



Ferrari World Abu Dhabi - Architect: Benoy

ALUMINIUM BUILDING SOLUTIONS



TABLE OF CONTENTS

Introduction	03	Solar	
Reynaers Activities	04	BS 100 / 30 Solar	50
Windows and Doors		CW 60 / RB 10 Solar	51
Decision Matrix	06	Complementary Systems	
Design	07	Cintro	54
Opening Elements	08	GP 51	56
Eco system	10	Mosquito	57
CS 24-SL	11	RB 10	58
CS 38-SL	12	Ventalis	59
CS 59Pa	13	Safety Solutions	60
CS 68	14	Colours	61
CS 77	15	The Reynaers Institute	62
CS 77-FP	16	Reynaers Software	64
CS 77-BP	18	Automation Centre	66
CS 86-HI	19	Reynaers Services	68
CS 104	20	Total Quality Management	70
Sliding Systems		10-Year System Guarantee	71
Decision Matrix	22	CE Marking	72
CP 45Pa	23	Green Commitment	74
CP 50	24		
CP 96 / CP 96-LS	26		
CP 130 / CP 130-LS	28		
CP 155 / CP 155-LS	29		
CF 77	30		
Curtain Walls			
CW 50	33		
CW 60	37		
CW 65 EF	38		
CW 86 (-EF)	40		
Brise Soleil			
BS 100 / 30 / 20	46		
BS 40	48		

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INTRODUCTION

Reynaers Aluminium is a leading European specialist in the development and marketing of innovative and sustainable aluminium solutions for windows, doors, curtain walling, sliding systems, sunscreening and conservatories. Besides offering an extensive range of standard solutions, the company also develops solutions that are tailored to the individual customer or project. Research, product development and testing are conducted at the Reynaers Institute, the sector's largest private innovation and testing centre, located in Duffel (Belgium). In addition, the company also provides extensive technical support and advice to fabricators, contractors and architects.

TOGETHER FOR BETTER

This is our motto. We want to be a business partner, sharing our worldwide knowledge with architects, engineers and fabricators. With an open and proactive collaboration we can realize the highest standards and get the best results in any project, big or small, together.



■ Headquarters Belgium ■ Reynaers branches ■ Sales

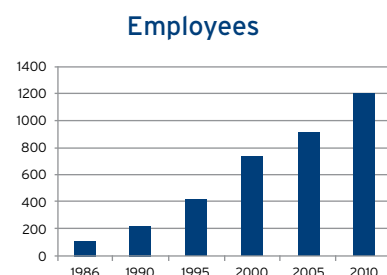
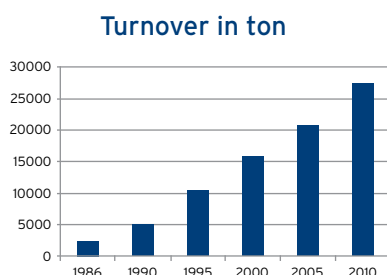
INTERNATIONAL PRESENCE

Reynaers Aluminium is the market leader in Belgium and has acquired a strong market position in the 30 countries where it has its own sites. The company's success is due in part to the close partnership between Reynaers and 5,000 partner fabricators, architects and project developers worldwide. The company exports to more than 60 countries on 5 continents.

Our international approach allows us to regularly extend our product range by offering solutions that are suitable for local markets.

IMPRESSIVE GROWTH

In 2010 the Reynaers group achieved a turnover of 25 500 tonnes of aluminium products and has 1,200 employees throughout the world.





REYNAERS ACTIVITIES

RESEARCH AND DEVELOPMENT

Reynaers Aluminium puts enormous investment into research and development to maintain its position at the forefront of the industry. We work closely with architects and building contractors all over the world, developing systems and solutions for total façade construction - from the design concept through to manufacture and installation.

Reynaers Aluminium's high-performance window, door and curtain-walling systems are developed with the aim of enhancing the energy-efficiency, design, comfort and safety of buildings. All our systems are all tested to the relevant standards for thermal performance, as well as air, wind and water tightness. The product range also includes specific fire-resistant, burglar-resistant and bulletproof solutions.

INSULATION AND SURFACE TREATMENT

The insulation of aluminium profiles requires a lot of know-how and experience. In order to ensure the highest quality, Reynaers created its own insulation company, ERAP. For the surface treatment of the profiles we collaborate with selected painting companies that strictly adhere to our standards and regulations.

LOGISTICS

Our customers benefit from our strong logistics organisation, which enables us to quickly deliver products from our various distribution centres worldwide.

VALUE CHAIN





Architect: Robert Adam Architects

WINDOWS & DOORS



Eco system



CS 24-SL



CS 38-SL



CS 59Pa



CS 68



CS 77



CS 77-FP



CS 77-BP



CS 86-HI



CS 104



DECISION MATRIX

Windows & Doors

WINDOW MATRIX

FUNCTIONAL



RENAISSANCE



SOFTLINE



Eco system

CS 24-SL

CS 38-SL

CS 59Pa

CS 68

CS 77

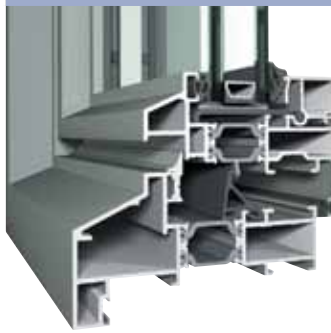
CS 86-HI*

CS 104*

HIDDEN VENT



SLIM LINE



Eco system

CS 24-SL

CS 38-SL

CS 59Pa

CS 68

CS 77

CS 86-HI*

CS 104*

DESIGN

DOOR MATRIX

FLUSH DOOR WITH SURFACE MOUNTED HINGES

FLUSH DOOR WITH BARREL HINGES

WINDOW DOOR



Eco system

CS 24-SL

CS 38-SL

CS 59Pa

CS 68

CS 77

CS 86-HI

CS 104

PERFORMANCE MATRIX

	Eco system	CS 24-SL	CS 38-SL	CS 59Pa	CS 68	CS 77	CS 86-HI	CS 104
SAFETY VARIANTS								
Burglary Proof								
Fire Proof								
Bullet Proof								
SUSTAINABILITY								
High Insulation								
Ventalis								
OVERALL SYSTEM DEPTH (STANDARD)								
Window - Frame	50 mm	85 mm	90 mm	50 mm	59 mm	68 mm	77 mm	95 mm
Window - Vent	59 mm	85 mm	76 mm	59 mm	68 mm	77 mm	86 mm	104 mm
PERFORMANCES								
Insulation (Uf-value ≥ ...)*	2.2 W/m²K	3.3 W/m²K	2.4 W/m²K	-	1.8 W/m²K	1.6 W/m²K	1.2 W/m²K	0.88 W/m²K
Air tightness Class (value in Pa)	4 (600 Pa)	-	4 (600 Pa)	4 (600 Pa)	4 (600 Pa)	4 (600 Pa)	4 (600 Pa)	4 (600 Pa)
Water tightness Class (value in Pa)	E750 (750 Pa)	-	9A (600 Pa)	9A (600 Pa)	E1200 (1200 Pa)	E900 (900Pa)	E900 (900Pa)	E900 (900Pa)
Wind load resistance Class (value in Pa)	4 (1600 Pa)	-	4 (1600 Pa)	5 (2000 Pa)	5 (2000 Pa)	5 (2000 Pa)	5 (2000 Pa)	5 (2000 Pa)

* depending on the frame/vent combination



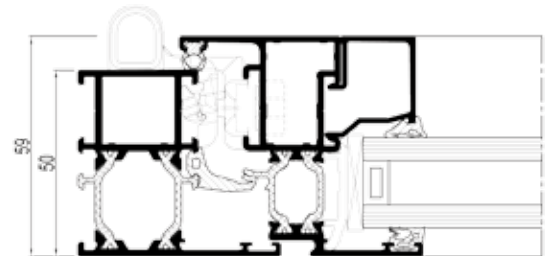


Eco system

Windows & Doors

Eco system is a high performance aluminium system that combines aesthetic design with energy efficiency. With an Uf-value down to 2.20 W/m²K, this system meets the latest thermal insulation requirements.

Eco system offers a solution for every standard application for inward and outward opening windows and flush doors. Furthermore, Eco system allows the fabrication, production and easy assembly of windows and doors in less time. This system can be combined with the Ventalis system for an optimal indoor air-quality.



Different inner and outer colours are possible.

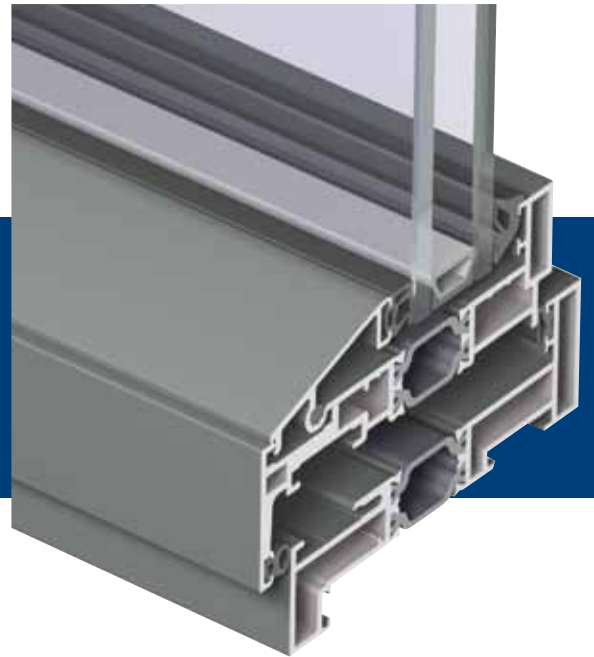
TECHNICAL CHARACTERISTICS

		FUNCTIONAL
Min. visible width inward opening window	Frame	48 mm
	Vent	30 mm
Min. visible width inward opening flush door	Frame	67 mm
	Vent	74 mm
Overall system depth window	Frame	50 mm
	Vent	59 mm
Rebate height		22 mm
Glass thickness		up to 32 mm

PERFORMANCES

	Acoustic performance	Rw (C;Ctr) = 35 (-1;-4) dB / 39 (-1;-3) dB, depending on the glazing type
	Air tightness	Up to 600 Pa (class 4)
	Anti-burglar	WK 2 (windows & doors) (European standard ENV 1627 - ENV 1630)
	Thermal insulation	Uf-value between 2.2 W/m ² K and 2.6 W/m ² K, depending on the frame/vent combination
	Water tightness	Up to 750 Pa (class E750)
	Wind load resistance	Up to 1600 Pa (class 4)





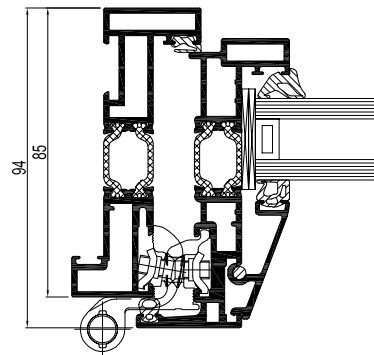
CS 24-SL

Windows & Doors

CS 24-SL is a thermally insulated three-chamber window system that combines ultimate elegance with elevated strength and ease in production. The system's slender exterior contours and glazing beads on the outside give the system a steel look design. This slim appearance makes CS 24-SL the ideal system for new-build constructions as well as for the replacement of steel-framed windows, respecting the original design.

All types of side or top hung outward opening windows are available with hinges or friction stays.

Different inner and outer colours are possible.



TECHNICAL CHARACTERISTICS

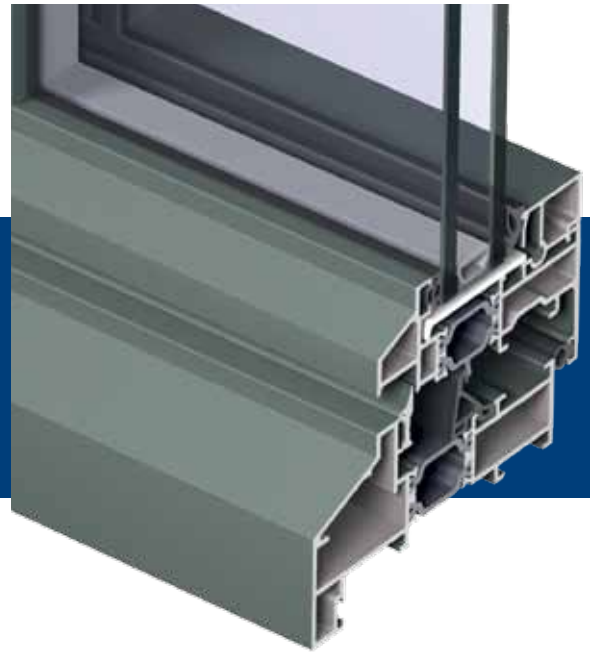
		SLIM LINE
Min. visible width outward opening window	Frame	19 mm
	Vent	31 mm
Overall system depth window	Frame	85 mm
	Vent	85 mm
Rebate height		14 mm
Glass thickness		21 mm up to 30 mm

PERFORMANCES

	Anti-burglar	WK 2 (windows) (Dutch & European standard NEN 5096, ENV 1627 - ENV 1630)
	Thermal insulation	Uf-value between 3.3 W/m ² K and 4.3 W/m ² K, depending on the frame/vent combination

For other performances, please contact your Reynaers Aluminium fabricator





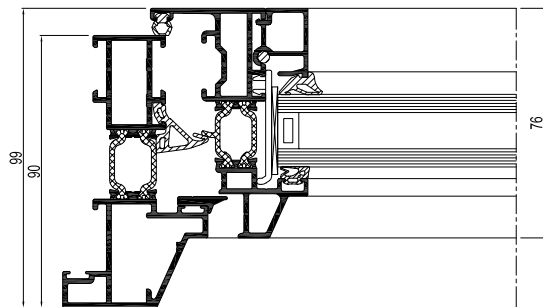
CS 38-SL

Windows & Doors

CS 38-SL is a thermally improved three-chamber system for windows and doors that combines ultimate elegance, elevated strength, energy-efficiency and ease in production.

The system's slender exterior contours offer the ideal solution for new-build constructions as well as for the replacement of steel-framed windows and window-doors, respecting the original design. All types of inward and outward opening vents are available.

Different inner and outer colours possible.



TECHNICAL CHARACTERISTICS

		SLIM LINE
Min. visible width inward opening window	Frame	33 mm
	Vent	23 mm
Min. visible width inward opening window-door	Frame	33 mm
	Vent	53 mm
Overall system depth window	Frame	90 mm
	Vent	76 mm
Rebate height		14 mm
Glass thickness		up to 44 mm

PERFORMANCES

	Acoustic performance	Rw (C;Ctr) = 36 (-1;-4) dB / 45 (0;-3) dB, depending on the glazing type
	Air tightness	Up to 600 Pa (class 4)
	Anti-burglar	WK 2 (windows & window-doors) (European standard ENV 1627 - ENV 1630)
	Thermal insulation	Uf-value between 2.4 W/m²K and 3.1 W/m²K, depending on the frame/vent combination
	Water tightness	Up to 600 Pa (class 9A)
	Wind load resistance	Up to 1600 Pa (class 4)



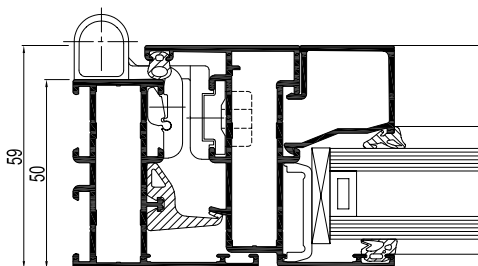


CS 59Pa

Windows & Doors

CS 59Pa offers an extensive range of non-insulated profiles for the construction of elegant and moderately priced aluminium frames in functional style. Therefore CS 59Pa is the ideal system for outdoor applications in warm climates but it can also be used for the partitioning of indoor office spaces.

The system is available in inward opening windows and inward and outward opening flush doors.



TECHNICAL CHARACTERISTICS			
		PARALLEL	RENAISSANCE
Min. visible width inward opening window	Frame	49 mm	55 mm
	Vent	31 mm	31 mm
Min. visible width inward opening flush door	Frame	61.5 mm	-
	Vent	72.5 mm	-
Overall system depth window	Frame	50 mm	59 mm
	Vent	59 mm	68 mm
Rebate height		25 mm	25 mm
Glass thickness		up to 35 mm	up to 35 mm

PERFORMANCES		
	Acoustic performance	Rw (C;Ctr) = 36 (-1;-3) dB / 44 (-2;-4) dB, depending on the glazing type
	Air tightness	Up to 600 Pa (class 4)
	Anti-burglar	WK 2 (windows & doors) (European standard ENV 1627 - ENV 1630)
	Water tightness	Up to 600 Pa (class 9A)
	Wind load resistance	Up to 2000 Pa (class 5)





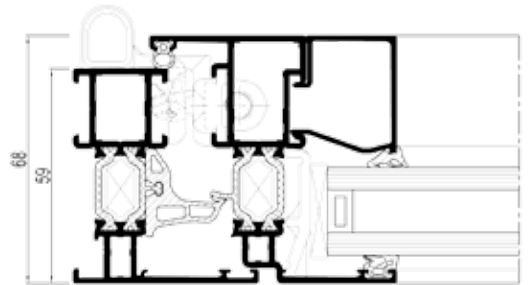
CS 68

Windows & Doors

CS 68 is a thermally improved three-chamber system for windows and doors that boasts the optimum combination of high insulation levels and optimal safety.

The system is available in a variety of aesthetic shapes to match current architectural styles whilst offering all types of both inward and outward opening windows and doors. Double butt strips between the frame and vent and lowered drainage ensure superior wind and water tightness. This system can be combined with the Ventalis system, to allow optimal indoor air-quality.

Different inner and outer colours are possible.



TECHNICAL CHARACTERISTICS					
Style variants		FUNCTIONAL	RENAISSANCE	SOFTLINE	HIDDEN VENT
Min. visible width inward opening window	Frame	51 mm	51 mm	51 mm	76 mm
	Vent	33 mm	33 mm	33 mm	not visible
Min. visible width inward opening flush door	Frame	68 mm	-	-	-
	Vent	76 mm	-	-	-
Overall system depth window	Frame	59 mm	68 mm	68 mm	59 mm
	Vent	68 mm	77 mm	77 mm	63.5 mm
Rebate height		25 mm	25 mm	25 mm	18.5 mm
Glass thickness		up to 44 mm	up to 44 mm	up to 44 mm	up to 40 mm

PERFORMANCES		
	Acoustic performance	Rw (C;Ctr) = 37 (-1;-4) dB / 44 (-2;-5) dB, depending on the glazing type
	Air tightness	Up to 600 Pa (class 4)
	Anti-burglar	WK 2 (windows & doors) (European standard ENV 1627 - ENV 1630) WK 3 (window-doors, doors and fixed windows)
	Thermal insulation	Uf-value between 1.8 W/m²K and 2.9 W/m²K, depending on the frame/vent combination
	Water tightness	Up to 1200 Pa (class E1200)
	Wind load resistance	Up to 2000 Pa (class 5)



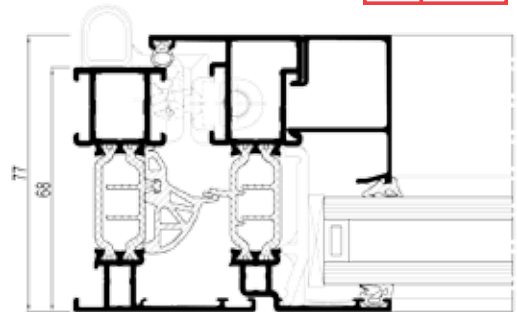


CS 77

Windows & Doors

CS 77 is a thermally improved three-chamber system for windows and doors that boasts the optimum combination of safety and comfort. Fibreglass reinforced polyamide strips with ribs and/or hollow chambers guarantee high thermal insulation levels.

The system is available in a variety of aesthetic shapes to match the current architectural trends whilst offering all types of both inward and outward opening windows and doors. A double butt strip between the frame and vent and a lowered drainage ensure superior wind and water tightness. An additional asset of the system is the option to use it in combination with the Ventalis system. Different inner and outer colours are possible. A variant of this system has received the Swiss Minergie label.



TECHNICAL CHARACTERISTICS

Style variants		FUNCTIONAL	RENAISSANCE	HIDDEN VENT
Min. visible width inward opening window	Frame	51 mm	51 mm	76 mm
	Vent	33 mm	33 mm	not visible
Min. visible width inward opening flush door	Frame	68 mm	-	-
	Vent	76 mm	-	-
Overall system depth window	Frame	68 mm	77 mm	68 mm
	Vent	77 mm	86 mm	72.5 mm
Rebate height		25 mm	25 mm	18.5 mm
Glass thickness		up to 53 mm	up to 53 mm	up to 49 mm

PERFORMANCES

	Acoustic performance	Rw (C;Ctr) = 36 (-1;-4) dB / 42 (-2;-4) dB, depending on the glazing type
	Air tightness	Up to 600 Pa (class 4)
	Anti-burglar	WK 2 (windows & doors) (European standard ENV 1627 - ENV 1630) WK 3 (window-doors, doors and fixed windows)
	Thermal insulation	Uf-value between 1.6 W/m ² K and 2.6 W/m ² K, depending on the frame/vent combination
	Water tightness	Up to 900 Pa (class E900)
	Wind load resistance	Up to 2000 Pa (class 5)



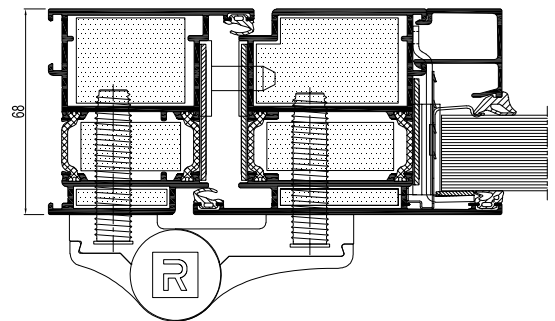


CS 77-FP

Windows & Doors

The CS 77-FP EI30 and EI60 was developed based on the existing CS 77 profiles and accessories for windows and doors and was tested in an optimized European test and approval program. The fireproofing time span is achieved by inducing a special cooling material into the profile chambers and by using self-adhesive and water-resistant swelling gaskets. These gaskets do not need to be sealed, reducing fabrication time of the profiles and saving costs.

The CS 77 fireproof range is available as outward opening single and double doors, panic doors, combined fixed window elements as well as glazed partition walls. This extensive range of configurations offers a huge range of options and combinations for architects to work with. Furthermore a large choice of accessories and locking devices is available.



CS 77-FP EI60

TECHNICAL CHARACTERISTICS

Style variants	CS 77-FP EI30	CS 77-FP EI60
Rebate height	25 mm	25 mm
Glass thickness	from 15 mm to 49 mm	from 23 mm to 49 mm
Glazing method	dry glazing with EPDM	dry glazing with EPDM
Fire resistance classification	EW30, E30, EI30	EI45, EW60, E60, EI60

PERFORMANCES

	CS 77-FP EI30	CS 77-FP EI60
European testing standards	EN 1364-1 EN 1634-1	EN 1364-1 EN 1634-1
Classification standard	EN 13501-2	EN 13501-2



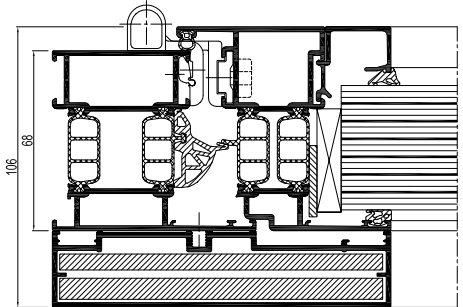




CS 77-BP

Windows & Doors

CS 77-BP is an extension of CS 77 which enables the realisation of bulletproof windows and doors according to the most severe European standards.



TECHNICAL CHARACTERISTICS

		BULLETPROOF
Min. visible width inward opening window	Frame	128 mm
	Vent	0 mm
Min. visible width inward opening flush door	Frame	77 mm
	Vent	77 mm
Overall system depth window	Frame	97 mm
	Vent	77 mm
Rebate height		25 mm
Glass thickness		up to 63 mm

PERFORMANCES

	Acoustic performance	Rw (C; Ctr) ≤ 42 (-2; -4) dB, depending on the glazing type
	Air tightness	Up to 600 Pa (class 4)
	Anti-bullet	European standard EN 1522 - 1523
	Thermal insulation	Uf-value down to 1.94 W/m²K, depending on the frame/vent combination
	Water tightness	Up to 900 Pa (class E900)
	Wind load resistance	Up to 2000 Pa (class 5)



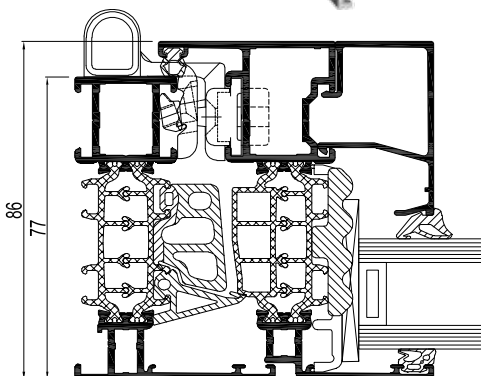


CS 86-HI

Windows & Doors

CS 86-HI is a multi-chamber system for windows and doors that combines aesthetic design, optimal stability and high thermal comfort. Due to the insulating skeleton strips, CS 86-HI achieves U_f -values down to $1.2 \text{ W/m}^2\text{K}$ making this a highly energy efficient system. Flexible expansion strips in the door vents ensure stability in all conditions.

The system provides inside opening windows and inside and outside opening flush doors (up to 3 metres). Furthermore, CS 86-HI doors offer different types of floor connections to meet acoustic, thermal and water requirements. A variant of the CS 86-HI hidden vent has received the Swiss Minergie label.



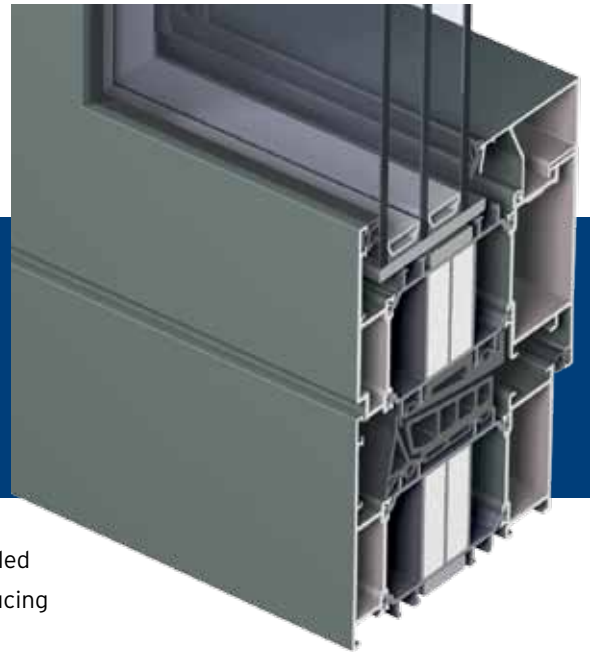
TECHNICAL CHARACTERISTICS

		FUNCTIONAL	HIDDEN VENT
Min. visible width inward opening window	Frame	51 mm	70 mm
	Vent	35 mm	not visible
Min. visible width inward opening flush door	Frame	68 mm	-
	Vent	76 mm	-
Overall system depth window	Frame	77 mm	77 mm
	Vent	86 mm	79 mm
Rebate height		25 mm	17 mm
Glass thickness		up to 62 mm	up to 46 mm

PERFORMANCES

	Acoustic performance	R_w (C;Ctr) = 36 (-1;-4) dB / 44 (0;-2) dB, depending on the glazing type
	Air tightness	Up to 600 Pa (class 4)
	Anti-burglar	WK 2 (windows & doors) (Dutch & European standard NEN 5096 & ENV 1627)
	Thermal insulation	U_f -value down to $1.20 \text{ W/m}^2\text{K}$, depending on the frame/vent combination and the glass thickness
	Water tightness	Up to 900 Pa (class E900)
	Wind load resistance	Up to 2000 Pa (class 5)





NEW

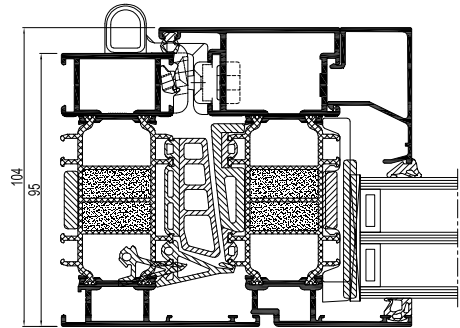
CS 104

Windows & Doors

With the CS 104 window and door system, Reynaers achieves unparalleled insulation values for aluminium profiles in the building industry, introducing a solution for passive buildings.

The high insulation levels, down to an Uf-value of 0.88 W/m²K, are achieved by the use of a patented insulation technology which contains a special foam, firmly fixed in the chamber of the insulation strip so that no extra manipulation is required when handling, processing and composing the window and door. A new set of specifically developed gaskets also assures the high level of the wind and water tightness of the system.

CS 104 gives architects and builders the design benefits of large, expansive surfaces of triple glazing resulting in innovative, energy-efficient and yet sustainable solutions.



TECHNICAL CHARACTERISTICS

		WINDOWS	DOORS
Min. Visible width inward opening window	Frame	69 mm	82 mm
	Vent	45 mm	71 mm
Overall system depth window	Frame	95 mm	95 mm
	Vent	104 mm	95 mm
Rebate height		25 mm - 30 mm	25 mm
Glass thickness		65 mm	65 mm

PERFORMANCES

		WINDOWS	DOORS
	Air tightness	Up to 600 Pa (class 4)	Up to 600 Pa (class 3)
	Water tightness	Up to 900 Pa (class E900)	Up to 300 Pa (class 7A)
	Wind load resistance	Up to 2000 Pa (class 5)	Up to 800 Pa (class 2)
	Thermal insulation	Uf-value down to 0.88 W/m ² depending on the frame/vent combination and the glass thickness	



SLIDING SYSTEMS



CP 45Pa



CP 50



CP 96 / CP 96-LS



CP 130 / CP 130-LS



CP 155 / CP 155-LS










CF 77



DECISION MATRIX

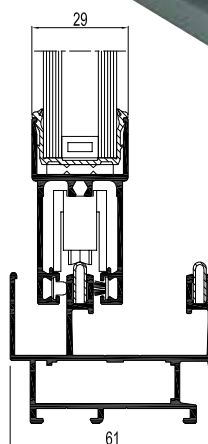
Sliding Systems

	CP 45Pa	CP 50	CP 96	CP 130	CP 155	CF 77
DESIGN VARIANTS						
Functional						
Softline						
Slim Line						
Monorail						
2-Rails						
3-Rails						
Slide						
Lift-Slide						
Automatic						
Flat bottom						
SAFETY VARIANTS						
 Burglary Proof						
 Fire Proof						
 Bullet Proof						
OVERALL SYSTEM DEPTH (STANDARD)						
Frame	50 mm	50 mm	96 mm	130 mm	155 mm	77 mm
Vent	29 mm	33 mm	43 mm	59 mm	68 mm	77 mm
SUSTAINABILITY						
High insulation						
Ventalis						
ENERGY PERFORMANCE						
 Insulation (Uf-value >= ...)*	-	3,4 W/m²K	3,5 W/m²K	2,8 W/m²K	2,2 W/m²K	2,3 W/m²K
 Air tightness Class (value in Pa)	4 (600 Pa)	4 (600 Pa)	4 (600 Pa)	4 (600 Pa)	4 (600 Pa)	-
 Water tightness Class (value in Pa)	6A (250 Pa)	5A (200 Pa)	9A (600 Pa)	9A (600 Pa)	E900 (900 Pa)	-
 Wind load resistance Class (value in Pa)	4 (1600 Pa)	3 (1200 Pa)	3 (1200 Pa)	3 (1200 Pa)	4 (1600 Pa)	-

* Depending on frame/vent combination

OPENING ELEMENTS

	CP 45Pa	CP 50	CP 96	CP 130	CP 155	CF 77
		</				






CP 45Pa

Sliding Systems

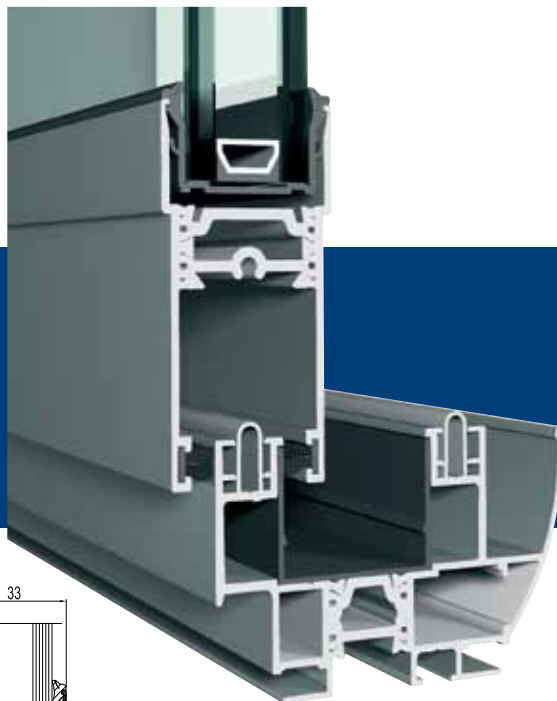
The CP 45Pa is a non-insulated sliding system that has been designed to respond to new aesthetical demands. The system is available in functional and softline design. The profile width is reduced to a minimum allowing a maximum of light into the building.

CP 45Pa integrates the latest techniques, offering a very competitive solution.

TECHNICAL CHARACTERISTICS					
Style variants		MONORAIL	2-RAIL	3-RAIL	4-RAIL
Visible width / height	Frame	45 mm	17 mm / 45 mm	17 mm / 45 mm	17 mm / 45 mm
	Horizontal vent	56 mm	56 mm	56 mm	56 mm
	Vertical vent	54.5 mm / 67 mm	54.5 mm / 67 mm	54.5 mm / 67 mm	54.5 mm / 67 mm
	Meeting section	40 mm	40 mm	40 mm	40 mm
Overall system depth	Frame	48 mm / 56 mm	50 mm / 61 mm	86 mm / 97 mm	122 mm / 133 mm
	Vent	29 mm	29 mm	29 mm	29 mm
Glass thickness		from 6 mm to 22 mm	from 6 mm to 22 mm	from 6 mm to 22 mm	from 6 mm to 22 mm
Glazing method		with EPDM in accordance with the envelope principle			

PERFORMANCES		
	Air tightness	Up to 600 Pa (class 4)
	Water tightness	Up to 250 Pa (class 6A)
	Wind load resistance	Up to 1600 Pa (class 4)

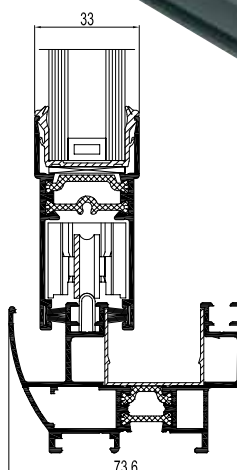








CP 50

Sliding Systems

The CP 50 is an insulated sliding system that has been designed to respond to new demands for insulation, aesthetics and security. The outer rail has 2 main advantages: invisible drainage from the outside and discrete water channelling on the inside. Frame and vent are designed in softline look.



TECHNICAL CHARACTERISTICS			
		2-RAIL	3-RAIL
Visible width / height	Frame	47.2 mm	47.2 mm
	Horizontal vent	67.3 mm	67.3 mm
	Vertical vent	69.7 mm	69.7 mm
	Meeting section	34 mm	34 mm
Overall system depth	Frame	50 mm	92.4 mm
	Vent	33 mm	33 mm
Glass thickness		6 / 24 / 25 / 26 mm	6 / 24 / 25 / 26 mm
Glazing method		with EPDM in accordance with the envelope principle	

PERFORMANCES		
	Air tightness	Up to 600 Pa (class 4)
	Thermal insulation	Uf-value between 3.4 W/m ² K and 4.9 W/m ² K, depending on the frame/vent combination
	Water tightness	Up to 200 Pa (class 5A)
	Wind load resistance	Up to 1200 Pa (class 3)

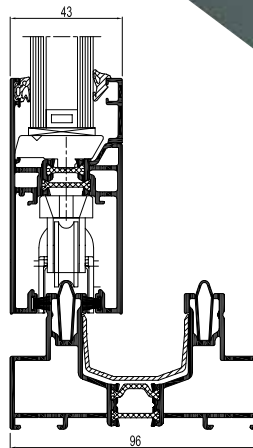




CP 96 / CP 96-LS

Sliding Systems

The CP 96 sliding and lift & slide elements are the perfect answer to the increasing demand for safety and durability at a fair price. They are combined with strong technical performances to make up a highly innovative system. The CP 96-AP variant is also available in slide and lift & slide version and offers an enhanced burglary resistance.








TECHNICAL CHARACTERISTICS

Style variants		CP 96 MONORAIL	CP 96 2-RAIL	CP 96 3-RAIL	CP 96-LS 2-RAIL
Visible width / height	Frame	52 mm	52 mm	52 mm	28 mm
	Vent	90 mm	90 mm	90 mm	90 mm
	T-profile	89-102 mm	89-102 mm	89-102 mm	89-102 mm
	Meeting section	104 mm	104 mm	104 mm	104 mm
Overall system depth	Frame	96 mm	96 mm	149 mm	96 mm
	Vent	43 mm	43 mm	43 mm	43 mm
Glass thickness		from 10 mm to 29 mm	from 10 mm to 29 mm	from 10 mm to 29 mm	from 10 mm to 29 mm
Glazing method		Dry glazing with EPDM or neutral silicones			

TECHNICAL CHARACTERISTICS

Style variants		CP 96-AP MONORAIL	CP 96-AP 2-RAIL	CP 96-AP 3-RAIL	CP 96-LS/AP 2-RAIL
Visible width / height	Frame	52 mm	52 mm	52 mm	28 mm
	Vent	90 mm	90 mm	90 mm	90 mm
	T-profile	89-102 mm	89-102 mm	89-102 mm	89-102 mm
	Meeting section	104 mm	104 mm	104 mm	104 mm
Overall system depth	Frame	96 mm	96 mm	149 mm	96 mm
	Vent	43 mm	43 mm	43 mm	43 mm
Glass thickness		11 - 30 mm	11 - 30 mm	11 - 30 mm	11 - 30 mm
Glazing method		Dry glazing with EPDM or neutral silicones			

PERFORMANCES		
	Air tightness	Up to 600 Pa (class 4)
	Anti-burglar	WK 2 (Dutch standard NEN 5096)
	Thermal insulation	Uf-value between 3.5 W/m ² K and 6.3 W/m ² K, depending on the frame/vent combination
	Water tightness	Up to 600 Pa (class 9A)
	Wind load resistance	Up to 1200 Pa (class 3)

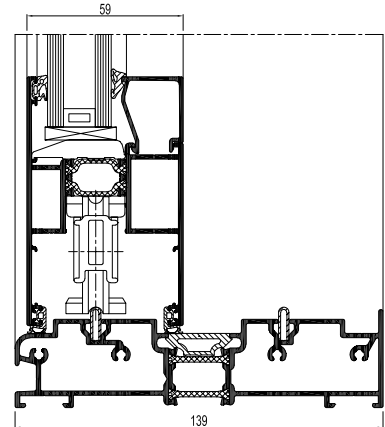




CP 130 / CP 130-LS

Sliding Systems

The CP 130 sliding and lift & slide elements gives a wide variety of possibilities along with high performance and enhanced burglar resistance. The system is not only functional, but also offers an economical and aesthetic solution with the middle section. An additional asset of the system is the option to use it in combination with the Ventalis system. The CP 130 is based on CS 68, and as such, further improves fabrication time, logistics and compatibility with the current product range. The fabrication and transportation are simplified further because all configurations (slide and lift slide monorail, 2-rail and 3-rail) are combined in one single design. The optimised threshold solution, the enriched insulation value of 2.78 W/m²K and the possibility to use thicker glass with a weight up to 300 kg, underline the contemporary characteristics of CP 130. This system can be combined with the Ventalis system.



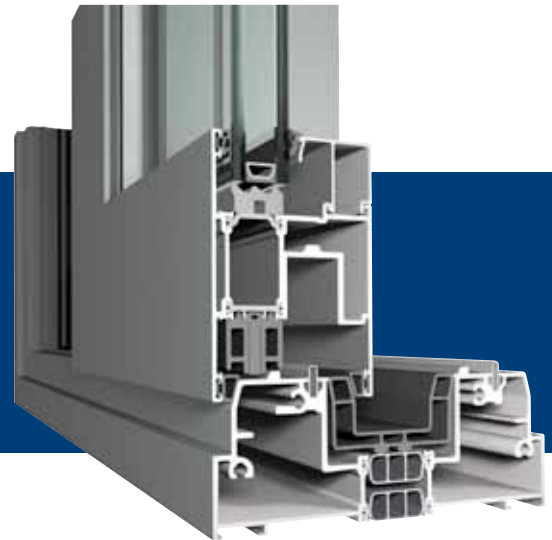
TECHNICAL CHARACTERISTICS

Style variants		CP 130 MONORAIL	CP 130 2 RAIL	CP 130 3 RAIL	CP 130-LS 2 RAIL	CP 130-LS 3 RAIL
Visible width / height	Frame	50 mm	50 mm	50 mm	28 / 35 / 40 mm	28 / 35 / 40 mm
	Vent	94 mm	94 mm	94 mm	94 mm	94 mm
	T-profile	From 76 mm till 115 mm	From 76 mm till 115 mm	From 76 mm till 115 mm	From 76 mm till 115 mm	From 76 mm till 115 mm
Overall system depth	Frame	130 mm	130 mm	181 mm	139 mm	210 mm
	Vent	59 mm	59 mm	59 mm	59 mm	59 mm
Rebate height		25 mm	25 mm	25 mm	25 mm	25 mm
Glass thickness		Up to 44 mm	Up to 44 mm	Up to 44 mm	Up to 44 mm	Up to 44 mm
Glazing method		Dry glazing with EPDM or neutral silicones				

PERFORMANCES

	Air tightness	Up to 600 Pa (class 4)
	Thermal insulation	Uf-value down to 2.78 W/m ² K, depending on the frame vent combination
	Anti-burglar	WK 2 (European standard ENV 1627 - ENV 1630)
	Water tightness	Up to 600 Pa (class 9A), 450 Pa (class 8A), 300 Pa (class 7A)
	Wind load resistance	Up to 1200 Pa (class 3)



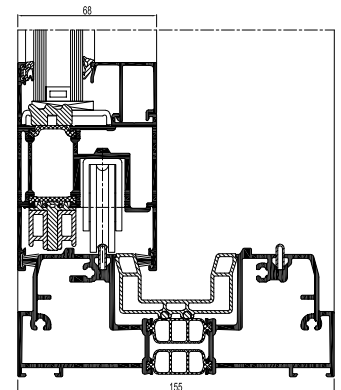


CP 155 / CP 155-LS

Sliding Systems

CP 155 is a thermally insulated sliding system with a vent weight up to 400 kg and height up to 3 metres. The sophisticated concept fulfills the user's high expectations of optimum quality, high insulation and ease of operation. The new and improved CP 155 can be upgraded with High Insulation that can be applied to all CP 155 variants to achieve even better insulation values.

The system is available with a low threshold that creates a perfect continuity between the indoor and outdoor spaces and improves the accessibility to the building. CP 155 is provided with an aesthetical middle section and can be applied for large spans. Automatic opening solutions for maximal comfort are also available. Moreover, this system can be combined with the Ventalis system. A variant of CP 155 monorail has received the Swiss Minergie label.



TECHNICAL CHARACTERISTICS

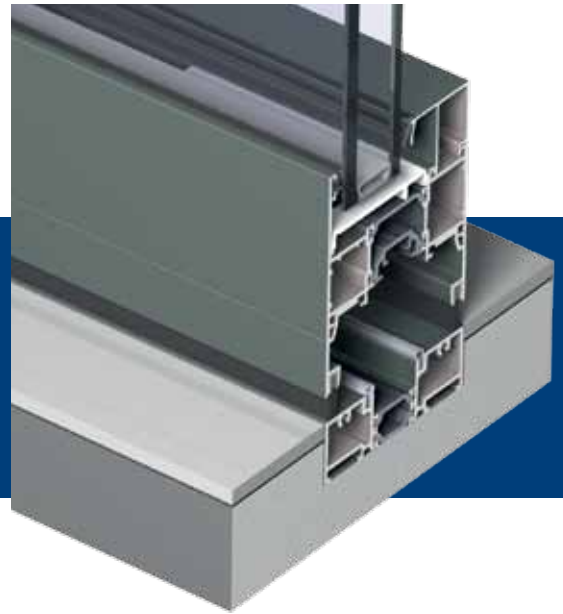
		CP 155 MONORAIL / 2-RAIL / 3-RAIL LS MONORAIL / LS 2-RAIL / LS 3-RAIL
Style variants	Frame	60 mm
	Vent	102 mm
	Meeting section	115 mm
Visible width / height	Frame	155 mm / 242 (3-rail / LS 3-rail)
	Vent	68 mm
Rebate height		25 mm
Glass thickness		from 4 to 52 mm
Glazing method		dry glazing with EPDM or neutral silicones

PERFORMANCES

	Acoustic performance	Rw (C;Ctr) = 35 (-2;-5) dB / 42 (-1;-3) dB, depending on the glazing type
	Air tightness	Up to 600 Pa (class 4)
	Anti-burglar	WK 2 (European standard ENV 1627 - ENV 1630)
	Thermal insulation	Uf-value down to 2.2 W/m²K*, depending on the frame/vent combination
	Water tightness	900 Pa (class E900), 300 Pa (class 7A), 450 Pa (class 8A)
	Wind load resistance	Up to 1600 Pa (class 4)

* Value with HI-upgrade

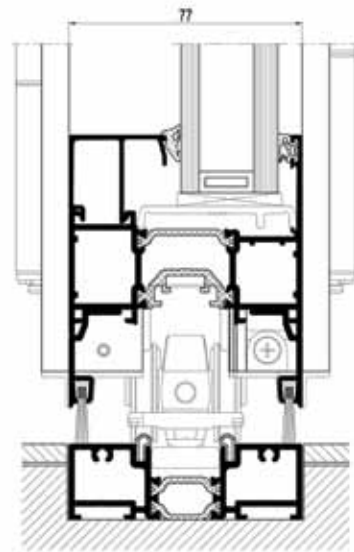




CF 77

Sliding Systems

People are continuously looking for ways to maximize their space, as well visually as physically. The Concept Folding 77 offers them the opportunity to optimize the utilization of their rooms, drawing the external environment into their homes. Next to the improved space utilization, this innovative system offers the advantage of loads of daylight coming in, as well as an aesthetical design. Next to the functional design, the CF 77 is supplemented with a Slim-Line variant, the CF 77-SL, featuring a narrower visible width. Both designs are available in four different door sill solutions: High Performance, Medium Performance, Low Threshold and Flat Bottom Solution. The High Performance option for maximum performance in terms of air, wind and water resistance, Medium Performance combining good air, wind and water resistance with decreased threshold, the Low Threshold option offering a rise of only 18 mm and finally the Flat Bottom solution allowing easy passing and maximum convenience for high traffic. Another practical feature of CF 77 is the optional door locking principle which allows to use the first leaf as an entrance door without affecting the folding capacity of the system.

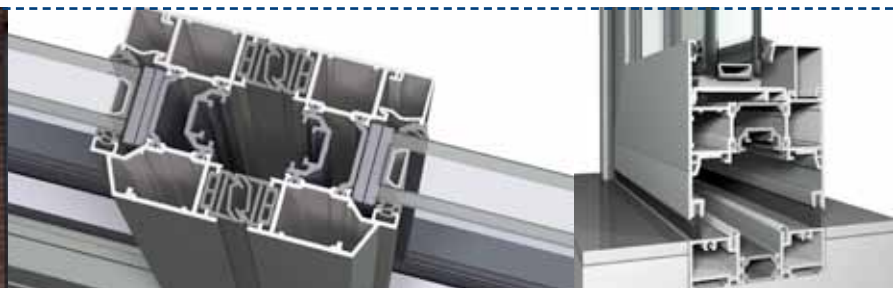


TECHNICAL CHARACTERISTICS

Style variants	CF 77	CS 77-SL
Max. vent size	1200 x 3000 mm	1200 x 3000 mm
Max. vent weight	120 kg	120 kg
Uw (W/m²K) 4-panel: 4000 x 2700 mm	down to 1.66	down to 1.64
Visible width vent-vent sect.	144 mm	122 mm

PERFORMANCES

	CF 77	CS 77-SL
 Thermal insulation	Uf-value down to 2.25 W/m²K	Uf-value down to 2.31 W/m²K





CURTAIN WALLS



CW 50



CW 60



CW 65 EF-HI



CW 86






CW 86-EF



DECISION MATRIX

Curtain Walls

	CW 50	CW 60	CW 65-EF	CW 86-EF
DESIGN VARIANTS				
Functional				
Horizontal Lining				
Cassette Glazing				
Structural Glazing				
Structural Clamped				
Alu on steel				
Slim Line				
Roof Application				
High Insulation				
Solar (photovoltaic)				
SAFETY VARIANTS				
 Fire Proof				
 Burglar Proof				
OVERALL SYSTEM DEPTH (STANDARD)				
Exterior visible width	50 mm	60 mm	65 mm	86 mm
ENERGY PERFORMANCE				
 Insulation (Uf-value >= ...)				
Min	0,8 W/m²K	0,8 W/m²K	2,5 W/m²K	1,5 W/m²K
Max	2,5 W/m²K	2,6 W/m²K	2,9 W/m²K	3,9 W/m²K

depending on profile/glass combination

OPENING ELEMENTS

	CW 50	CW 60	CW 65-EF	CW 86-EF



Lead architect: Ron Arad
Executive architect: Jaspers & Evers



CW 50

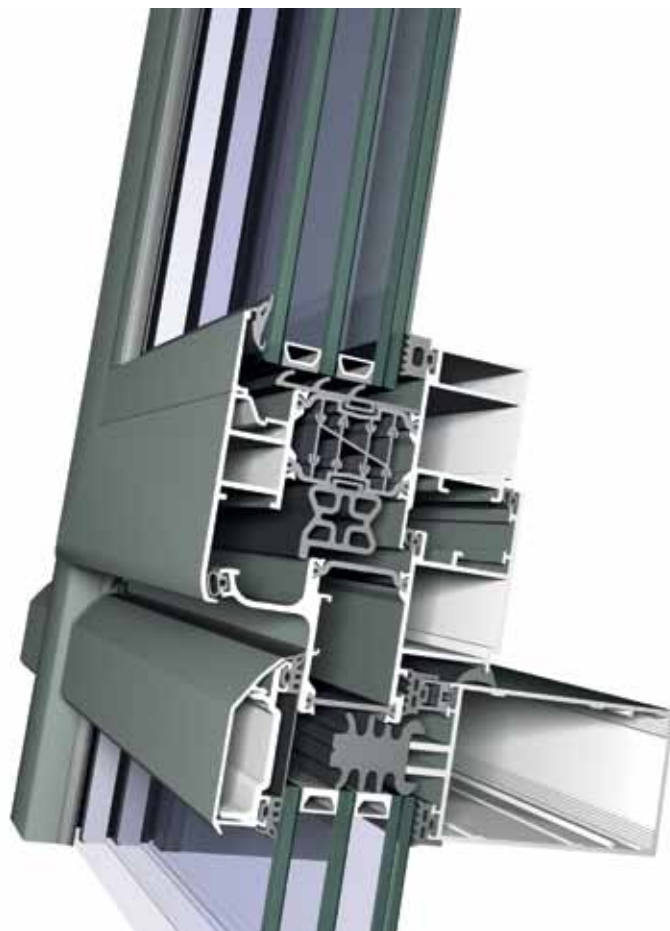
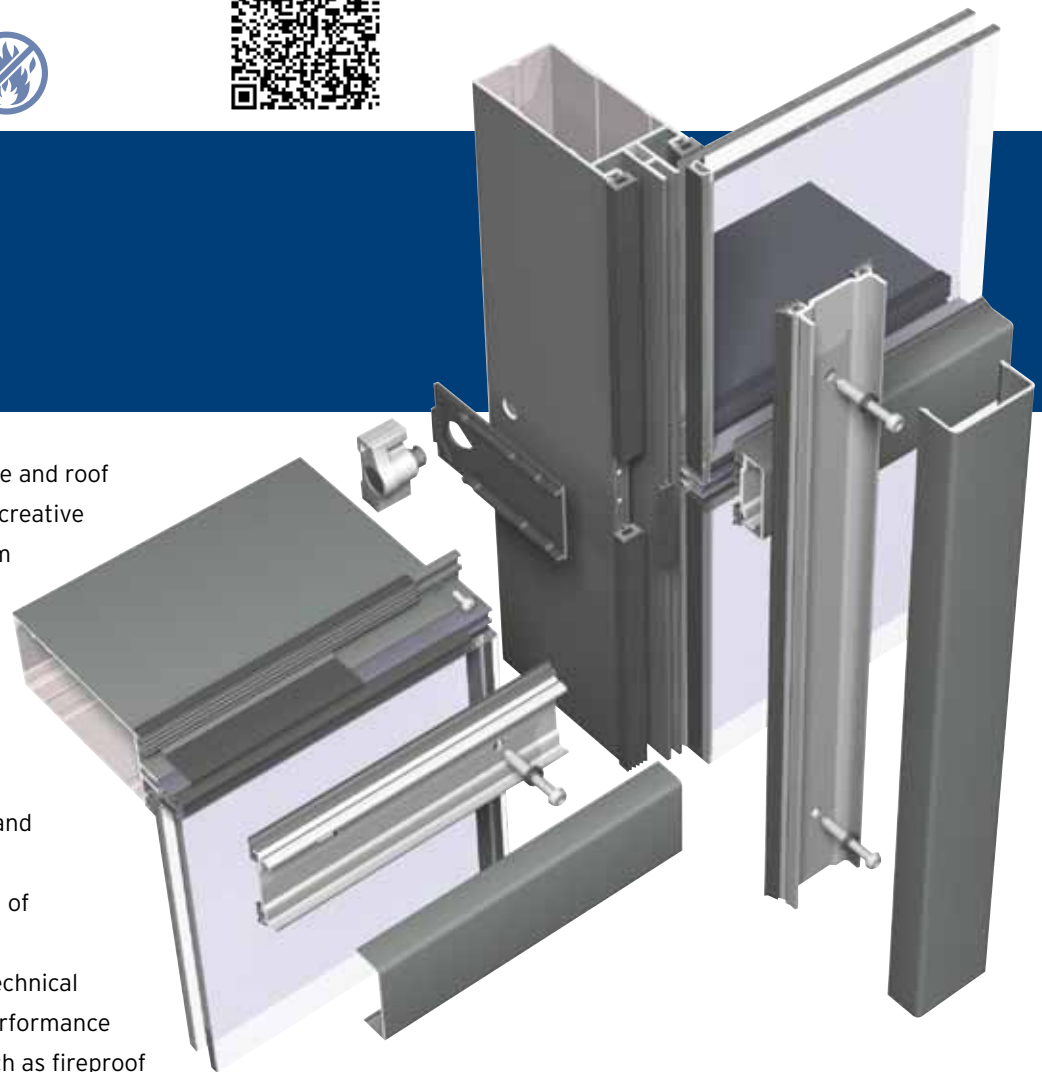
Curtain Walls

CW 50 is a curtain wall façade and roof system that offers unlimited creative freedom and allows maximum entrance of light into the building. The system offers 11 individual styles with various outside appearances.

Any combination of vertical and inclined planes are possible together with the integration of different types of vents. The extensive range offers technical solutions for the different performance requirements of a façade such as fireproof and high insulating solutions.

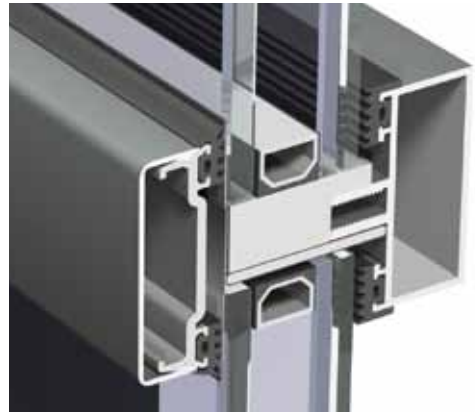
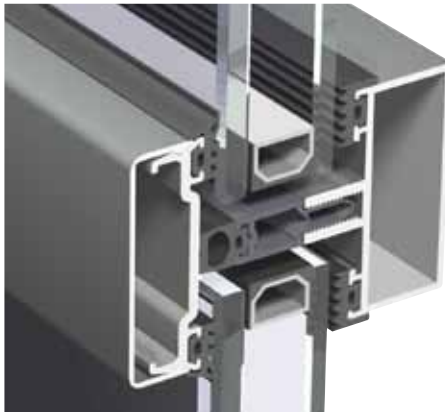
The Flush Roof Vent has been developed to ensure ventilation and perfectly blends into the buildings' outer shell without causing any disruption to the surface. The roof application can be placed in surfaces with inclination angles of 5° up to 80°, thus not limiting but on the contrary stimulating architectural creativity.

CW 50 flush roof vent is also available in an HI variant and as top-hung or bottom-hung.

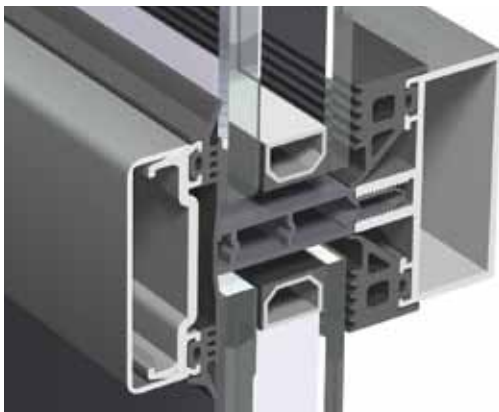


CW 50 flush roof vent

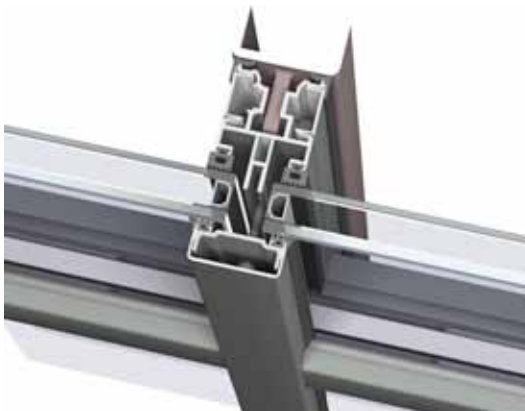
TECHNICAL CHARACTERISTICS



Style variants	CW 50	CW 50-FP (EI30 & EI60)	
Interior visible width	50 mm	50 mm	
Exterior visible width	50 mm	50 mm	
Glass thickness	from 6 to 62 mm	from 33 to 48 mm	



Style variants	CW 50-HI	CW 50-SL	
Interior visible width	50 mm	15/50 mm	
Exterior visible width	50 mm	50 mm	
Glass thickness	from 22 to 62 mm	up to 62 mm	



Style variants	CW 50 ALU ON STEEL	CW 50-HL
Interior visible width	50 mm	50 mm
Exterior visible width	50 mm	vertical: 30 mm joint horizontal: 50 mm pressure plate
Glass thickness	up to 62 mm	from 22 mm to 48 mm



CW 50-SG

50/88 mm

EPDM gasket of 27 mm width

from 24 to 36 mm



CW 50-SC

50 mm

joint: 20 mm

from 27 mm to 63 mm

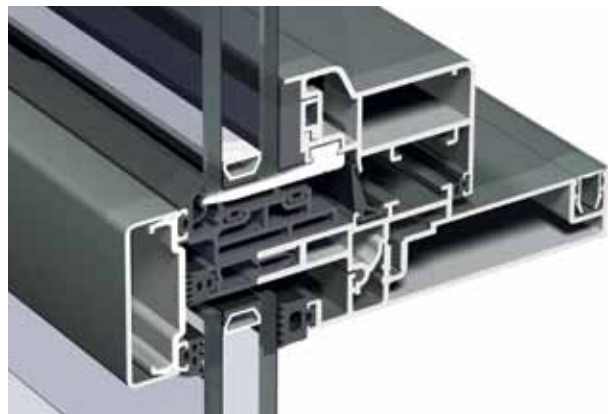


CW 50- RA (FLUSH ROOF VENT)

50 mm

50 mm

roof application: from 6 mm to 45 mm



**CW 50 TUTI HIDDEN VENT
CW 50-SC / TUTI HIDDEN VENT**

50/80 mm

50 mm

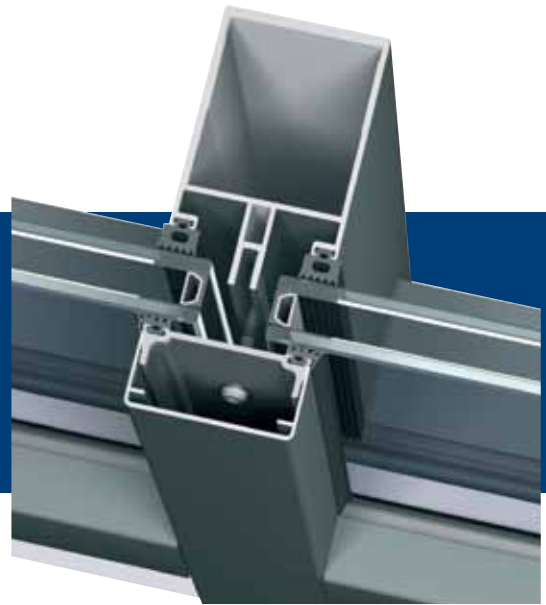
opening window 22 - 28 mm
(open. window-SC 29 - 32 mm)

PERFORMANCES

	Thermal insulation	Uf-value down to 0.8W/m ² K depending on the profile combination
	Acoustic performance	Rw (C;Ctr) = 34 (-1;-4) dB / 55 (-2;-7) dB, depending on the glazing type or panel type
	Air tightness	Up to 600 Pa (class A4)
	Thermal insulation	Uf-value as from 0.8 W/m ² K, depending on the profile combination
	Water tightness	Up to 900 Pa (class RE)
	Wind load resistance	Up to 2000 Pa
	Burglar proof	WK III



Architect: Glenn Howells Architects



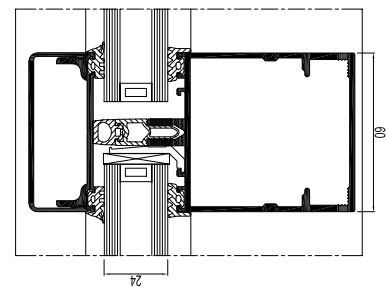
CW 60

Curtain Walls

CW 60 is an excellent thermally improved curtain wall system for large glass surfaces (cassettes can hold a weight up to 450 kg per glass panel), sloping and vertical or curved constructions, especially for renovation projects.

The glazing is secured by clamp guides on the supporting construction and is held gripped under a rebate height of 25 mm. CW 60 is made up of an extensive profile range and facilitates the integration of all types of vent systems. The updated CW 60 offers four individual styles which each allow for the application of various outside appearances.

A flush roof vent application is available.



TECHNICAL CHARACTERISTICS



Style variants	CW 60 functional	CW 60-HI ultimate thermal comfort	CW 60-SC structural clamped glazing
Inside visible width	60 mm	60 mm	60 mm
Outside visible width	60 mm	60 mm	Silicon joint or EPDM gasket of 20mm width
Glass thickness	6 mm to 62 mm	22 mm to 62 mm	27 mm to 63 mm



Style variants	CW 60-SG structural sealed glazing	CW 60-HL	CW 60-RA
Inside visible width	60/88 mm	60 mm	60 mm
Outside visible width	EPDM gasket of 27mm width	vertical: 30 mm joint horizontal: 60 mm pressure plate	60 mm
Glass thickness	24 mm to 36 mm	22 mm to 48 mm	6 mm to 45 mm

PERFORMANCES

	Thermal insulation	Uf-value down to 0.8W/m ² K depending on the profile combination
	Acoustic performance	Rw (C;Ctr) = 34 (-1;-4) dB / 47 (-2;-5) dB, depending on glazing type
	Air tightness	Class A4
	Water tightness	Up to 1200 Pa (class RE)
	Wind load resistance	Up to 2400 Pa



CW 65-EF

Curtain Walls

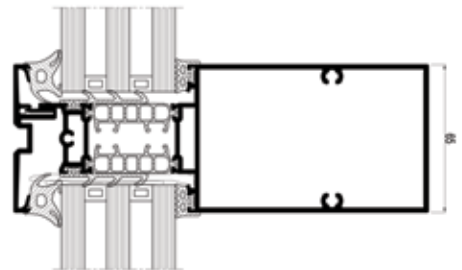
CW 65-Element Facade enables unitised facades to be completely pre-assembled in the workshop. This results in a high execution speed on the site.

Productivity here however embraces architectural aesthetic requirements as the CW 65-EF works with slender profiles of only 65 mm. The slender profile is very strong and can be used for maximum widths of 1600 mm and heights up to 3700 mm. The facade system is thus very well suited for high-rise constructions.

Profiles can easily be adapted to fit project depending requirements. CW 65-EF provides increased insulation with an U_f -value of down to $2.5 \text{ W/m}^2\text{K}$. The opening elements such as a top hung and parallel opening window can be integrated into the system.

The high insulation variant, CW 65-EF-HI, provides an increased insulation with U_f -value of down to $1.5 \text{ W/m}^2\text{K}$ and allows installation of triple glazing up to 63mm glass thickness.

CW 65-EF is also available in the aesthetically looking structural glazing version where the glass plates are separated by a minimum joint of 16mm. The glass plate itself is glued directly onto a pre-assembled frame, reducing the required number of components and further minimizing the construction time.







TECHNICAL CHARACTERISTICS



Style variants	CW 65-EF	CW 65-EF-HI	CW 65-EF-SG
Max. dimensions W x H	1.600 mm x 3.700 mm	1.550 mm x 3.500 mm	1.600 mm x 3.700 mm
Interior visible width	65 mm	65 mm	65 mm
Exterior visible width	65 mm	65 mm	16 mm joint between glass
Glass thickness	From 4 to 36 mm	From 34 to 63 mm	From 4 to 40 mm
Glass weight	300 kg	300 kg	250 kg
Types of vent	All Reynaers systems, top hung window, POW window	---	---

PERFORMANCES

	CW 65-EF	CW 65-EF-HI	CW 65-EF-SG
 Air tightness	Class A4	Class A4	Class AE 700
 Thermal insulation	down to 2,54 W/m ² K, depending on the profile combination	down to 1,51 W/m ² K, depending on the profile combination	down to 7,6 W/m ² K, depending on the profile combination and glass composition
 Water tightness	Class RE 1200	Class RE 1200	Class RE 1200
 Wind load resistance	1800 Pa	1800 Pa	1400 Pa





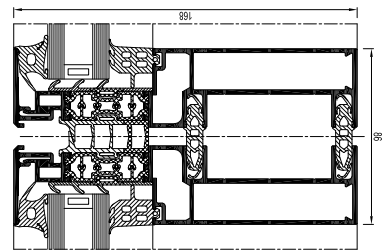
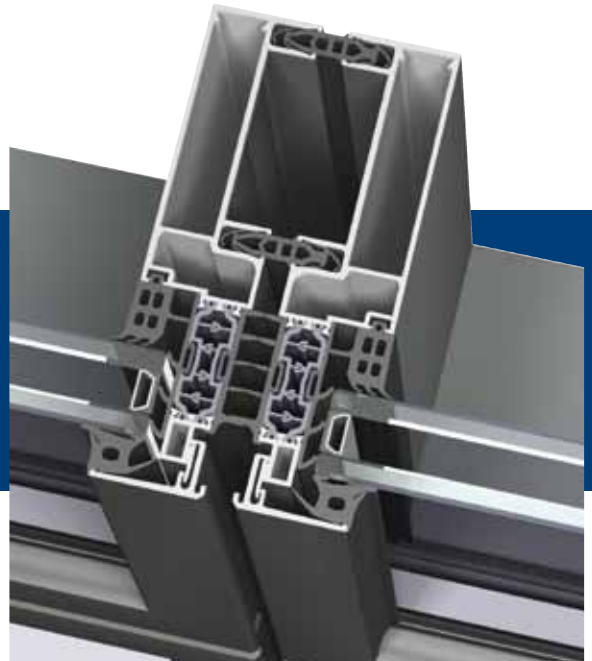
CW 86 (-EF)

Curtain Walls

CW 86 enables cassette façades to be built using a traditional stick structure (CW 86). It also enables unitised façades (CW 86-EF) to be completely pre-assembled in the workshop that results in a high execution speed on the building site.

CW 86 is available in Structural Glazing (SG) and Cassette Glazing (CG). The system enables the motorisation of opening elements such as top hung or parallel opening windows. Different types of windows, doors, sliding systems and brise soleil can be integrated.

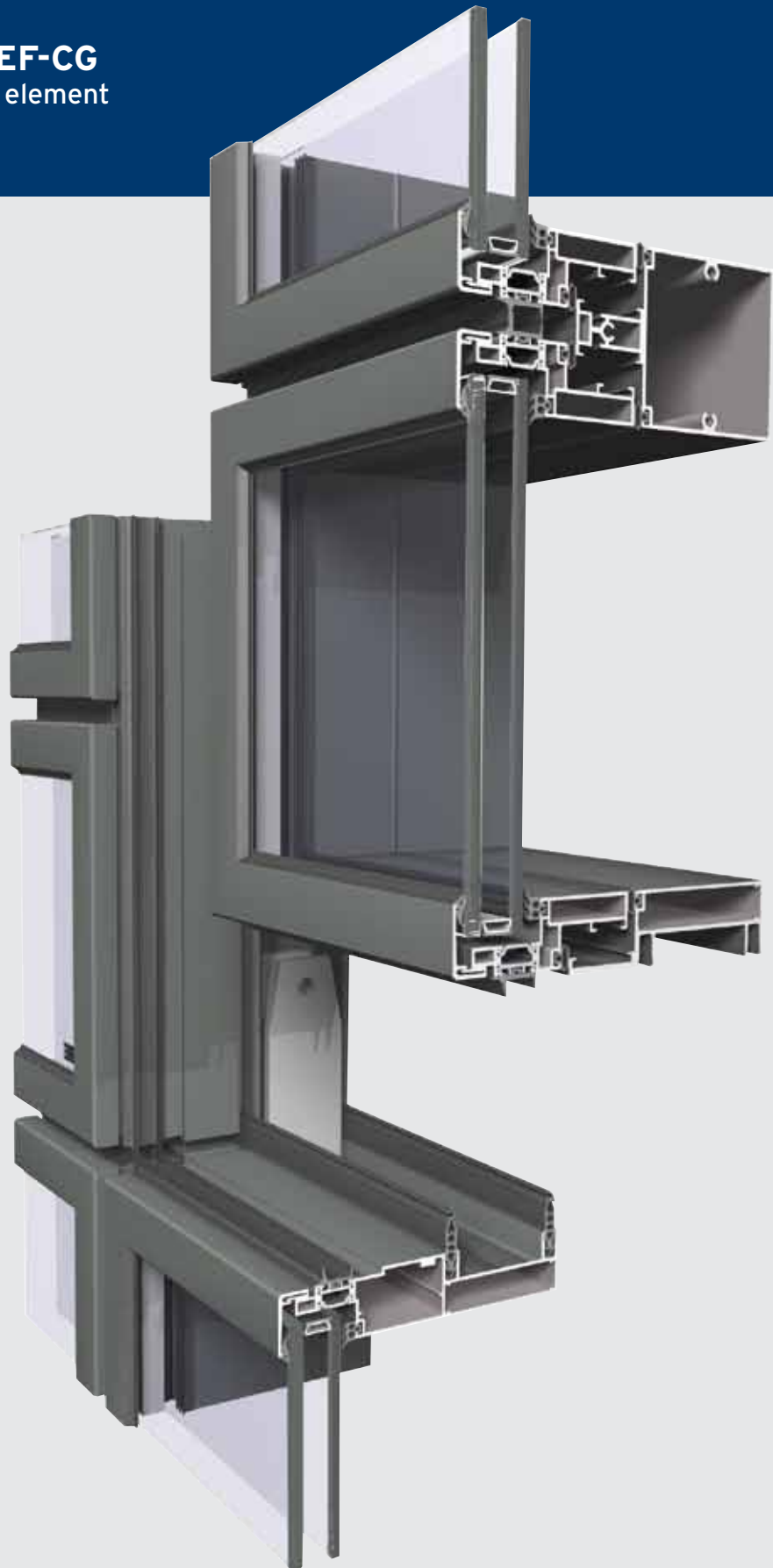
Different inner and outer colours are possible.



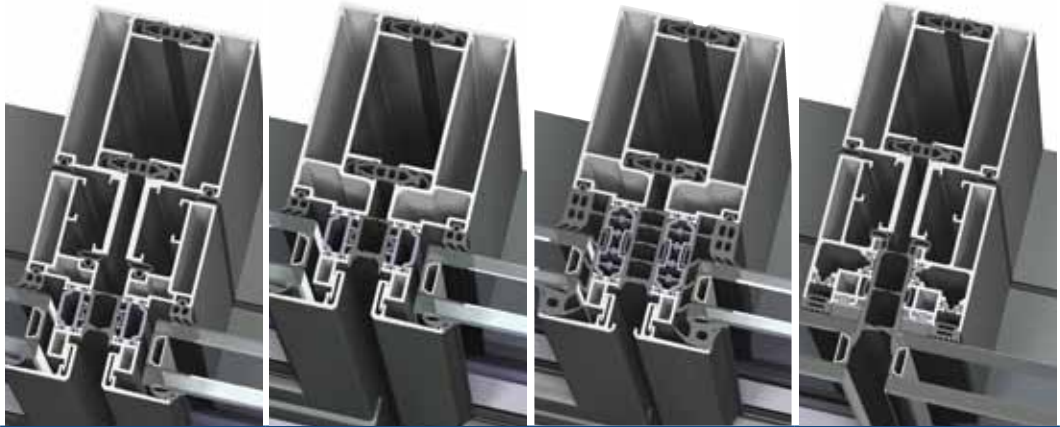


Architects: JAD, A.E. Pasieitis, T. Balciunas, G. Pasiaitis

CW 86-EF-CG
Combined element

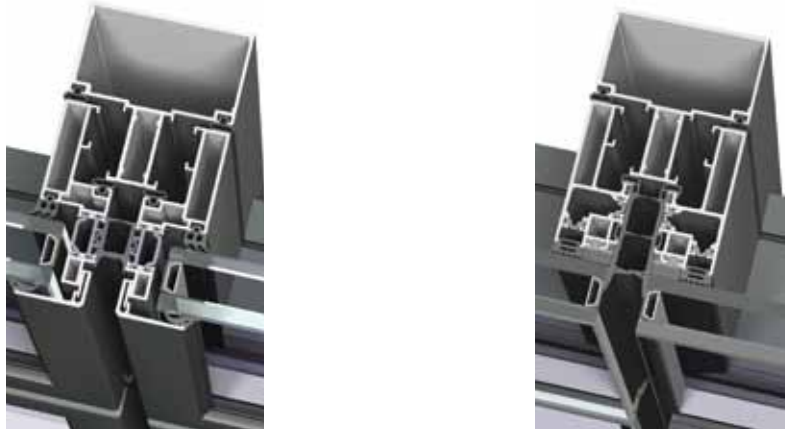


TECHNICAL CHARACTERISTICS - ELEMENT FAÇADE








Style variants	CW 86-EF	CW 86-EF (FIXED FAÇADE JUNIOR)	CW 86-EF-HI	CW 86-EF-SG
Interior visible width	86 mm (38.5 - 9 - 38.5)	86 mm (38.5 - 9 - 38.5)	86 mm (38.5 - 9 - 38.5)	86 mm (38.5 - 9 - 38.5)
Exterior visible width	68 mm (26 - 16 - 26) or 86 mm (35 - 16 - 36)	86 mm (35 - 16 - 35)	86 mm (38.5 - 9 - 38.5)	22 mm joint between glass
Glass thickness	from 4 mm to 38 mm	from 6 mm to 38 mm	from 30 mm to 50 mm	from 4 mm to 36 mm

TECHNICAL CHARACTERISTICS - SEMI ELEMENT FAÇADE



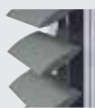
Style variants	CW 86	CW 86-SG
Interior visible width	86 mm	86 mm
Exterior visible width	68 mm (28 - 16 - 28) or 86 mm (35 - 16 - 35)	22 mm joint between glass
Glass thickness	from 4 mm to 38 mm	from 4 mm to 36 mm

PERFORMANCES

	Acoustic performance	R _w (C;Ctr) = 41 (-2;-5) dB, depending on the glazing type
	Air tightness	Up to 600 Pa (class A4)
	Thermal insulation	U _f -value down to 1.5 W/m ² K, depending on the profile combination
	Water tightness	Up to 1050 Pa (class RE)
	Wind load resistance	Up to 2000 Pa



BRISE SOLEIL



BS 100/30/20



BS 40

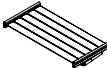

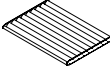
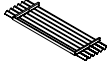

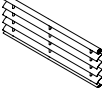
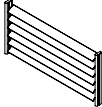
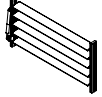



DECISION MATRIX

Brise Soleil

	BS 20	BS 30	BS 40 MANUAL OR MOTORISED	BS 100 FRAME SYSTEM	BS 100 FIXED LOUVRE	BS 100 MOVEABLE LOUVRE	BS 100 LOUVRE GRIP
DESIGN VARIANTS							
Shape louvres	Curved	Z-shaped	Curved / Z-shaped	ellipse	ellipse	ellipse	ellipse
Size louvres	80 mm x 140 mm	90 mm x 60 mm	40 mm (frame)	140 mm x 180 mm	120 mm x 700 mm	120mm x 400 mm	200 mm - 250 mm - 300 mm
Monorail							
2-Rails							
3-Rails							
TECHNICAL CHARACTERISTICS							
(Fixed) angle	30°	45°	45°	45°	0°/15°/ 30°/45°/ 60°/75°/ 90°	variable	0°/15°/ 30°/45°

OPENING ELEMENTS

	BS 20	BS 30	BS 40	BS 100 FRAME SYSTEM	BS100 FIXED LOUVRE	BS 100 MOVEABLE LOUVRE	BS 100 LOUVRE GRIP
							
							
							
							
							
							
							
							
							

BS 100



BS 30



BS 20



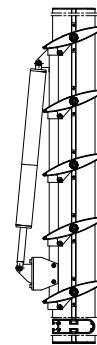
BS 100/30/20

Sunscreening

Reynaers' BS (Brise Soleil) systems are designed to provide an aesthetic and efficient shading solution to almost any new and existing building. They are offered both standard or as a bespoke solution. Brise soleil is the generic term for a system of louvres which, when fitted to the external façade of a building, provides protection against solar heat and glare.



BS 30 frame system

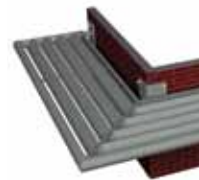


BS 100 movable louvre

TECHNICAL CHARACTERISTICS



Style variants	BS 100 PRE-ASSEMBLED FRAME	BS 100 FIXED LOUVRE	BS 100 MOVABLE LOUVRE
Shape louvres	ellipse	ellipse	ellipse
Size louvers	140 mm / 180 mm	from 120 to 400 mm	from 120 to 400 mm
(Fixed) angle	45°	0° / 15° / 30° / 45° / 60° / 75° / 90°	variable
Walkway application	yes	yes	yes



Style variants	BS 100 LOUVRE GRIP	BS 100 GLASS LOUVRES	BS 30 FRAME SYSTEM	BS 20 FRAME SYSTEM
Shape louvres	ellipse	hardened glass	z-shaped	curved
Size louvers	200 / 250 / 300 mm	366 x 10 / 12 / 14 / 17 mm	90 mm wide x 60 mm high	80 mm / 140 mm wide
(Fixed) angle	0° / 15° / 30° / 45°	0° / 15° / 30° / 45° / 60° / 75° / 90° and variable	yes	30°
Walkway application	no	yes	yes	no

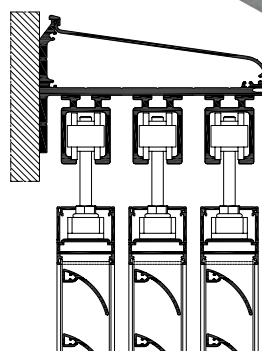




BS 40

Sunscreening

The BS 40 sunshading system offers an innovative and aesthetically pleasing shading solution for energy conservation, perfectly suitable in apartments and smaller buildings. The system exists of vents with z-shaped or curved louvers. The panels can be manipulated manually and motorised for opening and closing purposes. They offer different sliding options ranging from one to three panels behind each other, therefore making it an ideal application to manipulate the available minimum light and controlling the temperature and comfort level in buildings. The system comes with various mounting options, providing use in front of façades, between floors or in any combination thereof, making it an extremely versatile application.



TECHNICAL CHARACTERISTICS

	BS 40
Shape louvres	z-shaped or curved / wood (optional)
Max. vent height	3000 mm (depending on the width)
Max. vent width	2000 mm (depending on the height)
Max. vent weight	100 kg
Sliding option	mono-, 2- & 3- rail
Operation	manual & motorised



Z-SHAPED LOUVRES

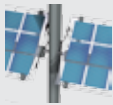


CURVED LOUVRES





SOLAR



BS 100/30 Solar



CW 60 Solar



RB 10 Solar



BS 100 Solar



BS 30 Solar

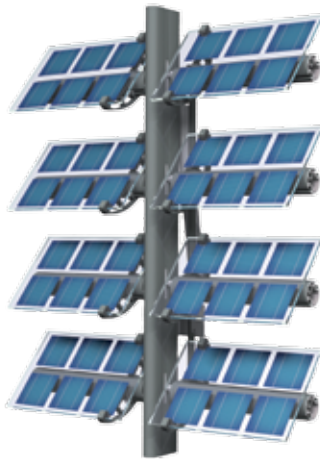


BS 100/30 Solar

Solar

The SOLAR version of the already existing systems BS 100 and 30, matches electricity production with protection against blinding and direct sunlight. BS 100 and BS 30 can handle all 3 types of PV panels: mono and poly chrystalline and amorphous cells.

TECHNICAL CHARACTERISTICS



	BS 100 SOLAR	BS 30 SOLAR
Filling type	single glass, glass/Tedlar	single glass, glass/ Tedlar and standard panels
Inclination	0° to 45°	15° to 45°



CW 60 Solar



RB 10 Solar



CW 60 / RB 10 Solar

Solar

CW 60 Solar

The CW 60 Solar is the aesthetically pleasing high tech green energy solution, ideal for wall and roof application.

The system, totally insulated, has been designed to completely avoid shadow on the cells.

CW 60 Solar can handle all 3 types of PV panels: mono and poly chrySTALLINE and amorphous cells.

RB 10 Solar

The RB 10 Solar is the ideal system for balustrade on balconies that are accessible or not. The system can integrate a glass with photovoltaic cells, with not only an aesthetic result but also the opportunity to create energy.

RB 10 Solar can handle all 3 types of PV panels: mono and poly chrySTALLINE and amorphous cells.

TECHNICAL CHARACTERISTICS



	CW 60 SOLAR	RB 10 SOLAR	
		Accessible balconies	Non-accessible balconies
Filling type	Single glass and double glazing	PVB sheeted glass	glass/Tedlar and standard panels
Inclination	15° to 90°	90°	60° to 90°





COMPLEMENTARY SYSTEMS

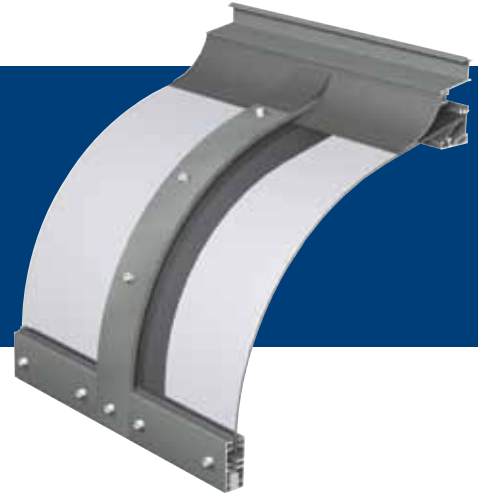
-  Cintro
-  GP 51
-  Mosquito
-  RB 10
-  Ventalis





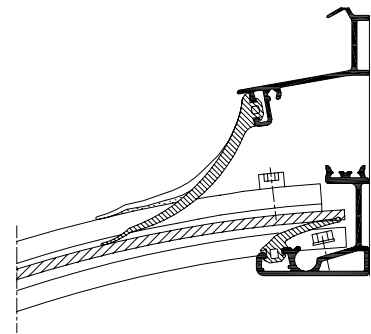
Cintro

Complementary Systems



The profiles within the Cintro range have been developed as an architectural solution for bending profiles.

The possibilities for application are numerous and may even include light roofs. The system is able to incorporate a variety of glazing styles including plate glass and is the ideal system for applications where abundant daylight is required.



TECHNICAL CHARACTERISTICS

	CINTRO
Inner visible width	60 mm
Outer visible width	60 mm
Height of the covers	8 mm
Height of the bearing profile	8 - 35 mm
Inertia of the bearing profile	$I_x = 0.2$ to 9.8 cm^4
Filling thickness	from 2 mm to 32 mm

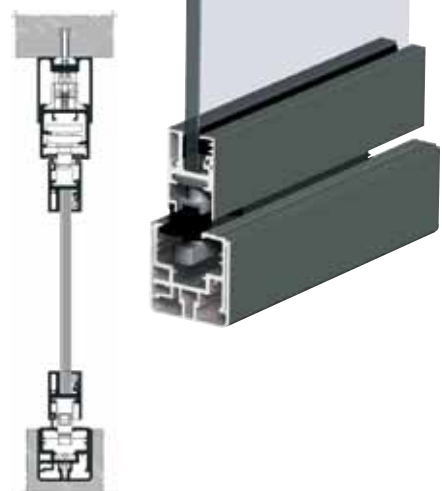




GP 51

Complementary Systems

The GP 51 (Glass Patio) is an innovative full glass sliding system. It consists of individually sliding glass panels without vertical frames. The system provides a convenient and modular solution for glazing balconies and terraces or partitioning internal office spaces. GP 51 has been designed to meet the requirements of modern, lightweight and transparent architecture. Easy and fast to assemble and to install, the system is unique due to its flat bottom rail solution and the absence of a threshold allowing easy access to the terrace. GP 51 is the ideal solution for enjoying the surrounding environment all year long. Certified fabricators are trained to assemble and install this GP 51 system.



TECHNICAL CHARACTERISTICS

	GP 51
Corner connection of the rails	90° - 270°
Glass thickness	6 - 8 - 10 mm
Dimensions glass panels	max. 2800 mm height
	max. 800 mm width
Glazing type	tempered glass







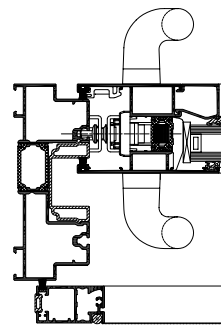
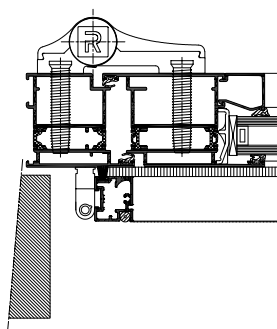
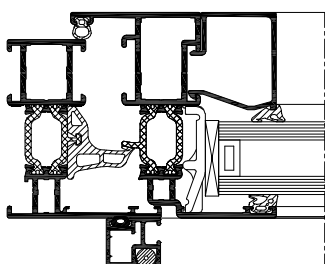
Mosquito

Complementary Systems

Mosquito is a wire screen system which can be fitted to a window, door or sliding door to keep out insects. The system is compatible with all Reynaers window, door and sliding door series but they can also be applied to systems from other system suppliers.

Mosquito is available in softline and renaissance style to match your Reynaers system.

TECHNICAL CHARACTERISTICS



Style variants	INSECT-RETARDANT WINDOWS	INSECT-RETARDANT DOORS	INSECT-RETARDANT SLIDING DOORS
System depth	15 mm/22 mm	28 mm	28 mm
Corners	pre-formed synthetic supporting corner pieces or aluminium clampable corner.	pneumatically crimped aluminium corner or aluminium clampable corner.	pneumatically crimped aluminium corner or aluminium clampable corner.





RB 10

Complementary Systems

The RB 10 balustrade offers a variety of aesthetic shapes: functional, ellipse or softline. It is also possible to incorporate glass panels into the system, including plexiglas or acrylic sheets, which can either be added in front of or between the supporting rails, or directly mounted in the handrail.

RB 10 has been tested in recognised test centres according to the most stringent European standards and guarantees optimum levels of safety.



STANDARDS

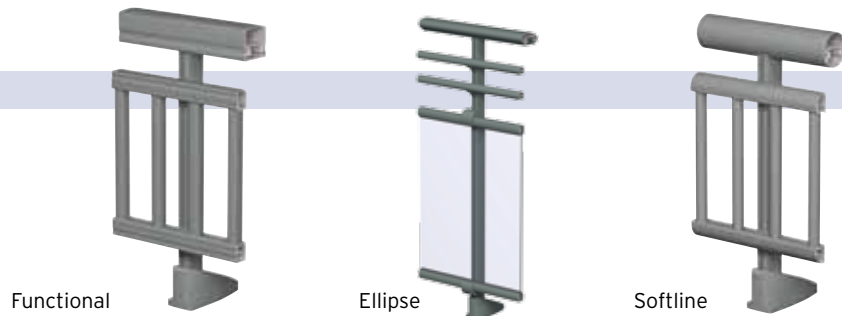
STS 54

NEN 6702

NF P01-013

Polish standard balustrades

STYLE VARIANTS





Ventalis

Complementary Systems



Ventalis is a ventilation profile installed at the top of windows or doors in the 'dry rooms'. These can be built in different configurations depending on the aesthetics or the required airflow to satisfy the applicable regulations. The patented (pending) self-regulating units automatically open and close the air inlet when wind pressure increases or decreases, keeping the incoming airflow constant. The ventilation flap can be opened in 5 different positions allowing users to easily adjust ventilation to satisfy changing requirements such as increases in the number of people in a room. In any position, the self-regulating units keep the airflow at the desired level. The ventilation units are both insect-repellent and rainproof. Furthermore, by the implementation of an insulation gasket on the flap and special insulation on the connection pieces, the ventilation avoids the risk of condensation. Ventalis can be integrated in the following Reynaers systems: Eco system, Eco system Optima, CS 68, CS 68 Optima, CS 77, CP 130 and CP 155.



TECHNICAL PERFORMANCE OF THE SELF-REGULATING UNIT

Water tightness	class 9A (600 Pa)
Airflow for each unit of 20 cm	10 m ³ /h (windows) - 12 m ³ /h (sliding elements)
Self-regulation	class P3
Extra exterior visible height	18.5 mm (windows) - 30.5 mm (sliding elements)



SAFETY SOLUTIONS

Reynaers Safety systems include fire and smoke protection and burglar- and bulletproof systems. These systems do not limit the options regarding the design and the wide variety of available colours. Reynaers closely monitors the latest technical developments in the area of safety systems. We draw up test reports for all our systems, which in many cases exceed by far existing standards.

1. Burglary protection

Reynaers provides you with a choice of five levels of burglary resistance. This classification is based on offender type, behaviour, area of application, risk and application recommendation. Various options exist for the additional security of aluminium windows, doors and sliding doors. For example the shape of special security fittings with several locking points and a deadbolt. In addition the hardware is fitted with an anti-drill plate and an anti-lift device. This makes it nearly impossible for thieves to drill the lock or break open the window. Safeguards can also be added to ensure that the position of windows can only be changed if they are closed first.

2. Fire and smoke protection

These days, an increasing number of requirements are being imposed on fire resistance. Therefore this is crucial in new product development. From the start, Reynaers has chosen to provide its customers with a total solution in the development of fire-resistant fixed windows & doors (CS 68-FP EI30 and CS 77-FP EI30 & EI60) and façades (CW 50-FP EI30 & EI60). Tests are carried out in accordance with the latest European norms (classification according to EN1351-2). This allows the widest coverage as possible for Reynaers fire-resistant elements.

3. Bulletproof systems

Bulletproof systems (CS 77-BP fixed, turn & tilt, inside and outside opening) are primarily installed in military or administrative buildings and in banks and post offices, as these safety solutions provide even greater protection against outside danger (fire arms). The elements are tested using different calibres in the Laboratory for Ballistic Research according to the European norm EN 1522.

4. Earthquakeproof

In countries in which the earthquake risk is real, building materials must be tested for resistance to earthquakes. The technical specifications and requirements depend strongly on the country and the type of project. Reynaers has already realised earthquake-resistant projects in several countries, for example: Istanbul Canyon (Turkey), Esentai Tower (Kazakhstan), AFP Kazkommertzbank (Kazakhstan) and Mahestan B3 Tower (Iran).



1.



2.



3.



3.



4.

COLOURS

Reynaers offers you more than 400 top quality colours: gloss and matt finishes, pastel shades, metallic and anodised colours, and colours with scratch-resistant, low maintenance Coatex structure or wood imitation. But did you know for profiles you can choose different colours for the inside and outside of your windows and doors? That is precisely what we mean by the freedom to add colour to your house. Both on the inside and on the outside.

Surface treatment

Reynaers profiles are extruded using aluminium with EN 573-3 (AW 6060) alloy. This alloy offers very high durability and resistance to deterioration due to external weather conditions. The protection and colouring of aluminium profiles can be carried out using either lacquering or anodisation.

The lacquering or enameling is carried out in accordance with Qualicoat specifications and consists in applying a coloured layer of powder to the profiles and enameling at between 180 and 200°C so as to obtain a set layer.

With anodisation, in accordance with the Qualanod specifications, a hard layer of oxide is applied, which hermetically seals the aluminium off from the air and consequently protects against corrosion. The "metallic aspect" of the profiles remains visible. In order to optimize the aesthetic value of the anodisation coat, this may be performed in a range of different colours. In addition, it is possible to obtain a different appearance by means of a specific pretreatment (e.g., brushing).

Coatex, the structure lacquer from Reynaers Aluminium, has an especially attractive appearance and offers higher scratch resistance than traditional lacquers. Official tests show that Coatex is up to 65% more scratch-resistant than standard powder lacquer. Furthermore Coatex only requires half as the maintenance of traditional paint.





THE REYNAERS INSTITUTE

The Reynaers Institute in Duffel (Belgium) is an international knowledge centre and meeting place for our customers, suppliers, architects, contractors and employees.

The Reynaers Institute motivates us to join forces to develop new ideas, experiment and share knowledge about aluminium and other construction industry related subjects. With the establishment of the Institute, we aim to facilitate the evolution of window and door systems into complete solutions in building design.

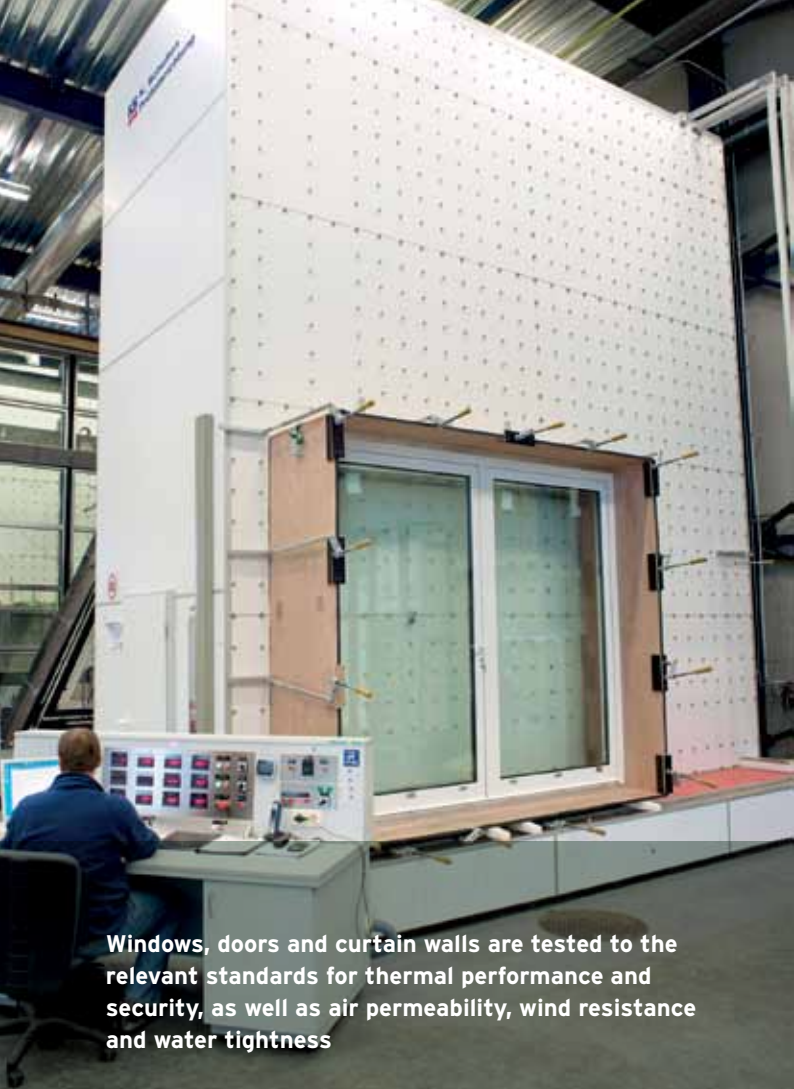
The Reynaers Institute hosts a test, automation and training centre.

In the **test centre** all off our systems are meticulously tested to comply with various European standards and to meet the highest standards for quality, durability and reliability.

In 2010 Reynaers performed more than 140 tests in the Institute.

In our **automation centre**, we present and demonstrate the most recent equipment and technologies for the automatic processing of all our systems.

The Institute also offers the required infrastructure for **training courses, seminars, workshops and product presentations.**



Windows, doors and curtain walls are tested to the relevant standards for thermal performance and security, as well as air permeability, wind resistance and water tightness



- Repeated opening and closing
- Mechanical tests of windows and doors
- Impact test with sandbag/impactor (double wheel)



- Measurement of acoustic insulation in buildings and building elements
- Rating of acoustic insulation in buildings and of building elements



- QUV test: does paint discolour due to sunlight?
- Thermal cycle (-10° à +70°) and mechanical load are simulated in a climate chamber at the same time (= 1.000.000 cycles = 42 days)

REYNAERS SOFTWARE

To enable fabrication companies to calculate and manufacture projects, Reynaers offers a range of software products that include the Reynaers range of profiles and accessories. The technical data and commercial information is continuously updated and supported by a dedicated technical service.

1. ReynaPro

The standard for your calculating workload



The ReynaPro calculation software offers the fabricator the opportunity to produce all of the necessary informa-

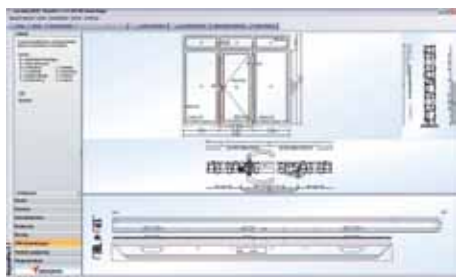
tion to create attractive, clear and accurate proposals when tendering projects. ReynaPro generates a price proposal, order list, production schedule and can be used to automate production through computer links. The calculations are possible for all types of systems. Live data and software can be downloaded through the internet.

ReynaPro is very complete but still modular and adaptable to each company's needs.

Main features

Easy input of elements for fast results

Input of all types of systems through simple and quick windows-dialogues. All data can be generated for internal or external views and can be changed during input.



Accurate and orderly calculations, saving time and material

Calculation and optimisation of cost price, sales

price, order lists and cutting lists of profiles, accessories and glazing.

Efficient integration in word processors for professional customer quotes

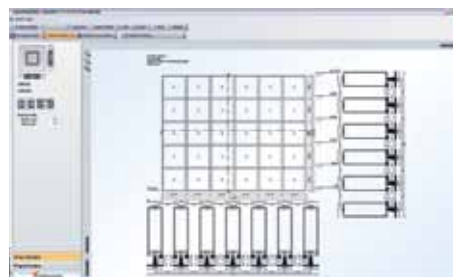
Based on the calculation you can automatically generate different types of documents and process them to the built-in Word-processor or to Microsoft Word, Excel or any word processor.

Electronic ordering allows faster and faultless processing

Order lists are composed for the profiles, fixtures, hardware, insulation frames and glass. With the Electronic Ordering System (EOS) module you can forward order lists electronically to Reynaers, which guarantees accurate and faster processing.

Efficient assembly through state-of-the art work preparation

The work instruction provides you with a summarised form of how the individual items are to be assembled: every profile, each piece of glass and the hardware are all assigned to their individual assembly position. The possibility to transfer the result directly to the saw machine prevents errors when cutting.



Strong integration with CAD

There is an easy import of dxf and dwg drawings. The software has a strong link with Auto-Cad. Section generation is accurate and visually attractive. Optionally there is also an integrated CAD software available.

Interface to 3D systems for virtual visualisations with exact dimensions

Processing of 3D objects out of different CAD-construction systems and conservatory software programmes, like our 3D conservatory software Cover.

Machine control for correct processing

Saws and CNC machines from many manufacturers are controlled by ReynaPro. Automatic collision detection ensures a correct result. Through the use of barcodes, the software assures the right operations on the correct profile.

Calculate the basic moments of inertia and the U-value

2. Reynaers STATICA

Ideal for the calculation of moments of inertia

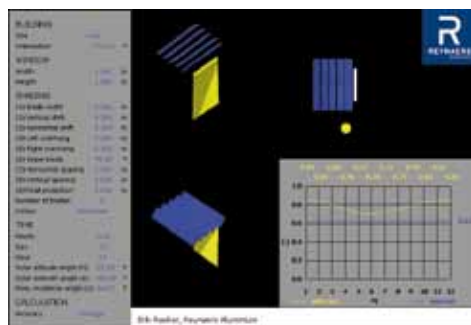
Reynaers Statica has been specially developed for Reynaers to enable the statical calculation of aluminium constructions, taking in account wind pressure, the height of the project, glass thickness, maximum profile section and safety factors, ... The final output gives the needed I_x and I_y value in cm^4 adapted to the relevant standards and legislation.

- Capability to calculate window, door, conservatory and curtain wall constructions by using typical models
- Calculates according to the relevant standards
- Generates attractive output with commercial and technical data including the values used to calculate the I_x and I_y value
- Windows user-friendly interface

3. BS CONTROL

Software to calculate following parameters:

- Shadow pictures of the influence of the sunblinds on the façade



- Calculation of solar angles
- Calculation of the daylight reduction by the sunblinds
- Calculation of the influence of sunblinds on the energy performance of a façade

4. U-TOOL

The Reynaers tool to calculate insulation values

Easy to use, the tool includes a library of predefined configurations allowing you to efficiently calculate the insulation



values and make sure that the energy performance of your systems comply to official European standards.

Advantages offered by this tool are amongst others that the obtained values can also be used for energy calculation, that you can easily manage and store own projects on line and that this calculation is very time saving.

Constantly updated, this tool will help you to easily choose alternative solutions and create nice looking reports.

5. VENTILATION TOOL

The easy way to calculate the needs of fresh air

With this calculation tool it is possible to calculate the need for natural ventilation (air flow) according to different ventilation standards. Natural ventilation is the ventilation of a building with outside air without the use of a fan or other mechanical system, but the flow is induced by climatologic pressure differences (temperature or height). The fresh oxygen-rich air can enter the building through self-controlled supply openings into all 'dry rooms' (living room, bed room) and will be extracted from 'damp rooms' (kitchen, bathroom, toilet, laundry room, etc), via intermediary spaces such as halls and staircases.

The Reynaers Ventalis solution provides self-controlled supply openings that can be integrated into windows and doors. For each 'dry room' the number of Ventalis units to integrate will be calculated with this tool.



AUTOMATION CENTRE

We, as Reynaers Aluminium, want to offer a total solution to our customer. This means that we do not only offer the know-how and the technology in aluminium construction for the building industry, but we also offer a complete solution to automate the production site. In this way, we offer you the opportunity to produce in a more efficient way, hence reduce your costs and increase your profitability.

We distinguish 3 levels of automation of a production line for an aluminium fabricator:

1. The conventional level

- Double head saw
- Copy router
- Multifunctional punch tool
- 1 corner crimping press
- Assembly units



2. The semi-automatic level

In addition to level 1, the machines in this level are:

- Sawing centre
- CNC machine
- 4 corners crimping press
- Gasket insertion machine



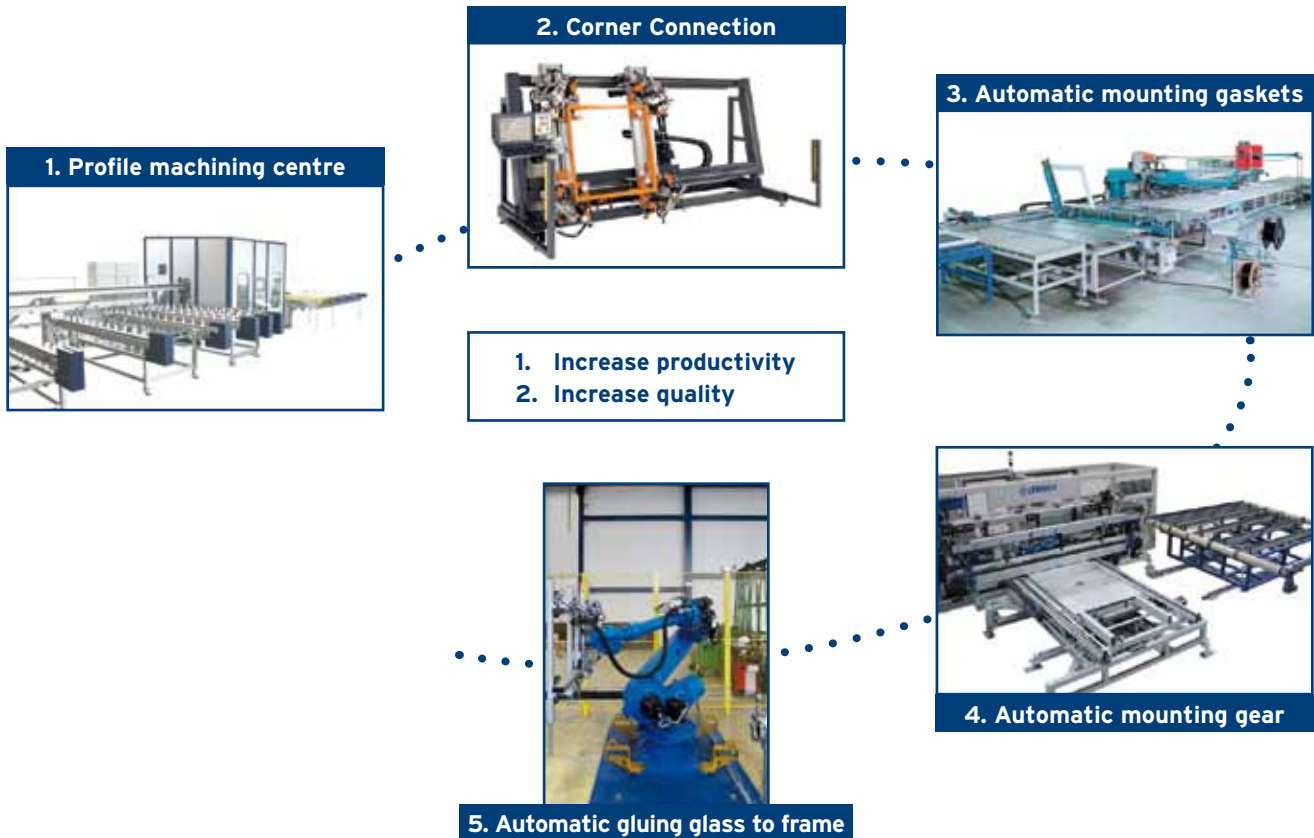
3. The industrial level

Next to the machines in the preceding levels we have:

- Combined CNC/Sawing machine
- Accessory Mounting machine for the industrial hardware for windows and doors (Optima)
- Glass gluing robot



At every step Reynaers can analyse the existing production, make a simulation based on these empirical findings and formulate advice on the next investment steps in order to increase the production efficiency and decrease the overall cost.



Reynaers offers the following services when supplying machine equipment:

- **A complete machine solution ready for the future**

Reynaers can support your company in its further growth with the appropriate automation solutions. According to different production volumes we identify different investment levels for which the right machines can be fitted into the complete production.

- **Independent advice from machine suppliers**

Reynaers chooses a best of breed solution based on years of experience and technical know-how of the people working at our company. We believe that bringing different partners together generates the best possible automation solution.

- **Complete training offer**

We offer a complete training, also regarding the software support for the production line. Our machine suppliers train your people in the use of the machines. We go further and offer the training in the machine link with ReynaPro, our new calculation and production software.

- **Strong after sales support**

Reynaers offers with its local team a strong first line support. This team is backed up by an international team of engineers who are there to help the local teams or bring direct visits to the customers in case of more specialised requirements.



COPENHAGEN

Environmental

LONDON

Traditional

REYNAERS SERVICES

TOKYO

MONTREAL

Reynaers Aluminium continuously listens to the requirements and wishes of fabricators, architects, contractors, investors and end-users. Reynaers develops **customised technical and marketing tools** to provide them with all the means to work as well and efficiently as possible.

A large range of tools and services is at our customers' disposal:

- Up-to-date technical and commercial information on our website
- Demo movies
- Technical support and trainings, theoretical as well as practical
- Equipment and tooling
- Advice in the automation of the production line
- Software packages for price calculations, designs, orders, etc.
- Sales support (commercial trainings, POS material, product brochures etc.)
- Professional fairs
- Architectural magazine for inspiration
- Inspiration Site www.alu-inspiration.com



Your Project solution partner!

- Reynaers Consult®, a team of people that can give advice during the design process
- Creation of bespoke systems and solutions
- Architect catalogues with info about available solutions
- Organisation of seminars
- Profession
- www.reynaers-solutions.com



Estoril Sol Residence - Portugal
Architect: Gonçalo Byrne



Manor Department Store - Switzerland
Architektenteam Manor Biel & Gebert Architekten GmbH



Milanofiori 2000 - Italy
Architects: OBR - Paolo Brescia

NEW EXTRANET SITE

Reynaers Aluminium continuously puts effort in developing value-added services and tools to help you to optimize your business. That is why we have developed the new Reynaers Extranet: a web platform that gives you exclusive and direct access to detailed technical information and drawings, and keeps you informed about the latest Reynaers' product innovations. The easy to use online calculation tools have been developed to facilitate the design and fabrication of aluminium systems, and will make your daily business easier. The new version of the Reynaers Extranet is now online. We invite you to discover this intuitive platform, its optimized navigation and usability and completed technical information on www.reynaers-extranet.com.



Reynaers Extranet

TOTAL QUALITY MANAGEMENT

Reynaers Aluminium aims to still be valued by its partners ten years from now. Customer satisfaction and quality assurance are closely linked. They are both high on our list of priorities. Together with our suppliers we endeavour to guarantee permanent high quality.

ISO 9001:2008 certification: proves permanent quality control

Striving for quality is no empty slogan at Reynaers Aluminium. We permanently and systematically updated our quality control as proven by our ISO 9001:2008 certification.

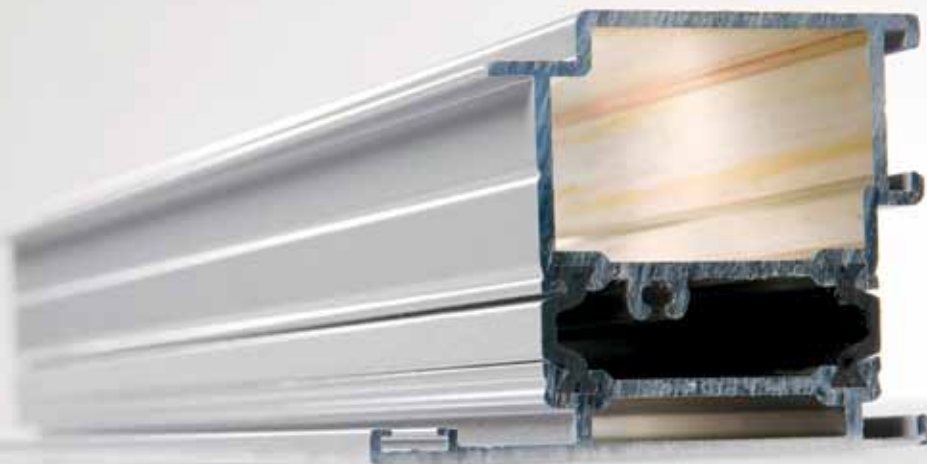
In order to acquire and maintain this certification, our departments responsible for design, production and delivery of all our products and services, are regularly inspected.

Qualicoat guarantees top-quality lacquer work

All our lacquering partners bear the European Qualicoat quality label, which implies that they meet specific requirements with respect to seals, service life, UV-resistance, discolouration, etc., representing the best possible guarantee for the quality of the lacquer work.

Qualanod guarantees optimal anodisation

All our anodising suppliers bear the European Qualanod quality label and consequently meet specific requirements with respect to seals, service life, UV-resistance, discolouration, etc., representing the best guarantee for the quality of the anodisation.



10-YEAR SYSTEM GUARANTEE

At each stage of the production process our quality control department carries out very stringent checks, which enable us to guarantee that our systems satisfy country- and product-specific technical approvals and standards. In addition we grant a 10-year system guarantee. This is an insurance on the aluminium, lacquer or anodisation layer, as well as on the insulation and the accessories.

OBJECT OF THE GUARANTEE

The products delivered by Reynaers Aluminium have the following properties and/or guarantees, with explicit exception of items detailed under the headings "validity" and "exclusions".

ALUMINIUM

Standards extruded aluminium:

- Composition to standard EN 573 parts 3 and 4;
- Mechanical properties to standard EN 755 part 2;
- Tolerances to standard DIN 17 615 and EN 12020 part 2;

Standards rolled aluminium:

- Composition painted aluminium EN AW 1050 A H24 to standard EN 573 part 3;
- Composition anodised aluminium EN AW 5005 H14 AQ to standard EN 573 part 3;
- Mechanical properties to standard EN 485 part 2;
- Tolerances to standard EN 485 part 4.

PAINTING AND ANODISING

A 10 year guarantee on:

- Detachment, flaking and blistering of the treated aluminium parts.
- Corrosion, including filiform corrosion for material AlMgSi0.5F22 (AW6060 and AW6063) with additional requirements Zn \leq 0.15%; Cu \leq 0.02%; Pb \leq 0.022%; Si: 0.30 -0.55%; Fe: 0.10–0.30%; Mg: 0.35%- 0.60%; Mn \leq 0.10%; Cr \leq 0.05%; Ti \leq 0.10%; other elements individually \leq 0.05% together \leq 0.15%; after treatment T66;
- UV resistance, discolouring and loss of gloss exceeding the defined tolerances, according to Qualicoat and Qualanod regulations (latest editions).

INSULATION

A 10 year guarantee on:

- Adherence between the polyamide strips and the aluminium;
- Preservation of the thermal and mechanical properties of the insulator, within the boundaries defined by the technical specifications.

ACCESSORIES

Accessories, gaskets and synthetic profiles:

- A 10 year guarantee on properties, functionality and design, within restrictions defined by technical specifications;
- Painting and anodising: see above;
- A 5 year guarantee on wearing parts, only applies to normal and realistically foreseeable use.



CE MARKING

The CE - Marking is now required also in the European building industry. Products have to show the conformity with the appropriate European guidelines. These European guidelines for the building aim to promote the free flow of products in this sector within the European Union by overcoming the technical barriers between standards that had previously applied to different countries. The CPD (Construction Products Directive) now lays down the basic requirements that products must meet in terms of:

- Mechanical stability,
- Fire safety,
- Hygiene, health and the environment,
- User safety,
- Noise reduction,
- Energy savings and thermal insulation.

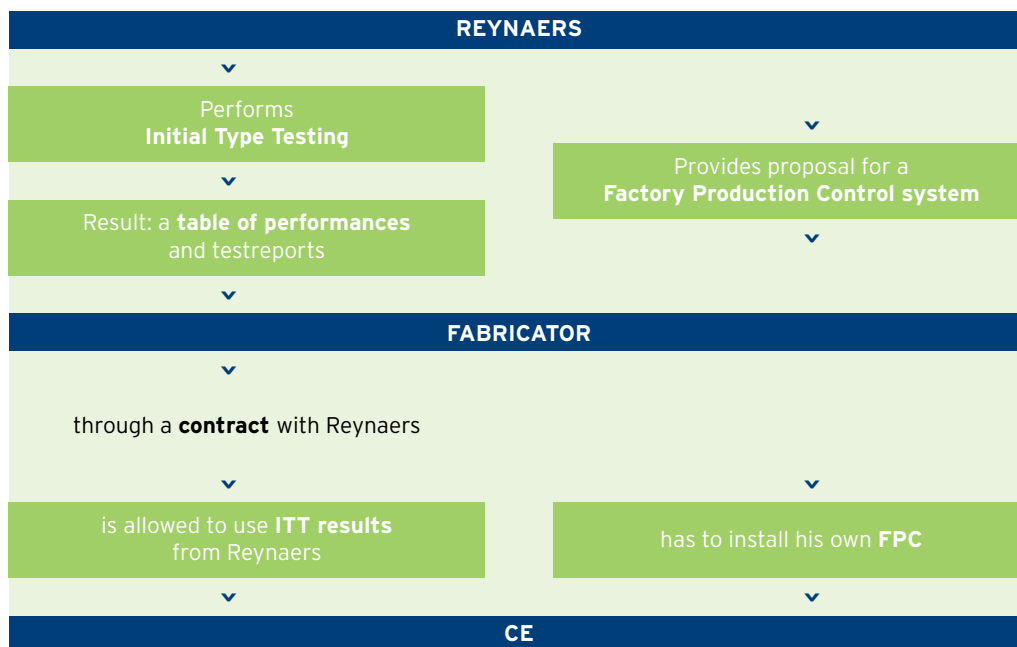
For the CE - Marking of facades the harmonized product standard 14351-1 is relevant for windows and doors and 13830 for curtain walls.

This obligation is not only valid for enterprises exporting to other European Union countries, but also for those, which are exclusively active in their homeland.

The Reynaers systems carry this CE - Marking. This implicates that they are fully compliant with the EU Construction Products Directive (CPD).

The procedure for CE - Marking of products entails a process that starts with Initial Type Testing (ITT) where all the relevant elements of products are tested to determine the extent to which a product will meet the standards that apply to it, and classes of compliance are allocated. A second important item in the CE - Marking is Factory Production Control (FPC) this ensures that the products are manufactured under controlled conditions to ensure that each product meets the performances as determined during the ITT.

To prepare ourselves, Reynaers as your partner issued a CE - Marking brochure and other tools to inform you about every step necessary for a standard marking.





GREEN COMMITMENT

Reynaers Aluminium is aware that companies play an important role in the care for the environment. That is the reason why Reynaers is constantly searching for new ways to become "greener". This means that Reynaers is passionately interested in sustainability, by being at the forefront in the development of energy saving and sustainable products. This has resulted in some actions, taken by Reynaers to try and make a difference.

First of all, aluminium is a material which is 100% recyclable without any losses in quality. This allows Reynaers to use aluminium profiles with a high recycled content, with guaranteed quality. On the other hand, it also allows all systems to be recycled at the end of their lives. Due to the use of aluminium, Reynaers is able to develop slim profiles for large glass panes, allowing more light to enter and therefore leading to a comfortable indoor environment.

Aside this, the energy-efficiency of our systems is a very important topic for Reynaers.

A good example of this is the development of our new CS 104 system, a window and door system which can be used for passive houses. Also our high insulated sliding elements and curtain walls can minimize the building's energy loss.

The integration of external sunscreening (Brise Soleil range) onto our façade systems makes it possible to control the sun entering the building minimizing the use of energy intensive air-conditioning. The integration of photovoltaic panels into our innovative façades, even transforms the solar energy into green electricity.



All of this contributes to the realization of sustainable buildings and leads to credits for LEED (Leadership in Energy and Environmental Design) and BREEAM (BRE Environmental Assessment Method), just two examples of assessment methods which set the standard for best practice in sustainable architecture.

These certifications show that the buildings are built taking into account environmental issues such as: energy demands of the building, recycling of materials, use of water, comfort of people inside the building, use of renewable energy sources, location of the building,...

The increasing interest in these types of certificates proves the importance of sustainable buildings and products. Reynaers' innovative products, continuing research and focus on knowledge exchange will allow the company to make a genuine contribution to this new way of building.

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