

CREATIVITY IS OUR  
**CONCEPT...**

# METAL CEILING



**HunterDouglas**   
Architectural



# COMPANY PROFILE



## Hunter Douglas:

Headquartered in Rotterdam, the Netherlands, Hunter Douglas is a publicly traded holding company worldwide.

Hunter Douglas Group was founded in 1919 in Dusseldorf, Germany. The group mainly engages in the manufacturing, marketing and service of architectural products and window covering products, as well as the metal fabrication, precise machinery production, futures exchange of metal and more. The strong brands of Hunter Douglas include Luxalon, Techstyle, NBK, 3form and Luxaflex.

## Al Dhabhi False Ceiling:

AlDhabi Co. specialized in false ceilings and partitions works, the sole agent for Hunter Douglas ceilings in Egypt, now becoming the sole licensee for manufacturing Hunter Douglas different types of ceilings in Egypt, Supplier for Africa and Middle East.

## Flexible by Design

Luxalon ceiling systems offer almost endless design possibilities. Our wide variety of products, colours, and finishes can be combined to create dramatic, high-quality ceilings.



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Whatever your project's needs, our ceilings give you the freedom to think inside or outside the box. Our ceiling systems highlight versatility, allowing a variety of visual effects, including radial and diagonal patterns and curves.

**Environment:**

In close cooperation with other members of TAIM eV, Hunter Douglas has established Environmental product Declarations (EPDs) for both steel and aluminum ceilings. Certificates are available on request.

# LINEAR

## 84R

### Panels

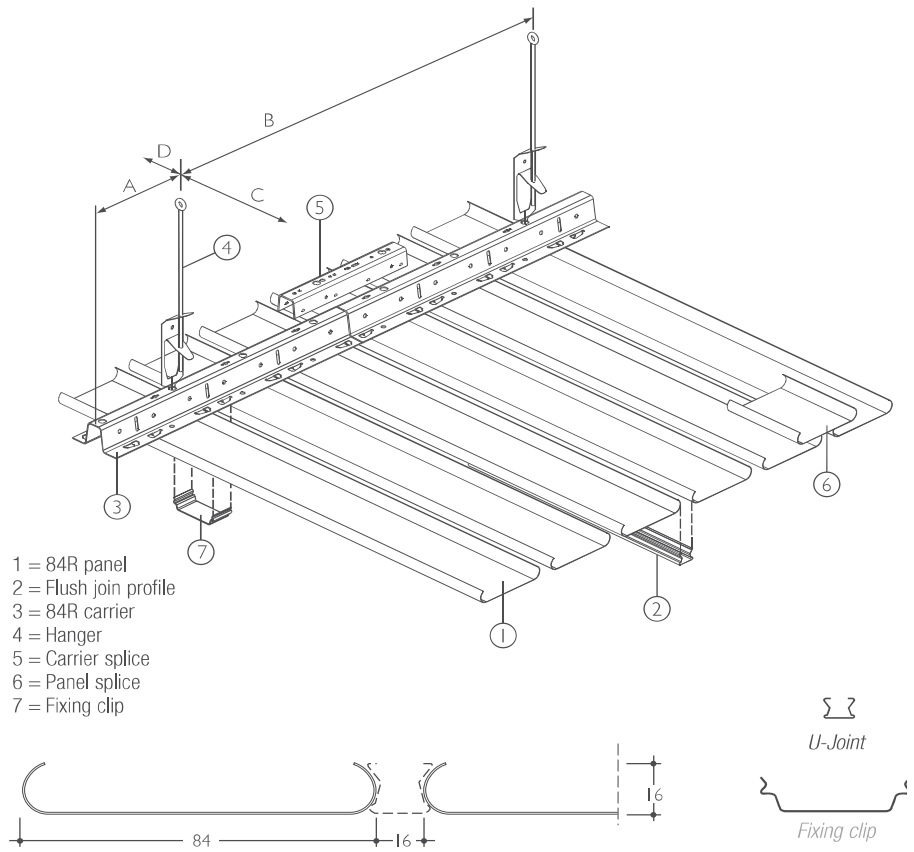
The 84R ceiling system consists of round edged panels (1) which can be easily clipped on a carrier (3). Panels can be joined using the panel splice (6). The 16mm joint can be filled with a flush join profile (2) to form closed ceiling appearance.

### Suspension

The panel carrier (3) is provided with prongs to accommodate the panels in a standard module of 100mm.

All carriers have a standard length of 5000mm and are connected by using the carrier splice (5).

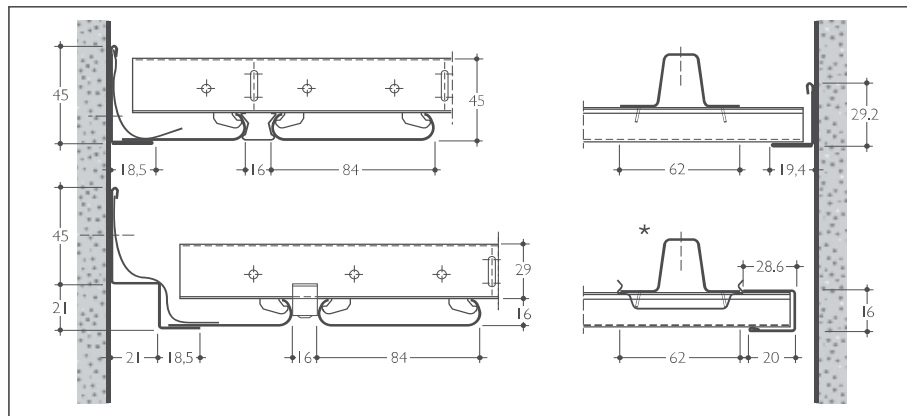
Curved ceilings can be achieved by using a flexible carrier or by curving the panels.



### Construction Details

The standard range of edge profiles can be used as perimeters.

\*With open joints a fixing clip shall be used in combination with an adaptor panel.



### Maximum Spans

\*Minus 200mm in case of acoustic pads.

Panel type	Carrier span (mm)		Panel span (mm)			
	A	B	on 2 carriers		on 3 or more carriers	
			C*	D	C*	D
84R	300	1700	1500	150	1700	150

### Dimensions & Weights

\*Based on panels installed on 3 or more carriers. The panels are made to measure in any length from 800mm up to 6000mm.

•Panels > 6000mm available on request.

Panel	Width (mm)	Module (mm)	Min. length (mm)	Max. length (mm)	Weight panels & carriers/m <sup>2</sup> *			
					Steel carrier		Alu carrier	
					Excl joints	Incl joints	Excl joints	Incl joints
84R	84	100	800	6000	1.8 kg	2.3 kg	1.7 kg	2.2 kg

### Material requirement per m<sup>2</sup>

The required number of components depend on individual project requirements.

Figures are based on maximum spans.

	Unit	Linear 84R system
Panels	lm	10
Join profiles	lm	10
Carriers	lm	0.59
Carrier splice	pc	0.12
Suspension	pc	0.35



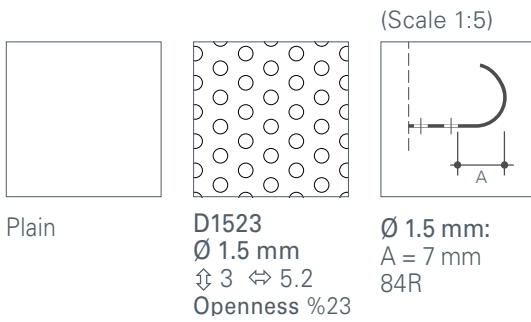
### Key Features

- Panel width 84 mm , joint 16mm
- Panel length: 800 up to 6000 mm
- Panel depth 15 mm

### Perforation Patterns

Standard patterns shown.

Scale shown: 1:1, unless otherwise noted.



### Physical Data

- Substrate: aluminum
- Fire rating: class A2, s1, d0 (plain) according EN 13501-1
- Weight: varies ca 1.7kg/m<sup>2</sup> – 2.3kg/m<sup>2</sup>
- Light reflectance (LR) coefficient:
  - Varies with finish
  - HD0280: LR = 0.81
- Acoustic rating: w 0.75



### Certifications

- ISO9001
- ISO14001
- TAIM Certified
- French VOC Regulation class A+
- Cradle-to-Cradle Bronze
- EPD: available upon request

# LINEAR

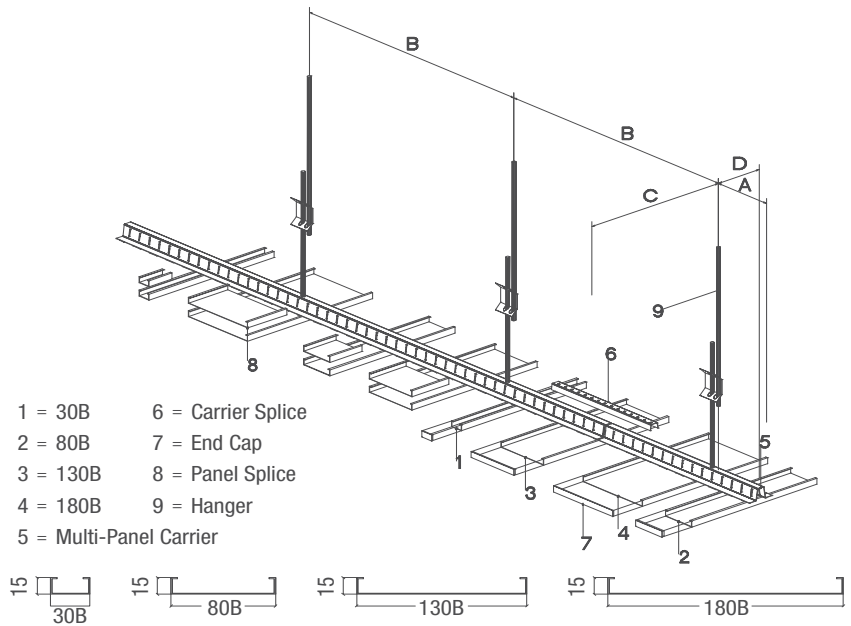
## Multi-Panel

### Panels

The Multi panel ceiling system consists of box-shaped panels in 4 varying widths standard height (15 mm). With this system there is possibility to create a ceiling design with different widths in one ceiling.

### Suspension

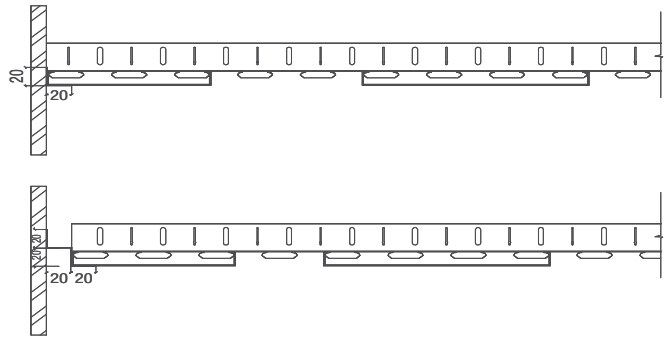
The panel carrier (5) is provided with prongs to accommodate the panels in a module of 50 mm or a multiple of this module, carriers are joined by using the carrier splice (6).



### Construction Details

The panel are clipped to a universal multi- panel carrier, creating the opportunity to use panel with different widths in one ceiling.

The standard range of edge profiles can be used for perimeters.



### Maximum SPANS

Panel type	Carrier span (mm)		Panel span(mm)			
	A	B	On 2 carriers		On 3 carriers	
			C	D	C	D
30B/80B	300	1700	1550	150	1850	150
130B	300	1700	1450	150	1550	150
180B	300	1700	1350	150	1450	150

### Dimensions

The panels made to measure in any length from 800 mm up to 6000 mm.

Panels > 6000 mm available on request.

Carriers have a standard length of 5000 mm.

weight are mentioned in Kg.

Panel	30B	80B	130B	180B
Thickness	0.35	0.5	0.5	0.6
Module	50	100	150	200
Weight Inc. Join	1.9	2.1	2.1	2.4
Weight excl. Join	1.5	1.9	1.9	2.2

### Materials requirement PER M2

Edge profiles and other accessories depend on individual project requirements.

Figures are based on maximum spans.

Panel	30B	80B	130B	180B
Panels (l.m)	20	10	6.67	5
Join Profiles (l.m)	20	10	6.67	5
Carriers (l.m)	0.55	0.55	0.65	0.69
Carriers Splice (PCS)	0.11	0.11	0.13	0.14
Suspension (PCS)	0.32	0.32	0.38	0.41

# ACOUSTICS

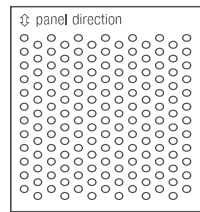
## Acoustic Performance

In order to improve interior sound control, the Luxalon panels can be supplied perforated. As a standard feature, perforated panels are supplied with a sound absorbing non-woven tissue glued into the panel for enhanced acoustical performance.

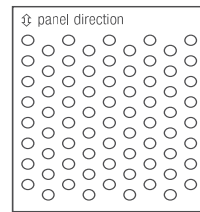
## Perforation Patterns

mm	80B	84R	130B	180B
∅ 1	•	•		
∅ 1.5				
∅ 2	•	•	•	•
∅ 2*				

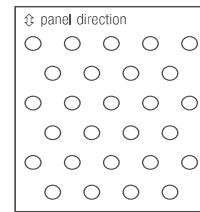
Flush join profile is available for 84R with ventilation holes dimensions 3 x 7 mm, c.t.c 10.5 mm. 30B and 70U are not available as perforated panels.



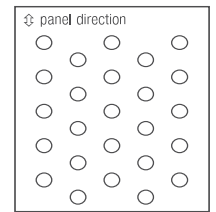
∅ 1 mm  
 ⇄ 2 ⇄ 3.46  
 Openness 23%



∅ 1.5 mm  
 ⇄ 3 ⇄ 5.2  
 Openness 23%



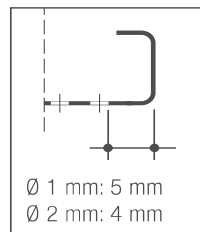
∅ 2 mm  
 ⇄ 8.66 ⇄ 5  
 Openness 16%



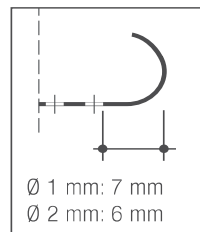
∅ 2\* mm  
 ⇄ 5 ⇄ 8.66  
 Openness 16%

## Plain Borders

Panels have a nominal plain border along the longitudinal panel direction in order to assure maximum flatness and product stability.

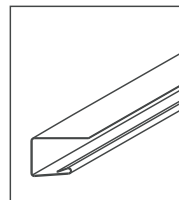


80B/130B/180B

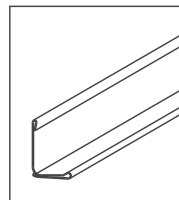


84R

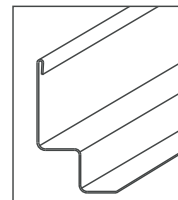
## Edge Profile



Clip-on U-profile  
 Alu 0.4 mm  
 (28.6 x 16 x 20)



Wall L-profile  
 Alu 0.5 mm  
 (29.2 x 19.4)



Wall W-profile  
 Fe/Alu 0.8 mm  
 (45 x 21 x 21 x 18.5)

## Sound Absorption Data

### 80B, 130B, 180B

#### - Curve 1\*

80B panels perforated with ∅1 mm holes, module 100 mm, open joints. The reverse side of the panels is provided with black non-woven tissue glued over the whole perforated area. Plenum depth is 200 mm.

#### - Curve 2\*\*

80B panels perforated with ∅2 mm holes, module 100 mm, closed joints. The reverse side of the panels is provided with black non-woven tissue glued over the whole perforated area. Plenum depth is 200 mm.

#### - Curve 3\*\*

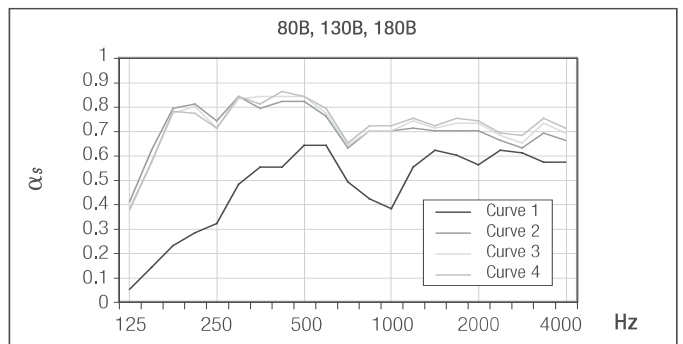
130B panels perforated with ∅2 mm holes, module 130 mm, closed joints. The reverse side of the panels is provided with black non-woven tissue glued over the whole perforated area. Plenum depth is 200 mm.

#### - Curve 4\*\*

180B panels perforated with ∅2 mm holes, module 180 mm, closed joints. The reverse side of the panels is provided with black non-woven tissue glued over the whole perforated area. Plenum depth is 200 mm.

\*Tested by TNO Delft; test report no: TPD-HAG-RPT-92-0038

\*\*Tested by Peutz; test report no: A1709



Freq. Hz.	125	250	500	1000	2000	4000	α <sub>w</sub>	NRC
Curve 1	0.05	0.32	0.64	0.38	0.56	0.57	0.55	0.50
Curve 2	0.41	0.74	0.82	0.70	0.70	0.66	0.75	0.75
Curve 3	0.37	0.71	0.84	0.70	0.73	0.69	0.75	0.75
Curve 4	0.38	0.71	0.84	0.72	0.74	0.71	0.75	0.75

# LINEAR

## V100/V200 Screen Ceiling

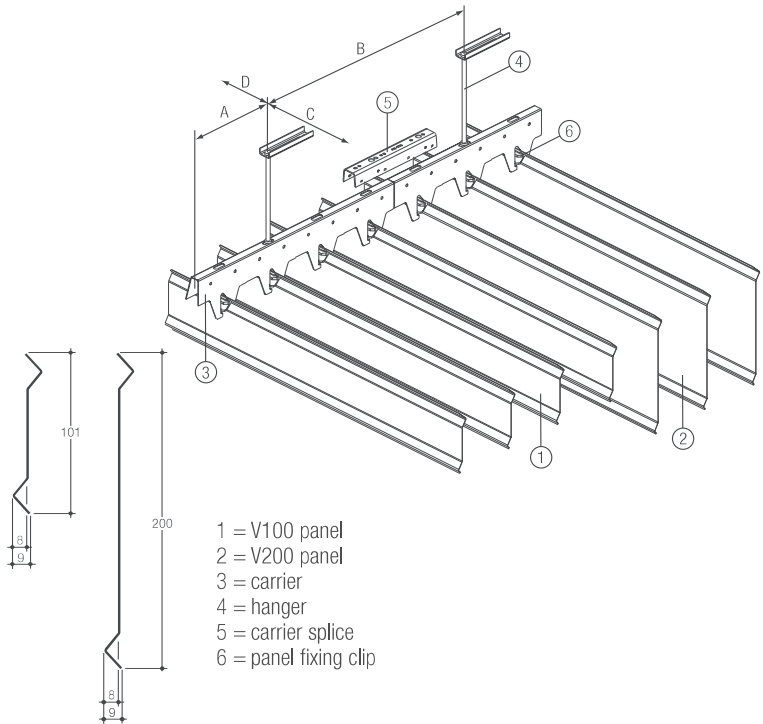
### Panels

The Luxalon V100/V200 screen ceiling system is a lightweight, floating ceiling.

The panels (1 & 2) come in either 101 mm high (V100) or 200 mm high (V200) and clip easily to the carrier (3). The stove enamelled panels and carriers are lightweight and recyclable. Panels are made to measure and available in any length up to 6000 mm.

Select from white or black panel carrier (3). The carrier is made of 0.95 mm thick stove-enamelled aluminium, and includes prongs to accommodate the panels in a 100 mm, 150 mm, or 200 mm module. The carriers have a standard length of 5000 mm and are connected using the carrier splice (5).

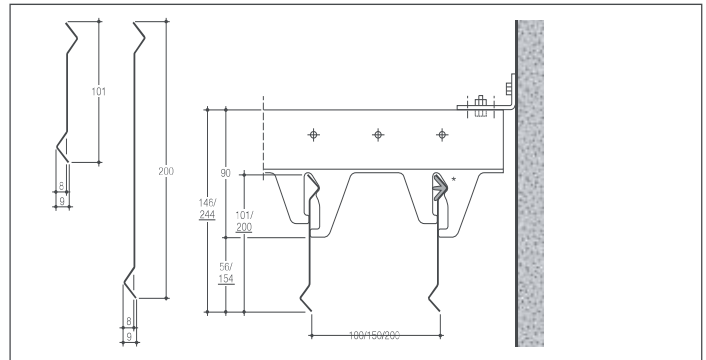
The clear PVC fixing clips (6) are used to secure the V100 panels in exterior applications.



### Construction Details

In exterior applications, use the panel fixing clip to secure the panels (V100 only).

Lighting, sprinklers, smoke detectors, speaker systems, security systems, and air conditioning will function efficiently when installed above the open ceiling.



### Maximum Spans

The maximum distance between the carriers on both sides of a joint should be 1.220 mm. The minimum distance is 220 mm. The minimum clearance between the panel ends should be 20 mm.

Module (mm)	Carrier span (mm)				Panel span (mm)		
	A	2 fixing points		3 or more fix. points		C	D*
		B	B	B	B		
100	500	V100 1700	V200 1450	V100 2000	V200 1700	2100	600
150	500	1850	1600	2200	1900	2100	600
200	500	2000	1750	2350	2050	2100	600

\* Min 100 mm

## Specifications

### Dimensions

Panels from 250 – 1000 mm and ≥ 6000 mm are available on request.

Panel	Height	Min. length	Max. length screen ceiling
V100	101	1000	6000
V200	200	1000	6000



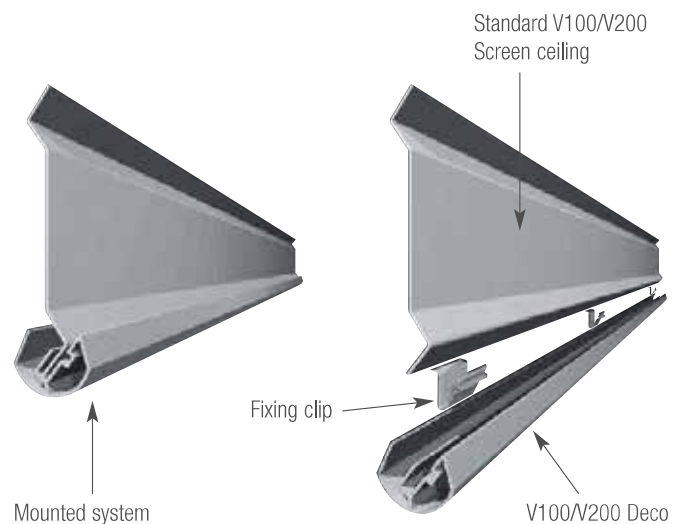
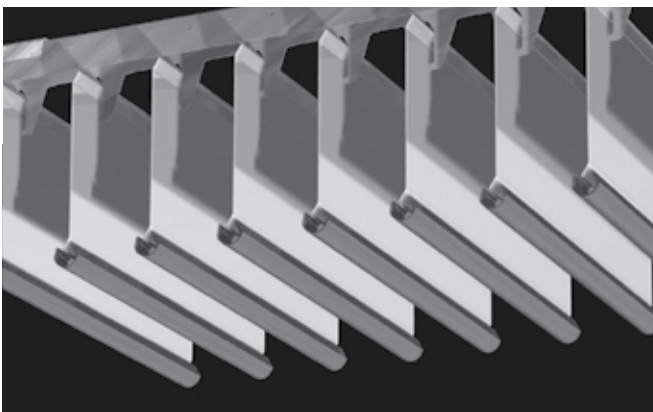
**Weights in KG/M2**

Module in mm	V100 panels incl. aluminium carrier	V200 panels incl. aluminium carrier
100	2.1	3.9
150	1.5	2.6
200	1.1	2.0

**Material Requirement per M2 screen Ceiling System**

	M100	M150	M200
Panels	10 lm	6.67 lm	5 lm
Carriers	0,48 lm	0,48 lm	0,48 lm
Carrier splice	0,10 pcs	0,10 pcs	0,10 pcs
Suspension V100	0,24 pcs	0,22 pcs	0,20 pcs
Suspension V200	0,28 pcs	0,25 pcs	0,23 pcs
Panel fixing clip	4,8 pcs	3,2 pcs	2,4 pcs

**V100 / V200 Deco**



**Elements**

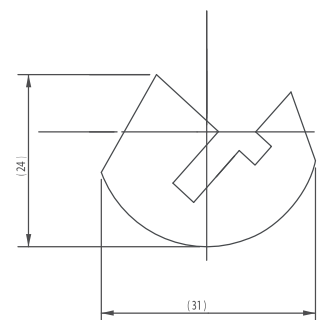
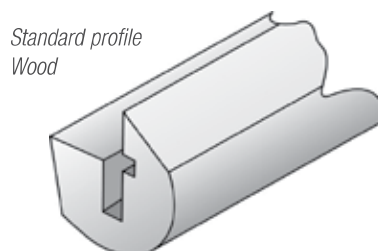
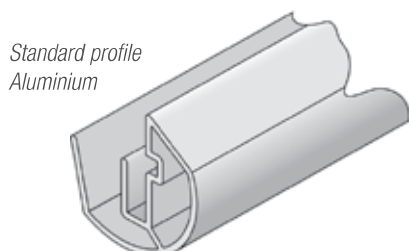
Luxalon V100/V200 Deco elements are wooden or aluminium profiles that open up new design possibilities for screen ceilings. Deco elements are available in stained

solid wood, powder coated, or anodized extruded aluminium. These elements are easily fixed to the screen ceiling.

**Designs**

**Standard Designs**

The standard Deco design is a quarter round shape in aluminium or wood.



Dimensions Standard profile

# PANEL SYSTEM

## 84R

### System Description

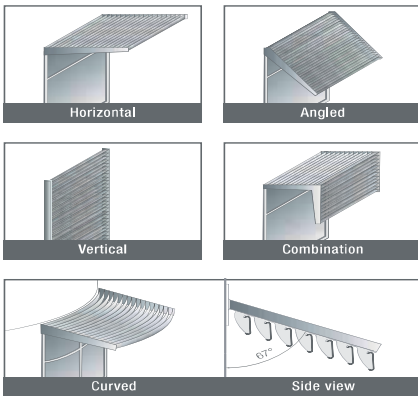
The Hunter Douglas 84R panel system is a classic system ideal for straight, curved or angled façade applications and has an elegant and light appearance with smooth rounded edges.

### Installation

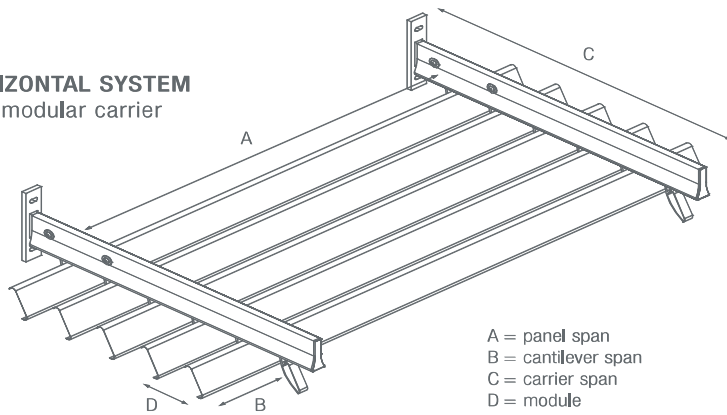
Hunter Douglas 84R panel system is easy and quick to install with very few tools required. When the steel wall brackets\* are fitted to the façade, the carrier profiles with (pre-fixed) brackets and spacers or stringers slide over the wall brackets and are easily fixed with a bolt-through connection. The C-shaped panels (in full length) are locked on to the brackets.

A wide range of carrier profiles with fixed or variable modulation is available to ensure that optimal shading angles and openness are achieved for each application. 84R panel systems can also be used as ventilated facades.

The 84R panel system can be installed in 5 ways:



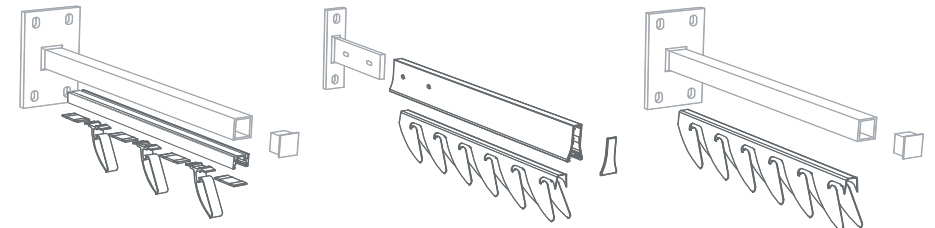
### HORIZONTAL SYSTEM with modular carrier



A = panel span  
B = cantilever span  
C = carrier span  
D = module

84R Panel (Alu)

### OTHER SUPPORT STRUCTURES:

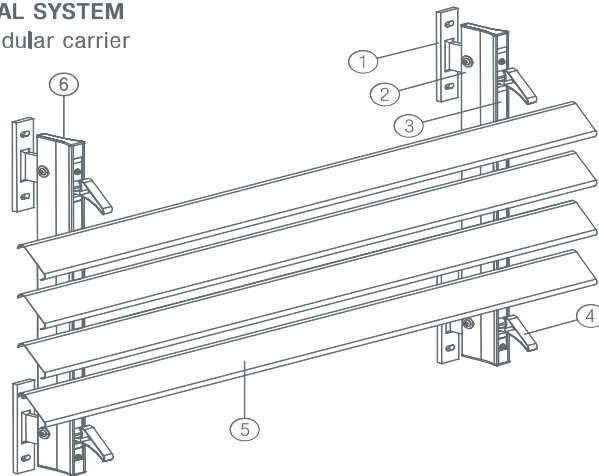


Modular system & rectangular hollow section

Carrier profile & stringer

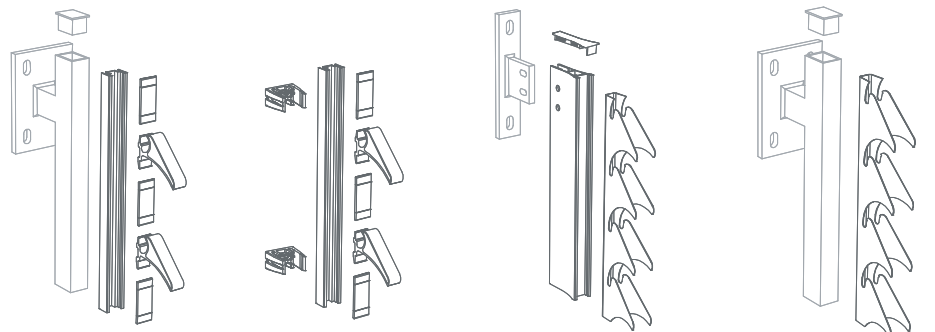
Stringer & rectangular hollow section (in combination with washer sets)

### VERTICAL SYSTEM with modular carrier



1 = wall bracket\*  
2 = carrier profile  
3 = spacer  
4 = panel bracket  
5 = panel  
6 = end cap

### OTHER SUPPORT STRUCTURES :



Modular system & rectangular hollow section

Modular system & direct fixing clip

Carrier profile & stringer

Stringer & rectangular hollow section (in combination with washer sets)

## Maximum Spans

### Panel span

The panel span in relation to the wind load (pressure or suction), can be calculated from the graph on the right.

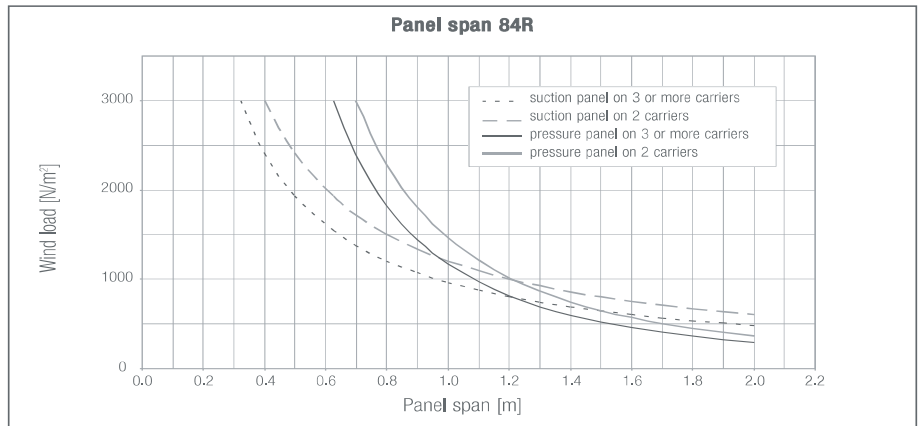
There are two graphs per wind load type based on the application:

-If a multi-span panel system is required, consult the '3 carriers or more' graph.

-When using 2 carriers, consult the '2 carriers' graph.

Note: calculating the value of the local wind load is the responsibility of the installer who must take into account the regulations laid down by local authorities.

For corners, roof edges or special designs, wind pressure/suction shall be determined with due consideration of the relevant local country's standard code of Building Practice



For other carrier tables using our stringers or the modular carrier system, please consult the Hunter Douglas sales office. For snowloads consult your local building regulations.





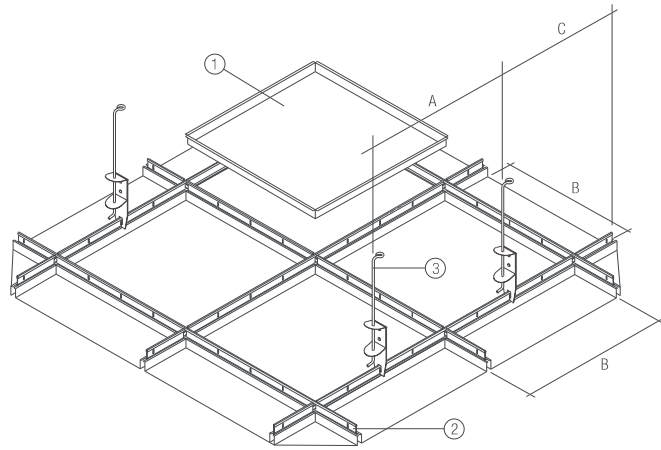
# Tiles

## Lay-In & Lay-On

### Tiles

Luxalon lay-In & Lay-On Tiles are designed to be installed in conventional T-Grid systems with T-Bar 24 mm. By pushing the tile upwards, all types provide easy access to the plenum without the use of special tools.

The exposed T-Grid of Luxalon Lay-In & Lay-On Tiles enhances the modular design pattern. Luxalon Lay-In & Lay-On Tiles provide easy access by lifting and tilting the ceiling tiles. They are ideal for situations where regular maintenance or service is required to services above ceilings. Because the Luxalon Lay-In and Lay-On system offers easy access and adaptability, lighting and services can be conveniently repositioned.

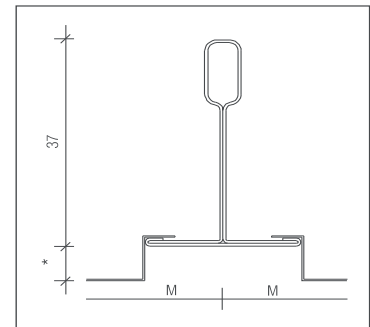


- 1 = Lay-In tile
- 2 = T-grid (non HD)
- 3 = Hangers (non HD)

- A = 1200 mm (max.)
- B = Module
- C = 250 mm (max.)

#### CONSTRUCTION DETAILS


\* Depth of reveal



### Dimension

Lay-On Tiles 15/24; 15 mm or 24 mm Grid 

Module in mm	Gauge	
	Steel	Alu
600 x 600	0.5-0.6	0.5-0.6-0.7

Lay-On Tiles 15/24; 15 mm or 24 mm Grid 

Module in mm	Gauge	
	Steel	Alu
600 x 600	0.5-0.6	0.5-0.6-0.7

### Material Requirement per m<sup>2</sup>

Components	Unit	600 x 600	625 x 625
Tiles	pcs	2,78	2,56
Grid Profile	m <sup>1</sup>	3,34	3,2
Suspension	pcs	0,69	0,64



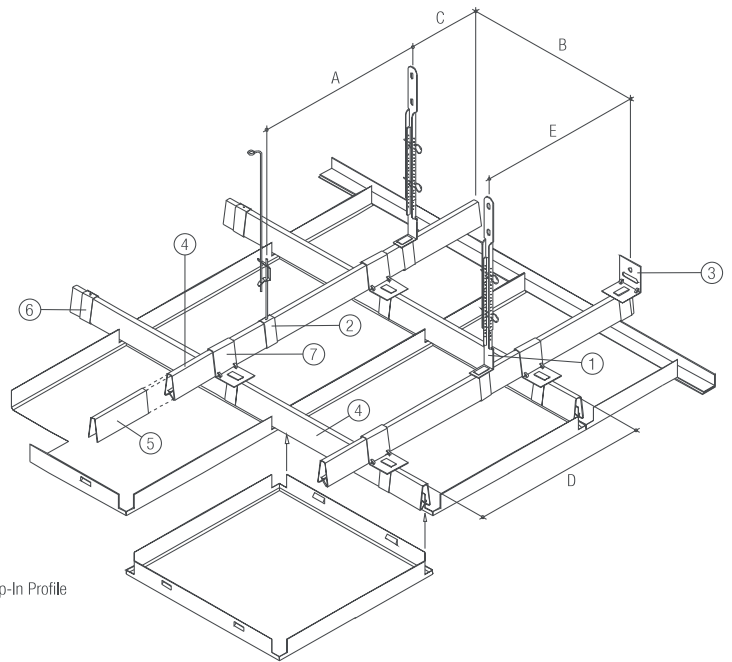
# Clip-In 4.2mm

## Tiles

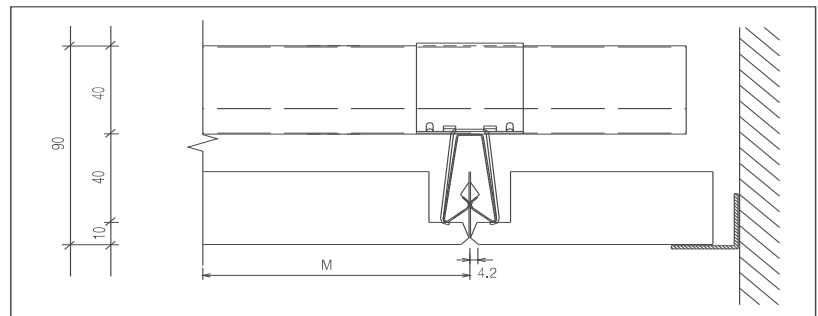
The Luxalon Clip-In Tile system has a beveled edge to form visually closed joints. The 4.2mm bevel will emphasise the crispness of the tile ceiling design with fine jointlines. Dimples in the longitudinal tile-edges enable each tile to be clipped into the concealed Luxalon Grid system. There is one universal Clip-In profile available for both the primary and secondary support structure.

Perimeter tiles are cut into an edge cover profile. Closed joint details make the Luxalon Clip-In tile systems ideal for areas related to hygiene.

Individual tiles can easily be released from the grid-profiles with a simple tool that is inserted between adjacent tiles on both edges, combined with downward pulling.



## Construction Details



## Dimension

Clip in 4,2mm Bevel Tile-options

Gauge

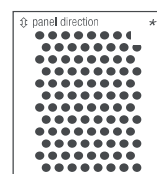
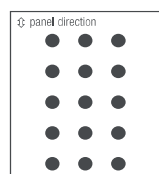
Module in mm	Steel	Alu
600*600	0.5-0.6	0.5-0.6-0.7
600*1200	0.5-0.6	0.5-0.6-0.7

## Material Requirement per m2

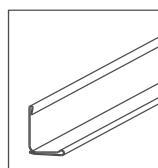
Components	Unit	600 x 600	600 x 1200
Tiles	pcs	2,78	1,39
Clip-In Rail	m <sup>1</sup>	2,50	1,67
Rail Connector	pcs	1,39	0,69
Rail Splice	pcs	0,50	0,33
Suspension	pcs	0,67	0,64

## Perforation Patterns

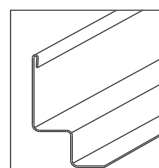
\*D1522: not available in 0.5mm aluminum.  
 Note: perforated products have a nominal plain border of 10mm.



## Edge Profiles



Wall L-profile  
 Alu 0.5 mm  
 (29,2 x 19,4)



Wall W-profile  
 Fe/Alu 0.8 mm  
 (45 x 21 x 21 x 18,5)

# ACOUSTICS

## Acoustic Performance

In order to improve interior sound control. The Luxalon tile program can be delivered in two standard perforation patterns with an open area of 16% or 22%. These patterns are framed with a solid border of 10mm in order to assure maximum flatness and product stability. As a standard feature perforated tiles are to be supplied with a sound absorbing non-woven tissue glued into the tile for enhanced acoustical performance.

## Sound Absorption

### -Curve 1

Type D1522

1.5mm Ø perforated tiles with acoustic non-woven, plenum depth 400mm, open area 22%

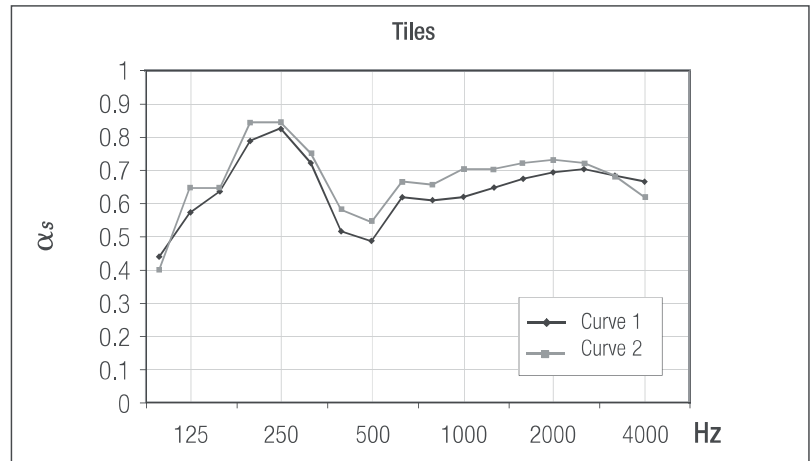
### - Curve 2

Type R2516

2.5mm Ø perforated tiles with acoustic nonwoven, plenum depth 400mm, open area 16%

Tested by Peutz, test report no.A1818

## ACOUSTIC PERFORMANCE



Freq. Hz.	125	250	500	1000	2000	4000	αw	NRC
Curve 1	0.56	0.80	0.55	0.64	0.71	0.70	0.65	0.65
Curve 2	0.57	0.84	0.61	0.70	0.74	0.67	0.70	0.70

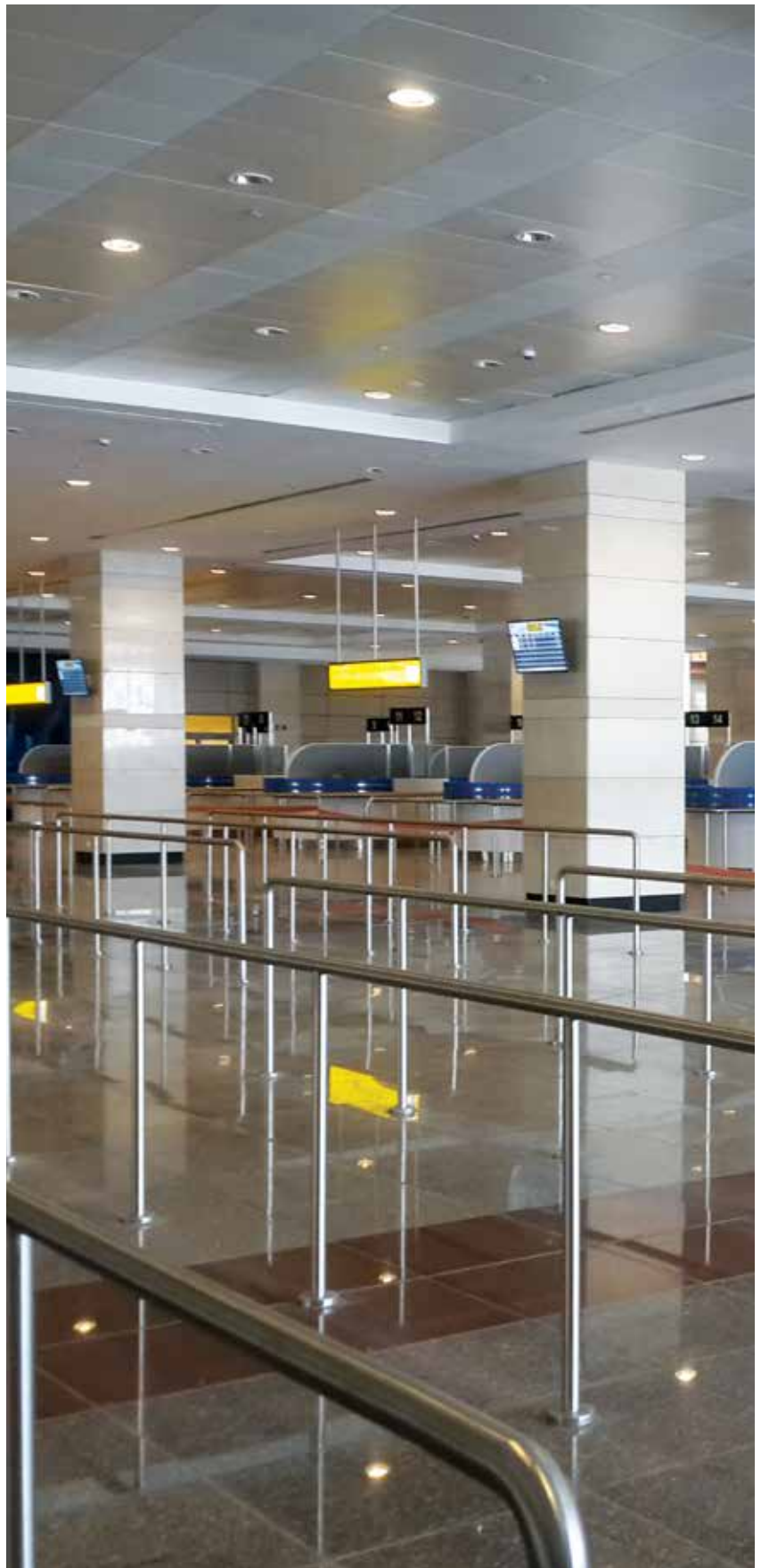
# Impressions

Project: Hurgada Airport  
 Location: Hurgada - Egypt  
 Product: Metal Tiles





*Project: Cairo airport  
Location: Cairo - Egypt  
Product: Metal Tiles*





## Material Specifications

### Base Material

Luxalon Lay-In, Lay-On and Clip-In Tiles are available in aluminum or steel with high industrial standards (DIN1541/BS 1449, part 1:1983/TAIM standards).

Roll formed 84R, the panels are roll formed from 0.6mm thick pre-painted (Luxacote system) stove enameled aluminum strip (according to EN1396). The strip is made from a corrosion resistant alloy EN AW-3005 or equivalent.

There is a wide standard colour range available for the roll formed panels. See the Hunter Douglas Exterior colour program. Other (RAL or NCS) colours are available on request. The panels have a full white coating on the back-side to enhance interior light levels.

### Colour Range

The standard colour is white.

Any other RAL or NCS colour is available on request.

### Standard Colour Range

RAL 9010 powder coated

RAL 9003 coil coated

### Powder Coating

The tough and durable polyester powder coating finish in a minimal thickness of 60 microns, is electrostatically applied ensuring uniform coating thickness, absolute adhesion and maximum resistance to abrasion.

### Coil Coating

Because Luxalon coatings are applied before perforation and bending process, exposed edges are not protected. Standard gloss rate is 15-20% at 60° angle of incidence.

### Tolerances

As a member of the technical association of industrial metal ceiling manufacturers (TAIM), Hunter Douglas complies with tolerance criteria as specified in chapter 4 of the TAIM quality standards for metal.



## Fire Behaviour

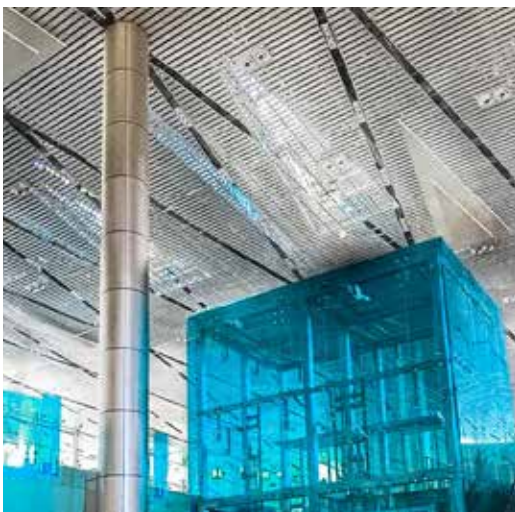
Luxalon Metal Suspended ceilings are classified incombustible and will therefore not contribute to possible fires. When ceilings however need to protect the structural integrity of the building, Luxalon Ceilings offer a range of practical and tested solutions with regards to fire resistance and fire stability. Further information is available on request.

## Exterior USE: (All Linear Ceilings)

Exterior building applications cope with severe conditions like wind, rain snow, dirt, vandalism and UV light. Our special aluminum alloy, high-quality surface treatments featuring Luxacote and our windproof system ensure durability in applications like canopies, shopping centers and railway/underground stations.

## Environment

We are dedicated manufacturing a sustainable product. Our paint and aluminum melting processes are considered to be one of the industry standards in terms of clean production processes. All aluminum products are 100% recyclable at the end of their lifecycle.









# HunterDouglas

## Architectural



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