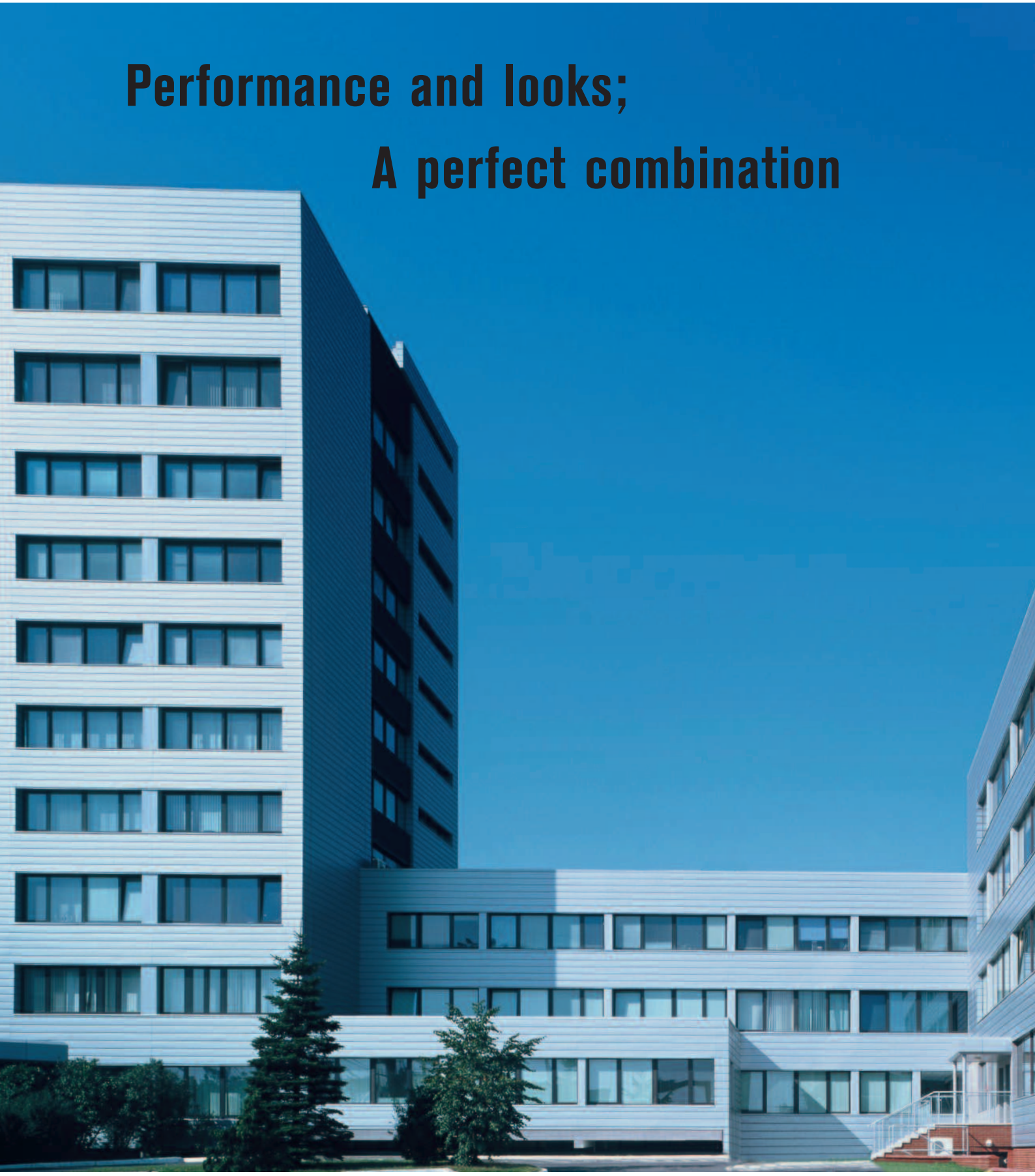
Multiple Panel Façade

HunterDouglas

FAÇADES

Performance and looks;
A perfect combination



Cover : Mester Udvarhaz, Budapest, Hungary
Architect: Gyula Kiss
Product : Multiple Panel Façade, type 400T

Below : BCT Baltic Container Terminal, Gdynia, Poland
Architect: Pomorskie Biuro Projektów GEL
Product : Multiple Panel Façade

The Hunter Douglas Multiple Panel Façade (MPF) systems provide an economical cladding and soffit solution without compromising technical performance.

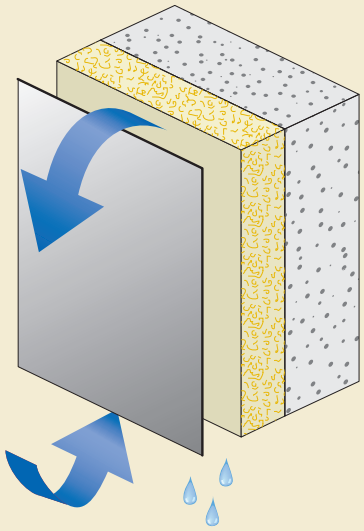
For over 40 years of worldwide applications, MPF has proved extremely suitable for expansive and tall elevations of new buildings, as well as for shop fronts, fuel station canopies and refurbishment of existing buildings.

MPF systems have a concealed fixing system, which allows free thermal movement of the aluminium cladding panels with an easy-to-install method. The special parabolic feature panels, cranks and curves, two joint types and several modules make this façade system, not just functional cladding, but a building design feature.

Also available in a wide range of colours and finishes, MPF systems provide the perfect balance of style and performance.

Design, Functionality and Comfort

Choosing the right façade system can be challenging. With Hunter Douglas Multiple Panel Façades, you will find a system that effortlessly blends form and function, whilst enhancing the building's comfort and performance levels.



DESIGN: CREATIVE FREEDOM

Our façades offer unparalleled freedom in design. The option of standard and special panels, coated aluminium and other plain or patterned materials, ensures that MPF's appearance is just as impressive as its performance.

FUNCTIONALITY: COMMITMENT TO QUALITY

Hunter Douglas Façade Systems are founded in a relentless commitment to quality, as well as more than 40 years of worldwide experience in the development and manufacturing of aluminium façades. All of our products have been extensively tested for corrosion resistance, insulation, ventilation, fire resistance and wind-load performance.

You can evaluate all aspects of the façade from visible surfaces to construction, enabling you to create the ideal MPF system for your building's specifications without costly adaptations

Be assured, our façades look great, consistently perform and are built to last.

COMFORT: INTERNAL & EXTERNAL PERFORMANCE

Multiple Panel Façade Systems significantly improve the performance and comfort level for the building and its occupants. They protect buildings against heat, noise and shield from rain, wind and snow whilst providing consistent interior temperatures and humidity levels.

WEATHER RESISTANT

The aluminium MPF Ventilated Rainscreen Façade Systems were created to face the elements. Produced from durable pre-coated aluminium, the panels are roll formed, producing strong, lightweight made-to-measure façades.

100% RECYCLABLE

Hunter Douglas uses the scrap which remains from old aluminium products to remeld and re-use again. All components of MPF systems are aluminium.

alu
100% recyclable

MULTIPLE OPTIONS

The different panel modules and the option to curve, crank or close panel ends allow the application of Multiple Panel Façades to almost any new or existing superstructure in need of simple fixings.

UNIVERSAL APPLICATIONS

From single story buildings to high-rise structures, Multiple Panel Façades provide a robust exterior solution. The system resists high wind loads and includes cranked corners that are precisely integrated with the existing support systems.

Additionally, the panels are coil coated with the durable Luxacote® finish, which is available in a wide variety of colours.

MULTIPLE PANEL FAÇADES: KEY FEATURES

- Façade and exterior ceiling applications
- Horizontal, vertical and diagonal applications
- Curved and shaped panels
- Outstanding corrosion, scratch and UV resistant Luxacote® finish
- Roll formed tongue-in-groove system
- Unique and secure mounting system
- Multiple joint solutions
- Modules from 150 mm up to 600 mm

Unique appearance in any direction

Hunter Douglas Multiple Panel Façade is a cladding system based on rainscreen technology. The different panel types and dimensions provide the designer a wonderful range of linear panels with which every façade can get its own and unique appearance.

Above : Fire Brigade, Prague, Czechia
Architect: Prof. Arch. Petr Keil-KMS Architects
Product : Multiple Panel Façade, type 600U

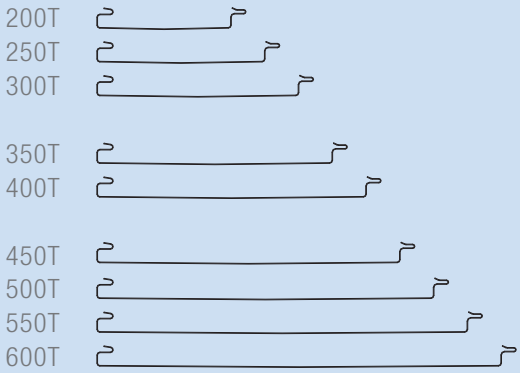
Right : West Bohemian University, Pilsen, Czechia
Architect: Němeček, ADP
Product : Multiple Panel Façade

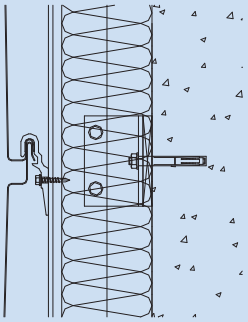
For over 40 years, Hunter Douglas has continuously created innovative façade systems that protect buildings and perform in the harshest environments. Additionally, our panels come in multiple shapes, sizes, finishes and accessories allowing you to create a complete system for façades and exterior ceilings.

The panels can be easily installed on almost any substructure and in any direction, horizontally, vertically or even diagonally. In corner applications, the panels can be cranked in both directions to ensure a tight seal.

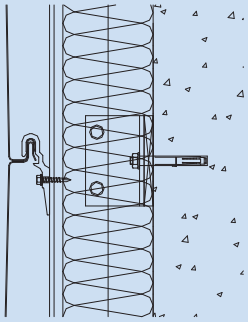
Two different joint types and nine (standard) modules, result in 18 different panel options. Combined with a range of multiple panel connections allow for an almost limitless range of practical and stylish solutions

Left : Redan office building, Lodz, Poland
Architect: Architektom
Product : Multiple Panel Façade, type 400

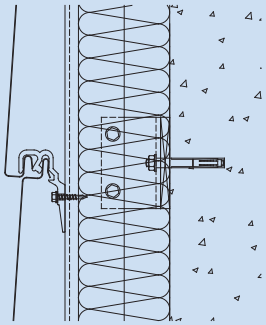




U-Joint



T-Joint



Special joint solution; available for panels up to 400 mm wide.

SYSTEM OVERVIEW

Alloy	AA3005, H44 (others on request)
Sizes	Standard module widths are available from 200 mm up to 600 mm in increments of 50 mm (other sizes available on request)
Lengths	Lengths are available by order, the practical advisable maximal length is approximately 6000 mm.
Thickness	Module 200 / 250 / 300: 1.0 mm Module 350 / 400: 1.2 mm Module 450 / 500 / 550 / 600: 1.4 mm Parabolic feature panels: 0.7 mm
Flatness	All panel modules are produced with a small optical bow, to control the effects of thermal expansion
Coating & finishes	Luxacote® coil coating system, PVF2 on request, anodized aluminium, copper or zinc
Application	Horizontal, vertical or diagonal
Joints	T joint: closed or butt U joint: 25 mm recessed
Fixing methods	Screw clamp or multicarrier

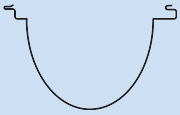
UNIQUE DESIGNS; ONE-OF-A-KIND RESULT

Hunter Douglas developed a special parabolic feature panel allowing for exceptional design effects to be created on our façades.

Produced from thin aluminium, the panels are very flexible and are able to be shaped into the desired module design, resulting in a parabolic curve in the horizontal direction of each panel.

The visible radius of each panel varies on the installed module; a large module gives a more flat panel whilst a smaller module results in a smaller radius.

Panels can be applied in both horizontal and vertical applications.

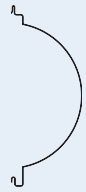


PF-350

PF-450

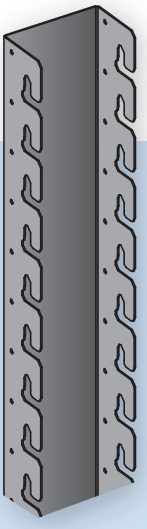
PF-550

BASED ON 600 MM PANEL



Module PF panel	Depth
350	195 mm
400	170 mm
450	154 mm
500	131 mm
550	97 mm

Below : Slawatycze Border Point, Slawatycze, Poland
Architect: Ekobud
Product : Multiple Panel Façade, type 600U + PF-550 + 200F



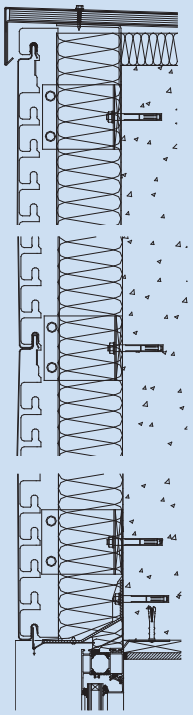
Multicarrier can be used for:

- Modules from 200 mm up to 400 mm
- Horizontal panel orientation only
- Flat façades

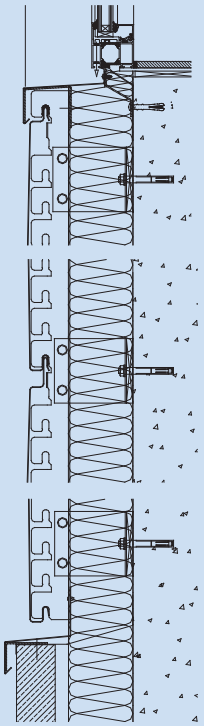
Material properties:

- Standard length: 3000 mm
- Easy connection of carriers using coupler's

T-Joint

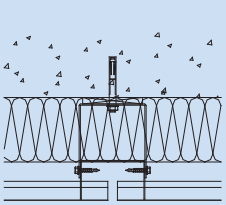


U-Joint

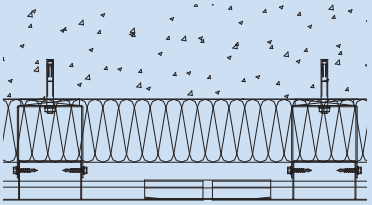


Vertical sections,
horizontal panel orientation

Joint Options

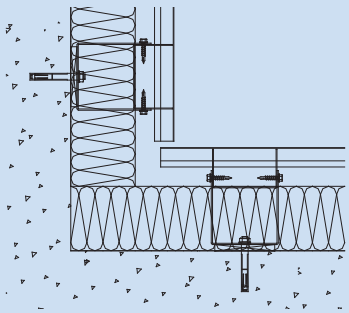


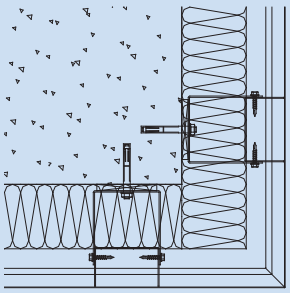
Open-Joint

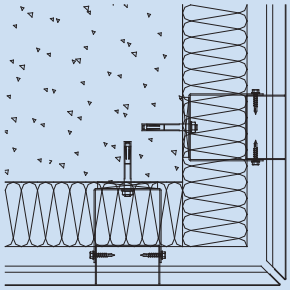


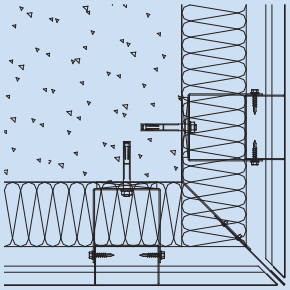
Joint with panel splice

Corner Solutions



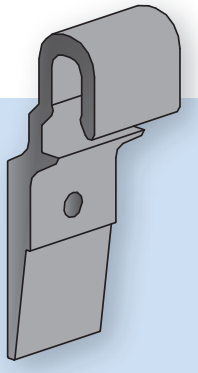






Horizontal sections,
horizontal panel orientation

DETAILS & FIXINGS SCREW CLAMP

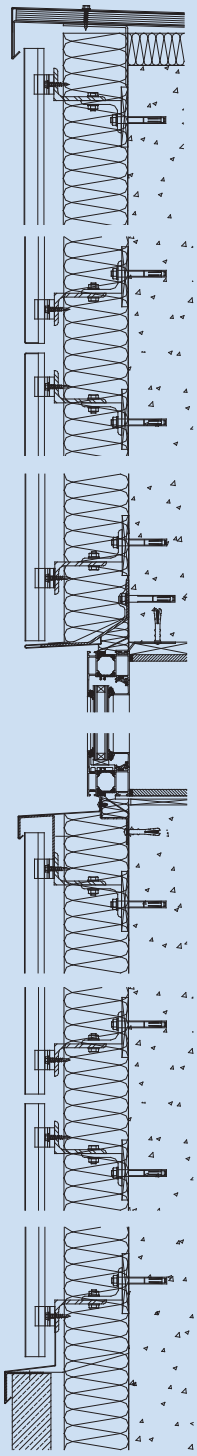


Screw Clamp can be used for:

- All modules and all panel types
- Horizontal, vertical and diagonal panel orientation
- Flat and curved façades

Feature:

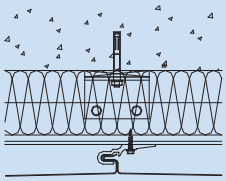
- Special end clamp available



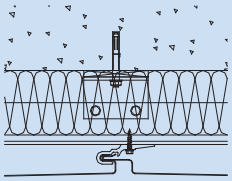
Open-Joint

Vertical sections,
vertical panel orientation

Panel Joints

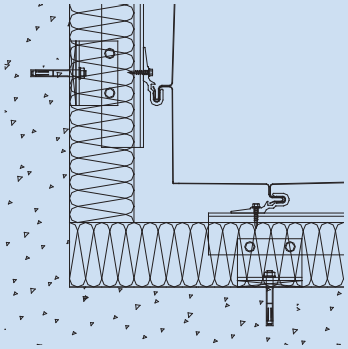


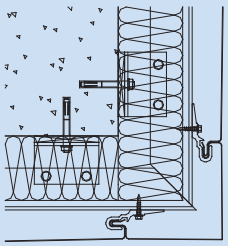
T-Joint



U-Joint

Corner Solutions





Horizontal sections,
vertical panel orientation

Above : De Hermelijn, Zoetermeer, The Netherlands
Architect: D&T van Manen Architecten
Product : Multiple Panel Façade, type 400U

NATURAL MATERIALS; UNCOMMON LOOK

In addition to our standard coil coated aluminium, other natural materials such as zinc, copper and anodized aluminium are available for the Multiple Panel Façade.

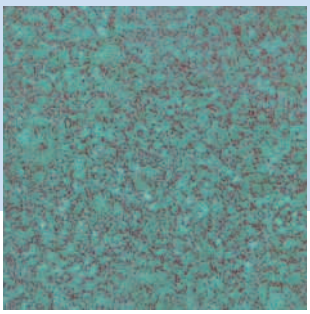
Because natural materials have properties that differ from aluminium, façades made with these materials can take on unique colours and surface textures.

Please consult your local sales office for more on using special materials for your project.

Zinc

Red Zinc

Copper

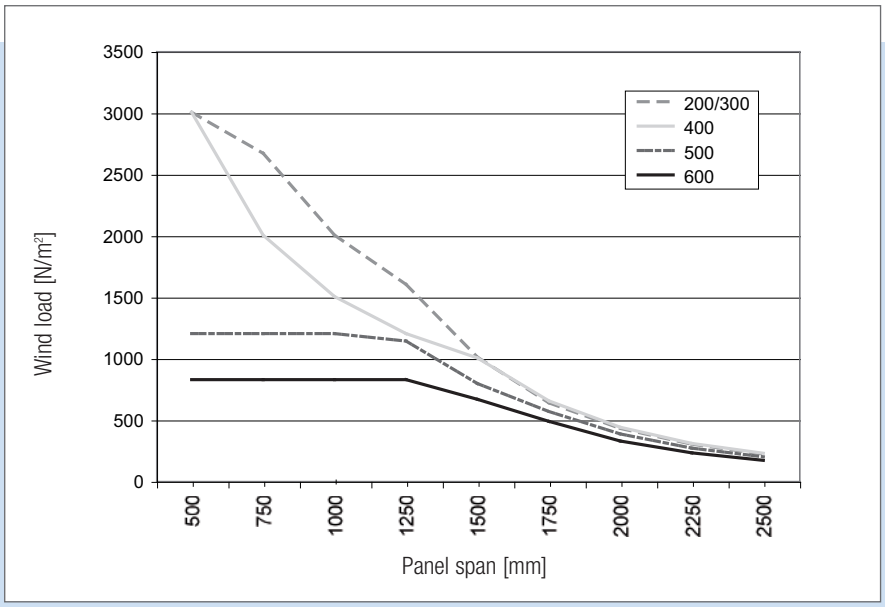


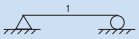
Green patinated copper

Brown patinated copper

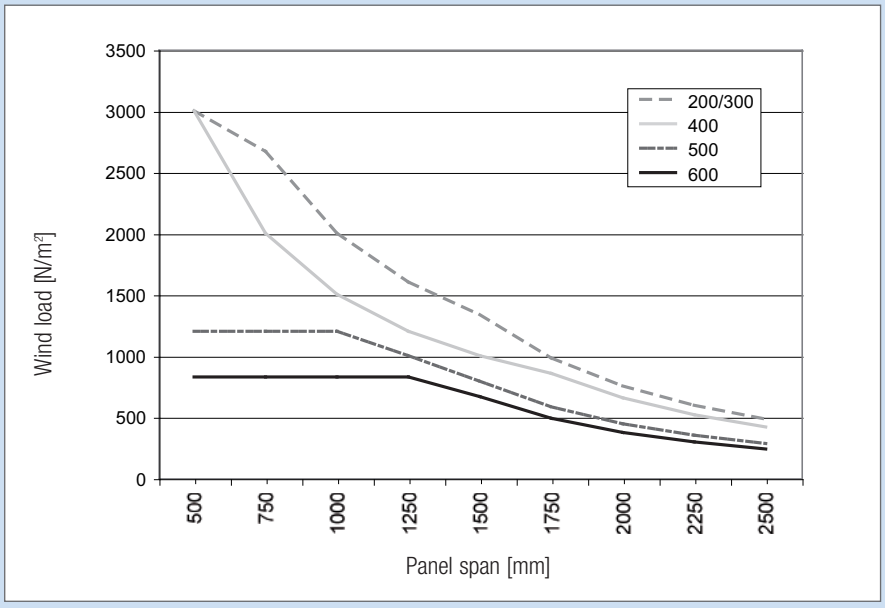
Below : Canadian Embassy, Bucharest, Romania
Architect: Vladimir Arsene, Westfourth Architecture
Product : Multiple Panel Façade 300T, copper

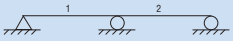
Span tables issued July 2007



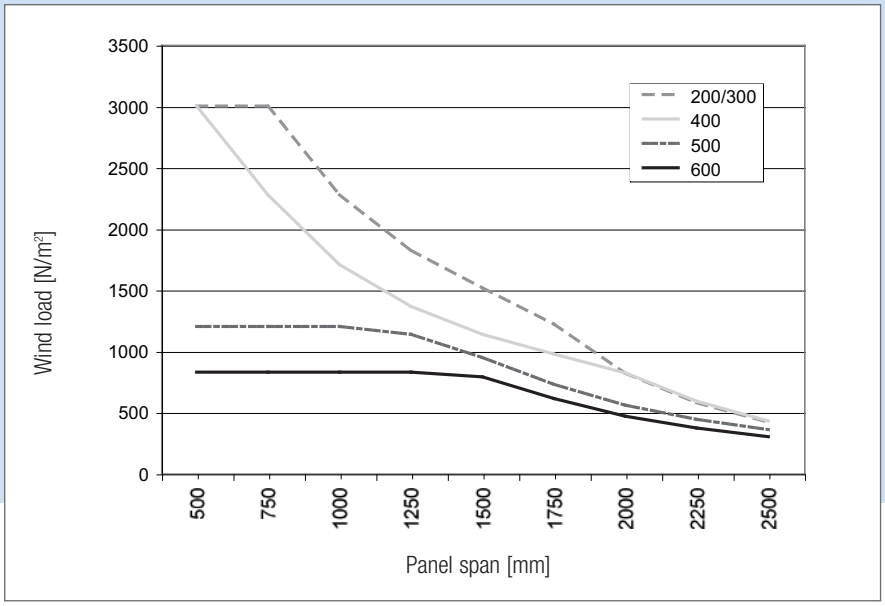


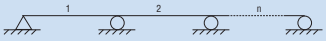
SINGLE SPAN





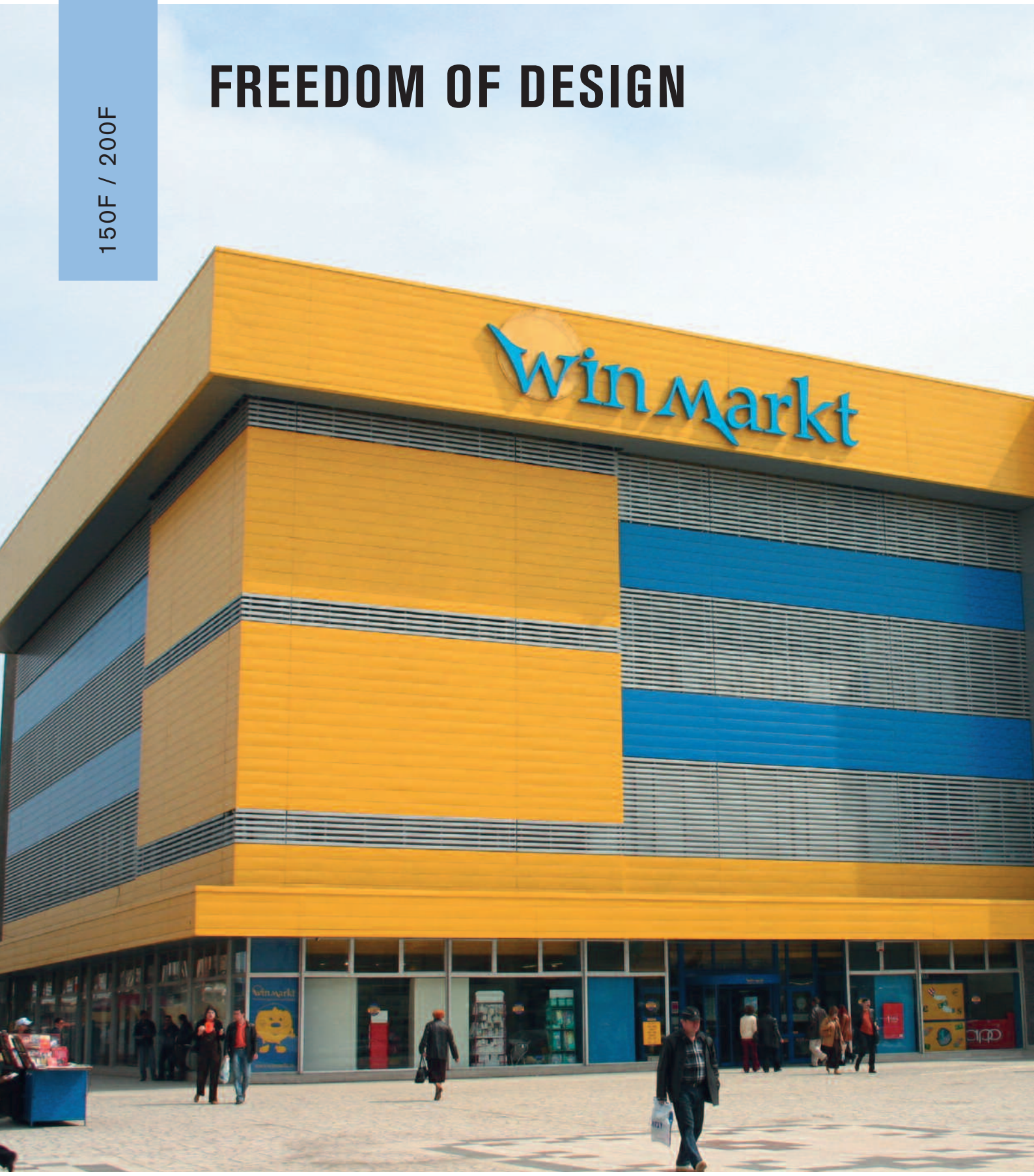
DOUBLE SPAN





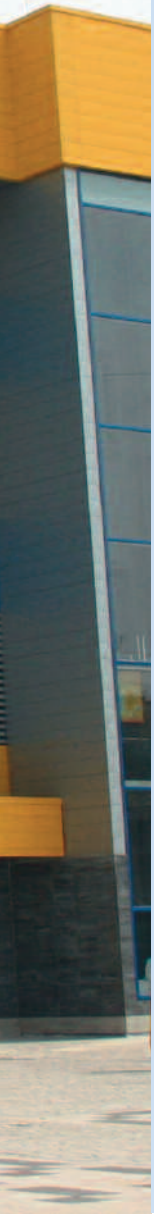
MULTI SPAN

FREEDOM OF DESIGN



Above : Winmarkt Buzau, Romania
Architect: Arh. Ovidiu Nicolaie
Product : Multiple Panel Façade, type 200F

Right : Optimus office building, Warsaw, Poland
Architect: J. Romiszewska
Product : Multiple Panel Façade, type 150F

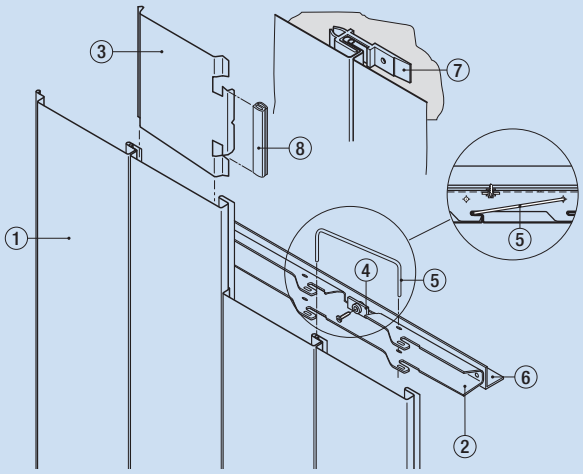


The Hunter Douglas 150F/200F Façade System consists of 150 mm and 200 mm wide roll formed panels with a small butt-joint. The panels are coil-coated with the Hunter Douglas' UV and scratch resistant Luxacote® finish. The panels are made to measure and can be supplied in any length from 800 up to 6000 mm.
The aluminium panels are recyclable, lightweight and strong.
The panels can be mounted with clamps, which allows for an installation with a mixture of panel widths and curved installations, or on a stringer for fast and parallel installation.
The total system has been tested for weather and wind resistance.

PRACTICAL APPLICATIONS

- The neat closed joints present a smooth uninterrupted appearance
- The façades have a concealed fixing system
- Panel length made to measure up to 6000 mm
- Panels can be additionally secured to the stringer by using U-brackets, providing a very rigid system, able to withstand the most severe wind conditions (over 2000 N/m^2)
- Panels are made from a corrosion resistant aluminium alloy
- The Luxacote® coating combined with aluminium of the highest category for corrosion resistance guarantees: colour and gloss stability, high scratch resistance and high corrosion resistance
- Screw clamp can be used for combining the two panel types
- Curved façades can be achieved by using screw clamps

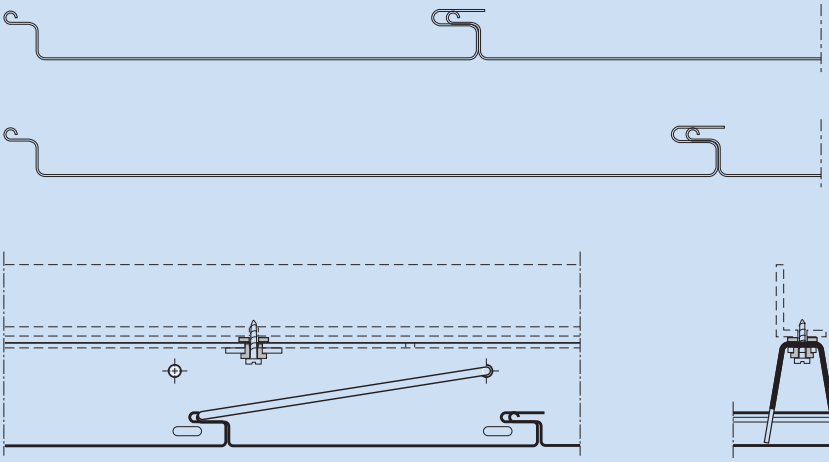
150F/200F FAÇADE SYSTEM OVERVIEW



1 = 150F/200F panel
2 = 150F/200F stringer
3 = panel splice
4 = washer set
5 = U-bracket*
6 = non-HD sub-construction
7 = screw-clamp
8 = sealing piece

** Only used in case of extreme windloads*
Note: 150F/200F panels can be installed horizontally, vertically or diagonally depending on desired directional emphasis.

Below : Polish Post Distribution Centre, Warsaw. Poland
Architect: Unitra Unipro
Product : Multiple Panel Façade, type 400U



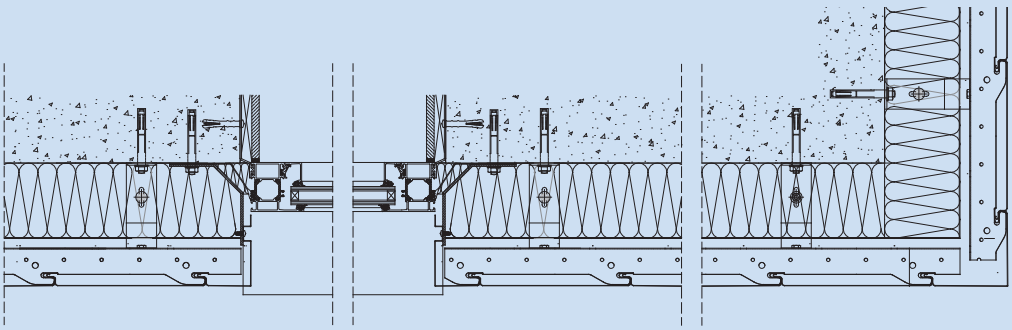
DIMENSIONS & WEIGHTS

Panel	Width	Module	Min. Length	Max. Length	Weight panels & stringer/m²
150F	150	150	800	6000	2.8 kg
200F	200	200	800	6000	3.1 kg

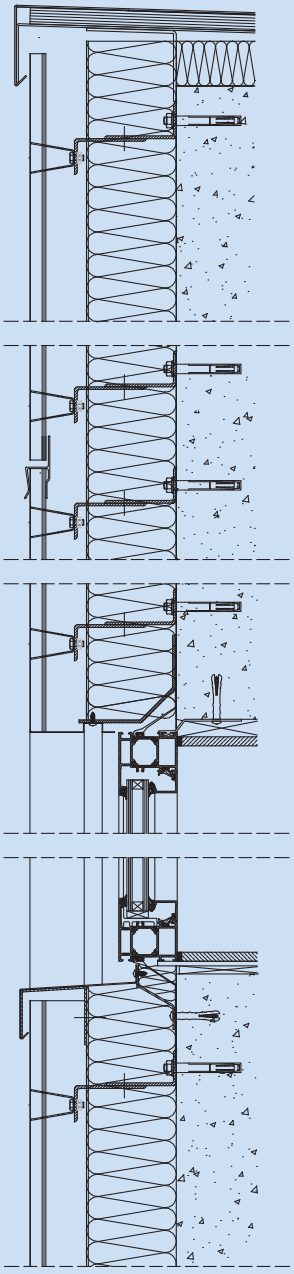
MATERIAL REQUIREMENTS PER M²

	Unit	150F system	200F system
Panels	lm	6.67	5.00
Stringers	lm	1.54	1.92
Screws	pcs	4.16	4.80
Washer sets	pcs	4.16	4.80

Material requirements depend on windload; to be calculated exactly for each situation



Horizontal sections
vertical panel orientation



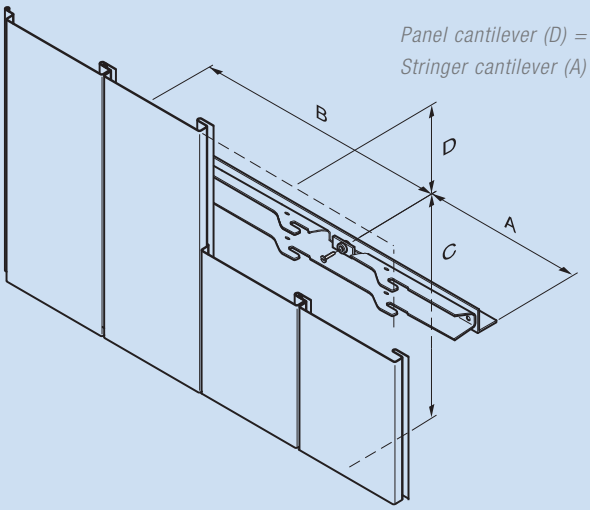
Vertical sections
vertical panel orientation

Above : University, Budapest, Hungary
Product : Multiple Panel Façade, type 300T

MAXIMUM SPANS

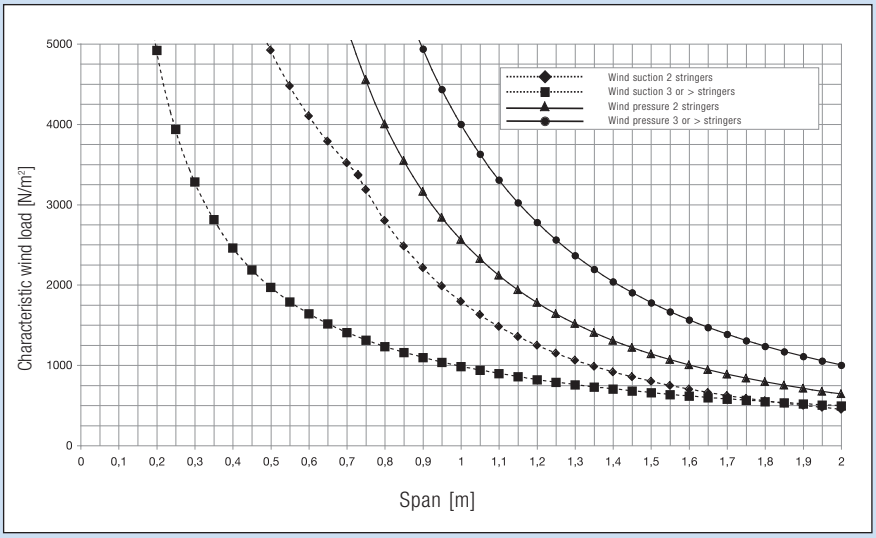
Panel span (C)

The panel spans, in relation to the wind load (pressure or suction), can be calculated from the graph below.
At 1500 N/m² the maximum panel span for 150F is 0.65 m and for 200F it is 0.52 m on 3 or more stringers (windsuction).

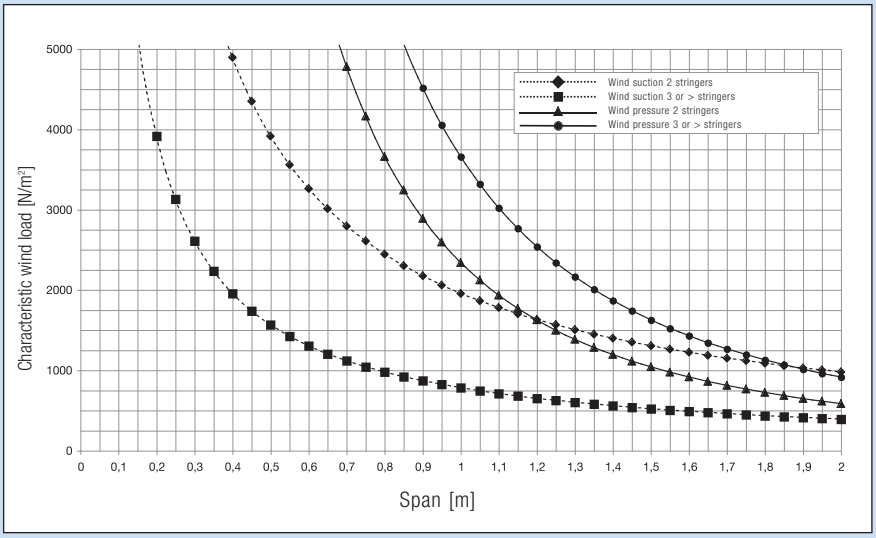


Panel cantilever (D) = 1/4 x C (max. 300 mm)
Stringer cantilever (A) = 1/4 B

DESIGN CHART OF 150F PANEL



DESIGN CHART OF 200F PANEL



Left : Multipurpose Business Centre, Morales del Vino, Zamora, Spain
Architect: Delapuerta & Asensio
Product : Multiple Panel Façade, type 200F

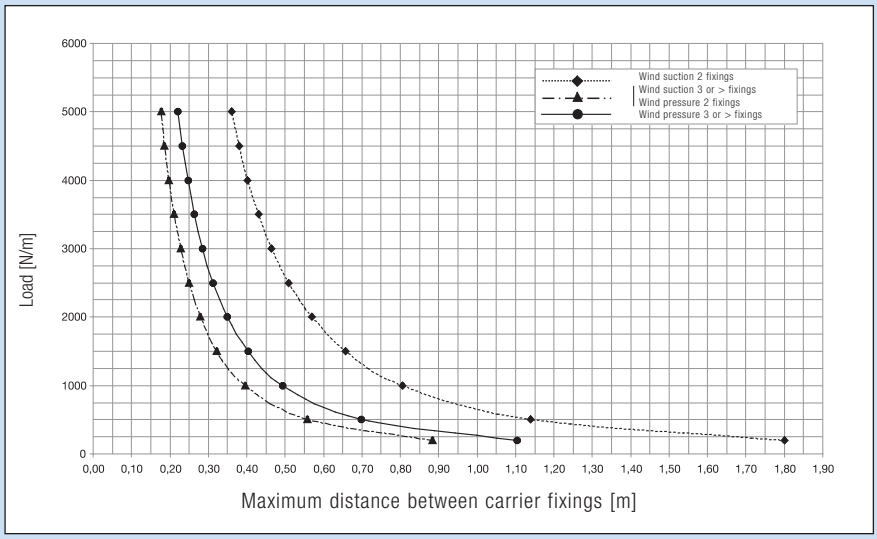
MAXIMUM SPANS

Stringer span (B)

Before establishing the fixing distance of the stringers, the load per linear meter stringer is to be determined by applying the formula in the following table.

Panels installed on:	Calculation of 'load per lineal meter stringer'
2 stringers	0.5 x q x l
3 stringers	1.25 x q x l
4 or more stringers	1.15 x q x l

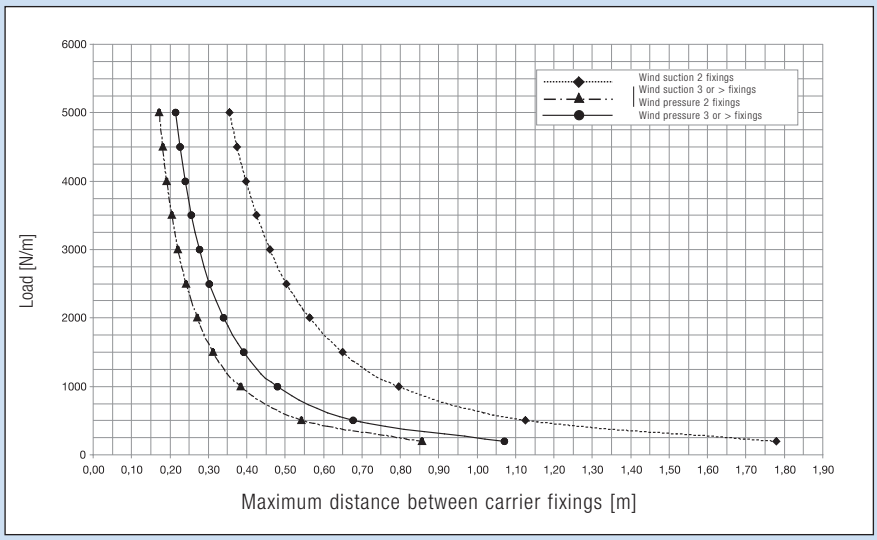
q = windload in N/m² (uniformly distributed loads)
l = panelspan (c) in m



DESIGN CHART OF CARRIER 150F

The stringer span (screw distance) (B) can be read from the graph (right) in the same way as the panel span.

Following the example:
Q = 1.15 x 1500 x 0.65 = 1121 N/m.
Giving a fixing distance of 0.37 m.



DESIGN CHART OF CARRIER 200F

Following the example:
Q = 1.15 x 1500 x 0.52 = 897 N/m.
Giving a fixing distance of 0.4 m.

TECHNICAL DATA

The Hunter Douglas Multiple Panel Façade Ventilated Rainscreen Façade Systems combine several manufacturing processes, resulting in optimum quality.

COIL-COAT TECHNOLOGY

Hunter Douglas coats flat metal strips in a continuous process before the metal is given its final shape.

Advantages:

- Coil-coated materials comply with the highest European quality standards (EN 1396)
- Coil-coating takes place under optimum factory-controlled conditions
- High grade pre-treatment (adhesion & protection)
- Optimum control over coating thickness
- High level of colour continuity

ROLL FORMING TECHNOLOGY

Roll forming, as opposed to press-brake techniques, allows pre-coated metal to gradually form into its final shape in a continuous process.

Advantages:

- The molecular structure of the metal stays intact, making the end product more durable
- Continuous production allows for cost-efficient manufacturing and quick delivery
- High levels of precision throughout the entire production process

Coil Coating typical characteristics

Coating thickness	EN 13523-1, ISO 2360	24-32 micron
Gloss level	EN 13523-2, ISO 2813	28 +/- 5 units
Gloss difference within batch	EN 13523-2, ISO 2813	+/- 3 units
Colour difference from standard	EN 13523-3, ISO 7724, part 3	ΔE<2 units
Colour difference within batch	EN 13523-3, ISO 7724, part 3	ΔE<0.7
Flexibility	EN 13523-7, ISO 1519	Depending on alloy/shape
Adhesion	EN 13523-5, ISO 6272 EN 13523-7, ISO 1519 ISO 2409	For impact/bending over 2T no loss of adhesion
Pencil hardness	EN 13523-4 ASTM D 3363	>= H
Weather fastness	EN 1396, EN 13523-19	Can be used for all categories
Corrosion resistance	EN 1396, EN 13523-19	Highest class
Humidity resistance	EN 13523-9, ISO 6270 ISO 4628/2	Less blister than size 2
Salt/acid corrosion test	EN 13523-9, ISO 4628/2	1000 hours less than 2 mm creep
Saltspray	ISO 7253	Too mild for aluminium (No result)

Project : Motor Centrum Car showroom, Gdansk, Poland
Architect: Kioni
Product : Multiple Panel Façade, type 500U

Unprecedented Protection

LUXACOTE®
for exterior application

Our Luxacote® finish is specifically designed to withstand the severe external conditions. The topcoat contains a solid UV filter, which guarantees perfect colour and gloss stability. This topcoat provides resistance against scratches and abrasion while the alloy and pre-treatment ensure corrosion resistance. HunterDouglas products have been subjected to extensive laboratory and real-world testing to ensure the highest quality.

HUNTER DOUGLAS is a publicly traded company with activities in more than 100 countries with over 150 companies.

The origin of our company goes back to 1919, in Düsseldorf, Germany. Throughout our history, we have introduced innovations that have shaped the industry, from the invention of the continuous aluminium caster, to the creation of the first aluminium Venetian blinds, to the development of the latest high-quality building products.

Today we employ more than 20,000 people in our companies with major operation centres in Europe, North America, Latin America, Asia and Australia.

PEFC

Promoting sustainable
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ARCHITECTURAL SERVICES

We support our business partners with a wide range of technical consulting and support services for architects, developers and installers. We assist architects and developers with recommendations regarding materials, shapes and dimensions and colours and finishes. We also help creating design proposals, visualisations and mounting drawings. Our services to installers range from providing detailed installation drawings and instructions to training installers and advising on the building site.

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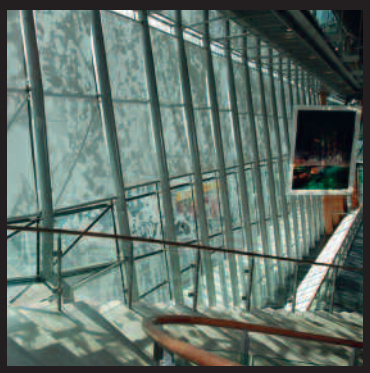

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