ II / II ]
	4.1	Fire behavior	EN	Class E		
	4.2	Fire resistance	EN ASTM CWCT	npd		
	4.3	Fire propagation	EN ASTM CWCT	1)		
	4.4	Water tightness	EN	750 Pa		
			ASTM	720 Pa		
			CWCT	750 Pa		
	4.5	Dead load	EN ASTM CWCT	1)		
	4.6	Resistance to wind load	EN	2400 Pa Design / 3600 Pa Safety		
			ASTM	2400 Pa Design / 3600 Pa Safety		
			CWCT	2400 Pa Design / 3600 Pa Safety		
	4.7	Resistance to snow load	EN ASTM CWCT	1)		
	4.8	Shock resistance	EN	15 / E5		
			ASTM	-		
			CWCT	15 / E5		
	4.9	Resistance to horizontal live loads at parapet height	EN	1)		
	4.10	Earthquake stability	EN ASTM CWCT	1)		
	4.11	Thermal shock resistance	EN ASTM CWCT	1)		
	4.12	Airborne sound insulation	EN ASTM CWCT	R <sub>w</sub> up to 45 dB		
	4.13	Equipotential bonding	EN	according to DIN		








## 4. Results according to EN 13830, CWCT and ASTM

	Section of the product standard EN 13830		Standard acc. to EN 13830, CWCT and ASTM	Product family		
						
				<b>Mullion transom façade Variant 1 [III/1]</b>	<b>Mullion transom façade Variant 2 [III/II]</b>	<b>Mullion transom façade Variant 3 [II/II]</b>
	4.14	Heat transfer	EN ASTM CWCT	eco $\geq 1,1$ plus $\geq 0,78$	eco $\geq 1,1$ plus $\geq 0,78$	eco $\geq 1,0$ plus $\geq 0,76$
	4.15	Air permeability	EN	AE 900		
			ASTM	300 Pa		
			CWCT	AE 900		
	4.16	Building and thermal movements	EN ASTM CWCT	1)		
	4.17	Resistance to dynamic horizontal loads	EN ASTM CWCT	1)		





## 5. Overview of performance characteristics

	Section of the product standard EN 13830		Variant / Type / Design	Value / Class	Evidence	Application range
	5.1	Sampling	Variant 1 / 2 / 3 eco plus pro			Sequence of tests according to EN 13050 CWCT ASTM
	5.2	Fire behavior		Class E	ift 19-004063-PR01 PB-K88-01 ift 19-004063-PR02 KB-K88-01 ift 19-004063-PR03 PB-K88-01 ift 19-004063-PR04 KB-K88-01 ift 19-004063-PR05 PB-K88-01 ift 19-004063-PR06 KB-K88-01	
	5.3	Fire resistance		npd		
	5.4	Fire propagation		npd		The property is to be proven based on the object.
	5.5	Water tightness	Variant 1 / 2 / 3: Field grid Width: 920 - 1500 mm Height: 755 - 3200 mm	EN 13050 Static 750 Pa Dynamic 300-900 Pa <hr/> CWCT Static 750 Pa Dynamic 750 Pa <hr/> ASTM Static 720 Pa <hr/> BS EN Dynamic 300-900 Pa	Wintech R20037 Rev.1 Wintech R20037-2	Transferable to all facades with the same design and the same materials in the area relevant to the seal, provided that the deflection restriction is complied with.
	5.6	Dead load		npd		The property is to be proven based on the object.
	5.7	Resistance to wind load	Variant 1 / 2 / 3: Field grid Width: 920 - 1500 mm Height: 755 - 3200 mm	Permissible 2,4 kN/m <sup>2</sup> Augmented 3,6 kN/m <sup>2</sup>	Wintech R20037-2	Smaller grid dimensions than the maximum tested field grid in compliance with the deflection limitation according to EN 1990 and EN 1991.
	5.8	Resistance to snow load		npd		The property is to be proven based on the object.
	5.9	Shock resistance	Variant 1 / 2 / 3: Field grid Width: 920 - 1500 mm Height: 755 - 3200 mm	I5 / E5	Wintech R20037 Rev.1	All façades with the same design (e.g. bolting of pressure profiles, connectors, etc.) and the same materials with smaller or comparable grid dimensions and comparable stiffness in compliance with the deflection limitation according to EN 1990 and EN 1991.

## 5. Overview of performance characteristics

	Section of the product standard EN 13830		Variant / Type / Design	Value / Class	Evidence	Application range
	5.10	Resistance to horizontal live loads at parapet height		npd		The property is to be proven based on the object.
	5.11	Earthquake resistance		npd		The property is to be proven based on the object.
	5.12	Airborne sound insulation	Sample facade Width: 1230 mm Height: 1480 mm  Glazing Rw: 38 - 48 dB	Rated sound insulation value Rw  36-46 dB	SG-Bauakustik 1808-001-19	The measurement results are only valid for each tested sample. A transfer to other dimensions, grids or fillings is not regulated. The proof must be provided in relation to the object. More concrete pre-dimensioning values can be found in the planning aid.
	5.13	Flank protrusion		npd		The property is to be proven based on the object.
	5.14	Heat transfer	eco  plus	Uf [W/m²K]  ≥ 1,10  ≥ 0,81		The specific Uf value for each profile can be taken from the graphics in the certificate. The calculation of the heat transmission coefficient U <sub>CW</sub> of a curtain wall element shall be performed according to EN 13947.
	5.15	Air permeability	Variant 1 / 2 / 3: Field grid Width: 920 - 1500 mm Height: 755 - 3200 mm	AE 900	Wintech R20037-2	Transferable to all façades with equal design and materials in the sealing-relevant area, in compliance with the deflection limit.
	5.16	Radiation properties		npd		The property is to be proven based on the object.
	5.17	Durability		npd		The manufacturer shall make recommendations regarding the maintenance requirements of the finished curtain wall.

## 6. Overview of further performance characteristics (not included in EN 10830)

	Other performance features		Variant / Type / Design	Value / Class	Evidence	Application range
	6.1	European technical approval			ETA - 22/0339	
	6.2	Mullion transom connection	Variant 1 / 2 / 3		Z-14.4-878  Prüfzeunis/ Gutachten: -H-015-19-05 -H-015-19-11 -H-015-19-06 -H-015-19-19 -H-015-19-20 -H-015-19-21 -H-015-19-15 -H-015-19-18	The indications in the approval must be fully observed. A deviation from the specifications can result in a system failure.
	6.3	Burglar resistance	Trigon FS 060 SG  Trigon FS 050 with insert elements WS 075, WS 075 OU, WS 075 IS, DS 075, Duo 90, Duo 90 IS, Lambda 110  Trigon FS 050 with insert elements WS 075, WS 075 OU, WS 075 IS, DS 075, Duo 90, Duo 90 IS, Lambda 110	RC 2 (N)  RC 3  RC 2(N)  RC 3  RC 2(N)  RC 3	PIV 45-4/19  PIV 45-5/19  PIV 45-31/20.121  PIV 45-32/20.122  PIV 45-87/19  PIV 45-89/19	Transferable to façades with equal or larger dimensions, in compliance with the specifications for the pressure plate profile screwing.
	6.4	Toggle pull-out values			VT 19-0891-01	
	6.5	Fall protection	Trigon FS SG facade system with double or triple insulating glazing  System dimensions minimum system dimension = 600 x 1000 maximum system dimension = 2500 x 3300	Category A	VT-21-1187  VT 16-052.1P	
	6.6	Load capacity	Toggle with modified geometry  Load capacity facade swords  Load capacity sunshade fasteners  Load capacity scaffolding anchors  Load bearing capacity building connections		VT 19-0891-01  H-015-19-07  H-015-19-09  H-015-19-10  H-015-19-13	