



KAPHS / MIDDLE EAST

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# Product Catalogue

Architectural Glass • Metal Mesh • Custom Steel

Engineered for landmark façades across the Middle East.

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The logo for KAPHS, featuring a stylized red 'K' followed by the letters 'APHS' in a white, serif font.

MIDDLE EAST



# Jumbo Glass

Ultra-large flat & curved architectural glass for landmark façades

# Contents

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A complete guide to NorthGlass Jumbo Glass —  
concept, capabilities, coatings, quality standards and  
landmark projects, from flat to curved.

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# A Swiss-founded specialist for high-end architectural glass.

KAPHS, headquartered in Dubai with Swiss origins, is a distinguished provider of high-end architectural glass, metal mesh and cladding for the Middle East region.

Founded in 2003, KAPHS has expanded across the Middle East, North Africa and Southeast Asia, partnering with architects, designers, engineers, contractors and manufacturers. We bring together world-leading manufacturers to deliver landmark façade and interior solutions.

**2003**

FOUNDED

**3**

REGIONS

**∞**

PROJECTS



# A global leader in super-sized architectural glass.

Since its inception, Tianjin NorthGlass has rapidly become a global leader in high-quality architectural glass, specialising in super-sized tempered, laminated, insulated and digitally printed panels for landmark projects worldwide.

A subsidiary of Luoyang North Glass Technology Co., Ltd. (founded 1995), Tianjin NorthGlass operates in over 100 countries. As regional partner, KAPHS brings NorthGlass's advanced products and technical expertise to the Middle East's most ambitious façade and interior projects.



**1995**

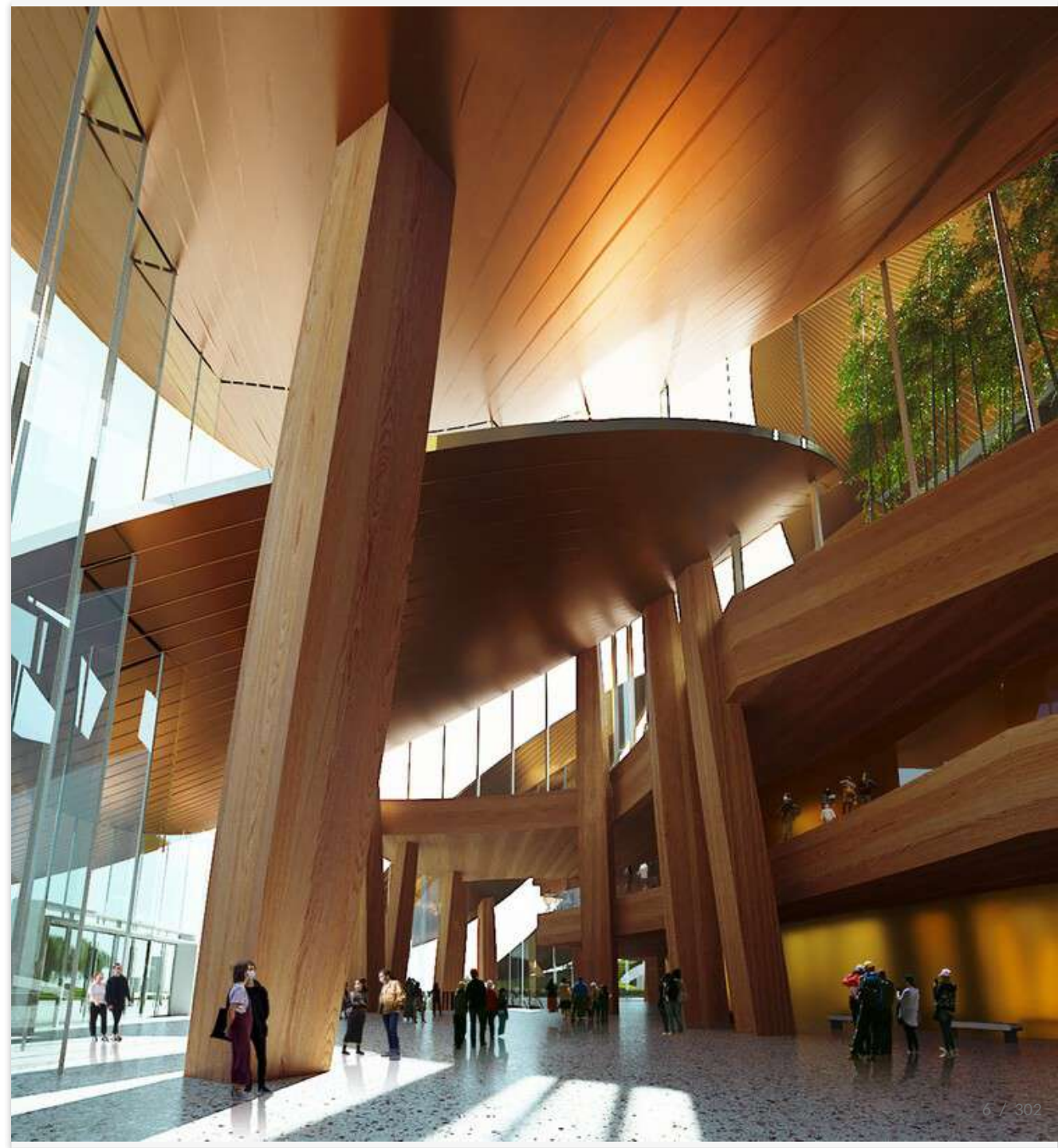
FOUNDED

**100+**

COUNTRIES

**25m**

MAX LENGTH



# 03

# Flat Jumbo Glass

Ultra-large flat panels for unbroken façades, transparent towers and monumental glass walls.

# Seamless façades at architectural scale.

Minimised joints. Uninterrupted views. Engineered for the Middle East.

NorthGlass is globally recognised as a pioneer in the production of ultra-large architectural glass, enabling the world's most ambitious façade designs. Through KAPHS — the official representative in the Middle East — these advanced jumbo solutions are available for landmark projects requiring scale, clarity and high performance.

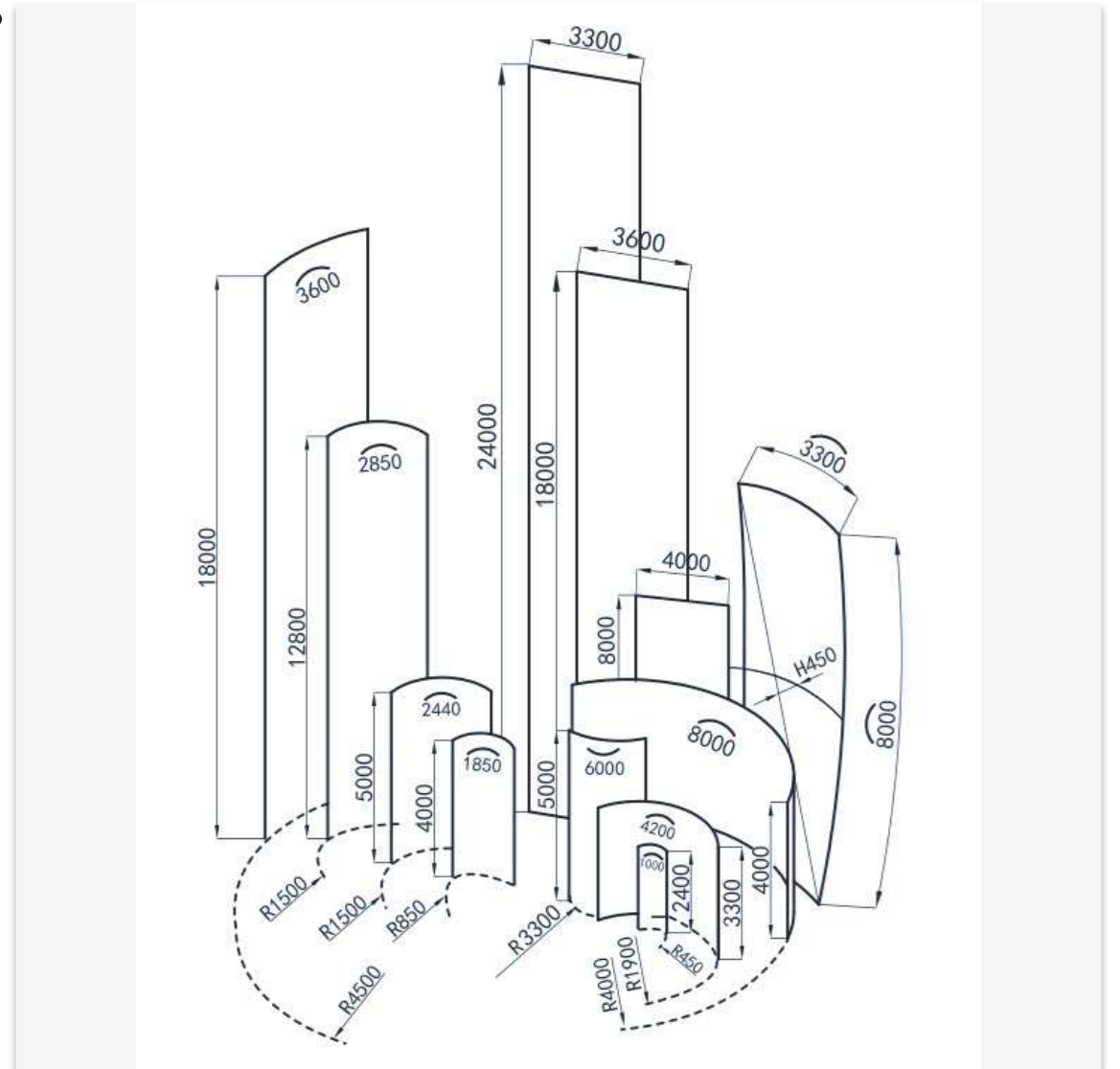
Oversized panels are engineered with precision and tailored to project requirements: tempered, laminated, insulated, low-E coated or curved. Each delivers excellent thermal insulation, solar control, acoustic performance and structural safety in demanding climates.

# Maximum processing sizes.

The full envelope of NorthGlass jumbo flat-glass production.

NorthGlass operates the industry's largest jumbo glass processing lines, supporting panels up to 24 metres in length and over 4 metres in width. The diagram opposite shows the manufacturable size envelope across the flat, semi-bent and 3D curved processes.

Each panel is custom-engineered around its end-use, with size, radius and arc-height options matched to architectural intent and façade engineering.



# Engineered for scale and consistency.

Jumbo glazing across coated, tempered, laminated, IGU and decorative processes.

| Process                             | Max Size (mm)     |
|-------------------------------------|-------------------|
| Coated Glass (Low Iron & Float)     | 3,300 × 25,000 mm |
| Coated Glass (Standard Float)       | 4,000 × 25,000 mm |
| Flat Tempering (Coated Glass)       | 3,300 × 25,000 mm |
| Insulated / Laminated / Heat-Soaked | 3,300 × 25,000 mm |
| 4SG Spacer Insulated Glass Units    | 3,300 × 7,000 mm  |
| Digital Printed Glass               | 3,300 × 18,000 mm |
| Ceramic Frit Glass                  | 3,300 × 18,000 mm |



# 04 Coatings

Vertically integrated coating technology — single silver, double silver and solar control families, each engineered for daylight, solar gain and thermal performance.

# In-house engineered. Optically refined.

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Vertically integrated coating technology — controlled end to end.

NorthGlass distinguishes itself not only through large-format glass production, but also through its vertically integrated coating technology. Unlike many manufacturers, NorthGlass designs and manufactures its own coating equipment — enabling full control over coating quality, consistency and innovation.

The result is a comprehensive coating library — Single Silver, Double Silver and Solar Control — each engineered to optimise light transmission, solar heat gain and thermal insulation across jumbo-sized panels.



# Single Silver Low-E — Performance Data

Balanced thermal performance with strong visual clarity.

| Production name                                    | Glass Buildup                  | Color      | Light Transmission(%) |                      |                    | Solar Energy(%) |                      | U Value [W/(M <sup>2</sup> ·K)] (Air) |        | U Value [W/(M <sup>2</sup> ·K)] (Argon) |        | SHGC | SC   | Temperable | Bendable | Size    |
|--|--------------------------------|------------|-----------------------|----------------------|--------------------|-----------------|----------------------|---------------------------------------|--------|---|--------|------|------|------------|----------|---------|
|  |                                |            | Transmission          | Out Door Reflectance | Indoor Reflectance | Transmission    | Out Door Reflectance | Winter                                | Summer | Winter                                  | Summer |      |      |            |          |         |
| <b>Single Silver Coating with clear base glass</b> |                                |            |                       |                      |                    |                 |                      |                                       |        |   |        |      |      |            |          |         |
| TNG11-89E  | 6CTNG11-89E#2+12mm Space+6C    | Neutral    | 80.3%                 | 12.0%                | 12.0%              | 52.2%           | 22.7%                | 1.71                                  | 1.67   | 1.44                                    | 1.37   | 0.58 | 0.67 | N          | N        | 3.3*18m |
| TNG11-85E  | 6CTNG11-85E#2+12mm Space+6C    | Neutral    | 77.9%                 | 12.2%                | 12.1%              | 52.1%           | 20.3%                | 1.80                                  | 1.8    | 1.55                                    | 1.52   | 0.58 | 0.67 | N          | N        | 3.3*18m |
| TNG11-80E-DB                                       | 6CTNG11-80E-DB#2+12mm Space+6C | Blue       | 72.2%                 | 15.4%                | 12.8%              | 47.2%           | 24.1%                | 1.78                                  | 1.77   | 1.52                                    | 1.49   | 0.53 | 0.61 | Y          | Y        | 3.3*18m |
| TNG11-70E-DB                                       | 6CTNG11-70E-DB#2+12mm Space+6C | Light Blue | 67.2%                 | 18.5%                | 13.6%              | 44.3%           | 25.2%                | 1.78                                  | 1.76   | 1.52                                    | 1.48   | 0.5  | 0.58 | Y          | Y        | 3.3*18m |
| TNG14-60E  | 6CTNG14-60E#2+12mm Space+6C    | Grey       | 52.5%                 | 20.9%                | 10.9%              | 33.9%           | 24.7%                | 1.82                                  | 1.82   | 1.57                                    | 1.55   | 0.4  | 0.46 | Y          | Y        | 3.3*18m |
| TNG15-55E  | 6CTNG15-55E#2+12mm Space+6C    | Light Blue | 50.6%                 | 33.8%                | 25.1%              | 28.3%           | 40.4%                | 1.7                                   | 1.66   | 1.42                                    | 1.35   | 0.33 | 0.38 | N          | N        | 3.3*18m |
| TNG14-55E  | 6CTNG14-55E#2+12mm Space+6C    | Grey       | 47.5%                 | 28.6%                | 17.3%              | 28.3%           | 31.8%                | 1.73                                  | 1.7    | 1.46                                    | 1.4    | 0.34 | 0.39 | N          | N        | 3.3*18m |
| TNG15-47E  | 6CTNG15-47E#2+12mm Space+6C    | Light Blue | 43.0%                 | 35.8%                | 16.3%              | 25.1%           | 38.2%                | 1.72                                  | 1.68   | 1.45                                    | 1.38   | 0.3  | 0.34 | N          | N        | 3.3*18m |
| TNG16-48E  | 6CTNG16-48E#2+12mm Space+6C    | Light Blue | 42.8%                 | 36.6%                | 22.0%              | 25.1%           | 38.2%                | 1.73                                  | 1.7    | 1.46                                    | 1.4    | 0.3  | 0.35 | N          | N        | 3.3*18m |
| TNG15-53E  | 6CTNG15-53E#2+12mm Space+6C    | Light Blue | 48.2%                 | 33.2%                | 17.4%              | 28.0%           | 37.6%                | 1.71                                  | 1.67   | 1.44                                    | 1.37   | 0.33 | 0.38 | N          | N        | 3.3*18m |
| TNG16-47E  | 6CTNG16-47E#2+12mm Space+6C    | Blue       | 42.9%                 | 29.6%                | 12.9%              | 26.7%           | 29.0%                | 1.8                                   | 1.8    | 1.54                                    | 1.52   | 0.33 | 0.38 | Y          | Y        | 3.3*18m |
| TNG17-40E  | 6CTNG17-40E#2+12mm Space+6C    | Grey       | 37.6%                 | 47.6%                | 22.6%              | 22.1%           | 57.5%                | 1.69                                  | 1.64   | 1.41                                    | 1.34   | 0.25 | 0.29 | N          | N        | 3.3*18m |
| TNG17-37E  | 6CTNG17-37E#2+12mm Space+6C    | Grey       | 33.6%                 | 44.2%                | 15.9%              | 19.5%           | 43.1%                | 1.71                                  | 1.67   | 1.44                                    | 1.37   | 0.24 | 0.28 | N          | N        | 3.3*18m |

Single Silver Coating with clear base glass. Data: TNG performance library — Sizes 3.3×18 m.

# Double Silver Low-E — Performance Data

Enhanced solar control for high-performance façades.

| Double Silver Coating with clear base glass |                             |            |       |       |       |       |       |      |      |      |      |      |      |   |   |         |
|---|-----------------------------|------------|-------|-------|-------|-------|-------|------|------|------|------|------|------|---|---|---------|
| TNG11-78D                                   | 6CTNG11-78D+12mm Space+6C   | Neutral    | 70.3% | 12.5% | 13.3% | 33.9% | 34.4% | 1.69 | 1.65 | 1.42 | 1.35 | 0.38 | 0.44 | N | N | 3.2*18m |
| TNG11-75D                                   | 6CTNG11-75D+12mm Space+6C   | Neutral    | 68.7% | 11.9% | 13.1% | 33.7% | 31.6% | 1.71 | 1.67 | 1.43 | 1.37 | 0.38 | 0.44 | N | N | 3.2*18m |
| TNG11-70D                                   | 6CTNG11-70D+12mm Space+6C   | Neutral    | 64.5% | 13.0% | 15.8% | 32.3% | 32.2% | 1.71 | 1.68 | 1.44 | 1.38 | 0.37 | 0.43 | N | N | 3.2*18m |
| TNG11-67D                                   | 6CTNG11-67D+12mm Space+6C   | Dark Blue  | 61.6% | 13.7% | 17.6% | 31.4% | 30.9% | 1.71 | 1.68 | 1.44 | 1.38 | 0.36 | 0.42 | N | N | 3.2*18m |
| TNG12-65D                                   | 6CTNG12-65D+12mm Space+6C   | Blue       | 59.7% | 12.3% | 14.0% | 28.9% | 31.7% | 1.70 | 1.67 | 1.43 | 1.36 | 0.34 | 0.39 | N | N | 3.2*18m |
| TNG12-60D                                   | 6CTNG12-60D+12mm Space+6C   | Light Blue | 54.4% | 12.7% | 12.7% | 25.9% | 29.7% | 1.71 | 1.67 | 1.43 | 1.37 | 0.31 | 0.36 | N | N | 3.2*18m |
| TNG12-53ND                                  | 6CTNG12-53ND+12mm Space+6C  | Light Blue | 47.7% | 17.4% | 11.4% | 21.1% | 35.3% | 1.67 | 1.62 | 1.39 | 1.3  | 0.26 | 0.30 | N | N | 3.2*18m |
| TNG12-62ND                                  | 6CTNG12-62ND+12mm Space+6C  | Light Blue | 56.2% | 17.1% | 14.1% | 26.3% | 33.2% | 1.68 | 1.63 | 1.40 | 1.32 | 0.31 | 0.36 | N | N | 3.2*18m |
| TNG13-51ND                                  | 6CTNG13-51ND+12mm Space+6C  | Light Blue | 46.9% | 17.4% | 12.4% | 20.3% | 38.2% | 1.67 | 1.62 | 1.39 | 1.3  | 0.25 | 0.28 | N | N | 3.2*18m |
| TNG11-80D-T                                 | 6CTNG11-80D-T+12mm Space+6C | Neutral    | 72.2% | 11.9% | 12.7% | 38.4% | 38.3% | 1.66 | 1.61 | 1.39 | 1.3  | 0.42 | 0.49 | Y | Y | 3.2*18m |
| TNG12-55D                                   | 6CTNG12-55D+12mm Space+6C   | Light Blue | 50.6% | 15.0% | 13.5% | 23.9% | 31.2% | 1.70 | 1.66 | 1.43 | 1.36 | 0.29 | 0.33 | N | N | 3.2*18m |
| TNG14-50D                                   | 6CTNG14-50D+12mm Space+6C   | Light Blue | 45.7% | 27.7% | 18.1% | 20.2% | 51.8% | 1.68 | 1.64 | 1.41 | 1.33 | 0.24 | 0.27 | N | N | 3.2*18m |

Double Silver Coating with clear base glass. Data: TNG performance library — Sizes 3.2x18 m.

# Solar Control – Performance Data

Engineered for the Middle East's most demanding climates.

| Solar Control Coating |                  |              |       |       |       |       |       |      |      |  |  |      |      |   |   |         |
|-----------------------|------------------|--------------|-------|-------|-------|-------|-------|------|------|--|--|------|------|---|---|---------|
| TNG11-80S             | 6C TNG11-80S#2   | Neutral      | 80.8% | 14.4% | 13.4% | 75.4% | 11.7% | 5.81 | 5.24 |  |  | 0.79 | 0.91 | N | N | 3.3*18m |
| SC70                  | 6C SC70          | Grey         | 66.3% | 4.6%  | 12.2% | 65.0% | 4.5%  | 5.81 | 5.24 |  |  | 0.76 | 0.87 | N | N | 3.3*18m |
| TNG13-65S             | 6C TNG13-65S#2   | Grey         | 65.6% | 17.1% | 24.2% | 63.4% | 12.5% | 5.81 | 5.24 |  |  | 0.71 | 0.81 | Y | Y | 3.3*18m |
| TNG12-58S             | 6C TNG12-58S#2   | Light Blue   | 58.2% | 12.5% | 18.8% | 54.9% | 9.6%  | 5.81 | 5.24 |  |  | 0.66 | 0.76 | Y | Y | 3.3*18m |
| TNG12-51S             | 6C TNG12-51S#2   | Light Blue   | 50.4% | 16.7% | 17.6% | 44.7% | 11.4% | 5.81 | 5.24 |  |  | 0.58 | 0.67 | Y | Y | 3.3*18m |
| TNG12-40S             | 6C TNG12-40S#2   | Grey         | 40.5% | 13.4% | 23.2% | 38.4% | 10.5% | 5.81 | 5.24 |  |  | 0.54 | 0.62 | Y | Y | 3.3*18m |
| TNG15-29S-T           | 6C TNG15-29S-T#2 | Grey         | 31.0% | 28.2% | 28.0% | 32.1% | 20.8% | 5.81 | 5.24 |  |  | 0.47 | 0.54 | Y | Y | 3.3*18m |
| TNG18-20S             | 6C TNG18-20S#2   | Grey         | 19.3% | 48.0% | 8.8%  | 17.9% | 33.2% | 5.81 | 5.24 |  |  | 0.33 | 0.38 | N | N | 3.3*18m |
| TNG19-00S             | 6C TNG19-00S#2   | White Silver | 0.4%  | 50.3% | 59.4% | 1.1%  | 42.5% | 5.81 | 5.24 |  |  | 0.19 | 0.21 | N | N | 3.3*18m |

Solar Control Coating data. Selectivity options across neutral, grey, light blue and white silver families.

# 05

# Apple Projects

Apple's flagship and global landmark stores — delivered with ultra-large jumbo glass that defines the brand's architectural language.

# Apple Store Sanlitun

LOCATION

Beijing — China

CLIENT

Apple

ARCHITECT

Foster + Partners

Drawing on the vibrant energy of the area, Apple Sanlitun has a porous building envelope that opens out onto all four sides and connects to the multi-layered circulation network. The principal glazed façade facing the central square floods the display areas inside with natural light.

**GLASS MAKE-UP**

12 mm LI FT/HST + 1.52 SGP + 12 mm LI FT/HST + 1.52 SGP + 12 mm LI FT/HST + 1.52 SGP + 12 mm LI FT/HST with Low-E (TNG01-89E) + Edge Frit #10 + 16AR + 10 mm LI FT/HST + Edge Frit #11 + 10 mm LI

**GLASS SIZE**

**W. 3,000 × H. 11,000 mm**



# Apple Store Shanghai IFC Mall

LOCATION

Shanghai — China

CLIENT

Apple

ARCHITECT

BCJ

The cylindrical glass tower — surrounded by two large skyscrapers and a substantial circular concrete wall — includes a spiral glass staircase leading to an underground retail space. The transparency of glass brings light into hard-to-reach spaces while the geometry responds specifically to the site conditions.

**GLASS MAKE-UP**

10 mm LI FT/HST + 1.52 SGP + 10 mm LI FT/HST + 1.52 SGP + 10 mm LI FT/HST + 1.52 SGP + 10 mm LI FT/HST + 1.52 SGP + 10 mm LI FT/HST

**GLASS SIZE**

**W. 2,573 × H. 12,217 mm**



# Apple Store Hong Kong Causeway Bay

LOCATION

Hong Kong

CLIENT

Apple

ARCHITECT

BCJ

This flagship Apple Store is located in Hysan Place Mall in Hong Kong's Causeway Bay district. The three-storey store features a 15-metre-tall glass façade allowing transparent views of all three levels inside. Full-height panels are laterally supported by single-piece fins — the panels and fins are among the largest glass elements produced in the world. Reducing the total number of glass joints maximises optical clarity.

**GLASS MAKE-UP**

12 mm LI FT/HST + 1.52 SGP + 12 mm LI FT/HST + 1.52 SGP + 12 mm LI FT/HST + 1.52 SGP + 12 mm LI FT/HST + 1.52 SGP + 12 mm LI FT/HST

**GLASS SIZE**

**W. 2,573 × H. 12,217 mm**



# Apple Store Changsha

LOCATION

Changsha — China

CLIENT

Apple

ARCHITECT

Foster + Partners

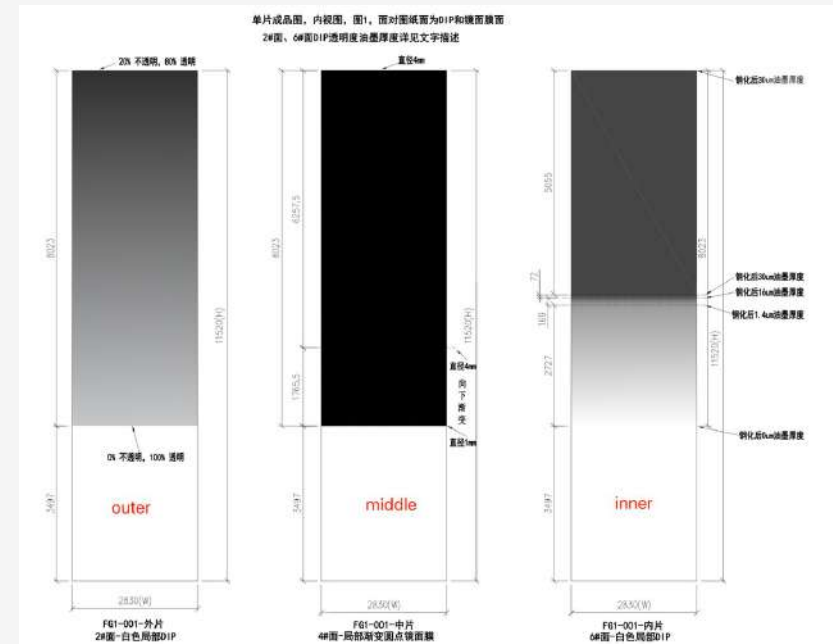
The new Changsha store is located in the popular Changsha IFS shopping mall and faces the bustling Huangxing Road. Visitors encounter a uniquely designed double-height façade featuring a new gradient frit and mirrored coating treatment that blurs the transition from top to bottom and shifts in appearance depending on viewing angle and lighting.

**GLASS MAKE-UP**

12 mm LI HS + Frit #2 + 1.52 SGP + 12 mm LI HS + Mirror Coating #4 + 1.52 SGP + 12 mm LI HS + Frit #6 + 16A + 8 mm LI HS with Low-E #7 + 1.52 SGP + 8 mm LI HS

**GLASS SIZE**

**W. 2,830 × H. 11,520 mm**



# Apple Park



LOCATION

California — USA

CLIENT

Apple

ARCHITECT

Foster + Partners

Apple Park posed a major design challenge with the use of extensive oversized building glass. The largest low-emissivity insulating panels reach 16 metres in height, using the world's most advanced tempering and Low-E coating technology to deliver exceptional strength and energy performance. The project is also recognised as one of Apple's most environmentally advanced buildings.

**GLASS MAKE-UP**

12 mm LI HS with AP-SC70 #2 + 3.04 SGP + 12 mm LI HS (Cold Bent)

**GLASS SIZE**

**W. 2,712 × H. 15,607 mm**



# 06

# Quality Standards

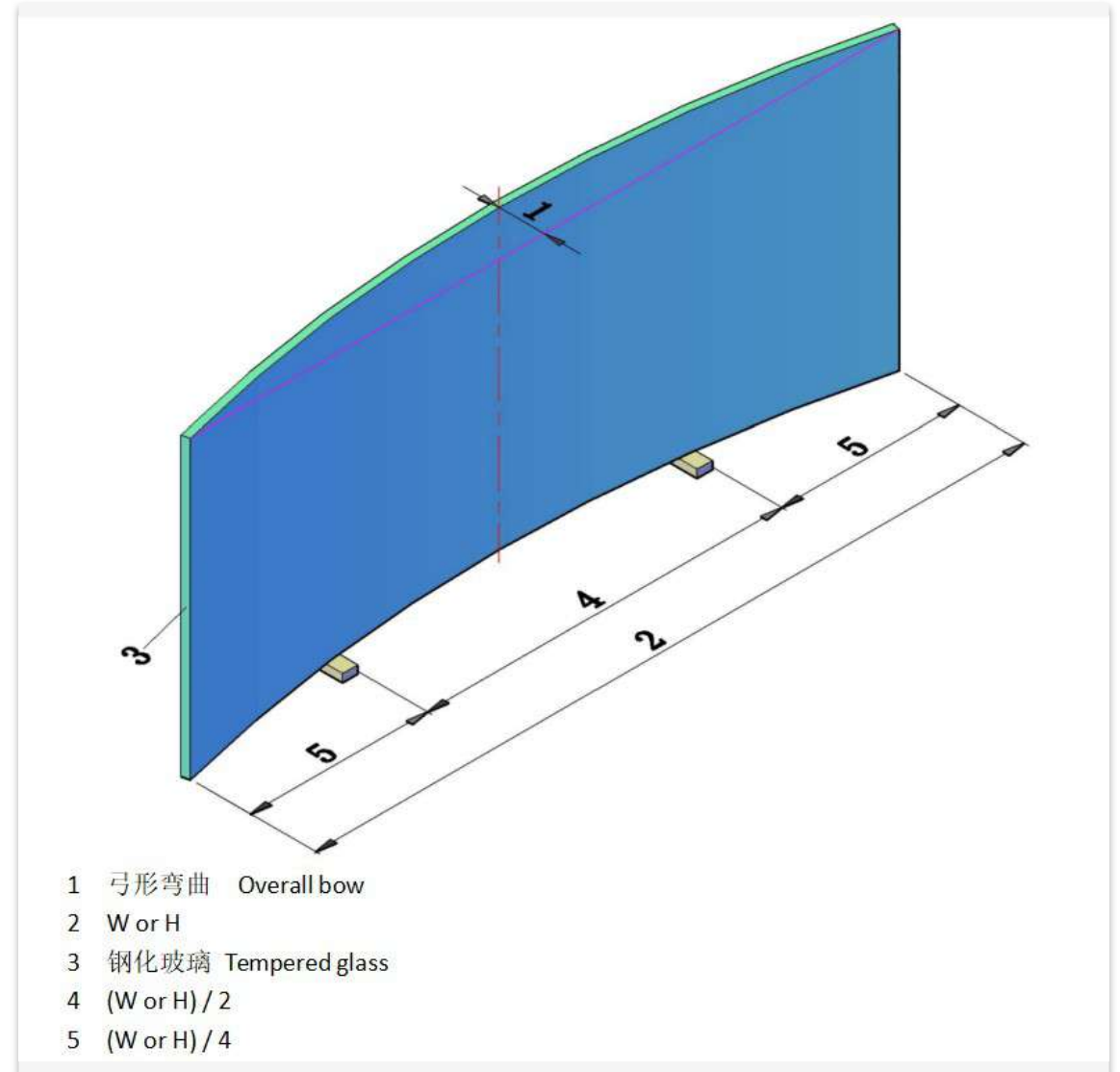
Flatness, distortion, anisotropy and warm-edge IGU technology — the inline standards behind every jumbo panel.

# Flatness & Distortion — Overall Bow

Controlled bow tolerances for jumbo tempered panels.

Overall bow describes the deviation of the panel surface from its theoretical plane. NorthGlass tempering lines deliver tight control over this parameter — ensuring jumbo panels remain visually flat once installed.

Bow is measured across both height (H) and width (W) using calibrated straight edges, with measurement points at the centre and at the  $(W/H) / 2$  and  $(W/H) / 4$  positions, as shown opposite.

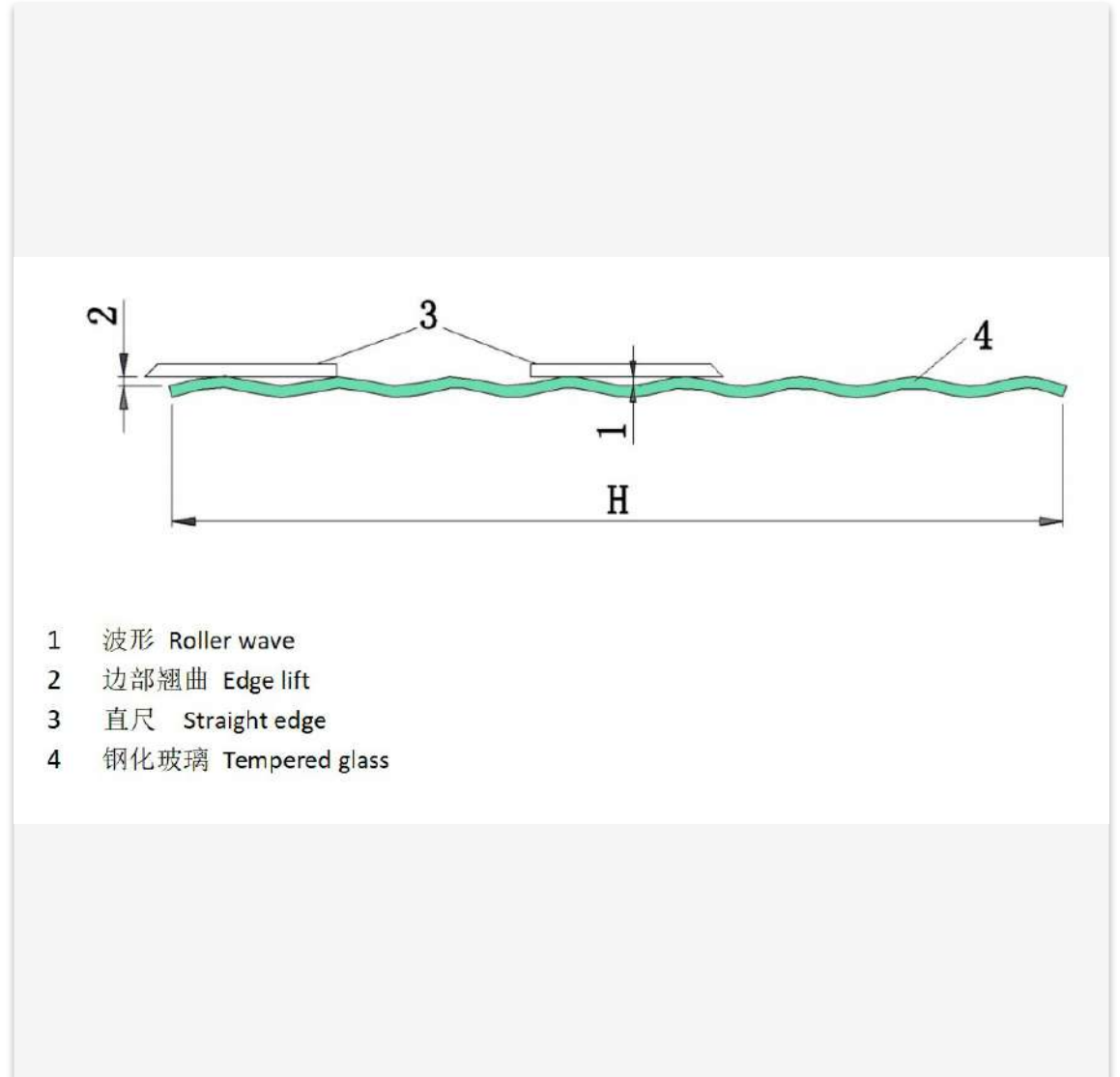


# Roller Wave & Edge Lift

## Optical purity across heat-treated jumbo panels.

Roller wave is the periodic surface undulation introduced by tempering rollers. Edge lift describes the slight upward curvature near the panel perimeter. Both directly affect the visual quality of reflective façades.

NorthGlass tempering equipment is engineered to minimise these distortions, producing surfaces that maintain image stability under varying lighting and viewing angles. The diagram shows the inspection method using a straight edge on the tempered glass surface.

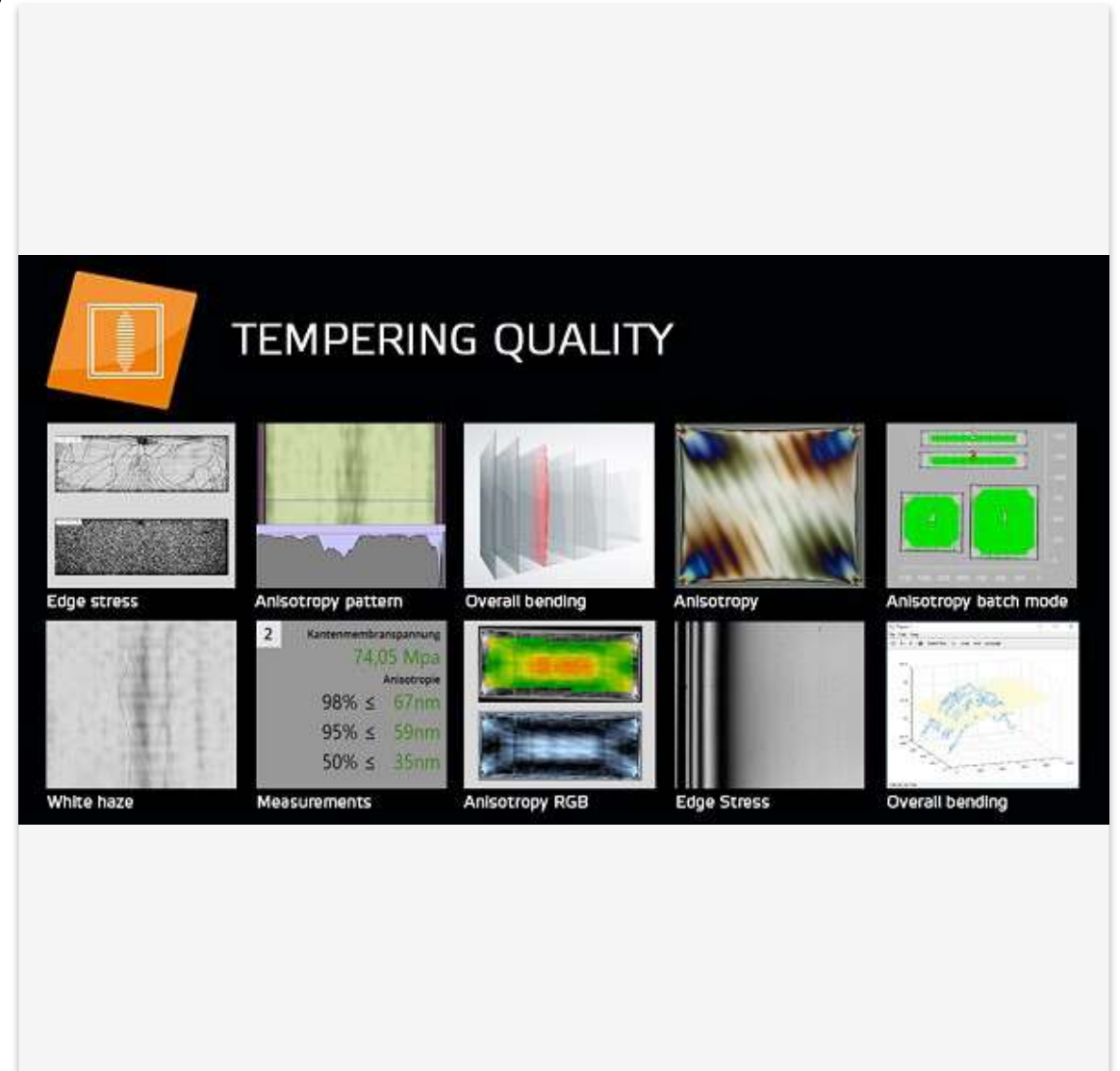


# Inline Anisotropy & Quality Scanner

Every tempered jumbo sheet scanned — 100% inline inspection.

Each tempered panel passes through an inline LineScanner. In a single scanning operation the system records isotropy, edge stress, surface and dimensional quality across the full panel — generating a digital quality record per sheet.

- Isotropy / anisotropy value (%)
- Edge stress (MPa)
- Glass surface — scratches, inclusions, soiling
- Edge quality — conchoidal fractures
- Dimensions, drill holes & cut-outs
- Screen-printing & logo verification

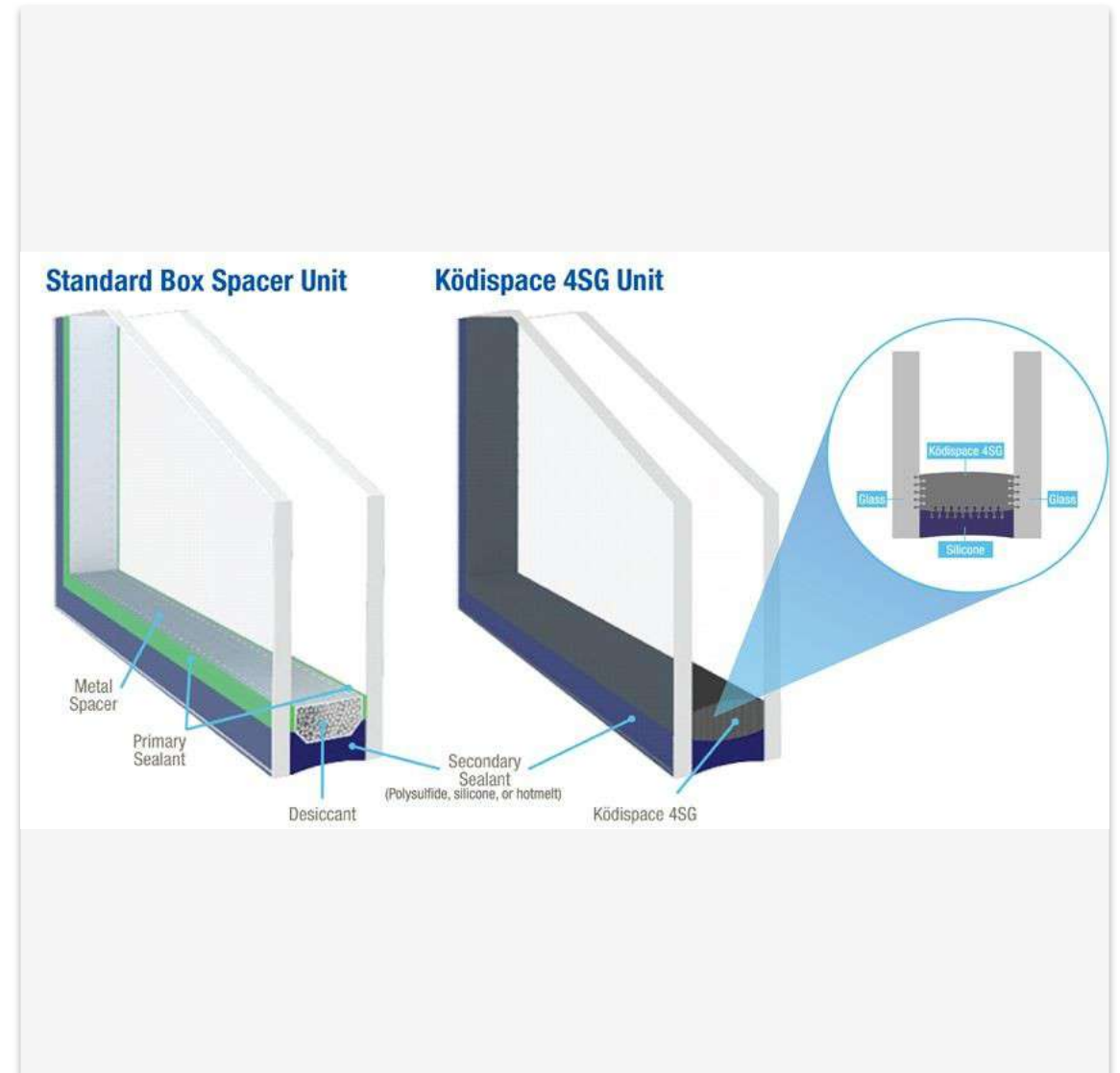


# Ködispace 4SG Insulated Glass Units

A thermoplastic warm-edge spacer engineered for jumbo IGUs.

Ködispace 4SG is a reactive thermoplastic warm-edge spacer system with built-in desiccant — completely replacing the traditional edge system of spacer, desiccant and primary seal.

The patented formulation chemically bonds to glass and silicone secondary sealant, eliminating spacer migration. The diagram opposite compares the standard box-spacer unit to the Ködispace 4SG unit.



# 07

# Flat Jumbo Glass Projects

Three landmark projects demonstrating the scale and precision of NorthGlass flat jumbo panels.

# Taikang Headquarters

LOCATION

Beijing — China

CLIENT

Taikang

ARCHITECT

Pelli Clarke & Partners / Arup

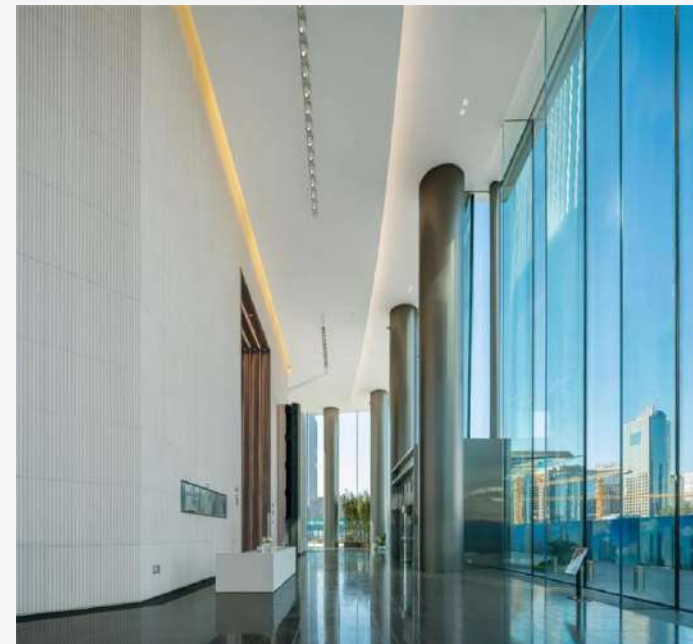
Tianjin NorthGlass delivered laminated and double-laminated insulating low-E ultra-clear panels at 17.1 m × 3.107 m, each weighing 6.5 t. Unlike most Chinese all-glass curtain walls, the Taikang tower lifts the glass curtain wall above the awning — demonstrating NorthGlass's strength in super-large panel processing.

**GLASS MAKE-UP**

12 mm LI HS + Edge Frit #2 + 1.52 SGP + 12 mm LI HS with TNG11-69D #4 + 16A + 12 mm LI HS + 1.52 SGP + 12 mm LI HS + Edge Frit #7

**GLASS SIZE**

**W. 2,970 × H. 17,000 mm**



# Anji Culture & Arts Center

LOCATION

Zhejiang — China

CLIENT

Anji Construction Group

ARCHITECT

MAD

Over 7,000 m<sup>2</sup> of super-large tempered panels for MAD's "Two Mountains" Future Technology City — including a record-breaking 19 m IGU panel weighing 10 t, a 104 mm thick 7-layer laminated structure, and the tallest self-supporting full-glass curtain wall in China to date.

**GLASS MAKE-UP**

12 mm LI FT/HST + 1.52 SGP + 12 mm LI FT/HST + 1.52 SGP + 12 mm LI FT/HST + 1.52 SGP + 12 mm LI FT/HST + 1.52 SGP + 12 mm LI FT/HST with Low-E #10 + 20A + 12 mm LI FT/HST + 1.52 SGP + 12 mm LI FT/HST

**GLASS SIZE**

**W. 2,437 × H. 14,036 mm**



# Beijing Library

LOCATION

Beijing — China

CLIENT

Beijing Library

ARCHITECT

Snøhetta

The library's extraordinary glass infrastructure is its focal point. The front comprises 276 laminated panels of 2.5 m × 15.3 m, each reinforced with SentryGlas Xtra® (SGX®). Each panel weighs 11.5 t and stacks seven layers of high-performance glass to a combined 133 mm.

**GLASS MAKE-UP**

15 mm LI FT/HST + Frit #2 + 1.52 SGP + 15 mm LI FT/HST + 1.52 SGP + 15 mm LI FT/HST + 1.52 SGP + 15 mm LI FT/HST + 1.52 SGP + 15 mm LI FT/HST with Low-E #10 + 20AR + 15 mm LI FT/HST + 1.52 SGP + 15 mm LI FT/HST

**GLASS SIZE**

**W. 2,536 × H. 15,300 mm**



# 08

# Curved Jumbo Glass

Single curvature and 3D bent panels for fluid, organic envelopes that move beyond the flat façade.



# Glass that bends with architectural intent.

---

Single curvature and 3D geometries — engineered to landmark precision.

Curved Jumbo Glass by NorthGlass enables fluid, organic building forms that move beyond traditional flat façades. Available through KAPHS in the Middle East, these solutions combine large-format production with precision bending technologies for single and complex 3D geometries.

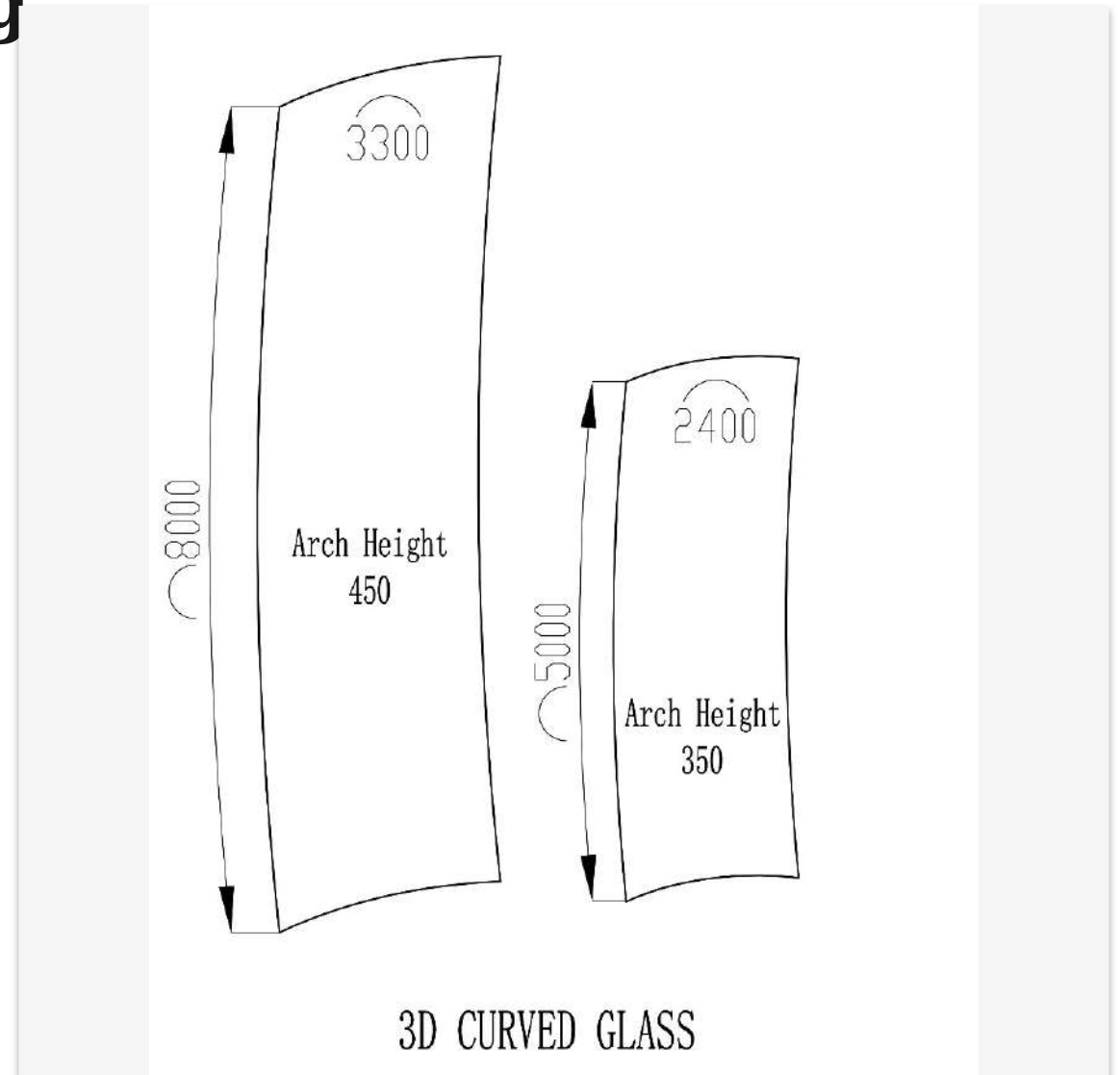
Single Curved Glass is engineered through controlled hot bending — producing smooth, consistent radii across large panels. For more advanced applications, 3D (double) curved glass enables multi-directional curvature for the freeform shapes of iconic architecture. Both can be integrated with tempering, laminating, insulating and Low-E coatings.

# 3D Curved Glass — Bending Envelope

Arc rise, chord and panel height capabilities for 3D curved jumbo panels.

NorthGlass's 3D curved jumbo glass is produced through precision hot bending, supporting arc rises up to 2,500 mm and panel heights up to 12 m. Minimum bend radius is R 75 mm.

The diagram opposite shows two reference panel geometries from the bending envelope — including chord, height and arc-height parameters that define each curve.



# Hot bending at jumbo scale.

Single curved, double curved, insulated, laminated and printed curved glass.

| Process                                  | Max Size (mm)       |
|--|---------------------|
| Curved Tempering (Single, Uncoated)      | 3,300 × 18,000 mm   |
| Curved Tempering (Double / Triple Low-E) | 3,200 × 18,000 mm   |
| Insulated / Laminated Curved Glass       | Custom large-format |
| Digital Printed Curved Glass             | 3,300 × 18,000 mm   |
| Ceramic Frit Curved Glass                | Custom large-format |
| 3D (Double) Curved Glass                 | 3,300 × 12,000 mm   |
| Minimum Bend Radius                      | R 75 mm             |
| Maximum Arc Rise                         | 2,500 mm            |



# 09

# Curved Glass Accuracy

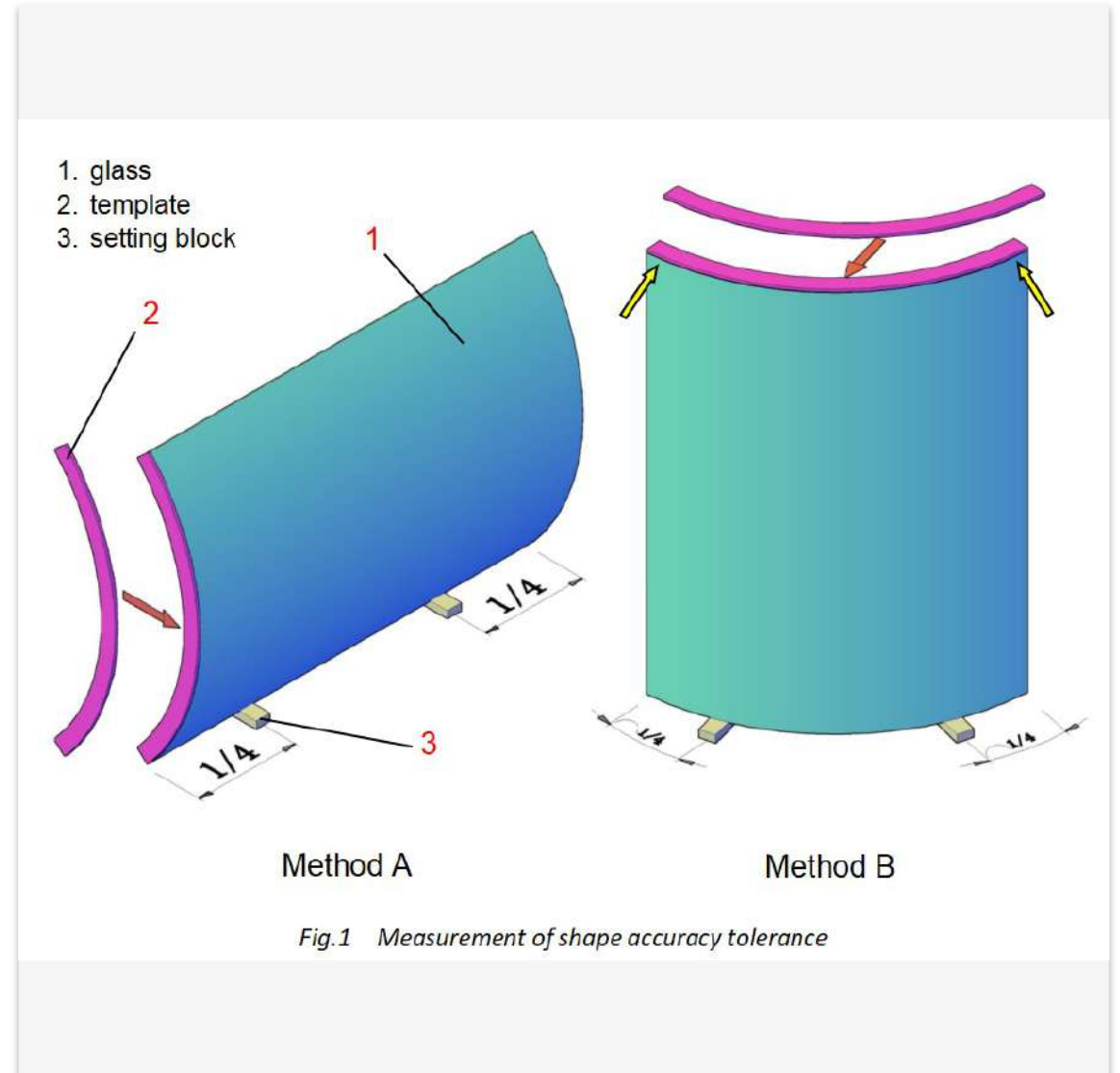
Shape, twist and cross-curve tolerances — the precision behind every curved jumbo panel.

# Shape Accuracy

Radius and chord control on every curved panel.

Shape accuracy describes how closely a curved tempered panel follows the specified radius and chord. NorthGlass curved tempering equipment delivers consistent shape control across long arc lengths and large arc rises.

Each curved panel is measured using template-based methods (Method A) or full-panel comparison (Method B), as shown opposite. Deviation is reported per panel.

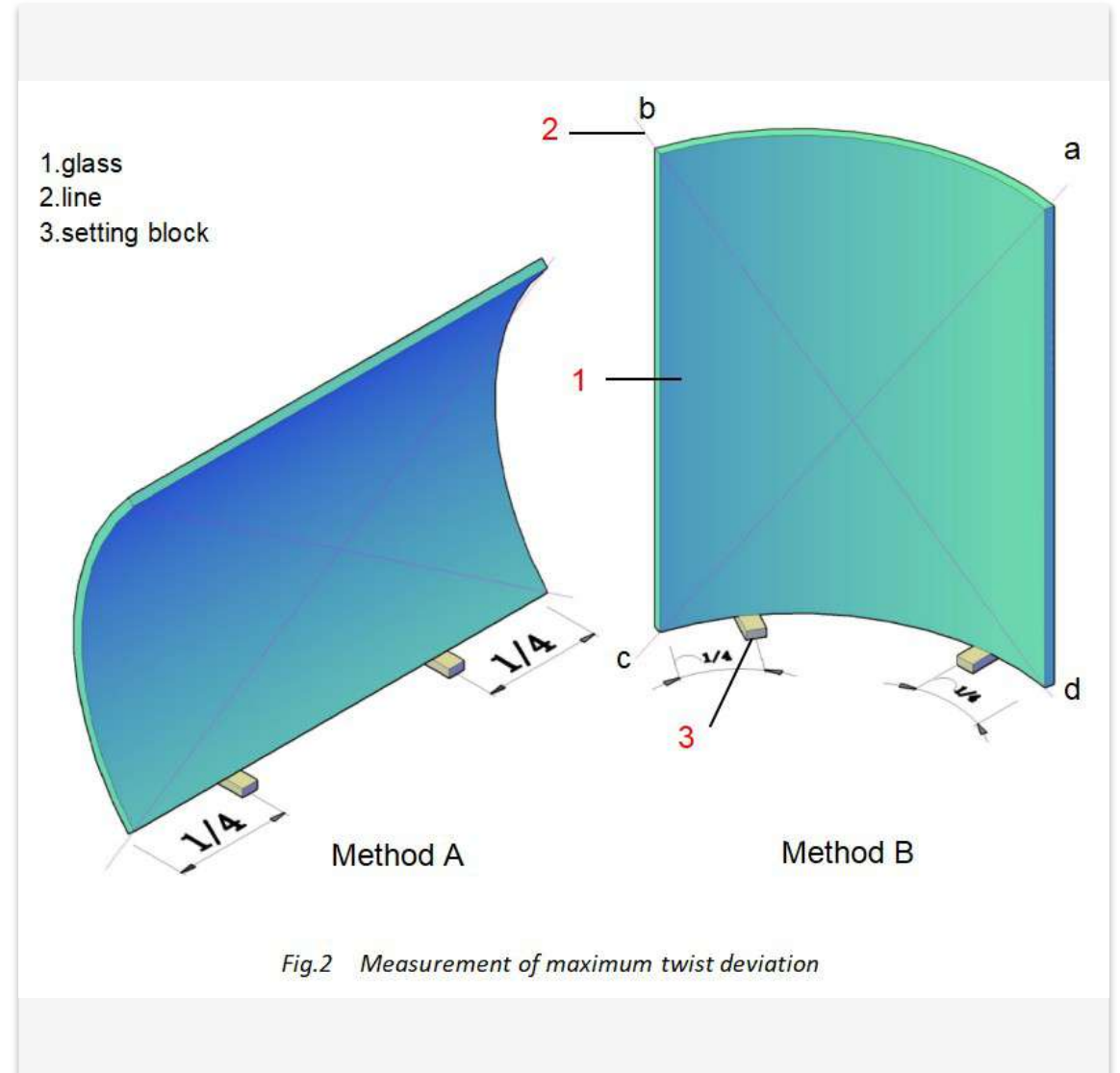


# Twist Accuracy

## Controlled twist tolerances on 3D curved panels.

Twist accuracy is critical for 3D bent panels, where uncontrolled twist can introduce installation stress and visual misalignment. NorthGlass controls twist through precision furnace control and mould design.

Maximum twist deviation is measured using template-based (Method A) and edge-line (Method B) reference geometries, as shown opposite.

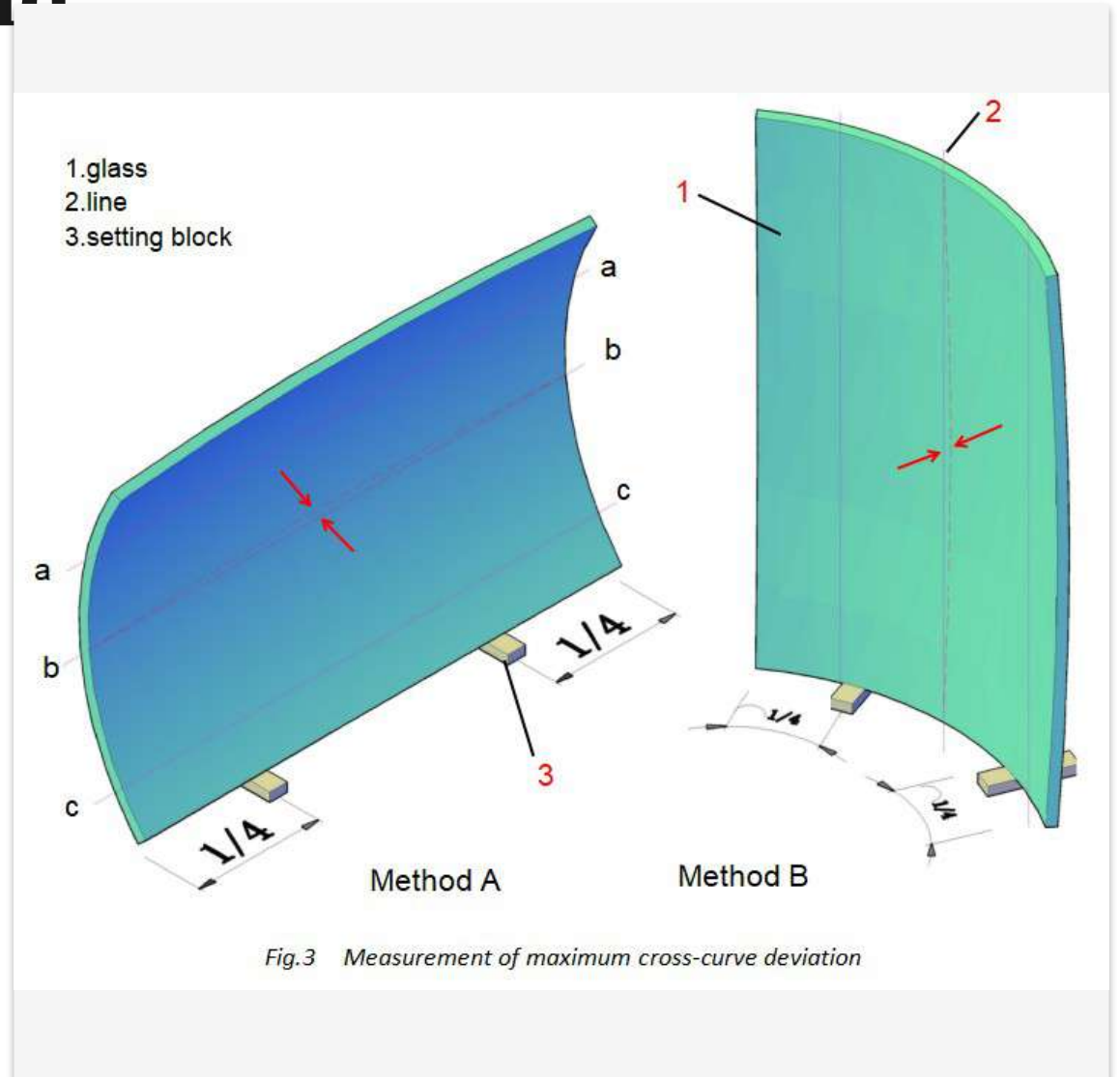


# Cross-Curve & Edge Bending Accuracy

Edge alignment for clean, sealed installations.

Cross-curve deviation describes the precision of the panel's edge profile relative to its design height. Even on curved geometries, panel edges must align cleanly with adjacent components and silicone joints.

Inline scanning verifies edge geometry, allowing curtain wall contractors to plan installation sequences with confidence. The diagram opposite shows the cross-curve deviation measurement methods (A and B).

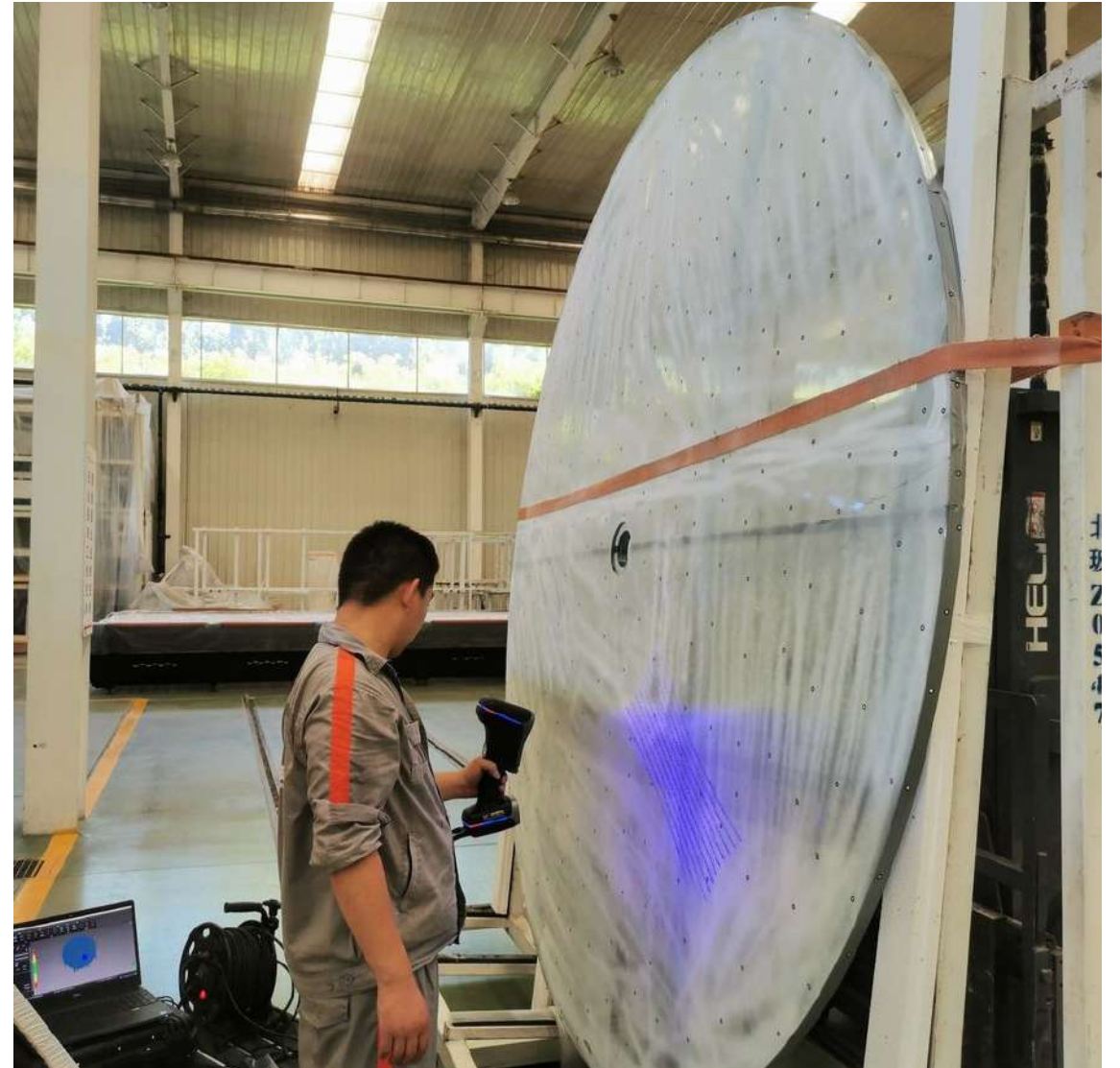


# 3D Scanning

Every curved panel scanned, every result documented.

NorthGlass operates inline 3D scanning across its curved tempering production. Scanned data is compared against the design 3D surface, generating a per-panel quality report covering shape, twist, edge and overall conformity.

This digital record supports project audit trails, façade-level coordination and post-installation traceability — essential on landmark projects with complex geometry and thousands of unique panels.



# 10

# Curved Jumbo Glass Projects

Eight landmark projects — from cylindrical entrances and sail-shaped façades to undulating airport boutiques and stadium ribbons.

# Jing'an Apple Store

LOCATION

Shanghai — China

CLIENT

Apple

ARCHITECT

Foster + Partners

The Apple Jing'an store features a distinctive 15 m arc-length curved tempered glass cylinder entrance that leads visitors into the underground store — a hallmark detail of many Apple stores integrated with the surrounding urban environment.

**GLASS MAKE-UP**

10 mm LI FT/HST + 1.52 SGP + 10 mm LI FT/HST + Frit #3 + 16A + 10 mm LI FT/HST with Low-E #5 + 3.04 SGP + 10 mm LI FT/HST + Frit #7 (Cold Bent)

**GLASS SIZE**

**W. 7,600 × H. 3,284 mm**



# 2050 M Street



LOCATION

Washington — USA

CLIENT

Tishman Speyer

ARCHITECT

REX

978 identical 3,350 mm-tall curved insulated glass units along the building's north and west sides — their compressive strength allowed fabrication without mullions, creating a seamless appearance. A high-performance Low-E coating improves energy efficiency while adding a distinctive aesthetic.

**GLASS MAKE-UP**

6 mm LI HS + 1.52 PVB + 6 mm LI HS with Low-E #4 + 16A + 8 mm Clear HS with Low-E #5 Curved

**GLASS SIZE**

**W. 1,500 × H. 3,200 mm**



# New Performing Arts Venue

LOCATION

Brisbane — Australia

CLIENT

QPAV

ARCHITECT

Snøhetta

The new theatre at the Queensland Cultural Centre carries a bespoke curved glass façade of 2,400 m<sup>2</sup> across 217 panels. The fully suspended façade reaches 14.28 m, with the largest panel weighing nearly 2.4 tonnes — installed using robust engineering and safety controls.

**GLASS MAKE-UP**

10 mm LI HS + 1.52 SGP + 10 mm LI HS with Low-E #4 + 12AR + 10 mm LI HS + 1.52 SGP + 10 mm LI HS Curved

**GLASS SIZE**

**W. 1,000 × H. 7,000 mm**



# Louis Vuitton Kansai Airport

LOCATION

Osaka — Japan

CLIENT

Louis Vuitton

ARCHITECT

OMA

Louis Vuitton's first standalone airport boutique in Japan, located airside on the second floor of Terminal 1. The store is set apart by a striking undulating curved glass façade that breaks the monotony of typical airport retail environments.

**GLASS MAKE-UP**

6 mm LI FT/HST + Frit #1 + 2.28 SGP + 6 mm LI FT/HST Curved

**GLASS SIZE**

**W. 900 × H. 4,000 mm**



# National Speed Skating Oval

LOCATION

Beijing — China

CLIENT

Beijing State Asset Management

ARCHITECT

Populous

The "Ice Ribbon" features a striking exterior of 3,360 curved and flat glass panels designed to resemble 22 flowing ribbons of ice. Ultra-clear, laminated, insulating glass with double silver Low-E coating defines the iconic stadium envelope.

**GLASS MAKE-UP**

6 mm LI Semi-Bent + 1.52 SGP + 6 mm LI Semi-Bent + Frit #4

**GLASS SIZE**

**R. 175 mm (small-radius curved)**



# Changfeng Mixed-Use Development

LOCATION

Shanghai — China

CLIENT

SKI Development

ARCHITECT

Foster + Partners

Foster + Partners' Changfeng development in Shanghai's Putuo District. The upper façades use tubular curved glass with stainless-steel back panelling that can be illuminated at night. Lower volumes incorporate horizontal canopies and vertical fins to optimise energy efficiency.

**GLASS MAKE-UP**

8 mm LI HS + 1.52 SGP + 8 mm LI HS Curved

**GLASS SIZE**

**W. 880 × H. 4,000 mm**



# Louis Vuitton Osaka

LOCATION

Osaka — Japan

CLIENT

Louis Vuitton

ARCHITECT

Jun Aoki & Associates

The Louis Vuitton Osaka façade references sails as its design metaphor. The building is covered by ten sails whose 3D airfoil shapes are composed of 2D curved glass panels — each double-glazed with a white-cloth ceramic frit pattern that neutralises glass colour.

**GLASS MAKE-UP**

8 mm LI HS + Frit #1 + 1.52 SGP + 8 mm LI HS

**GLASS SIZE**

**W. 3,000 × H. 6,560 mm**



# Oppo Headquarters

LOCATION

Shenzhen — China

CLIENT

Oppo

ARCHITECT

Zaha Hadid Architects

A landmark by Zaha Hadid Architects at the Shenzhen Bay Super Headquarters Base. NorthGlass is supplying approximately 70,000 m<sup>2</sup> of high-performance glass, including 14,000 custom curved panels — of which more than 9,000 are highly complex multi-curved units showcasing advanced manufacturing precision.

**GLASS MAKE-UP**

10 mm LI HS with Solar Control Coating #2 + 2.28 SGP + 10 mm LI HS with Low-E #4 + 16A + 10 mm LI HS + 2.28 SGP + 10 mm LI HS Curved

**GLASS SIZE**

**W. 1,200 × H. 11,000 mm**



# 11

# Middle East Projects

Landmark glass façades delivered across the GCC — from Dubai's flagship retail to Abu Dhabi's new airport and Kuwait's iconic banking tower.

MIDDLE EAST / 01 OF 05

NORTHGLASS / JUMBO GLASS

# Apple Store Dubai Mall

LOCATION

Dubai — UAE

CLIENT

Apple

ARCHITECT

Foster + Partners

Located in Dubai Mall — one of the most visited urban centres in the world, attracting over 80 million visitors a year — the new Apple Dubai Mall sits alongside the Burj Khalifa and overlooks the Dubai Fountains. Spanning two floors, it embraces the theatre of the fountains with a sweeping 56.6 m wide and 5.5 m deep terrace — a first for any Apple Store — delivering unparalleled views of the choreographed display.

**GLASS MAKE-UP**

12 mm LI HS + 1.52 SGP + 10 mm LI HS with Low-E #4 + 18AR + 12 mm LI HS + 1.52 SGP + 12 mm LI HS Curved

**GLASS SIZE**

**W. 2,573 × H. 12,217 mm**



# Zayed International Airport

LOCATION

Abu Dhabi — UAE

CLIENT

Abu Dhabi Airports

ARCHITECT

Kohn Pedersen Fox

NorthGlass supplied curved and coated jumbo panels for the terminal envelope, working with Guardian Glass's SunGuard™ SuperNeutral™ 40/23 HT — a high-selectivity coating offering 40% VLT, low solar heat gain (g 0.23) and U-value of 1.0 W/m<sup>2</sup>K. NorthGlass led the bending process with Guardian's technical support, delivering panels suited to the intense desert setting while maintaining a neutral terminal ambiance.

**GLASS MAKE-UP**

6 mm Clear HS + Edge Frit #2 + 1.52 SGP + 6 mm Clear HS with Low-E #4 + 12A + 6 mm Clear HS + Frit #5 + 3.04 SGP + 6 mm Clear HS + Frit #7

**GLASS SIZE**

**Large-format curved façade**



# The Mobility Pavilion (Alif)

LOCATION

Dubai — UAE

CLIENT

Expo 2020

ARCHITECT

Foster + Partners

The Mobility Pavilion — named Alif after the first letter of the Arabic alphabet, symbolising the beginning of progress and new horizons — occupies a dedicated plaza at the south entrance of the Expo 2020 site. Its ribbed and curved shape was designed to evoke movement; the highly reflective stainless-steel cladding, inspired by chrome fenders and aircraft wings, reflects motion from the surrounding plaza, making the building seem alive.

**GLASS MAKE-UP**

8 mm LI HS + 1.52 PVB + 8 mm LI HS with Low-E #4 + 20AR + 8 mm LI HS

**GLASS SIZE**

**Curved insulated façade panels**



# National Bank of Kuwait

LOCATION

Kuwait City — Kuwait

CLIENT

NBK

ARCHITECT

Foster + Partners

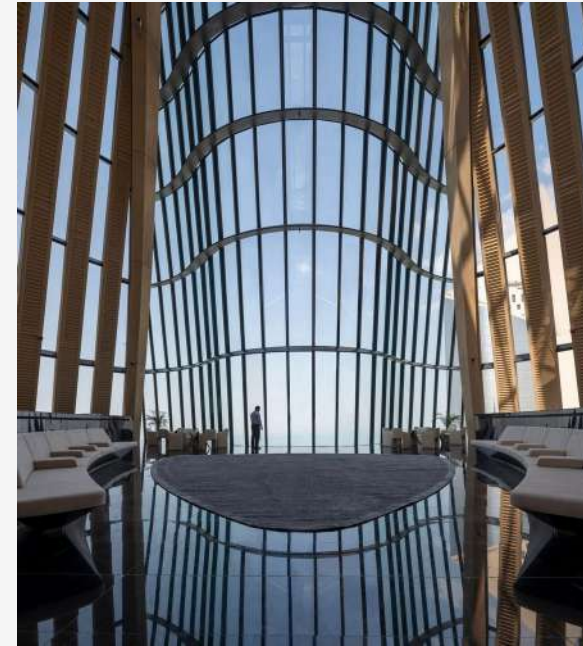
The tower's cylindrical form opens like a shell to the north to avoid solar gain, revealing views of the Arabian Gulf. The southern façade is shaded by a series of concrete fins extending the full height of the tower — providing structural support, reducing solar exposure and evoking the form of the dhow sailing boat, a reference to Kuwait's roots in maritime trade. The tapered base maximises floor space at the top while promoting self-shading.

**GLASS MAKE-UP**

8 mm LI HS with Low-E #2 + 1.52 PVB + 8 mm Clear HS with Low-E #4 + 16AR + 6 mm Clear HS + 1.52 PVB + 6 mm Clear HS

**GLASS SIZE**

**W. 2,175 × H. 7,989 mm**



# Palm Flower

LOCATION

Dubai — UAE

CLIENT

Alpago

ARCHITECT

Foster + Partners

Palm Flower is a striking residential building located on the 'trunk' of the Palm Jumeirah in Dubai — the last remaining plot to be developed along the two-kilometre stretch, making it one of the most exclusive new addresses in the city. Residents access the double-height lobby via an elevated drop-off, creating a sense of arrival and uninterrupted views across the water. Private lifts take residents directly from the lobby to their apartments, each spanning the entire floorplate — expansive living spaces framed against a backdrop of sea and sky.

**GLASS MAKE-UP**

6 mm LI HS with Solar Control Coating #2 + 1.52 SGP + 6 mm LI HS with Low-E #4 + 16AR + 8 mm LI FT/HST + Frit #5

**GLASS SIZE**

**Bespoke curved residential  
glazing**



# Engineered to specification.

Each NorthGlass jumbo panel can be specified across substrates, thicknesses, make-ups and finishes — supporting bespoke façade and interior projects in the Middle East and the world's most demanding climates.

## Substrates

- Low Iron (Optiwhite)
- Standard float
- Heat-soaked tempered (HST)
- Ceramic frit

## Thicknesses

- 6 mm / 8 mm / 10 mm
- 12 mm / 15 mm
- Multi-laminated up to 133 mm
- Custom on request

## Make-ups

- Tempered (FT) / Heat-Soaked
- SGP / PVB laminated
- Insulated (Air / Argon)
- Curved / 3D bent

## Finishes

- Low-E (Single / Double Silver)
- Solar Control coatings
- Ceramic frit / digital print
- Anti-reflective on request



MIDDLE EAST

GET IN TOUCH

# Let's specify your next façade.

## OFFICE

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KAPHS Middle East Building Materials Trading LLC

Office 1701, Tower A, Prime Business Centre

Jumeirah Village Circle, Dubai, UAE

## CONTACT

---

+971 4 554 2145

[sales@kaphsgroup.com](mailto:sales@kaphsgroup.com)

[kaphsgroup.com](http://kaphsgroup.com)



L A M B E R T S   L I N I T ™   /   A R C H I T E C T U R A L   C A S T   G L A S S

# U-Channel Glass

*A precision-engineered cast glass system  
for façades, partitions, and architectural daylighting.*

O F F I C I A L   R E P R E S E N T A T I V E   /   M I D D L E   E A S T

**LAMBERTS**  
est. 1887

P R O D U C T   C A T A L O G U E

2 0 2 6   E D I T I O N

## TABLE OF CONTENTS

# Contents

*An overview of the KAPHS U-Channel Glass programme: product description, applications, finishes, fixing systems, reference projects across the GCC, and the full Lamberts LINIT™ profile range.*

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SECTION

01

# Product Description

*A precision-engineered cast glass system, manufactured by Lamberts of Germany.*

## 01 — INTRODUCTION

# Cast glass, refined for architecture.

LAMBERTS LINIT™ Channel Glass is a precision-engineered, U-profile cast glass system designed for contemporary architectural façades and interior glazing. Manufactured in Germany by Lamberts (est. 1887), it combines structural performance with refined light diffusion.

KAPHS is the official representative for Lamberts LINIT™ Channel Glass across the Middle East since 2006 — supplying the full range with project-level technical support.

MANUFACTURED BY

**LAMBERTS**  
est. 1887

## 01 — SYSTEM PARAMETERS

# Standard dimensions, modular flexibility.

LINIT™ Channel Glass is produced in standardised profiles, enabling modular design with flexibility for custom architectural requirements. Profile widths span 232–498 mm; flange heights are 41, 60, or 80 mm; glass thickness is 6 or 7 mm.

Lengths reach up to seven metres depending on project conditions, glass type, and structural design. Single or double-glazed configurations are available, and the system supports both vertical and horizontal orientation.

7 m

MAX LENGTH

4

PROFILE WIDTHS

20+

YEARS IN REGION



SECTION

02

# Applications

*Where U-Channel Glass performs — façades, partitions, and wall cladding.*

# U-Channel Glass



## Façades & building envelopes.

LINIT™ Channel Glass is ideal for external façades and curtain wall systems, creating seamless, translucent building skins with minimal framing.



## Interior partitions & feature walls.

Inside the building, channel glass provides visual separation without compromising light flow.



## Wall cladding & feature surfaces.

Channel glass also functions as an architectural cladding element.



## Twin-wall façade installations.

Where higher thermal performance, sound attenuation, or solar control is required, LINIT™ is specified as a double-glazed twin-wall assembly.

SECTION

03

# Finishes

*Five surfaces and one insulation system — engineered for light, privacy, and performance.*

# U-Channel Glass



**Clear Glass**

Standard cast glass finish offering maximum light transmission with a subtle textured surface. Specified where natural daylight is a priority and a soft, even diffusion across the channel face is desired.



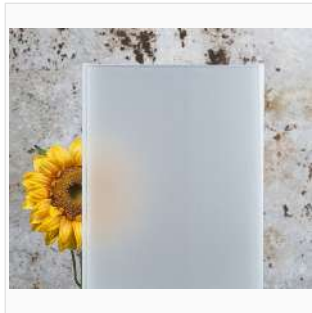
**Low-Iron Glass**

Extra-clear glass with reduced iron content, providing higher transparency and neutral colour rendering. Used where colour fidelity through the glass — and a cleaner, less green edge — is critical.



**Sandblasted Finish**

A treated surface that delivers increased privacy and soft light diffusion. Commonly specified for interior partitions and façades where reduced visibility is required without sacrificing illumination.



**Ceramic Frit Coating**

Applied patterns fused into the glass surface to create solar shading, visual screening, and design customisation, while maintaining the durability of the cast glass substrate.



**Colour Enamelling**

Factory-applied coloured coatings enable bold façade identity, with long-lasting resistance to weathering and UV exposure. Available in custom RAL references on project specification.



**LINIT™ Thermolight**

An integrated insulation system that enhances thermal performance and energy efficiency. Designed for double-glazed and high-performance façade assemblies in the Middle East climate.

SECTION

04

# Fixing Systems

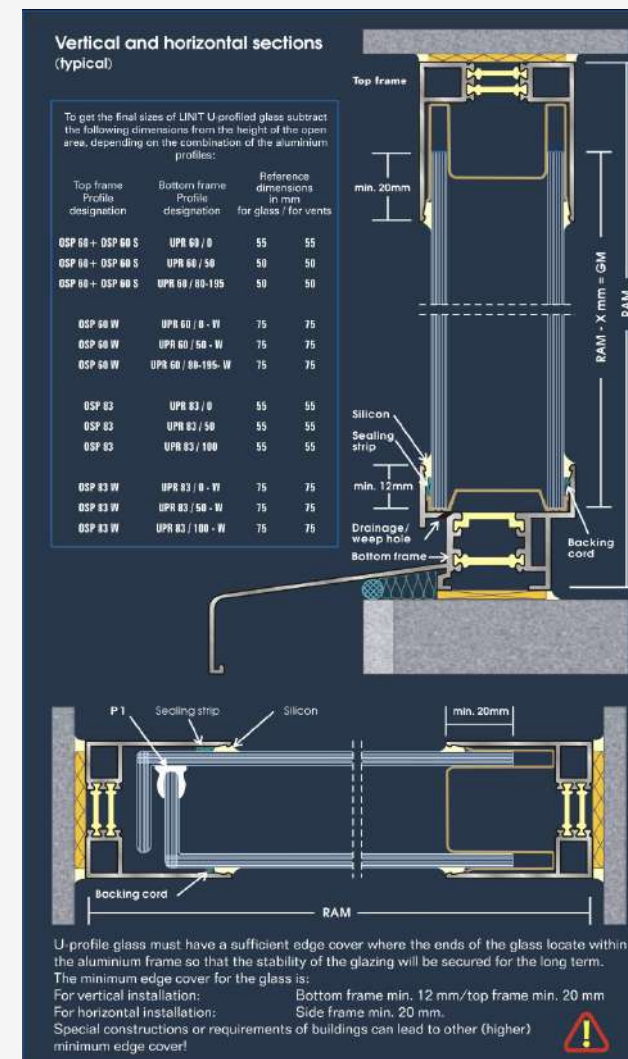
*Aluminium framing engineered to match the LINIT™ profile family.*

## FIXING SYSTEM

# Aluminium frame profiles

A comprehensive selection of bottom (UPR), top, and side profiles (OSP) offers flexibility for standard and custom glazing solutions. Profiles ship in standard, reinforced, and extended configurations — compatible with vertical and horizontal LINIT™ installations.

- Bottom (UPR), top, and side (OSP) profile families
- Standard, reinforced, and extended versions
- Curved profiles available for radius façades
- Custom profiles developed on project request

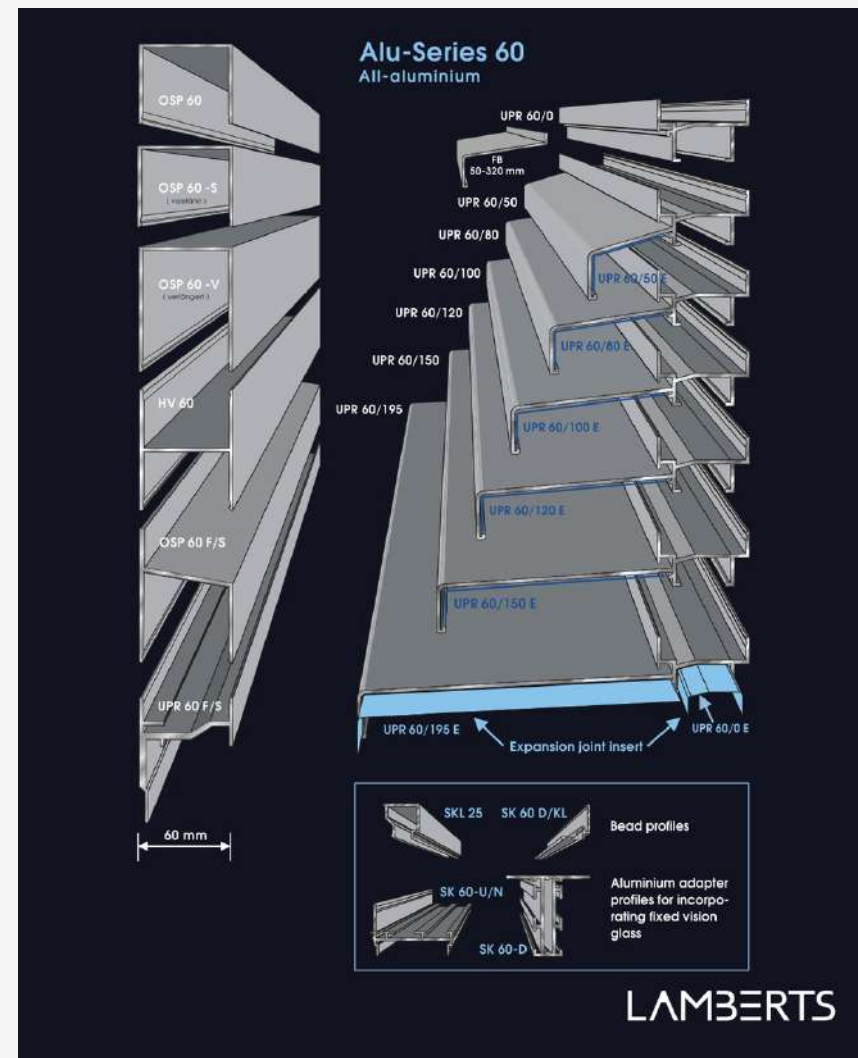


## FIXING SYSTEM

# Alu Series 60 — Non-Thermal

A 60 mm aluminium framing series for interior and weather-protected applications where thermal performance is not the primary driver. Slim profile depth with full LINIT™ system compatibility.

- 60 mm system depth
- Suitable for interior partitions and protected façades
- Mill, anodised, or RAL powder-coated finish
- Single-glazed LINIT™ installation

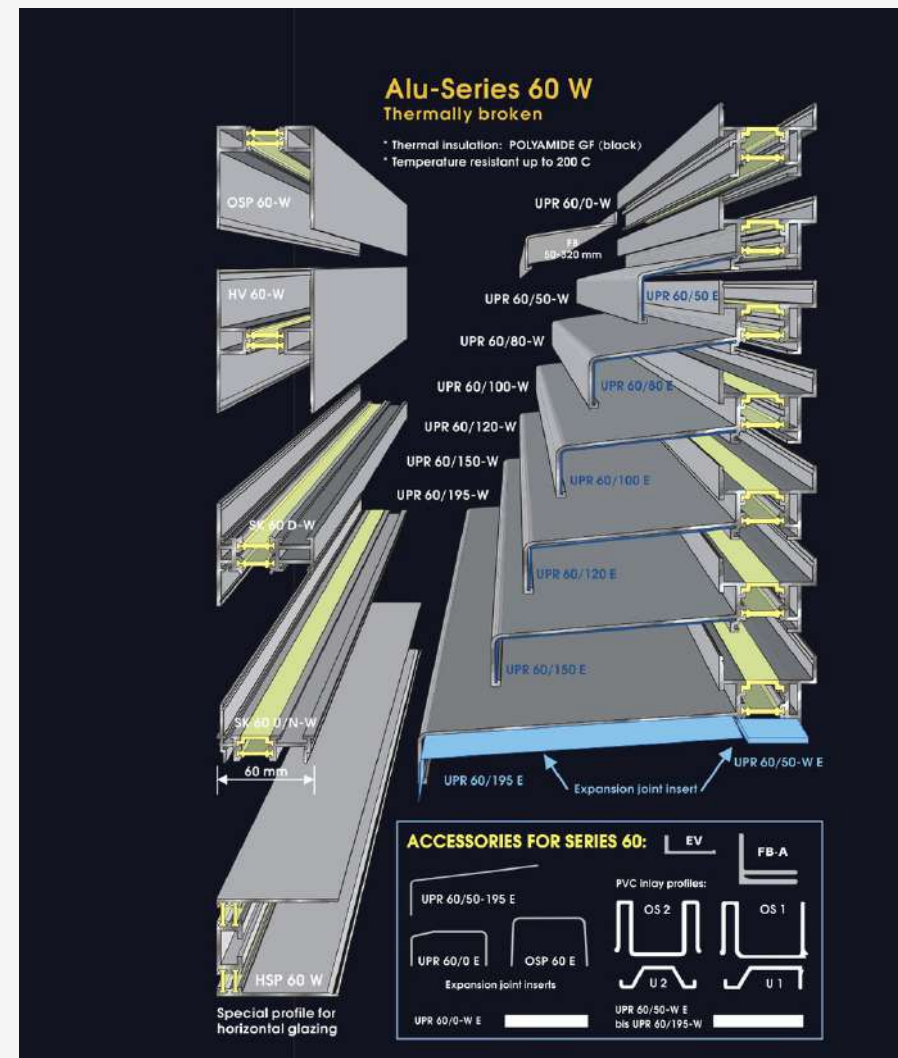


## FIXING SYSTEM

# Alu Series 60 — Thermally Broken

The same 60 mm depth with a polyamide thermal break separating internal and external aluminium. Designed for external façades where thermal performance and condensation control matter.

- 60 mm system depth with polyamide thermal break
- Improved U-value for exterior façades
- Pairs with LINIT™ Thermolight for twin-wall assemblies
- Mill, anodised, or RAL powder-coated

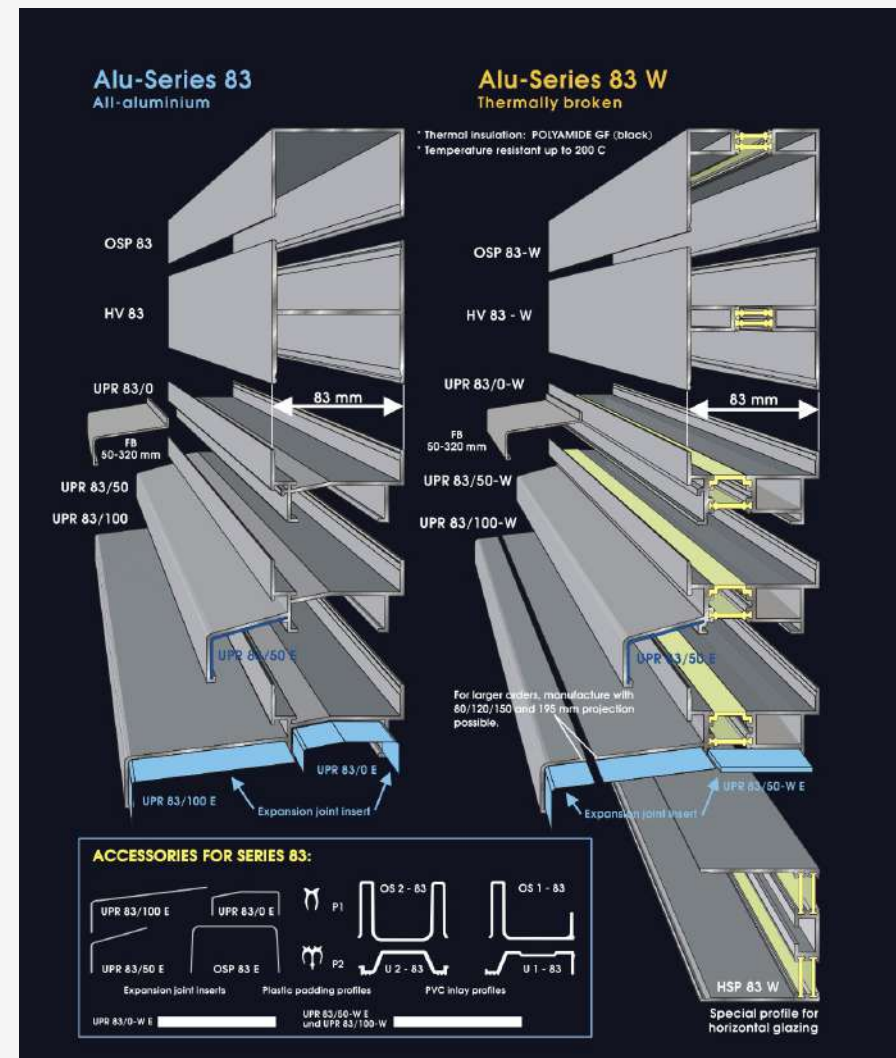


## FIXING SYSTEM

# Alu Series 83

An 83 mm depth aluminium system engineered for double-glazed LINIT™ assemblies and demanding structural conditions. Used where twin-wall channel glass meets large spans or high wind loads.

- 83 mm system depth
- Engineered for double-glazed twin-wall LINIT™
- High structural capacity for large spans
- Compatible with custom RAL finishes



SECTION

# 05

# Project References

*U-Channel Glass installed across the GCC — retail, hospitality, healthcare, education, commercial.*



## 01 / REFERENCE PROJECT

## DIFC Gate Avenue

DUBAI — UNITED ARAB EMIRATES

CLIENT

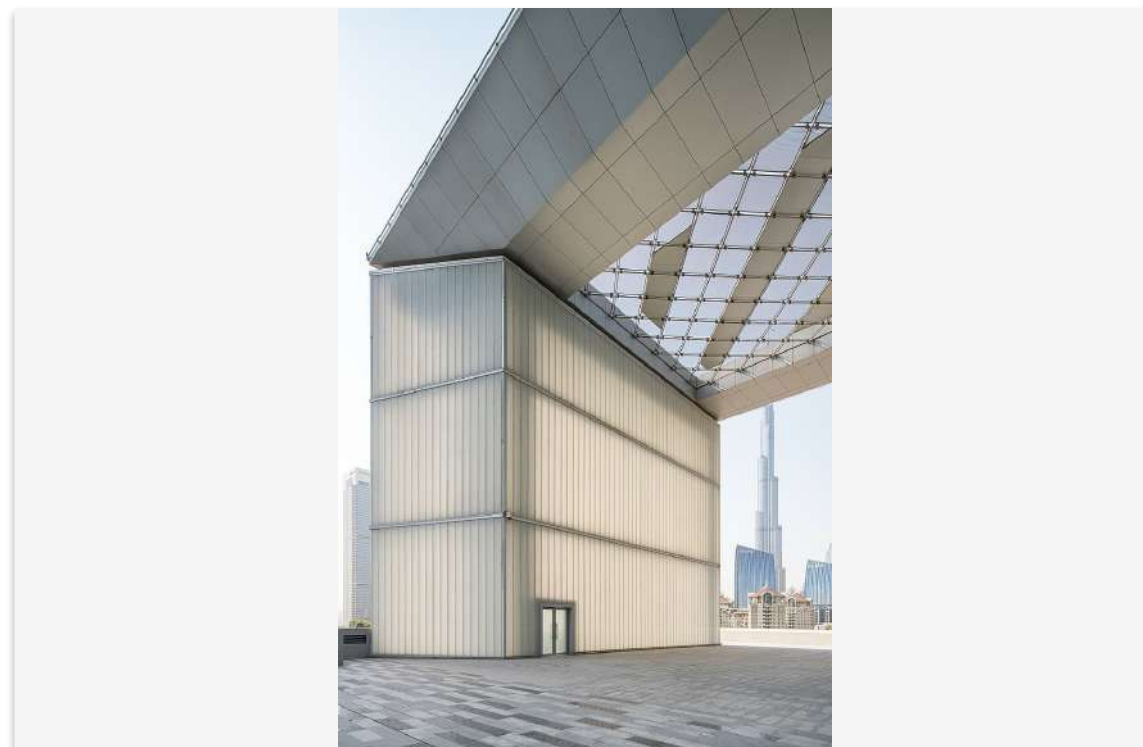
DIFC

ARCHITECT

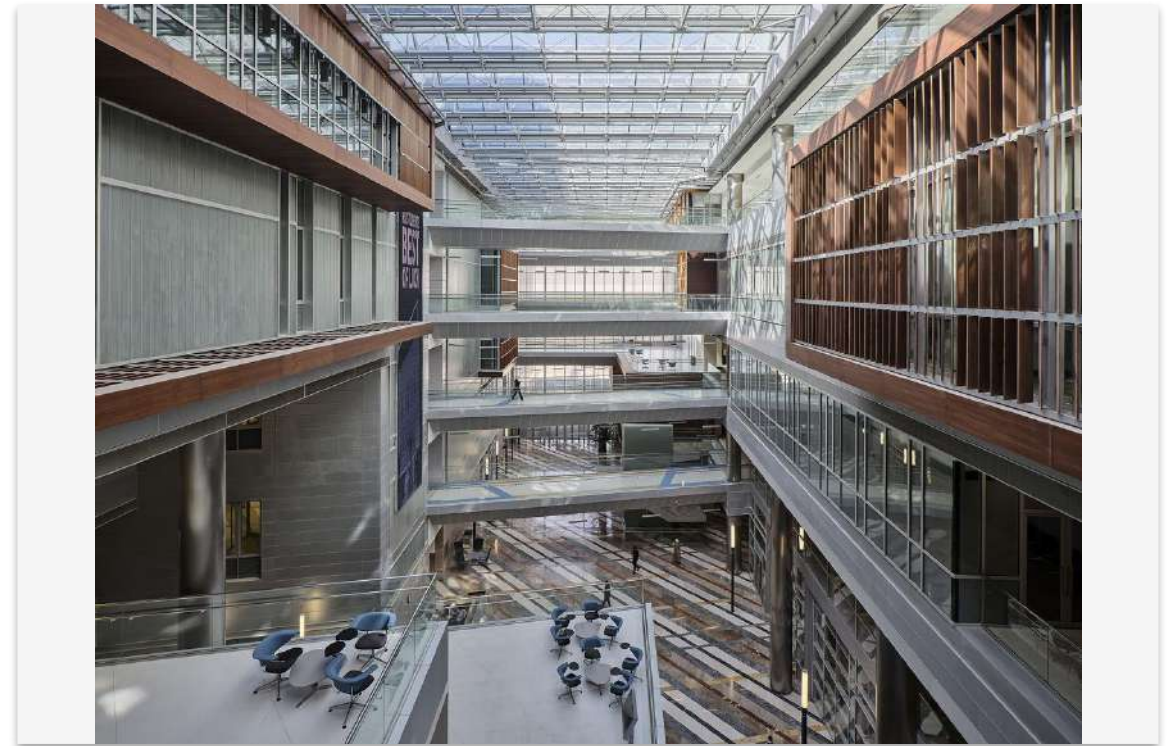
RMJM

GLASS

Cord P50/80/7, Low-Iron, L1 coating



An architectural feature within the DIFC Gate Avenue retail and dining boulevard. Cord profile in low-iron is backlit to create a luminous, dynamic edge through the evening — the low-iron content reduces the green tint of standard glass, producing a more neutral and sophisticated reading, while the L1 coating diffuses light evenly across the channel face.



## 02 / REFERENCE PROJECT

## College of Engineering and Petroleum

KUWAIT

CLIENT

Kuwait University

ARCHITECT

Cambridge Seven Associates / Gulf Consult

GLASS

504 P26/60/7, Clear, L1 coating

Lamberts LINIT™ deployed across eight buildings — over 40,000 m<sup>2</sup> of internal and external glazing. The 504 clear profile with L1 translucent coating produces a streamlined modern envelope; the diffusion softens daylight and reduces glare across teaching and research spaces.



03 / REFERENCE PROJECT

# Bluewaters Island

DUBAI — UNITED ARAB EMIRATES

CLIENT

Meraas

ARCHITECT

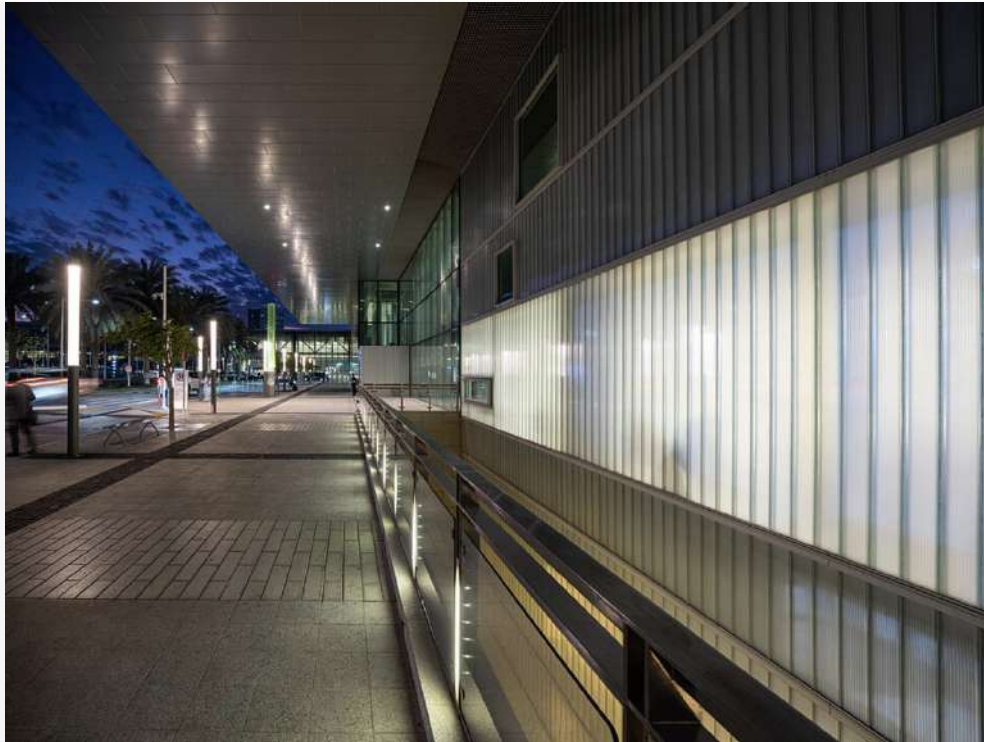
Woods Bagot

GLASS

Solar P26/60/7, Low-Iron, L1 coating

---

A striking architectural feature along the Bluewaters waterfront. Solar profile in low-iron with L1 coating delivers a vibrant, near-neutral transmission by day and a soft, ambient glow when backlit — making it a standout element within the masterplanned promenade.



## 04 / REFERENCE PROJECT

## Cleveland Clinic Abu Dhabi

ABU DHABI — UNITED ARAB EMIRATES

CLIENT

Cleveland Clinic

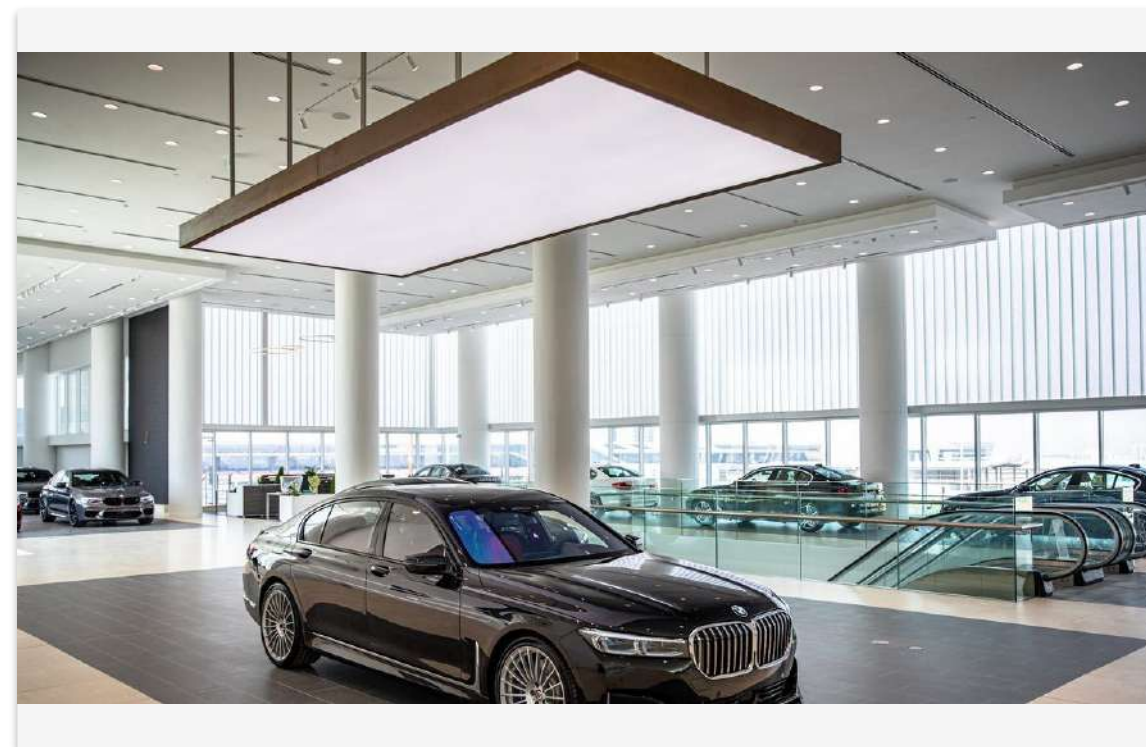
ARCHITECT

HDR

GLASS

504 P26/60/7, Clear, L1 + Low-E + Aerogel

An innovative, energy-efficient façade running across the entire podium. External clear glass with L1 coating is paired internally with a Low-E coating and aerogel infill within the cavity — minimising heat transfer and dramatically improving thermal performance while preserving translucent daylight quality.



## 05 / REFERENCE PROJECT

## AGMC BMW Showroom — Motor City

DUBAI — UNITED ARAB EMIRATES

CLIENT

BMW AGMC

ARCHITECT

Archcorp

GLASS

504 P26/60/7, Clear, L1 + Low-E

Channel glass plays a pivotal role in the showroom's architectural identity. The 504 clear profile with L1 coating diffuses light cleanly by day; backlit from the interior at night, the façade transforms into a luminous display that draws attention to the premium BMW brand presence at Motor City.



06 / REFERENCE PROJECT

## Shangri-La Hotel — Jeddah Waterfront

JEDDAH — KINGDOM OF SAUDI ARABIA

CLIENT

Shangri-La Hotels

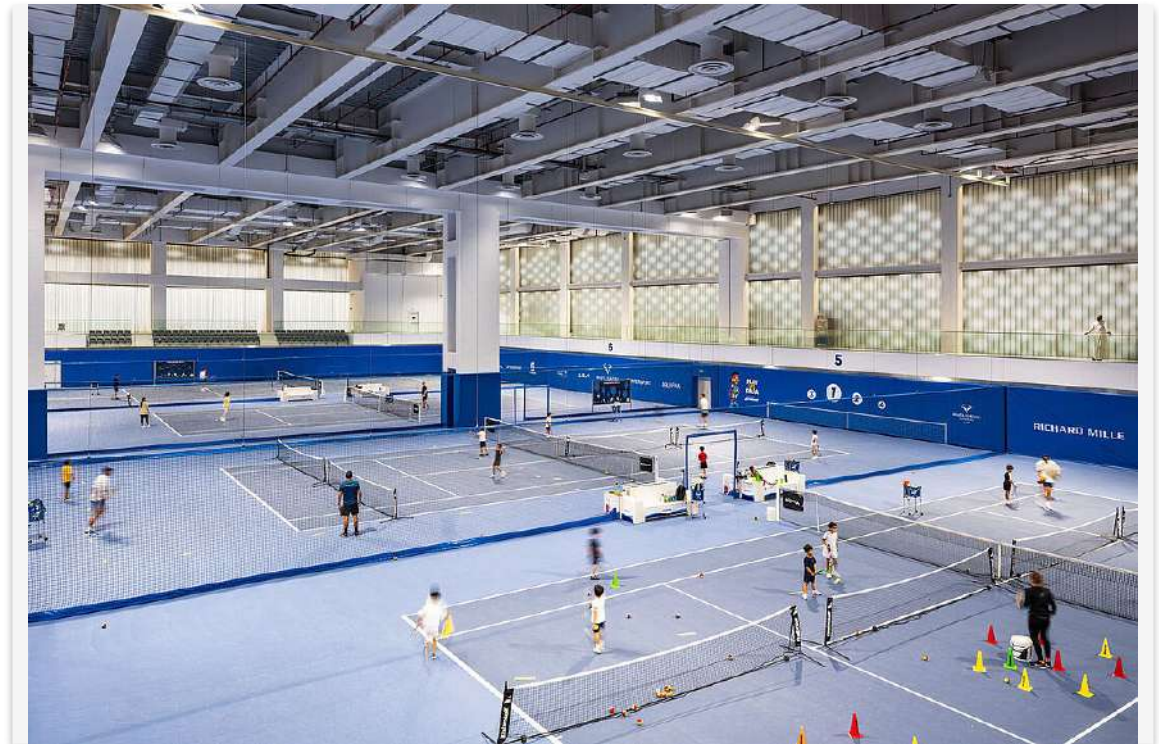
ARCHITECT

Perkins + Will

GLASS

Cord P26/60/7, Low-Iron, L1 coating

A unique application as a lighting element along the hotel façade. Cord profile is mounted flange-on-flange and protrudes from the structure, then backlit — generating a visually striking pattern that defines the building's nighttime presence along the Jeddah Waterfront.



## 07 / REFERENCE PROJECT

## Kuwait International Tennis Complex

KUWAIT CITY — KUWAIT

## CLIENT

Tamdeen Group

## ARCHITECT

CallisonRTKL

## GLASS

504 P26/80/7, Clear, L1 coating

Extensive use of LINIT™ across the venue. The U-shaped profile carries excellent load-bearing capacity and allows expansive, uninterrupted spans with minimal framing — delivering diffused daylight, energy efficiency, and improved acoustic performance across the spectator and event areas.



08 / REFERENCE PROJECT

# The Beach — JBR

DUBAI — UNITED ARAB EMIRATES

CLIENT

Dubai Properties

ARCHITECT

BSBG

GLASS

504 P26/60/7, L1 + Low-E variants

Across the retail and dining decks at The Beach, LINIT™ is specified to enhance the upscale waterfront environment. L1 coatings diffuse light softly; Low-E variants improve thermal performance — supporting a balance of privacy, daylight, and energy efficiency across the commercial spaces.



## 09 / REFERENCE PROJECT

## Adidas Flagship Store — Dubai Mall

DUBAI — UNITED ARAB EMIRATES

CLIENT

Adidas

ARCHITECT

Adidas

GLASS

Primasolar P26/60/7, Low-Iron, L1 coating

A distinctive luminous wall surface within the flagship retail environment. Primasolar in low-iron with L1 coating delivers high clarity and minimal green tint; backlit, it produces a radiant glow that supports the brand's high-energy, contemporary atmosphere.

SECTION

06

# Product Range

*Eight Lamberts LINIT™ profiles. Cast in Germany, supplied by KAPHS across the region.*

# U-Channel Glass



LINIT 504



LINIT Clarissimo



LINIT Solar



LINIT Cord



LINIT PrismaSolar



LINIT Ice



LINIT Magico



LINIT Moiré

BUILT TO SPECIFICATION

# Specifications at a glance.

*U-Channel Glass is supplied across multiple profile widths, flange heights, and finishes, with custom configurations available on request.*

## PROFILE WIDTHS

232 mm  
262 mm  
331 mm  
498 mm

## FLANGE HEIGHTS

41 mm  
60 mm  
80 mm

## GLASS THICKNESS

6 mm  
7 mm

## MAX LENGTH

Up to 7 m  
(annealed / HS)

## GLAZING

Single  
Double (Thermolight)  
Vertical or horizontal

## FINISHES

Clear  
Low-iron  
Sandblasted  
Ceramic frit

## FRAMES

Alu Series 60 (NT)  
Alu Series 60 (TB)  
Alu Series 83

## FRAME FINISH

Mill  
Anodized  
RAL powder coat  
Custom RAL



GET IN TOUCH

# Let's specify your next façade.

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---

L A M I N A T E D G L A S S W I T H M E S H I N T E R L A Y E R S

# Mesh Glass.

*Architectural laminated glass with metal mesh and metallised fabric interlayers.*

# Contents

*A complete guide to the KAPHS Mesh Glass system — concept, lamination process, applications and the full 62-pattern product library across four ranges.*

|           |                              |    |           |                               |     |
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# Engineered light, woven into glass.

KAPHS Mesh Glass is a premium laminated glass system that integrates high-performance metal mesh and metallised fabric interlayers between glass plies. The result is a single architectural surface that combines safety, depth, texture and material character — without compromising light transmission.

Developed for modern architecture, the collection enables specifiers to bring metallic pattern, refined diffusion and visual weight into transparent assemblies for façades, partitions, balustrades, doors and feature cladding.

4

RANGES

62

PATTERNS

∞

GLASS BUILD-UPS

# A premium laminated glass solution.

## Architectural laminated glass

KAPHS Mesh Glass is a premium laminated glass solution that integrates high-performance mesh interlayers to deliver a unique combination of visual depth and contemporary design. Engineered for modern architecture, our mesh glass enhances transparency while introducing refined texture, light diffusion and material character.

Our collection features a diverse range of metal mesh and metallised fabric interlayers, designed to meet both aesthetic and functional requirements across applications including partitions, balustrades, façades, doors and interior wall cladding.

Each panel is engineered to meet contemporary safety and performance standards while serving as a finished architectural surface in its own right.



# How Mesh Glass is made.

01

---

## Mesh selection

A metal mesh or metallised fabric interlayer is selected for pattern, density and finish.

02

---

## Glass preparation

Two or more plies of float or low-iron glass are cut, edged and cleaned to lamination standard.

03

---

## Lamination

The mesh is sandwiched with high-clarity PVB or EVA interlayer film and bonded under heat and pressure in an autoclave.

04

---

## Inspection & finish

Every panel is inspected for optical clarity, bond integrity and edge quality before dispatch.

# Applications

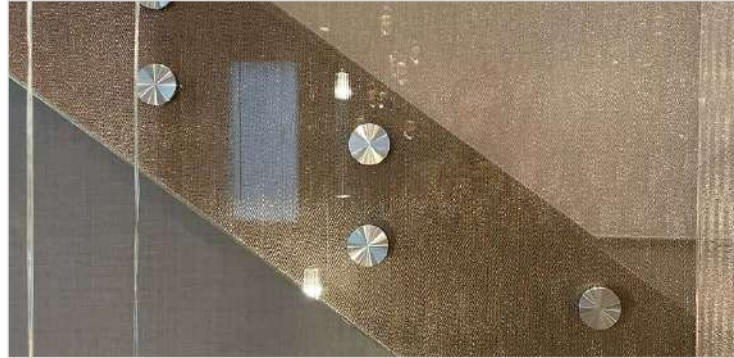
*Where Mesh Glass performs — partitions, balustrades, doors, cladding and façades.*

# Mesh Glass



**Glass Partitions**

Used in laminated glass partitions, mesh interlayers balance openness and privacy.



**Balustrades & Railings**

In laminated glass balustrades, mesh interlayers add safety and structural integrity while introducing subtle or bold visual texture.



**Doors & Enclosures**

Applied in laminated glass doors and enclosures, mesh interlayers provide privacy, durability and refined aesthetics without sacrificing light transmission.



**Wall Cladding & Feature Panels**

For glass wall cladding, mesh interlayers create depth and metallic texture within the glass — ideal for feature walls, lobbies, branded spaces and statement architectural.



**Façades & Exterior Glass**

Integrated into laminated glass façades, metallised fabric mesh interlayers enhance light diffusion, support solar control and reinforce architectural identity — engineered.

# Interlayer Categories

*Two material families — metal mesh and metallised fabric mesh — each with its own architectural language.*

# Metal Mesh Interlayers

## What it is

Metal mesh interlayers are produced from continuous metal wires and ribbons in a wide range of weaves, grids and decorative patterns. Laminated between glass plies, they deliver substantial metallic presence with controlled transparency — bringing architectural weight, surface relief and bespoke character into the glass itself.

The metal mesh family is organised into three ranges — LinearMesh, DecoMesh and CoreMesh — addressing linear, decorative and structural design directions respectively.

## Defining traits

- Strong metallic identity within the glass
- Controlled visibility and privacy
- Wide range of weaves, gauges and finishes
- Suited to interior and protected exterior use

# Metallised Fabric Mesh Interlayers

## What it is

Metallised fabric mesh interlayers combine the softness of textile structures with metallic finishes, creating laminated glass with layered transparency and a luminous, fabric-like character. The lightweight, flexible composition allows large panel sizes and enhanced light diffusion — making this family especially suited to façades, ceilings and large-scale architectural surfaces.

Metallised fabrics are heat-resistant and engineered for exterior performance where solar control and architectural identity are required.

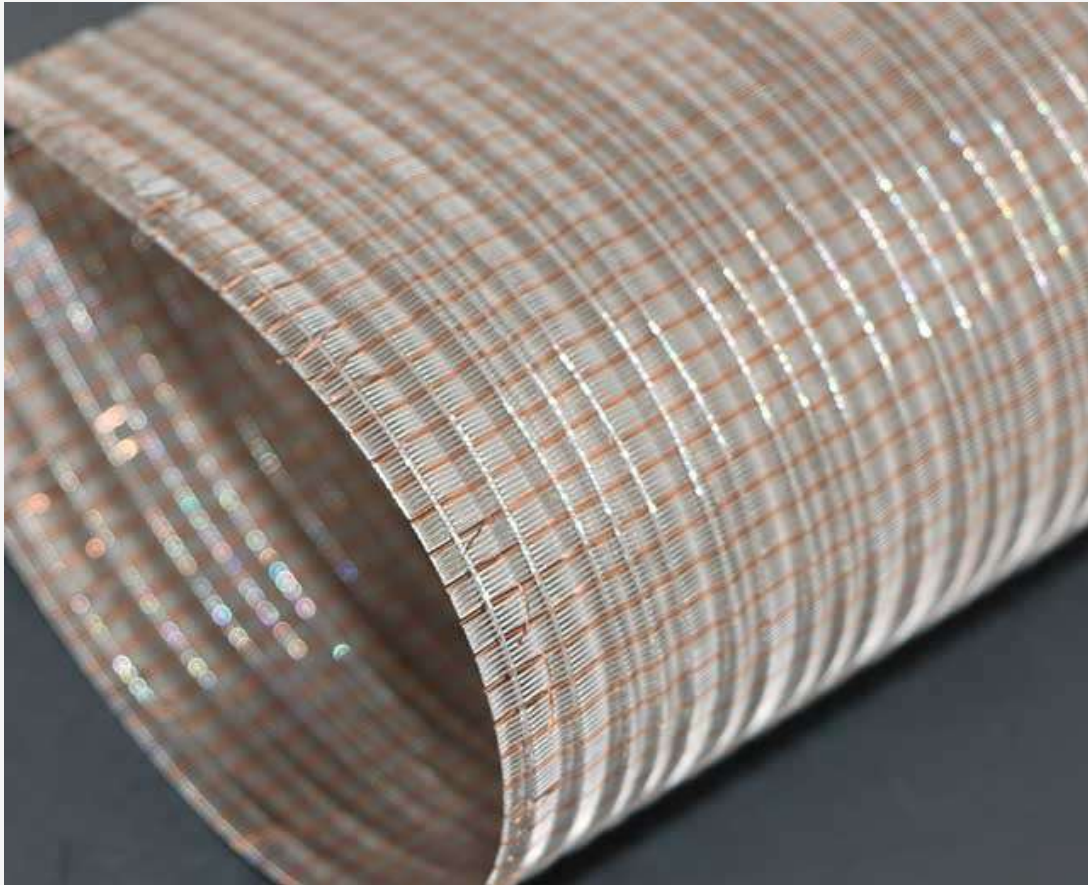
## Defining traits

- Soft, fabric-like aesthetics with metallic sheen
- Lightweight and flexible composition
- Enhanced light diffusion and solar control
- Suitable for external and heat-exposed applications

# Product Range

*62 patterns across four ranges — LinearMesh, DecoMesh, CoreMesh and Metallised Fabric Mesh.*

# LinearMesh



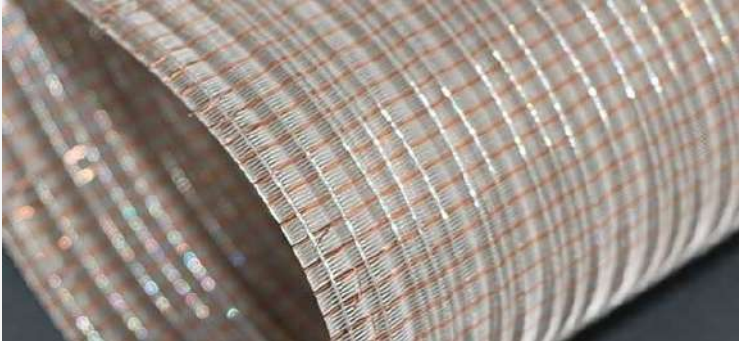
## About this range

LinearMesh interlayers feature elongated, directional wire formations that create a sense of movement and rhythm within the glass. Strong linear orientation — horizontal or vertical — combines with subtle flow and refined texture, producing a minimalist yet dynamic visual language across multiple densities. Ideal for spaces requiring clean lines, continuity and modern sophistication.

# 13

PATTERNS IN THIS RANGE

# LinearMesh — The complete range



**Alvora PB**

KAPHS-LM-ALVORA-PB



**Aurion AG**

KAPHS-LM-AURION-AG



**Azura SB**

KAPHS-LM-AZURA-SB



**Cobalt CB**

KAPHS-LM-COBALT-CB



**Corda CBR**

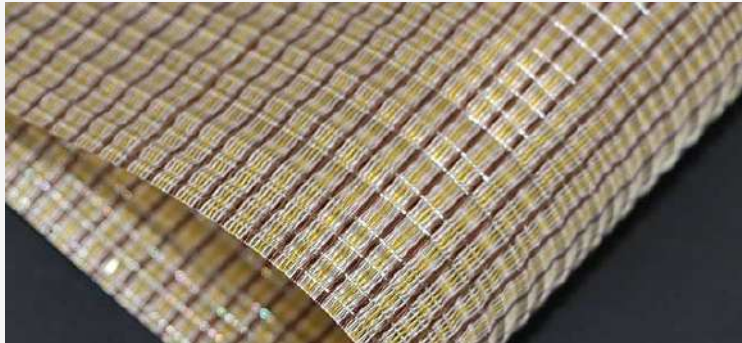
KAPHS-LM-CORDA-CBR



**Horizon SS**

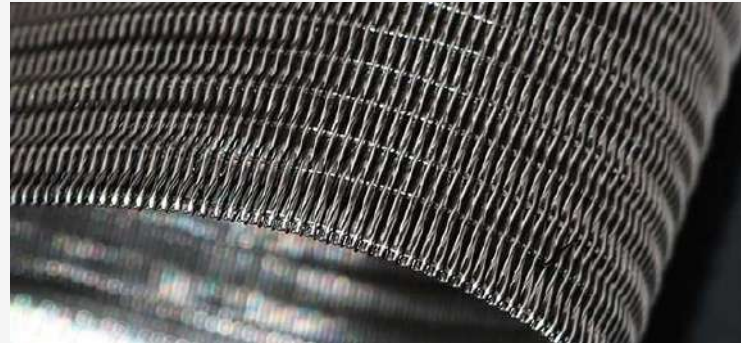
KAPHS-LM-HORIZON-SS

# LinearMesh — The complete range



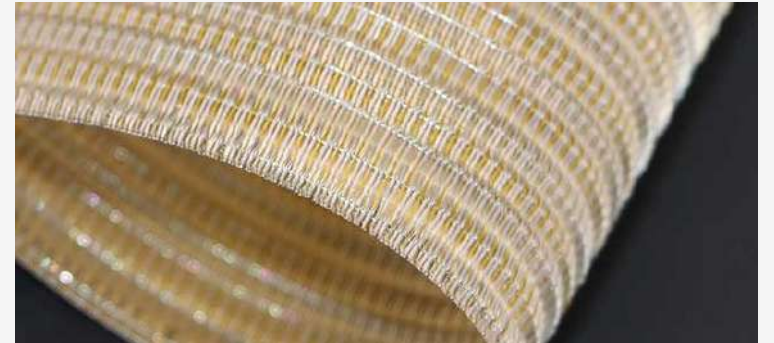
**Luxara AG**

KAPHS-LM-LUXARA-AG



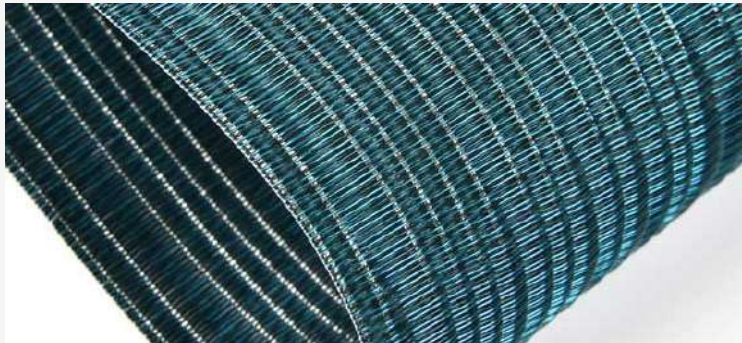
**Platra PS**

KAPHS-LM-PLATRA-PS



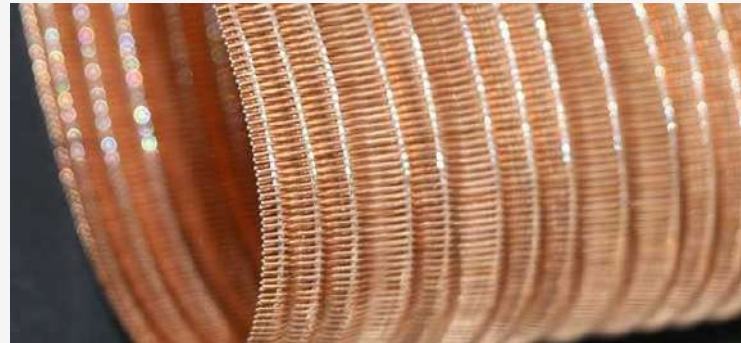
**Striya CG**

KAPHS-LM-STRIYA-CG



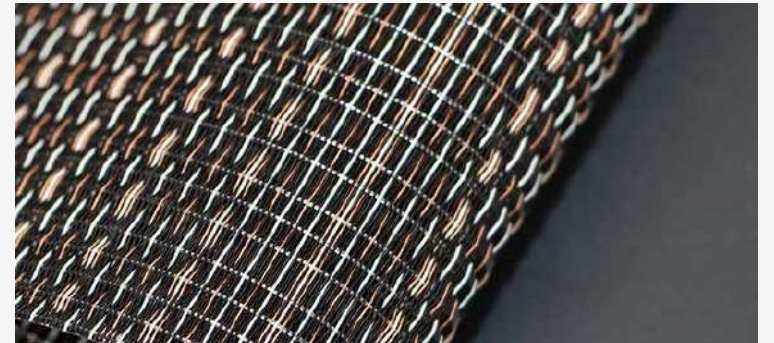
**Tevon TM**

KAPHS-LM-TEVON-TM



**Velora RC**

KAPHS-LM-VELORA-RC



**Veltor CB**

KAPHS-LM-VELTOR-CB

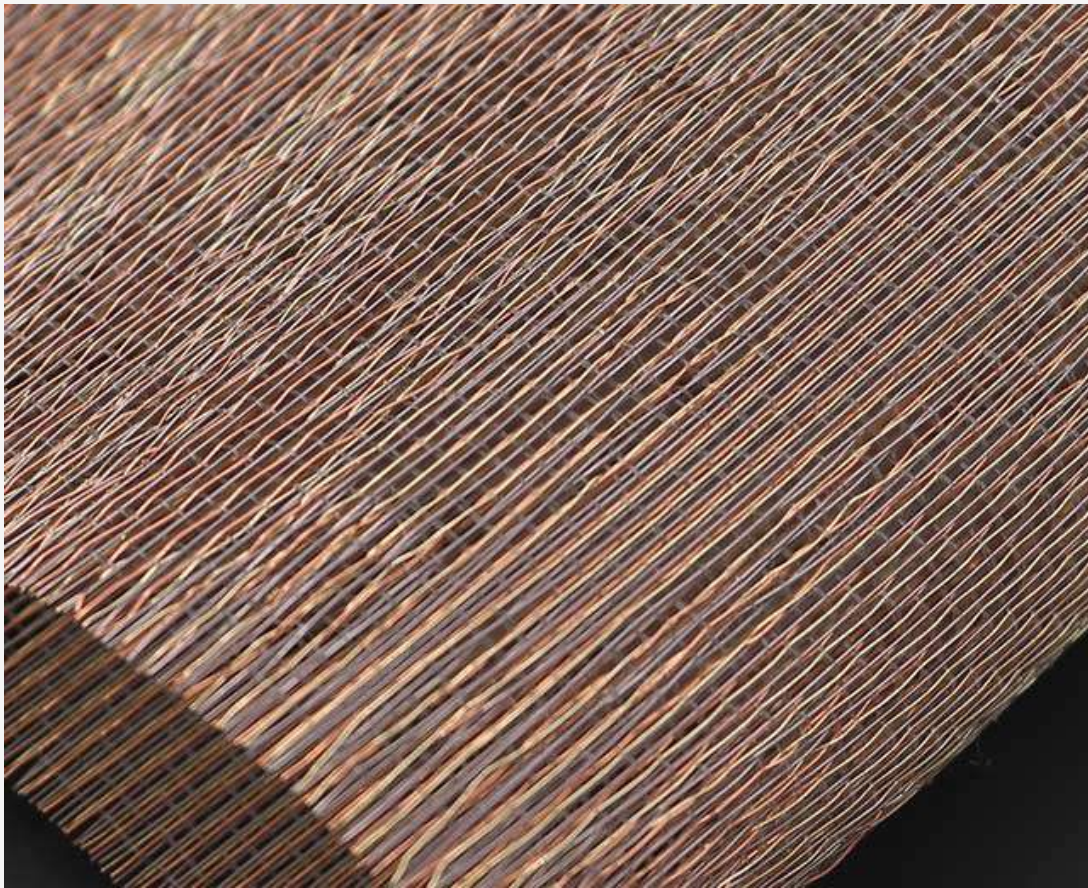
# LinearMesh — The complete range



**Rivara LG**

KAPHS- LM-RIVARA-LG

# DecoMesh



## About this range

DecoMesh introduces decorative woven patterns that enhance the visual identity of laminated glass. With a focus on texture and design variation, this range provides intricate and expressive mesh patterns, enhanced light diffusion and visual depth, a wide variety of material combinations and balanced openness for both privacy and transparency. Perfect for architectural designs seeking distinctive surfaces and visual impact.

# 33

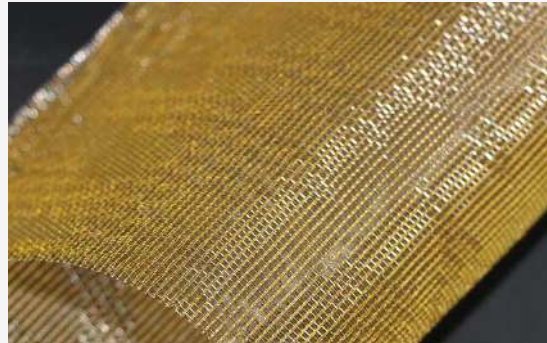
PATTERNS IN THIS RANGE

# DecoMesh — The complete range



**Auris RGD**

KAPHS-DM-AURIS-RGD



**Aurora DG**

KAPHS-DM-AURORA-DG



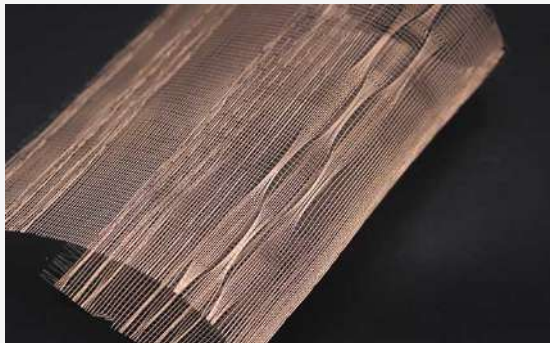
**Camon AGD**

KAPHS-DM-CAMON-AGD



**Camon CBS**

KAPHS-DM-CAMON-CBS



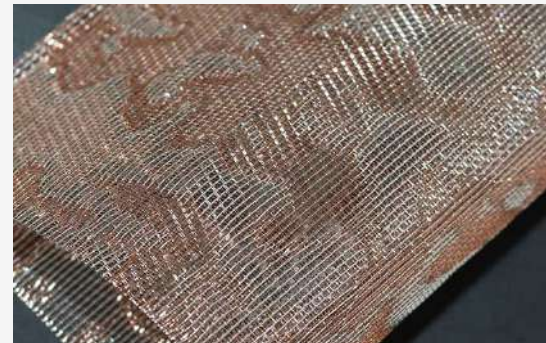
**Drapex CT**

KAPHS-DM-DRAPEX-CT



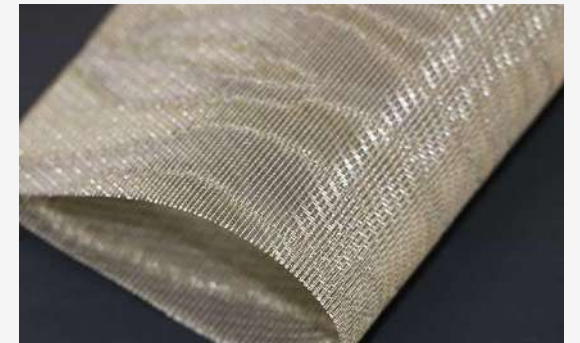
**Elara CBG**

KAPHS-DM-ELARA-CBG



**Floran RC**

KAPHS-DM-FLORAN-RC



**Floria CG**

KAPHS-DM-FLORIA-CG

# DecoMesh — The complete range



**Floris PG**

KAPHS-DM-FLORIS-PG



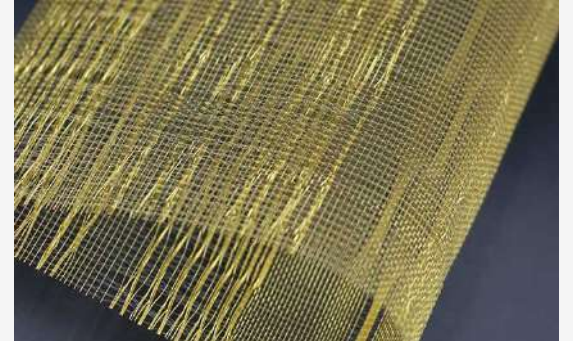
**Florisia MGD**

KAPHS-DM-FLORISIA-MGD



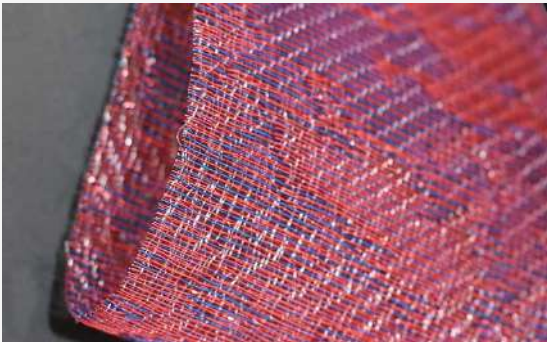
**Florix SGD**

KAPHS-DM-FLORIX-SGD



**Fraya MG**

KAPHS-DM-FRAYA-MG



**Fusion CBL**

KAPHS-DM-FUSION-CBL



**Graelo ASG**

KAPHS-DM-GRAELO-ASG



**Lina IB**

KAPHS-DM-LINA-IB



**Mirel SSG**

KAPHS-DM-MIREL-SSG

# DecoMesh — The complete range



**Obsidia CBK**

KAPHS-DM-OBSIDIA-CBK



**Orlia CG**

KAPHS-DM-ORLIA-CG



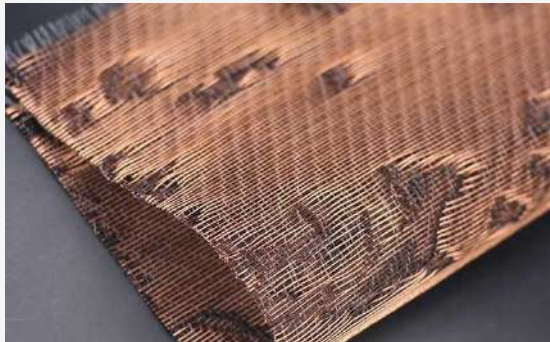
**Orlia TB**

KAPHS-DM-ORLIA-TB



**Oxira OCB**

KAPHS-DM-OXIRA-OCB



**Patina PC**

KAPHS-DM-PATINA-PC



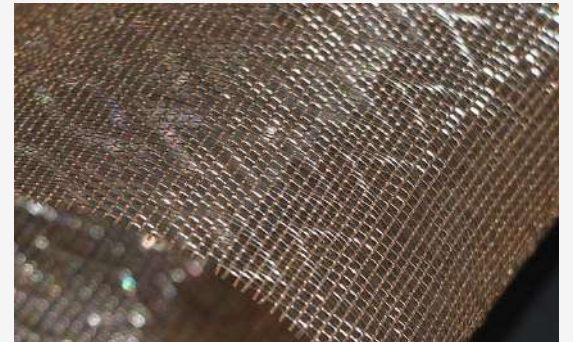
**Plexar SG**

KAPHS-DM-PLEXAR-SG



**Pyra PGD**

KAPHS-DM-PYRA-PGD



**Pyron CBR**

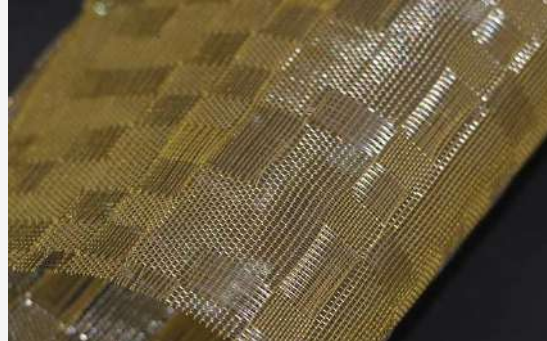
KAPHS-DM-PYRON-CBR

# DecoMesh — The complete range



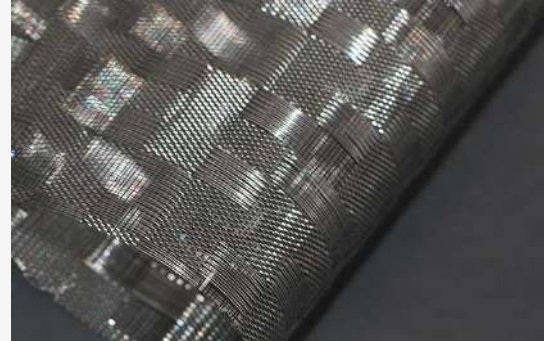
**Strata SG**

KAPHS-DM-STRATA-SG



**Tessa AGD**

KAPHS-DM-TESSA-AGD



**Tessa GM**

KAPHS-DM-TESSA-GM



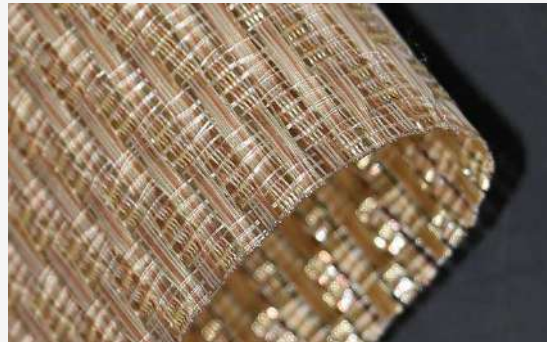
**Topo AGD**

KAPHS-DM-TOPO-AGD



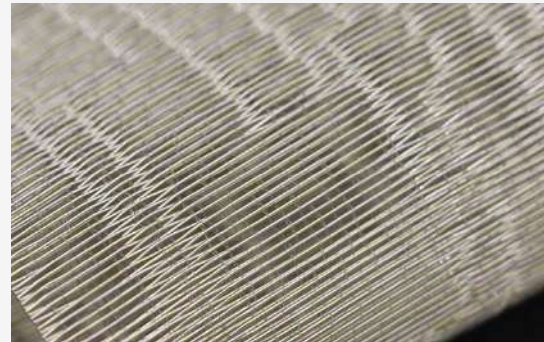
**Vara BS**

KAPHS-DM-VARA-BS



**Varel CG**

KAPHS-DM-VAREL-CG



**Velin CS**

KAPHS-DM-VELIN-CS



**Veora PG**

KAPHS-DM-VEORA-PG

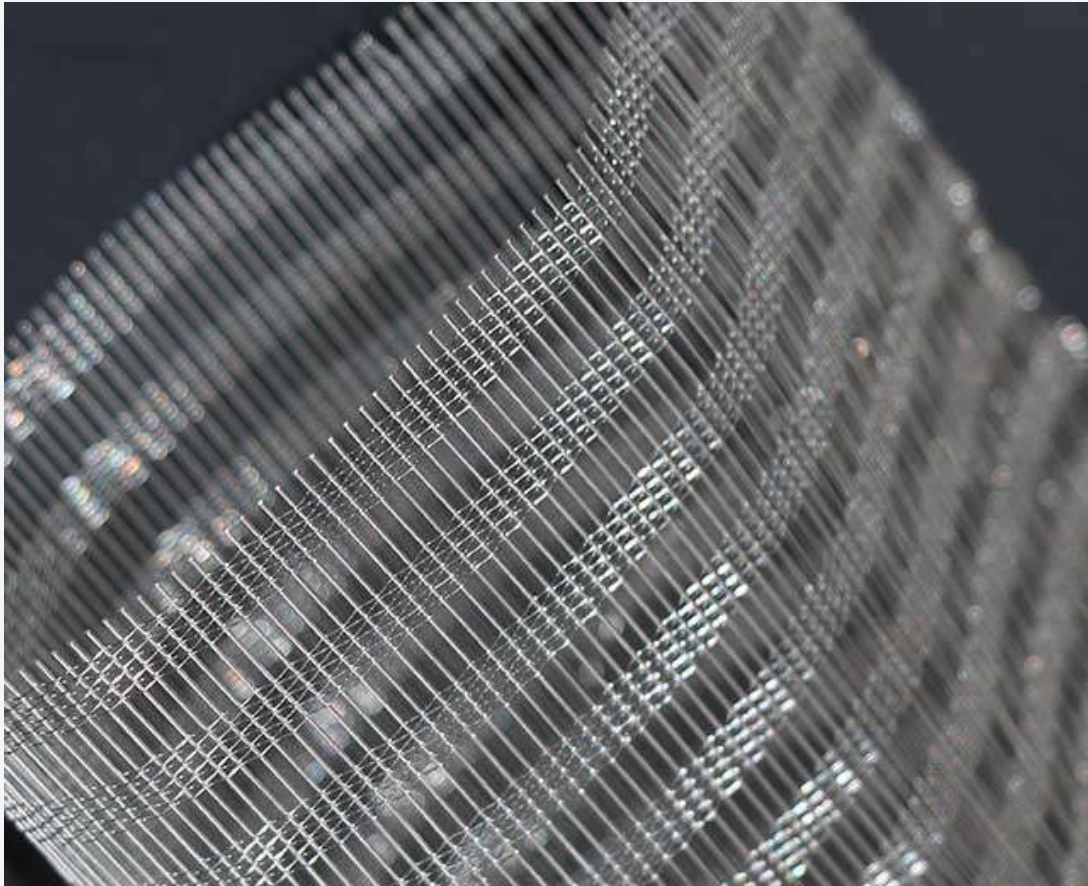
# DecoMesh — The complete range



**Verdis WC**

KAPHS-DM-VERDIS-WC

# CoreMesh



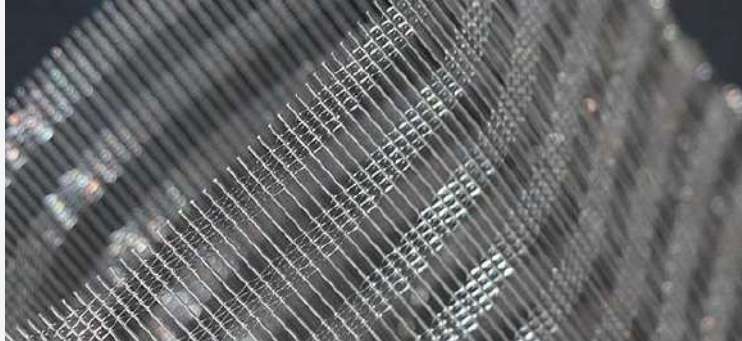
## About this range

CoreMesh interlayers are defined by uniform grid formations and engineered consistency. Clean geometric patterns, high durability and stability and controlled transparency combine into a technical aesthetic — from fine micro-grids to heavy-duty structural meshes. Ideal for projects where precision, neutrality and long-term performance are essential.

# 11

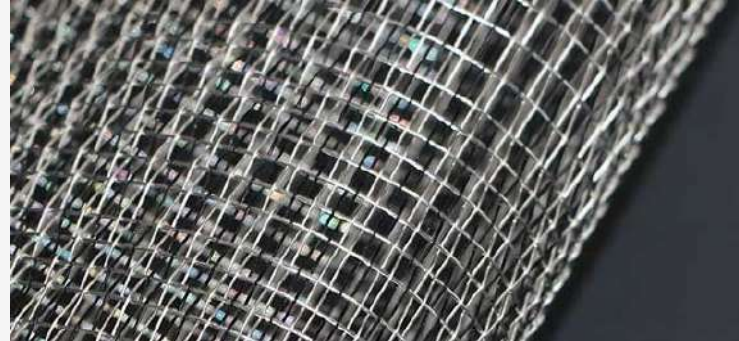
PATTERNS IN THIS RANGE

# CoreMesh — The complete range



**Axion BS**

KAPHS-CM-AXION-BS



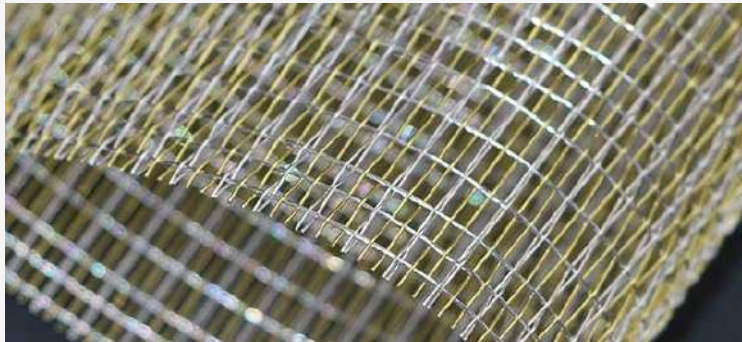
**Cratos RS**

KAPHS-CM-CRATOS-RS



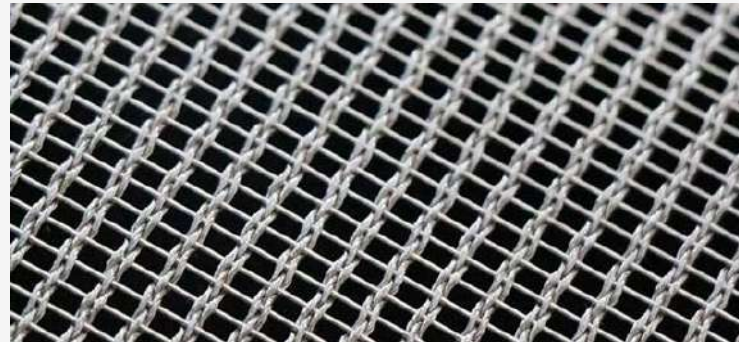
**Diagra AGD**

KAPHS-CM-DIAGRA-AGD



**Duonex GSM**

KAPHS-CM-DUONEX-GSM



**Knotex MS**

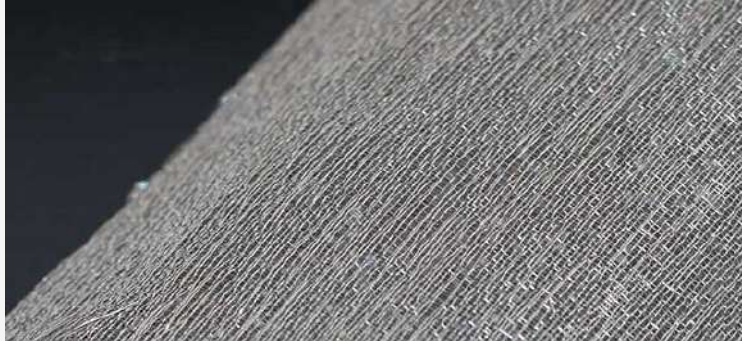
KAPHS-CM-KNOTEX-MS



**Lumina RG**

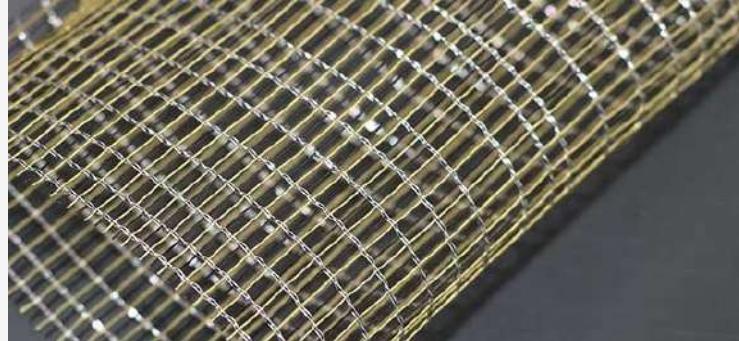
KAPHS-CM-LUMINA-RG

# CoreMesh — The complete range



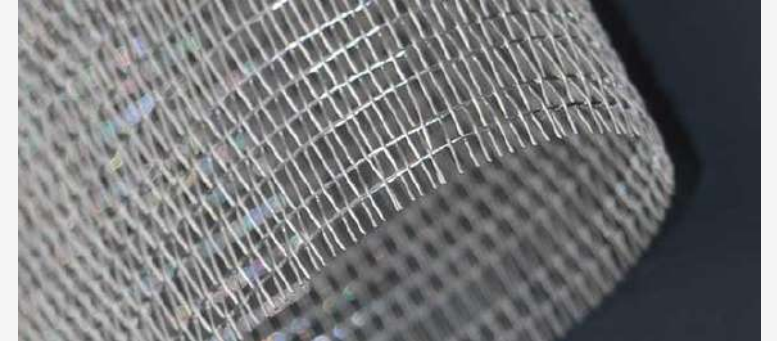
**Nexor BS**

KAPHS-CM-NEXOR-BS



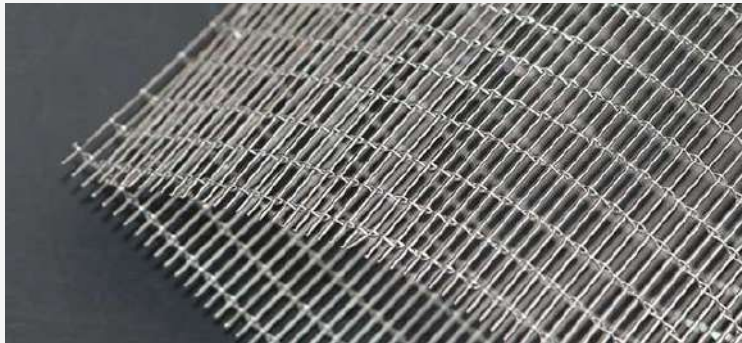
**Orix BG**

KAPHS-CM-ORIX-BG



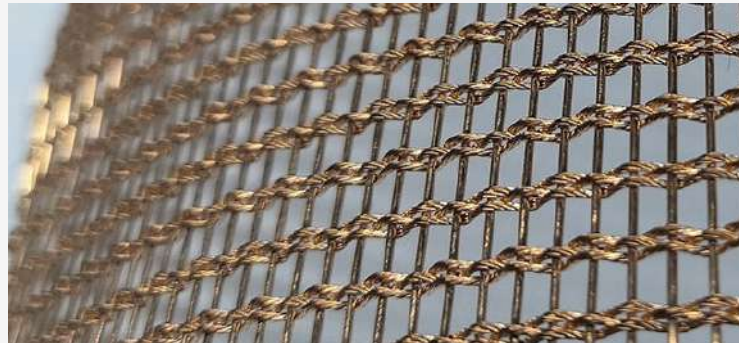
**Quadra BS**

KAPHS-CM-QUADRA-BS



**Recta NS**

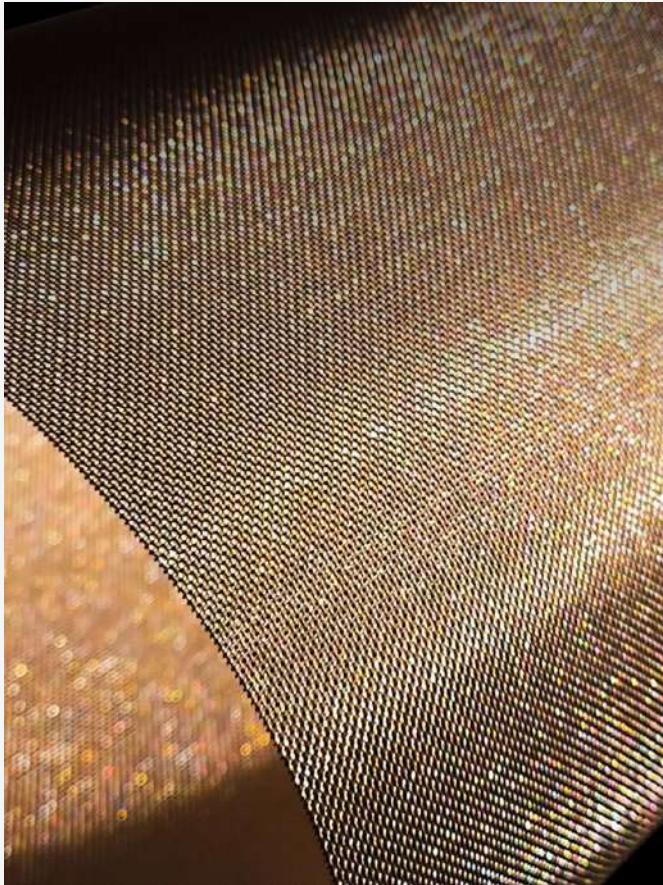
KAPHS-CM-RECTA-NS



**Spirax AC**

KAPHS-CM-SPIRAX-AC

# Metallised Fabric Mesh



## About this range

KAPHS metallised fabric mesh interlayers combine the softness of textile structures with metallic finishes. Lightweight and flexible mesh compositions deliver soft, fabric-like aesthetics with metallic sheen, enhanced light diffusion and unique visual textures not achievable with traditional metal meshes. This range is suited to applications where warmth, softness and contemporary material contrast are required — including heat-exposed façades and large-format external glazing.

# 5

P A T T E R N S   I N   T H I S   R A N G E

# Metallised Fabric Mesh — The complete range



**AT 25**

AT 25



**AW 35**

AW 35



**AW 45**

AW 45



**AW 50**

AW 50



**AW 55**

AW 55

# Built to specification.

*Each Mesh Glass pattern can be specified across multiple glass build-ups, thicknesses, dimensions and finish combinations.*

## GLASS OPTIONS

---

- Clear float
- Low-iron (extra-clear)
- Tinted / coated
- Heat-soaked / tempered (on request)

## INTERLAYER FILM

---

- Clear PVB
- Coloured PVB
- EVA (high-clarity)
- Acoustic / structural PVB

## BUILD-UPS

---

- Standard 6.38mm / 8.38mm
- Heavier 10.38mm+ for balustrades
- Triple-laminated configurations
- Custom thicknesses on request

## SHEET SIZES

---

- Standard panels
- Cut-to-size
- Custom geometries
- Project-specific maximum sheet size

MIDDLE EAST

GET IN TOUCH



# Let's specify your next surface.

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kaphsgroup.com

PHOTOELECTRIC GLASS

# LED Glass.

*Transparent media glass for façades and interiors.*

# Contents

A complete guide to the KAPHS LED Glass system — concept, manufacturing, applications, the full product range across two circuit technologies and signature project references.

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| 02 | <b>Product Description</b>   | 116 | 09 | <b>Nano Copper-Clad Circuit</b>     | 124 |
| 03 | <b>Glass Integration</b>     | 117 | 10 | <b>ITO Invisible Circuit</b>        | 126 |
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# Engineered light, embedded in glass.

KAPHS LED Glass is a premium photoelectric glass system that integrates high-density LED arrays between tempered glass plies. The result is a single architectural surface that performs as transparent media — letting daylight, sightlines and content occupy the same plane.

Developed for façades, curtain walls, canopies and statement interiors, the system pairs CCC-certified safety glass with energy-efficient LED technology, delivering luminance, longevity and weather resistance without compromising transparency.

# 2

CIRCUIT TECHNOLOGIES

# 8

PIXEL PITCHES

# 99%

TRANSPARENCY

# IP65

WEATHER PROTECTION

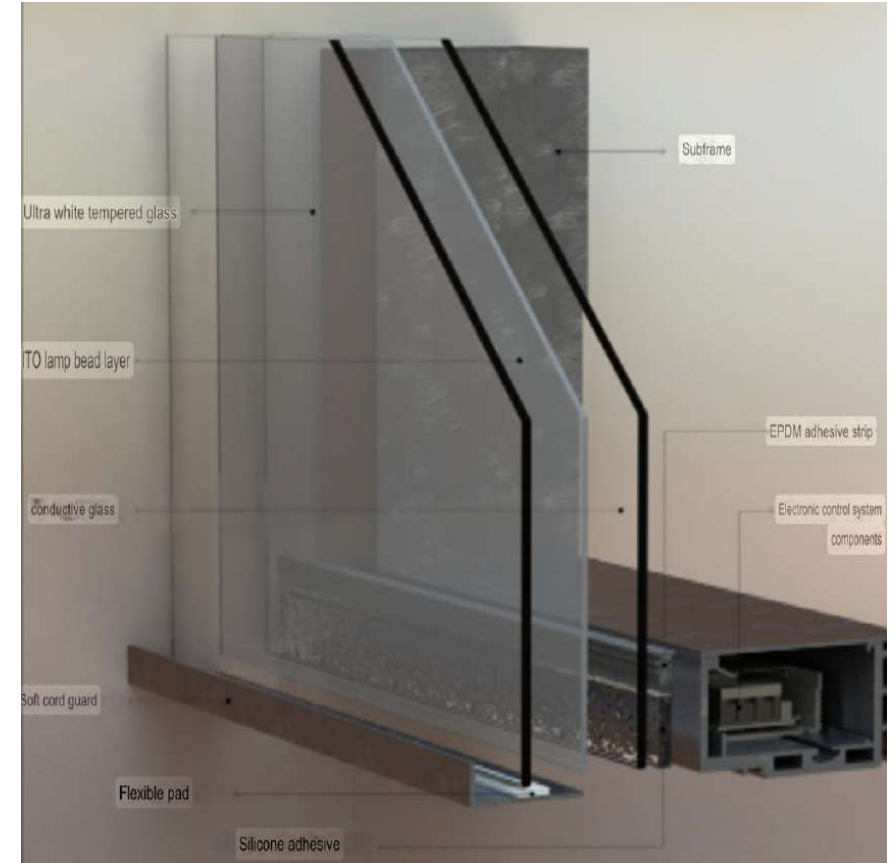
# A premium photoelectric glass solution.

## Architectural photoelectric glass

KAPHS LED Glass laminates a precision LED array between two tempered glass plies bonded by PVB film. Engineered for architectural performance, it carries CCC safety certification, IP65 weather protection, and offers transparency rates of up to 99% — preserving daylight, line of sight and façade aesthetics.

Two circuit technologies — Nano Copper-Clad and ITO Invisible — span pixel pitches from P8 to P50, allowing the system to scale from close-viewing interiors to large-format façade media installations.

Each panel is built to curtain-wall standards, supports curved geometry, and integrates seamlessly with existing structural systems for new builds or retrofit applications.



# Integrates with the glass you already specify.

## Compatible build-ups

KAPHS LED Glass is engineered to comply with safety glass specifications and laminate alongside the architectural glass families already used in modern envelopes. This makes the LED layer an addition to standard specifications — not a replacement.

Specify the panel as part of an insulating glass unit, behind a Low-E coating, or as a face within a structural laminate. The transparent media function is delivered without compromising thermal, solar or safety performance.

## Compatible glass types

### LOW-E GLASS

Low-emissivity coatings for solar / thermal control.

### INSULATED GLASS UNITS

Double-glazed and triple-glazed IGUs.

### TEMPERED SAFETY GLASS

CCC-certified toughened glass plies.

### LAMINATED ASSEMBLIES

Structural lamination with PVB or EVA interlayers.

# How LED Glass is made.

01

---

## Glass cleaning

Tempered glass plies are cleaned to lamination standard and inspected for surface integrity.

02

---

## Laser etching

Precision laser-etched conductive pathways are deposited on the inner glass surface.

03

---

## LED placement

High-density LED chips are automatically mounted onto the conductive circuit at the specified pixel pitch.

04

---

## Lamination

The assembly is bonded with PVB film under heat and pressure, vacuum-extracted and inspected.

---

# Applications

Where LED Glass performs — façades, curtain walls, canopies, interiors and signage.

# LED Glass



**Architectural Façades**

Integrated into ventilated façades and rainscreen systems, KAPHS LED Glass turns the building envelope into a programmable surface.

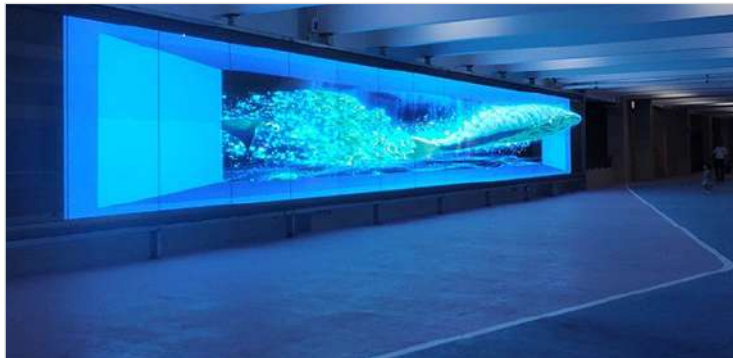


**Curtain Walls**

Engineered to curtain-wall standards, LED Glass panels are dimensioned, framed and fixed using the same hardware as standard architectural glazing.



**Canopies & Overpasses**



**Railings & Balustrades**

Used in laminated glass balustrades, the LED interlayer adds programmable lighting and content to staircases, balconies and bridges.



**Interiors & Atriums**

Inside lobbies, retail spaces and cultural buildings, LED Glass creates transparent feature surfaces — partitions, ceilings and feature walls that remain visually light while.

# Where the panels are working today.

Six categories — thirty-plus industries

01

## Architectural Façades

Curtain walls, cladding and ventilated façades on commercial and civic buildings.

02

## Transport Hubs

High-speed rail stations, metro stations and airport terminals across the network.

03

## Civic & Cultural

Museums, libraries, hospitals and government buildings.

04

## Retail & Hospitality

Shopping centres, sales galleries, hotels, restaurants and auto showrooms.

05

## Bridges & Railings

Overpasses, pedestrian bridges, balustrades and waterfront infrastructure.

06

## Night-scene Lighting

City-scale lighting masterplans — landmark towers, plazas and waterfronts.

# Built for the building envelope.

## Engineered to architectural standards

Every KAPHS LED Glass panel is engineered as a curtain-wall component first and a display surface second. CCC-certified safety glass, IP65 surface protection and a service life of up to 80,000 hours give the system the durability profile required for permanent façade integration.

Ultra-low power consumption, full brightness adjustment from 0-100%, and a wide operating range of -40 °C to +80 °C make the panel viable across the full range of GCC climates — from open desert façades to fully glazed urban towers.

## Performance highlights

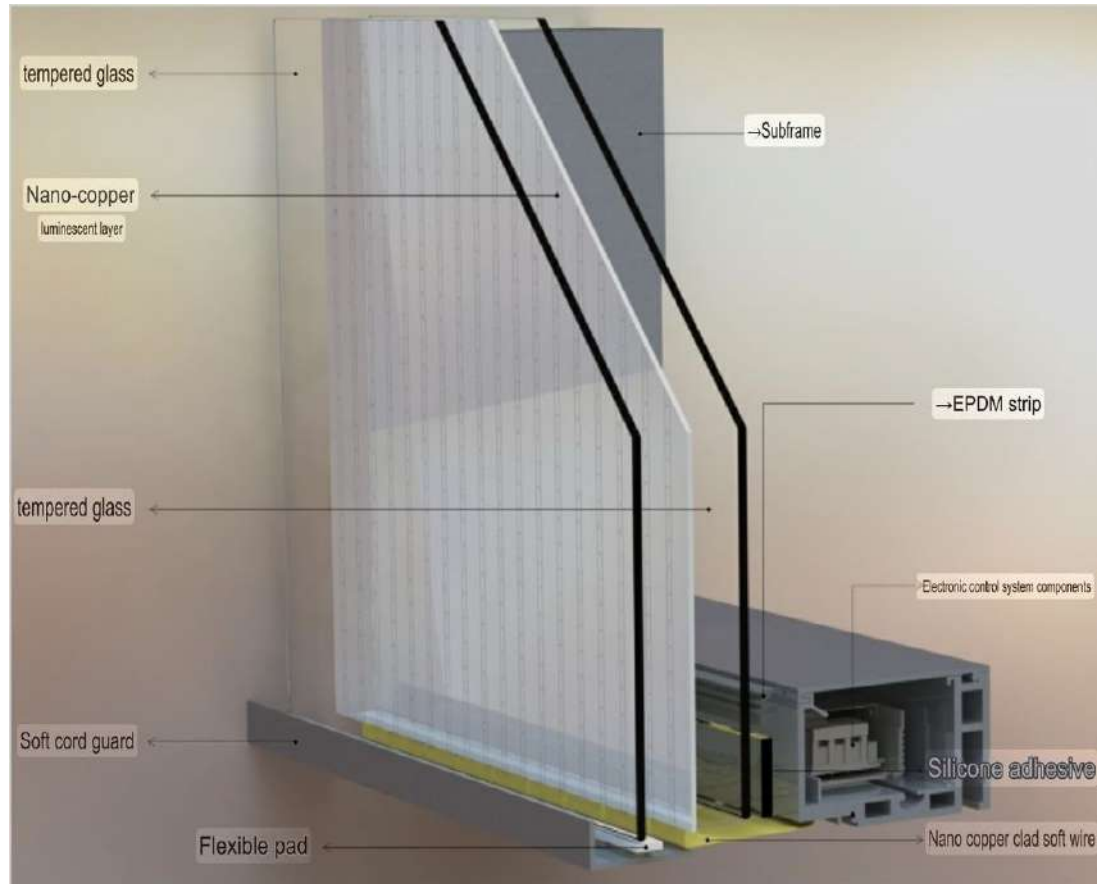
- IP65 surface protection — water, dust, lightning, corrosion resistant
- CCC-certified tempered safety glass, 99% inspection permeability
- Up to 99% transparency — daylight and sightlines preserved
- Service life up to 80,000 hours of continuous operation
- Operating range -40 °C to +80 °C, full auto brightness control

---

# Product Range

Two circuit technologies — Nano Copper-Clad and ITO Invisible — across eight pixel pitches.

# Nano Copper-Clad Circuit



## About this range

The Nano Copper-Clad range uses a precision-etched conductive copper circuit with surface-mounted LED chips, laminated between tempered glass plies with 2.28 mm PVB. Engineered for high brightness and tight pixel pitches, the range is optimised for façade media, signage and large-format architectural displays where image density is critical.

Available in P8, P10, P16 and P20 — pixel densities from 2,500 to 15,625 px/m<sup>2</sup> and brightness up to 9,000 cd/m<sup>2</sup>.

# 4

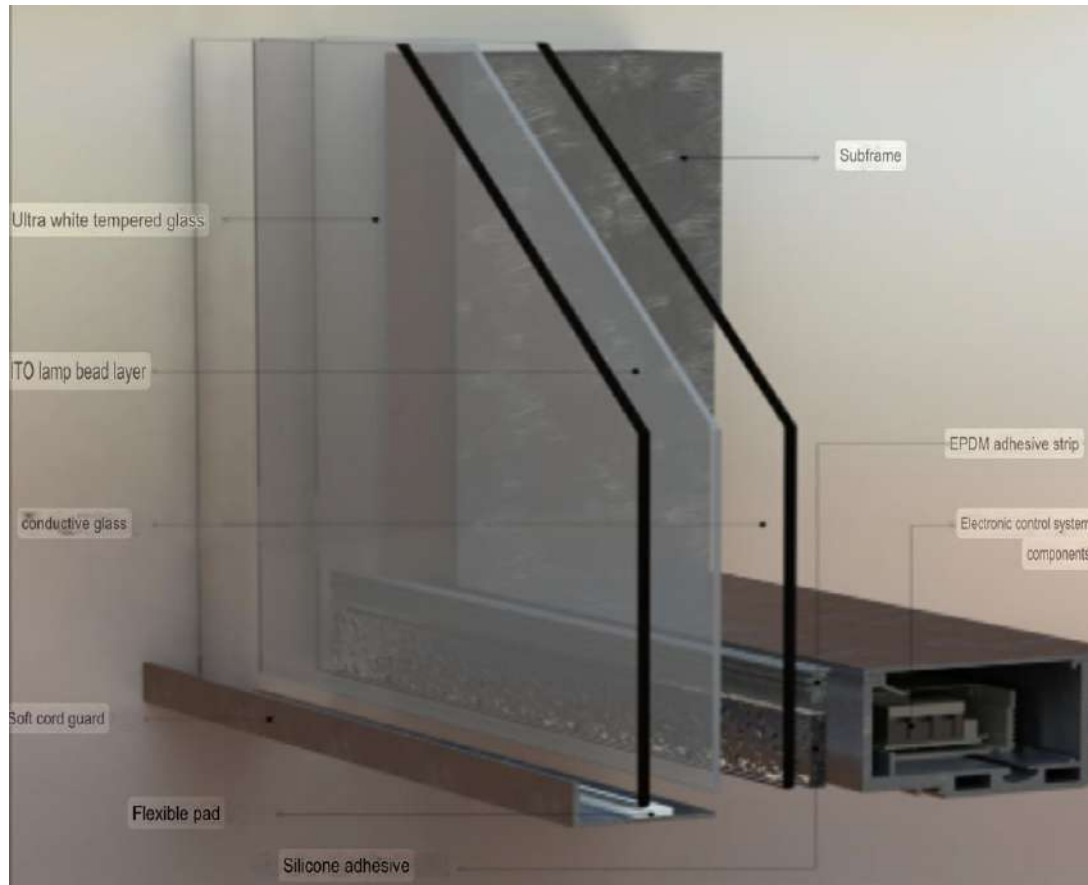
PIXEL PITCHES IN THIS RANGE

# Nano Copper-Clad — Specifications

## P8 — P10 — P16 — P20

| Parameter                          | P8                                       | P10         | P16         | P20         |
|------------------------------------|--|-------------|-------------|-------------|
| Pixel pitch (mm)                   | 8  | 10          | 16          | 20          |
| Pixel density (px/m <sup>2</sup> ) | ≥ 15,625                                 | ≥ 10,000    | ≥ 3,844     | ≥ 2,500     |
| Brightness (cd/m <sup>2</sup> )    | 8,000–9,000                              | 6,000–7,000 | 4,000–5,000 | 3,500–4,000 |
| Peak power (W/m <sup>2</sup> )     | 950                                      | 600         | 250         | 150         |
| Average power (W/m <sup>2</sup> )  | 500–600                                  | 200–400     | 100–180     | 80–120      |
| Transmittance                      | >92%                                     | >92%        | >92%        | >92%        |
| Refresh rate (Hz)                  | 3,840                                    | 3,840       | 3,840       | 3,840       |
| Viewing angle                      | 140°                                     | 140°        | 140°        | 140°        |
| Colour temperature (K)             | 3,000–8,000 adjustable                   | —           | —           | —           |
| Grayscale (bit)                    | 16                                       | 16          | 16          | 16          |
| Operating temp.                    | -40 °C to +80 °C                         | —           | —           | —           |
| Protection rating                  | IP65 — water, dust, lightning, corrosion | —           | —           | —           |

# ITO Invisible Circuit



## About this range

The ITO Invisible Circuit range uses an Indium Tin Oxide conductive coating deposited on tempered glass — a wireless approach that eliminates visible circuitry and delivers transparency rates of up to 99%. With no physical wire to age or degrade, the panels offer long-term visual clarity and structural simplicity.

Available in P20, P30, P40 and P50 — optimised for large-format façade and curtain-wall installations where transparency is the priority.

# 4

PIXEL PITCHES IN THIS RANGE

# ITO Invisible Circuit — Specifications

P20 — P30 — P40 — P50

| Parameter                          | P20                                      | P30     | P40     | P50     |
|------------------------------------|--|---------|---------|---------|
| Pixel pitch (mm)                   | 20                                       | 30      | 40      | 50      |
| Pixel density (px/m <sup>2</sup> ) | ≥ 2,500                                  | ≥ 1,089 | ≥ 625   | ≥ 400   |
| Brightness (cd/m <sup>2</sup> )    | 1,000–1,500                              | 350–600 | 200–450 | 250–300 |
| Peak power (W/m <sup>2</sup> )     | 230                                      | 100     | 60      | 40      |
| Average power (W/m <sup>2</sup> )  | 110                                      | 50      | 30      | 20      |
| Transmittance                      | >92% (up to 99%)                         | —       | —       | —       |
| Refresh rate (Hz)                  | 3,840                                    | 3,840   | 3,840   | 3,840   |
| Viewing angle                      | 140°                                     | 140°    | 140°    | 140°    |
| Display colour                     | 16.7 million                             | —       | —       | —       |
| Grayscale (bit)                    | 16                                       | 16      | 16      | 16      |
| Operating temp.                    | -40 °C to +80 °C                         | —       | —       | —       |
| Protection rating                  | IP65 — water, dust, lightning, corrosion | —       | —       | —       |

---

# Project References

Where KAPHS LED Glass has been installed at scale — across China and beyond.

# Beijing CBD Central Square

Beijing, China / 1,500 m<sup>2</sup>

Lit on 18 October 2024 at the opening of the Beijing Chaoyang International Lighting Festival, this 1,500 m<sup>2</sup> LED glass installation set a new record for the largest photoelectric glass screen in Beijing — anchoring the city's central business district with a programmable, transparent media surface.



# The Grand Canal Museum

Yangzhou, China / Cultural landmark

Part of the National Cultural Park programme, the Grand Canal Museum uses the full-colour dynamic ITO Invisible range — up to 99% transparency. By day, the glazing reads as conventional architectural glass; by night, the façade displays curated content, advertisements and museum signage.



# Dazhou Big Data Base

Dazhou, China / Digital infrastructure

Aligned with the national green-computing strategy, the Dazhou Big Data Base integrates LED Glass into the facility envelope — a low-power, high-transparency surface that turns the technical building into a branded, communicative volume without compromising daylight or interior function.



# Science and Innovation Center

China / Civic & research

A flagship civic-research facility using LED Glass across multiple façade elevations. The panels carry institutional content, wayfinding and programmed lighting while maintaining the architectural transparency the brief required.



# Selected installations.



**Shanghai Pingjin Center**

Shanghai, China



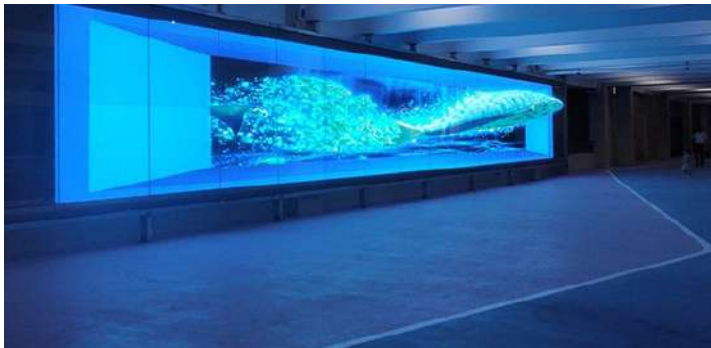
**Shanghai Zhenru Huanyu City**

Shanghai, China



**Changzhou City Hospitals**

Changzhou, China



**Guangzhou Primary School**

Guangzhou, China



**Jiangan River**

Chengdu, China



**Xian Future AI Computing Centre**

Xian, China

# A wider portfolio of installations.

Selected projects across façades, transit, retail and civic

## FAÇADES & CURTAIN WALLS

---

- Shanghai Greenland Bund Center — first full-colour P10 in Shanghai
- Jindi Smart CloudMinds Robot Industry Base
- New World Future City — Wuhan Military Games
- Jinmao Sales Center
- Intime Department Store
- Xuhui Sales Center

## BRIDGES & RAILINGS

---

- Hangzhou Asian Games Organising Committee
- Asian Games Wulin Square
- Shanghai Greenland Bund Center bridge
- Hongqiao Longhu Celestial Street
- Zhuji Pearl Museum
- Zhoupu Yongle Life Square

## TRANSIT & CIVIC

---

- Suzhou High-Speed North Railway Station — Cube
- Lishui Longquan High-Speed Rail Station
- Xian Jiahui Block
- Fuzhou Minjiang Star
- Shanghai Starry Sky Post
- Huangpu River Cube

# A vertically integrated manufacturing partner.

## KAPHS × LIGHTTECH — production partnership

KAPHS LED Glass is engineered and manufactured in partnership with LIGHTTECH, a National High-Tech Enterprise founded in 2016 with a vertically integrated facility spanning tempered glass, conductive circuit, automated LED placement and PVB lamination.

The partnership combines KAPHS's regional engineering, project delivery and supply across the GCC with LIGHTTECH's scale manufacturing and continuous R&D in photoelectric glass — backed by 60+ patents and 2,000+ days of independent development.

## Footprint

### KUNSHAN

Production & R&D — fully automated factory

### SHANGHAI

Marketing & engineering headquarters

### BUSAN

Chip & driver R&D office, South Korea

### DUBAI

KAPHS Middle East — regional delivery

### MONTREUX

KAPHS S.A. — Swiss head office

# Built to certified standards.

## Compliance & engineering

KAPHS LED Glass is manufactured under a vertically integrated quality system covering tempered glass, conductive circuit, LED placement and PVB lamination. Each panel is engineered to perform as both a curtain-wall component and a display surface — and certified accordingly.

### CCC

Tempered safety glass — China Compulsory Certification.

### IP65

Surface protection rating — water, dust, lightning, corrosion.

### CNAS

99% inspection permeability, 85% light transmittance verified.

### ISO

Process and product certification across the manufacturing chain.

### R&D

60+ patents covering circuit, lamination and mounting technology.

### LIFE

Service life of up to 80,000 hours of continuous operation.

# Let's build with light.

Specify, sample and engineer KAPHS LED Glass for your next façade, curtain wall or interior media project.

## KAPHS SWITZERLAND

KAPHS S.A.  
CH-1820 Montreux, Switzerland  
Tel: +41 79 409 6741

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PREMIUM ARCHITECTURAL CAST GLASS

# *Cast Glass.*

*Sculptural glass defined by depth, texture, and the play of light.*

# Contents

A complete guide to the KAPHS Cast Glass system — concept, process, applications, and the full 22-pattern product library across three ranges.

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*02* Product Description 141

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*06* CastForm 145

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*07* CrystalForm 148

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*09* Contact 153

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# *Sculptural glass, cast in light.*

KAPHS Cast Glass is a premium architectural material defined by depth, texture, and light interaction. Produced through a one-time casting process, each panel offers exceptional strength, consistency, and the ability to achieve a wide range of surface and internal effects at scale.

The collection is structured across three distinct ranges — CastForm, CrystalForm and CoreForm — engineered for partitions, façades, feature walls and backlit installations where both performance and presence are required.



RANGES



PATTERNS



FORMATS &amp; APPLICATIONS

# *A premium cast glass system.*

## *Architectural cast glass*

KAPHS Cast Glass is produced through a one-time casting process that yields panels of exceptional strength, optical depth, and surface presence. Each piece carries the marks of its making — textures, internal structures, and material density that diffuse and animate light across the surface.

The system is offered in three families: CastForm for surface expression, CrystalForm for sculptural internal effects, and CoreForm for monolithic colour and presence. Available in large formats and significant thicknesses, the range is engineered for both interior and exterior architectural use.



# *How Cast Glass is made.*

*01*

---

## *Mould preparation*

A precision-machined refractory mould is prepared to define surface texture, geometric pattern or sculptural internal form.

*02*

---

## *Glass charging*

High-purity glass is loaded into the mould in carefully measured volumes to achieve the required panel thickness and density.

*03*

---

## *One-time casting*

The charged mould is brought to working temperature in a controlled kiln cycle, allowing the glass to flow, settle and capture every detail.

*04*

---

## *Annealing & finishing*

Each panel is annealed over an extended cycle, then inspected, edged and finished to architectural tolerances before dispatch.

# *Applications.*

*Where Cast Glass performs — partitions, feature walls, façades, backlit installations, furniture and sculptural panels.*

# Cast Glass



## Partitions & Screens

Used in partitions and screens, cast glass creates privacy with rich visual texture while maintaining light transmission.



## Feature Walls

Cast glass feature walls turn a vertical surface into a statement — for hospitality, retail and luxury residential.



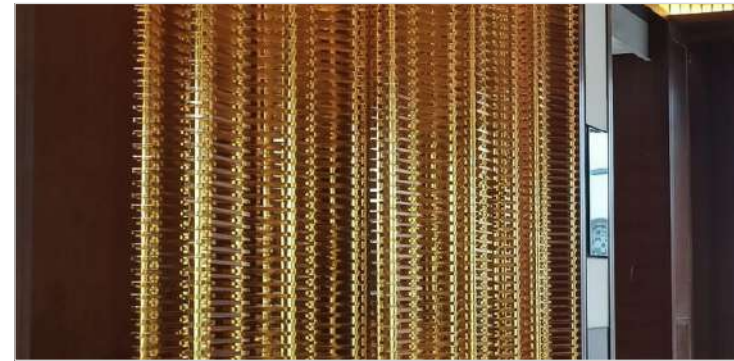
## Façades & Curtain Walls

Engineered for exterior architectural use, large-format cast glass panels deliver durability, dimensional stability and a strong material identity.



## Backlit Installations

Backlighting amplifies the inherent depth of the CrystalForm and CoreForm ranges, transforming each panel into a luminous architectural element.



## Art & Sculptural Panels

Used as sculptural panels and art installations, cast glass becomes a central design feature.

# CastForm



## *About this range*

CastForm presents texture cast into the surface of the glass. The collection spans subtle ripples, layered strata, dense geometric reliefs and bold prismatic patterns — each panel delivering one expressive textured face and one smooth face for clean integration into joinery and glazing systems.

9

PATTERNS IN THIS RANGE

# *CastForm — The complete range*



*Bloc*

KAPHS-CF-BLOC



*Cascade*

KAPHS-CF-CASCADE



*Drift*

KAPHS-CF-DRIFT



*Glacia*

KAPHS-CF-GLACIA



*Luna*

KAPHS-CF-LUNA



*Silica*

KAPHS-CF-SILICA

# *CastForm — The complete range*



*Stack*

KAPHS-CF-STACK



*Strata*

KAPHS-CF-STRATA



*Vapour*

KAPHS-CF-VAPOUR

# CrystalForm



## *About this range*

CrystalForm captures sculptural structures within the body of the glass — fractures, plumes, voids and crystalline formations that diffuse light and animate depth. The range is engineered for environments where light, transparency and material presence are inseparable.

9

PATTERNS IN THIS RANGE

# *CrystalForm — The complete range*



*Alabaster*

KAPHS-CRF-ALABASTER



*Fracta*

KAPHS-CRF-FRACTA



*Nebula*

KAPHS-CRF-NEBULA



*Nimbus*

KAPHS-CRF-NIMBUS



*Nova*

KAPHS-CRF-NOVA



*Opal*

KAPHS-CRF-OPAL

# *CrystalForm — The complete range*



*Plane*

KAPHS-CRF-PLANE



*Plume*

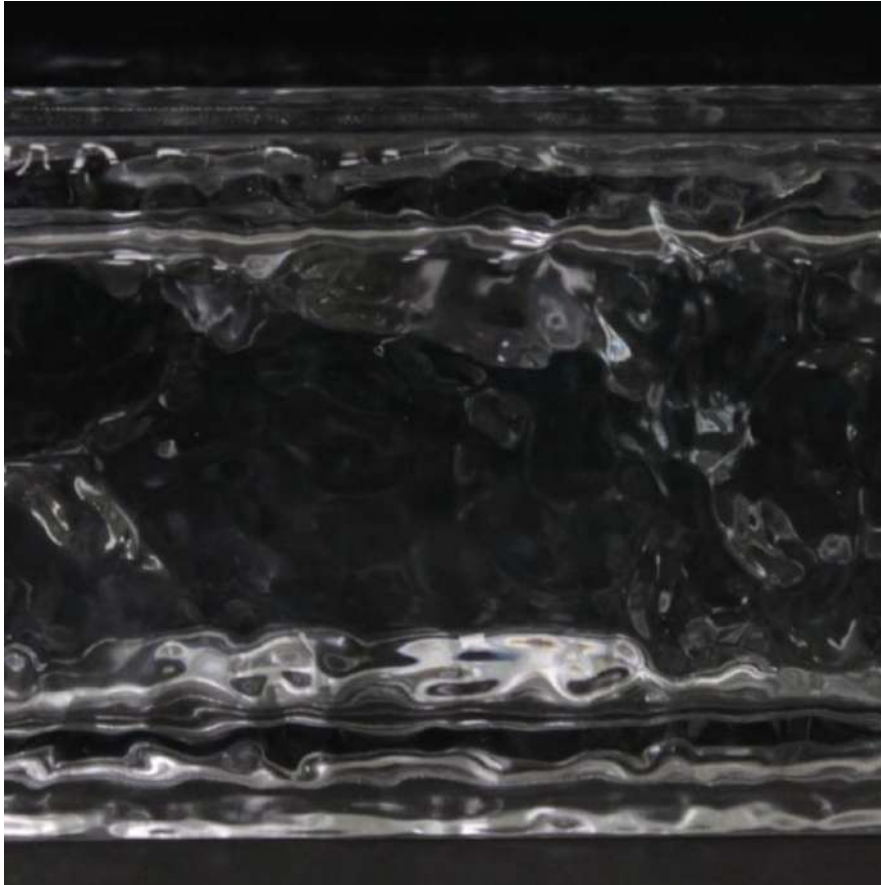
KAPHS-CRF-PLUME



*Void*

KAPHS-CRF-VOID

# CoreForm



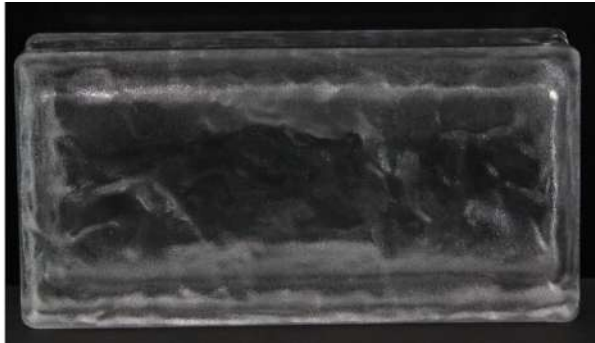
## *About this range*

CoreForm is monolithic, saturated and dense — solid cast glass that reads as a single body of material. Engineered for high-impact installations where colour, weight and presence are the defining qualities.

4

PATTERNS IN THIS RANGE

# *CoreForm — The complete range*



*Basalt*

KAPHS-COF-BASALT



*Molten*

KAPHS-COF-MOLTEN



*Obsidian*

KAPHS-COF-OBSIDIAN



*Prism*

KAPHS-COF-PRISM

---

GET IN TOUCH

*Let's cast your next surface.*

OFFICE

---

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[kaphsgroup.com](http://kaphsgroup.com)

STAINLESS-STEEL WOVEN WIRE MESH

# Architectural Wire Mesh.

*Woven mesh systems for façades, sunshades, ceilings and balustrades.*

# Contents

A complete guide to the KAPHS Architectural Wire Mesh range — concept, applications, finishes, fixing systems, the full 35-pattern library, featured projects and customisation.

|    |                           |     |
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# A precision-engineered architectural surface.

KAPHS Architectural Wire Mesh delivers premium woven mesh façade systems for modern building design — engineered for performance and refined for aesthetics.

Available in 35 woven patterns across stainless steel, aluminium, brass, bronze and copper — for façades, sunshades, interior partitions, ceilings, balustrades and car-park screens.



MANUFACTURING PARTNER

**Haver & Boecker — manufacturer of architectural wire mesh.**

KAPHS has been the exclusive Middle East partner of Haver & Boecker since 2006.

# Light, structure and transparency in steel.

---

## Engineered woven mesh

KAPHS Architectural Wire Mesh is a high-performance woven metal system, manufactured by Haver & Boecker from high-grade stainless steel and other architectural alloys. Available in 35 weave patterns, the range delivers light diffusion, transparency, ventilation and solar shading while maintaining long-term structural integrity.

Suited to façades, cladding, sunshades, balustrades and refined interior applications, KAPHS mesh systems give architects total design flexibility — combining engineering precision with material elegance.



# 03

# Applications

Where architectural wire mesh performs — façades, sunshades, interiors and more.

# Architectural Wire Mesh



## Façades & Cladding

Architectural wire mesh is widely used in building façades and cladding systems to create transparent, ventilated exteriors.



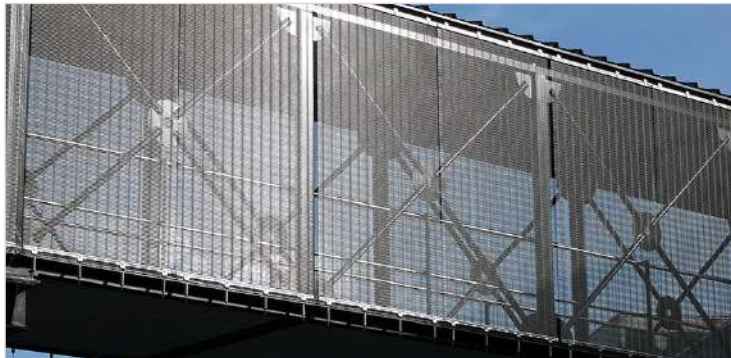
## Sunshades & Brise Soleil

Tensioned mesh panels function as integrated brise soleil systems, regulating sunlight and reducing cooling loads while maintaining outward visibility.



## Interior Partitions & Ceilings

Inside the building envelope, architectural mesh is specified for partitions, ceilings, wall cladding and decorative features.



## Balustrades & Infill Panels

Stainless steel mesh panels are used as infill in balustrades, stair guards, and atrium edges.



## Parking & Security Screens

For multi-storey car parks, mesh façade panels provide the open-area ratio required by ventilation codes while elevating exterior architecture.

# 04 Finishes

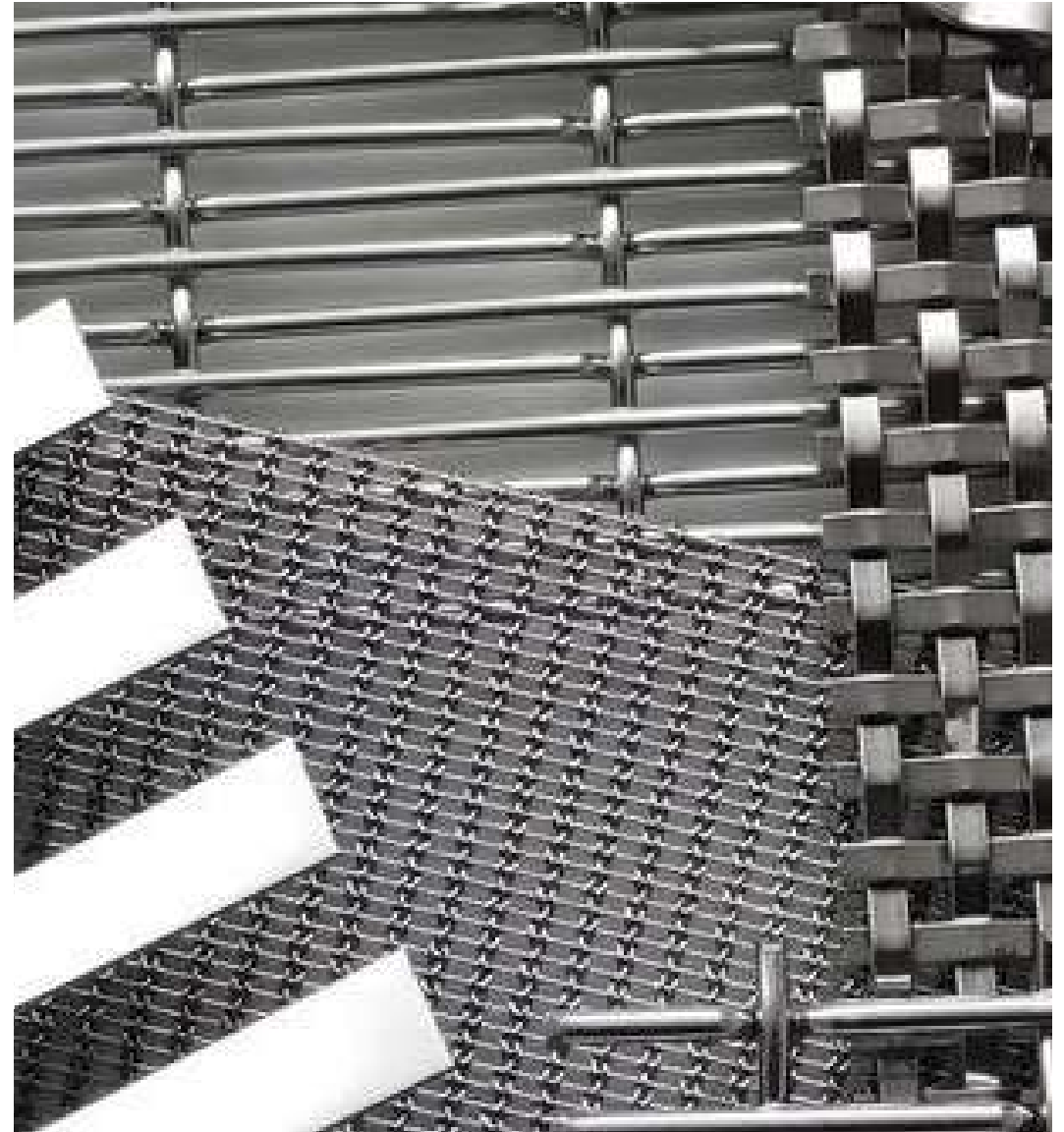
Surface treatments engineered for performance and design intent.

# Stainless Steel • Mill Finish

---

## The raw character of architectural wire mesh.

The standard mill finish highlights the natural beauty of stainless steel — clean, untreated, with timeless industrial character. Excellent corrosion resistance and durability make it the default specification for façade and cladding work.

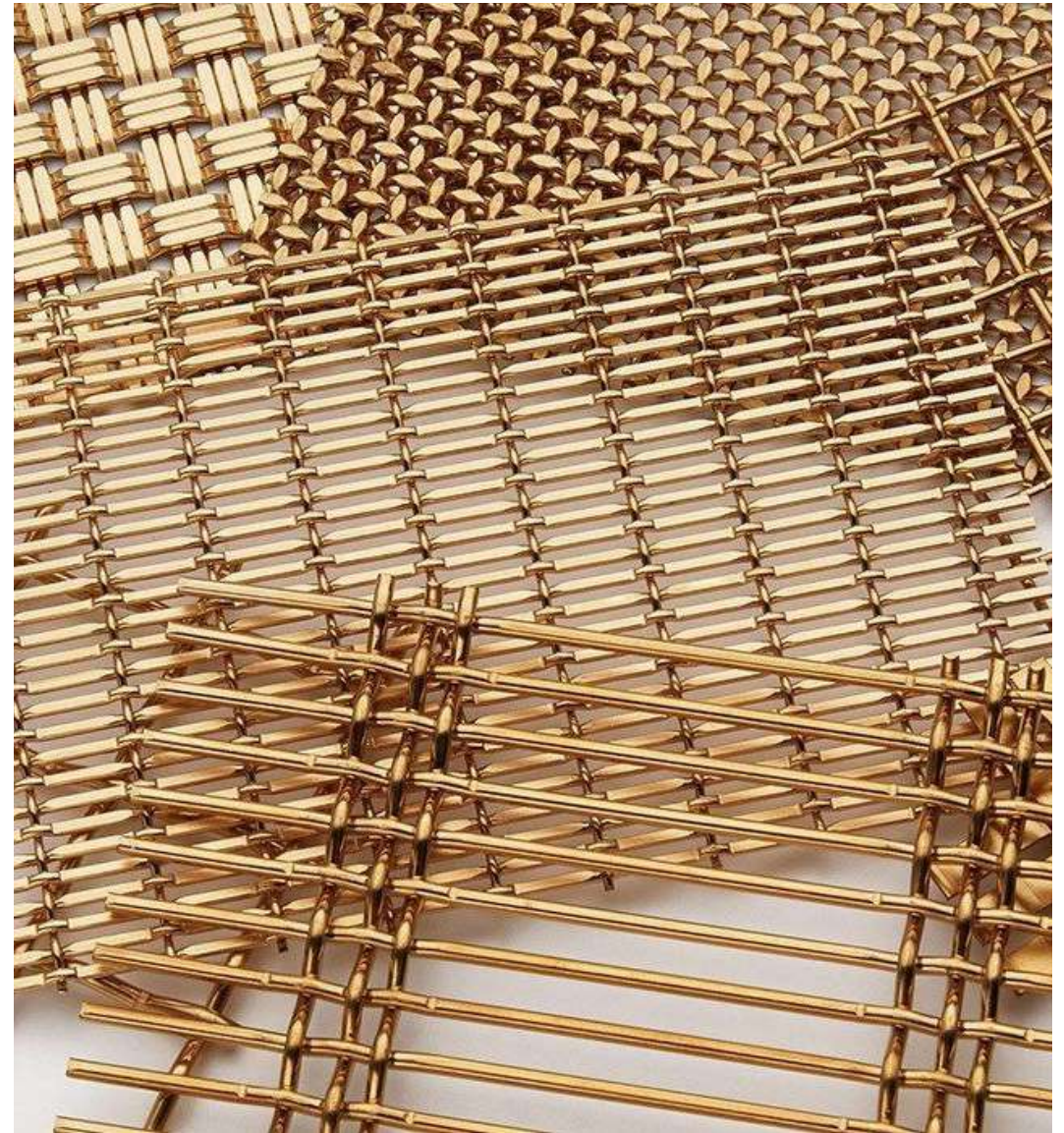


# PVD Coating

---

**Rich metallic colour with long-term stability.**

Physical Vapor Deposition delivers metallic finishes — champagne, bronze, black, gold — with superior scratch resistance and colour stability. Ideal for premium architectural mesh systems where colour is a design driver.

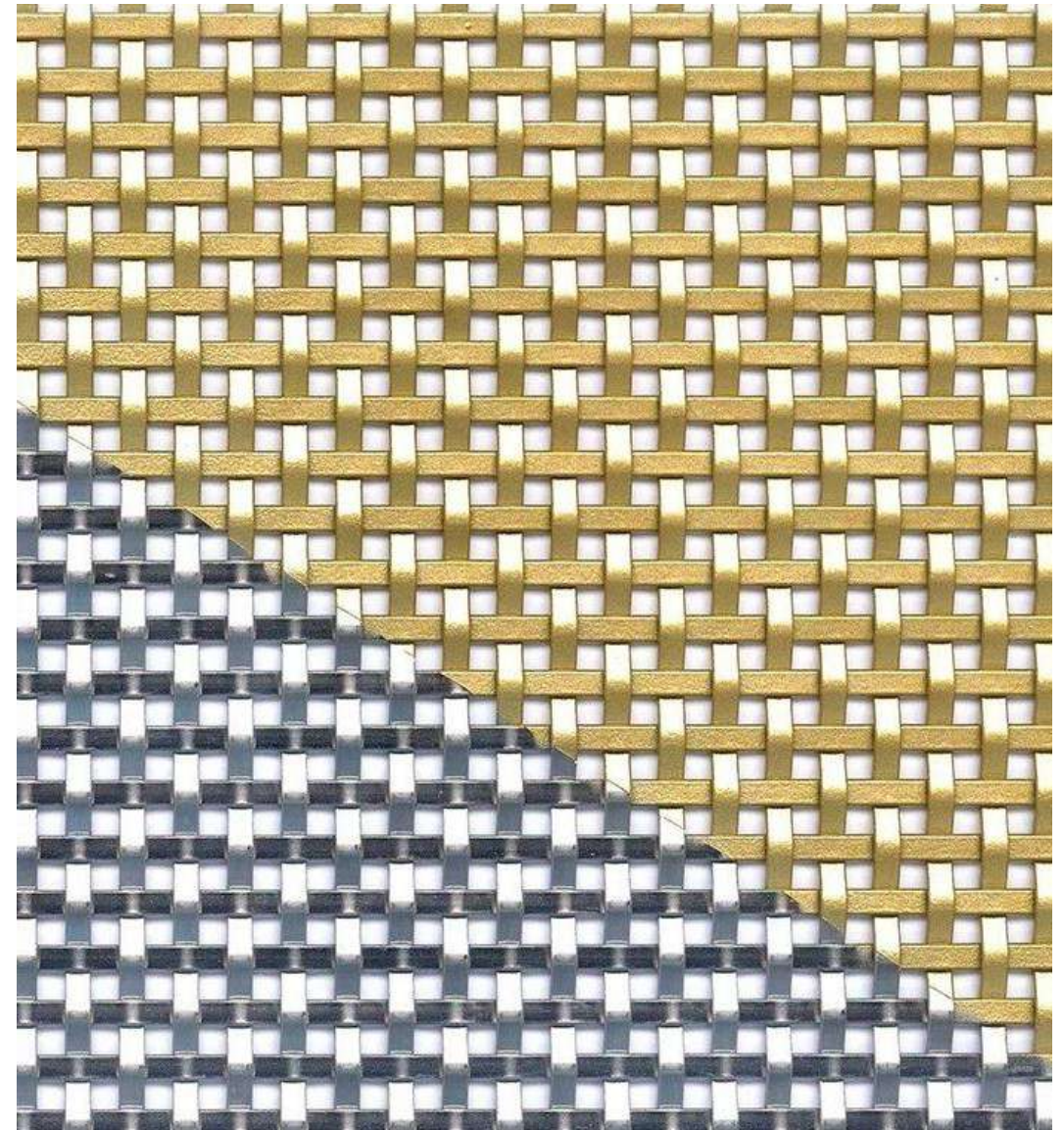


# Wet Paint Coating

---

**Full RAL spectrum, matte to gloss.**

Wet paint systems offer the widest colour range and finish textures, from matte to high gloss. Specified where exact colour match or non-standard tones are required, with an additional protective layer over the substrate.



# 05

# Fixing Systems

Engineered tensioning and mounting for façade-scale installations.

# Top Mounting System

---

## Suspended tension from the supporting structure.

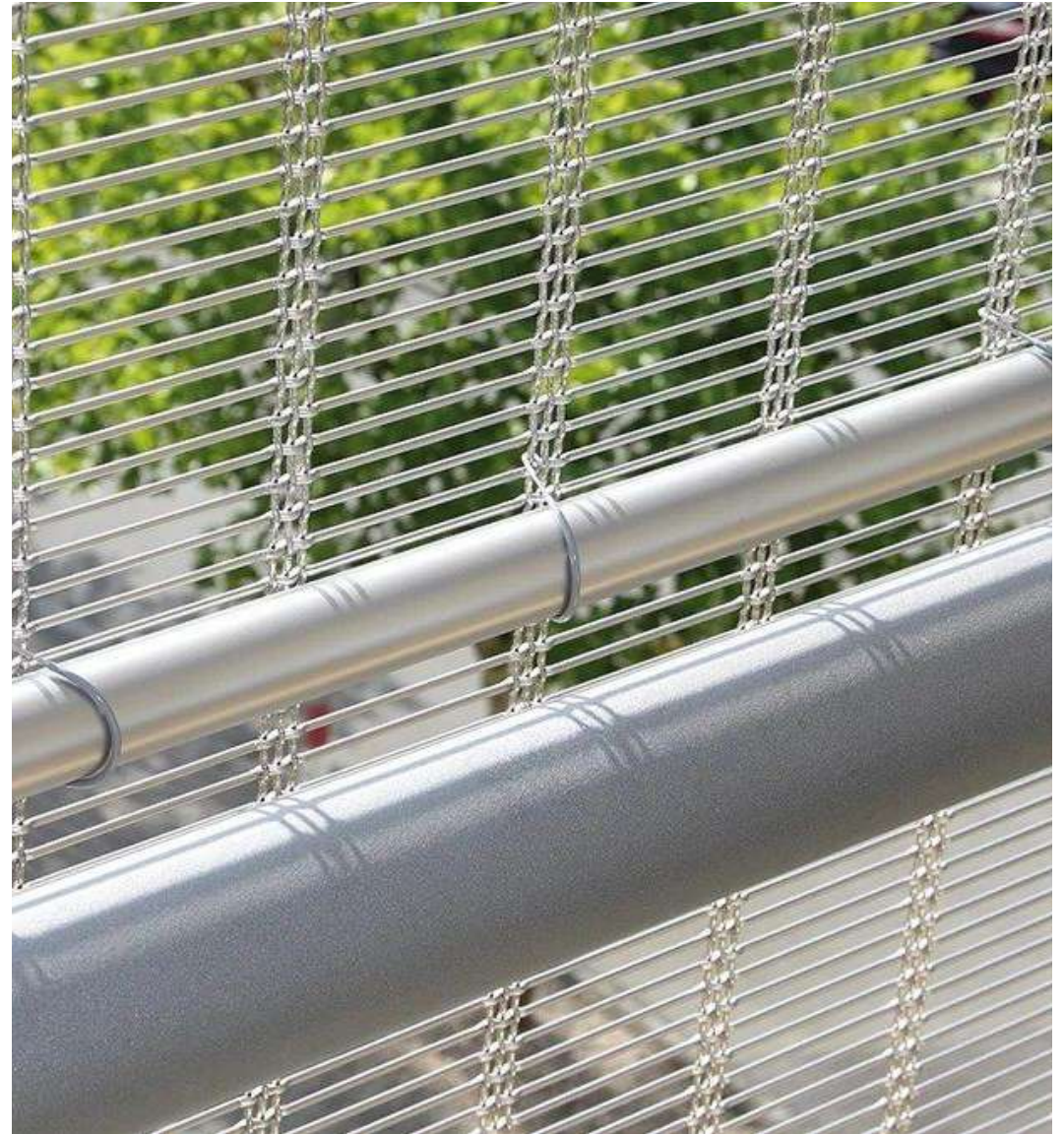
A flat tension profile with clevis screws suspends the mesh panel from the primary structure. Controlled tensioning at the top edge ensures the panel hangs cleanly and remains taut over time.



# Intermediate Mounting System

**For larger panels — concealed structural support.**

On larger panels, intermediate supports use discreet wire connectors anchored to a concealed tube behind the mesh. Structural integrity is maintained while the visible face remains uninterrupted — ideal for seamless façade lengths.



# Bottom Mounting System

---

## Tensioned base with spring-loaded compliance.

The lower edge uses flat tension profiles with clevis screws and integrated spring elements. The spring allows the mesh to flex under wind load while maintaining consistent tension — essential for exterior installations.



# 06

# Featured Projects

Installed work across the Middle East — five flagship references.



# Dubai Hills Estate Business Park

Dubai Hills Estate, UAE

APPLICATION

**Car Park Façade Screen**

INSTALLED

**Installed**

MESH SYSTEM

**EGLA-TWIN 4263**

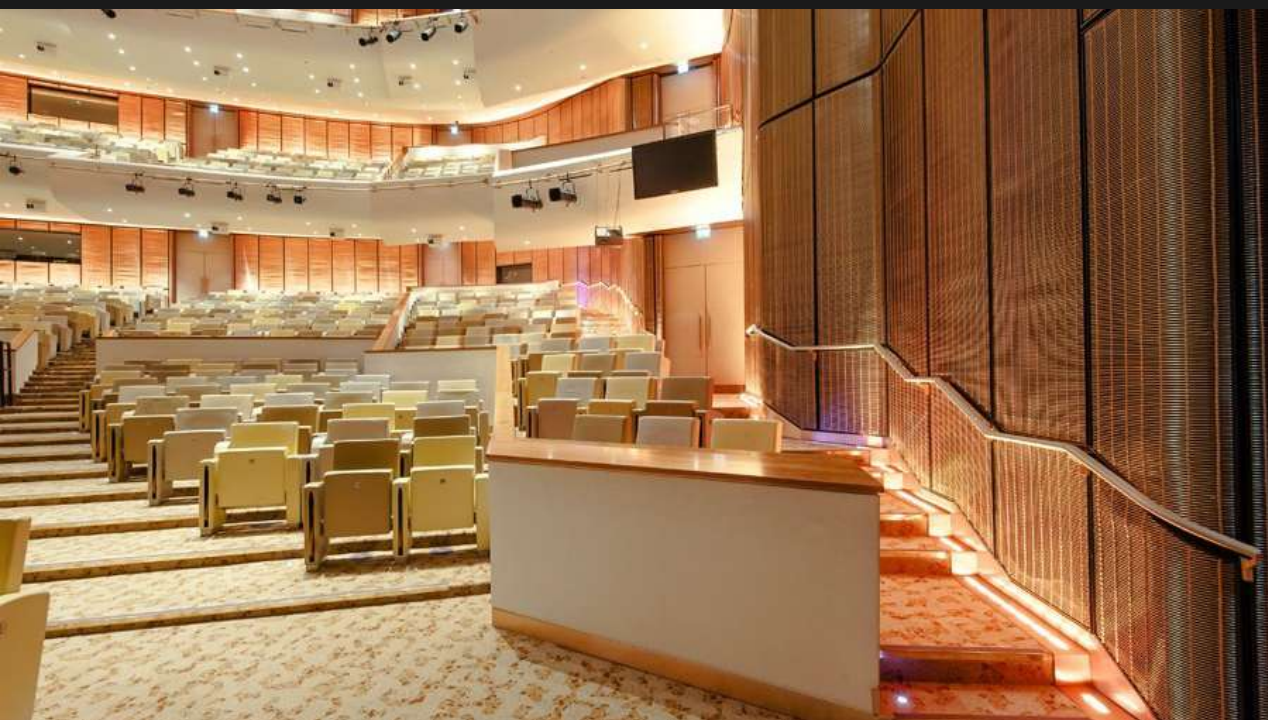
Four office buildings around a central multi-storey car park. EGLA-TWIN 4263 stainless steel mesh clads the car park façade — one smooth, light-reflective face combined with a 65% open mesh structure meets both the architect's visual brief and ventilation code. Panels up to 25 m long × 3 m wide fixed via tension profiles and clevis bolts.

CLIENT

Emaar

ARCHITECT

Design & Architecture Bureau (DAR)



# Qatar National Convention Centre

Doha, Qatar

APPLICATION

**Theatre Hall Cladding**

INSTALLED

**Installed**

MESH SYSTEM

**MULTI-BARRETTE 8123**

Bronze MULTI-BARRETTE 8123 wire mesh clads the walls of the Theatre Hall, with 6,000 m<sup>2</sup> of architectural mesh across ceilings and walls. Engineered for the theatre's acoustic requirements: clear-varnish coated, edge-canted, glued into black-coated aluminium frames — air-permeable and acoustically neutral while reading as a homogeneous bronze surface.

CLIENT

Qatar National Convention Centre

ARCHITECT

Arata Isozaki & Associates



# Aspire Tower

---

Doha, Qatar

APPLICATION

**Torch Façade**

INSTALLED

**Installed**

MESH SYSTEM

**DOGLA-TRIO**

The 318 m tower — design landmark of the 2006 Asian Games — was sculpted into a torch using DOGLA-TRIO mesh elements. 3,452 panels totalling ~30,000 m<sup>2</sup>, with horizontal-wire clear openings tuned from 14–44 mm and open area graded from 72% to 85%. Continuous vertical wire groups run unbroken element-to-element across the full tower height; integrated LEDs deliver programmable colour effects.

CLIENT

The Sports City Project

ARCHITECT

AREP



# North East Car Park

**Doha, Qatar**

APPLICATION

**Car Park Fall-Protection  
Cladding**

INSTALLED

**Installed**

MESH SYSTEM

**DOKA-BARRETTE 8915**

Architectural wire mesh clads the fall protection of the North East Car Park. KAPHS supplied 200 m<sup>2</sup> of ready-to-install DOKA-BARRETTE 8915 elements with edge-protection profiles — a durable, ventilated screen that meets the structural and visual requirements of a public parking facility.

CLIENT

Qatar Foundation

ARCHITECT

ARUP



# Mercedes-Benz Flagship Showroom

Dubai Design District (d3), UAE

APPLICATION

**Showroom Façade**

INSTALLED

**Installed**

MESH SYSTEM

**DOGLIA-TRIO 1033**

The Mercedes-Benz flagship showroom façade is wrapped in grey-painted DOGLIA-TRIO 1033 wire mesh. The sophisticated weave reads as a precise, luxurious surface that signals the brand identity, while delivering a balance of transparency and privacy — letting daylight filter through without compromising the showroom's polished exterior.

CLIENT

Gargash / Mercedes-Benz

ARCHITECT

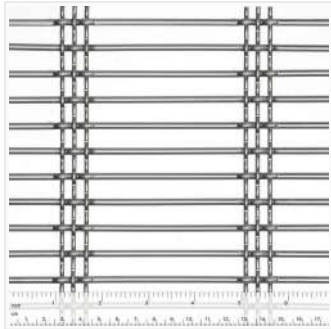
Binchy & Binchy

# 07

# Product Range

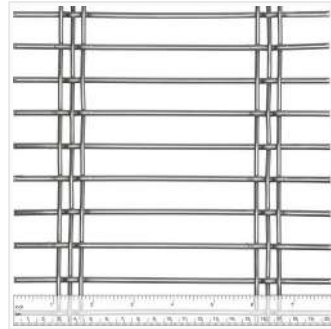
35 woven mesh patterns. From fine architectural textiles to wide-aperture façade weaves.

# Architectural Wire Mesh



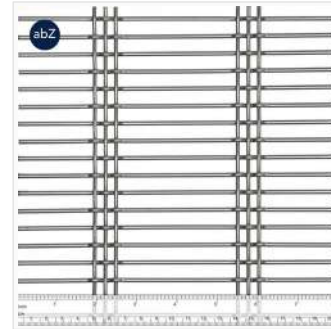
**DOGLA-TRIO 1011**

Open area ~66%  
Weight ~8,5 kg/m<sup>2</sup>  
Max width ~3,0 m



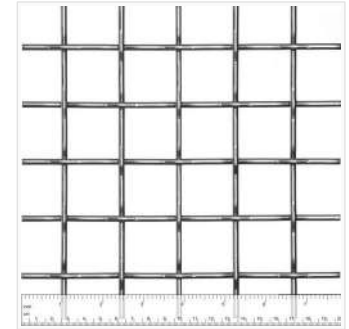
**DOGLA-TRIO 1030**

Open area ~75%  
Weight ~6,2 kg/m<sup>2</sup>  
Max width ~3,0 m



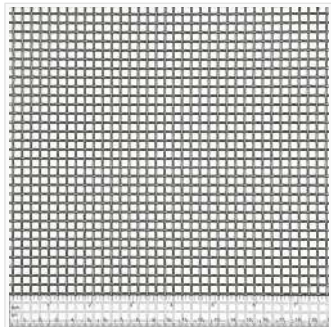
**DOGLA-TRIO 1033**

Open area ~67%  
Weight ~6,5 kg/m<sup>2</sup>  
Max width ~3,0 m



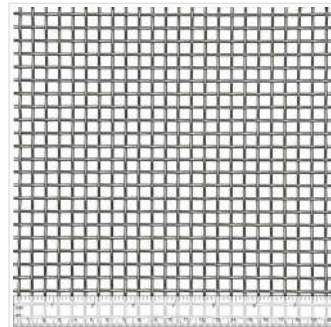
**DOKA-MONO 1591**

Open area ~79%  
Weight ~5,9 kg/m<sup>2</sup>  
Max width ~3,0 m



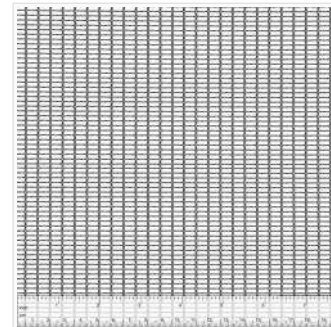
**DOKA-MONO 1601**

Open area ~51%  
Weight ~6,0 kg/m<sup>2</sup>  
Max width ~3,0 m



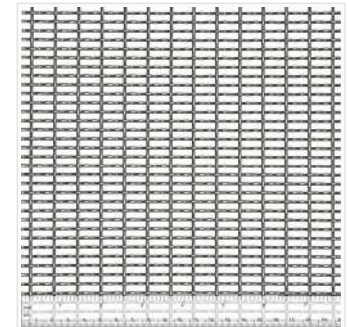
**DOKA-MONO 1851**

Open area ~58%  
Weight ~6,1 kg/m<sup>2</sup>  
Max width ~3,0 m



**DOKAWELL-MONO 3001**

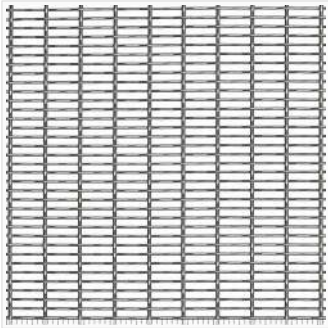
Open area ~56%  
Weight ~3,2 kg/m<sup>2</sup>  
Max width ~3,0 m



**DOKAWELL-MONO 3381**

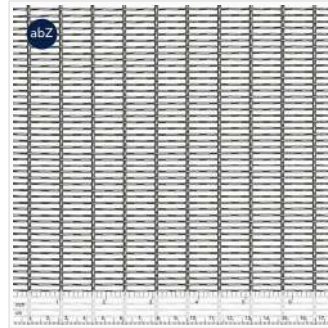
Open area ~55%  
Weight ~6,4 kg/m<sup>2</sup>  
Max width ~3,0 m

# Architectural Wire Mesh



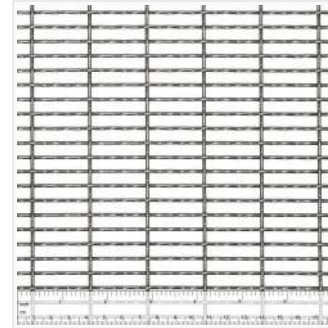
**DOKAWELL-MONO 3571**

Open area ~60%  
Weight ~4,5 kg/m<sup>2</sup>  
Max width ~3,0 m



**DOKAWELL-MONO 3601**

Open area ~52%  
Weight ~5,3 kg/m<sup>2</sup>  
Max width ~3,0 m



**DOKAWELL-MONO 3691**

Open area ~70%  
Weight ~4,2 kg/m<sup>2</sup>  
Max width ~3,0 m



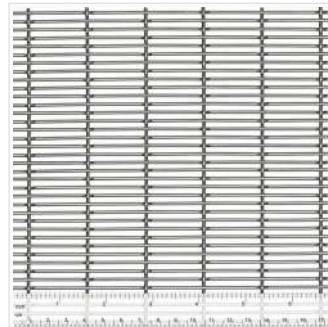
**EGLA-DUO 4222**

Open area ~46%  
Weight ~7,4 kg/m<sup>2</sup>  
Max width ~3,0 m



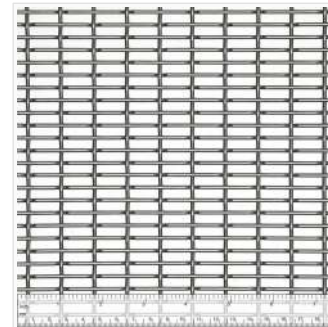
**EGLA-DUO 4262**

Open area ~52%  
Weight ~6,6 kg/m<sup>2</sup>  
Max width ~3,0 m



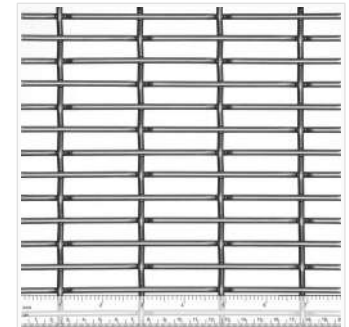
**EGLA-MONO 4391**

Open area ~52%  
Weight ~6,6 kg/m<sup>2</sup>  
Max width ~3,0 m



**EGLA-MONO 4631**

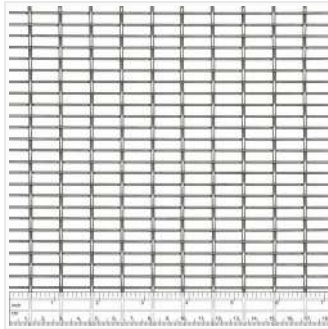
Open area ~58%  
Weight ~7,3 kg/m<sup>2</sup>  
Max width ~3,0 m



**EGLA-MONO 4741**

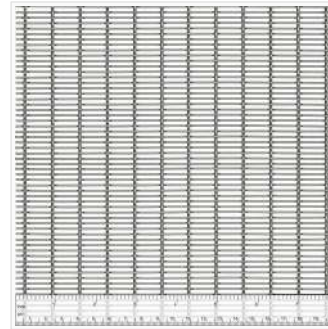
Open area ~66%  
Weight ~8,7 kg/m<sup>2</sup>  
Max width ~3,0 m

# Architectural Wire Mesh



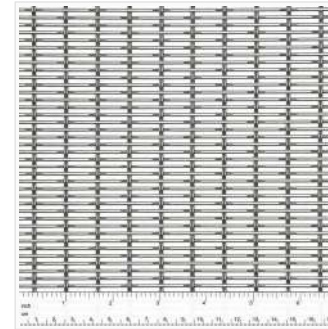
**EGLA-MONO 4832**

Open area ~69%  
Weight ~3,4 kg/m<sup>2</sup>  
Max width ~3,0 m



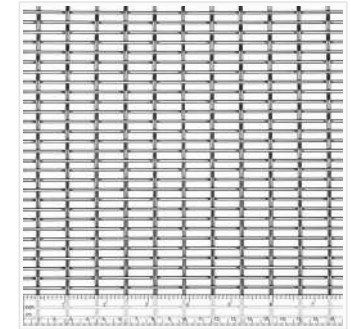
**EGLA-MONO 4881**

Open area ~52%  
Weight ~5,2 kg/m<sup>2</sup>  
Max width ~3,0 m



**EGLA-TWIN 4223**

Open area ~43%  
Weight ~7,2 kg/m<sup>2</sup>  
Max width ~3,0 m



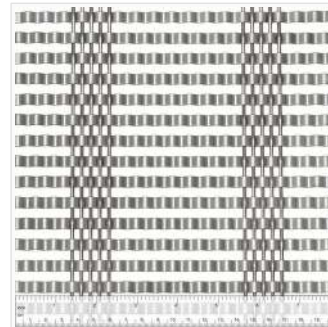
**EGLA-TWIN 4243**

Open area ~57%  
Weight ~5,4 kg/m<sup>2</sup>  
Max width ~3,0 m



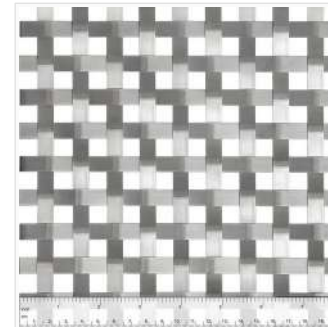
**EGLA-TWIN 4253**

Open area ~51%  
Weight ~6,0 kg/m<sup>2</sup>  
Max width ~3,0 m



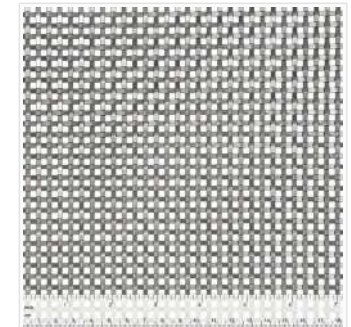
**LARGO-NOVA 2032**

Open area ~40%  
Weight ~6,6 kg/m<sup>2</sup>  
Max width ~3,0 m



**LARGO-PLENUS 2022**

Open area ~25%  
Weight ~8,1 kg/m<sup>2</sup>  
Max width —



**LARGO-PLENUS 2027**

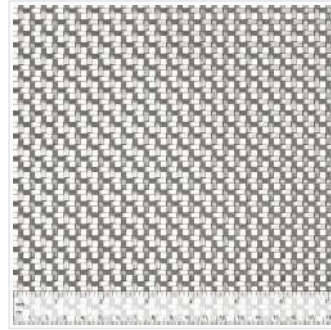
Open area ~25%  
Weight ~8,1 kg/m<sup>2</sup>  
Max width ~3,0 m

# Architectural Wire Mesh



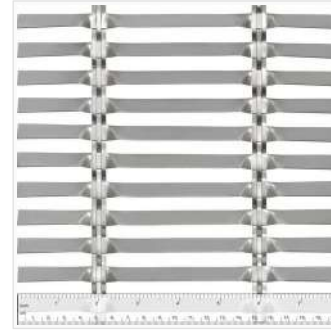
**LARGO-PLENUS 2047**

Open area ~43%  
Weight ~5,1 kg/m<sup>2</sup>  
Max width ~3,0 m



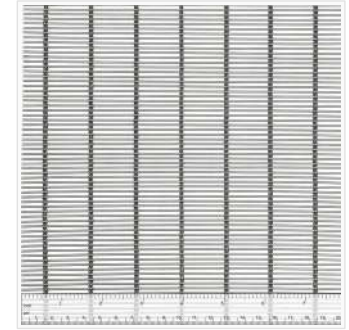
**LARGO-PLENUS 2127**

Open area ~28%  
Weight ~7,45 kg/m<sup>2</sup>  
Max width ~3,0 m



**LARGO-TWIST 2045**

Open area ~35%  
Weight ~5,5 kg/m<sup>2</sup>  
Max width ~3,0 m



**MULTI-BARRETTE 8106**

Open area ~45%  
Weight ~5,2 kg/m<sup>2</sup>  
Max width ~2,0 m



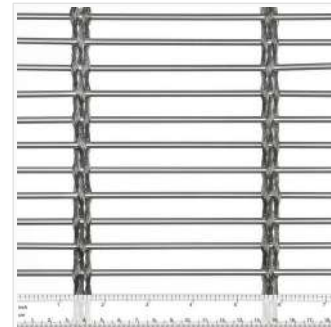
**MULTI-BARRETTE 8123**

Open area ~64%  
Weight ~6,6 kg/m<sup>2</sup>  
Max width ~4,0 m



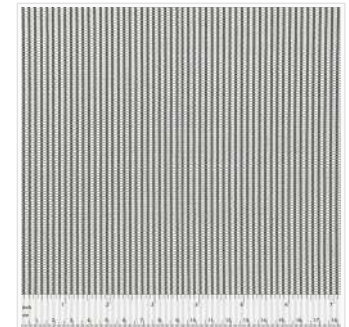
**MULTI-BARRETTE 8130**

Open area ~46%  
Weight ~10,2 kg/m<sup>2</sup>  
Max width ~4,0 m



**MULTI-BARRETTE 8301**

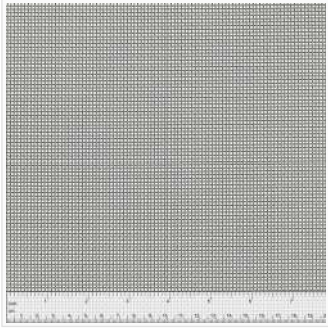
Open area ~66%  
Weight ~8,0 kg/m<sup>2</sup>  
Max width ~4,0 m



**MINIFLEX 8135**

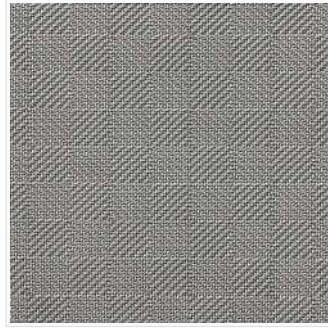
Open area ~37%  
Weight ~2,1 kg/m<sup>2</sup>  
Max width ~1,8 m

# Architectural Wire Mesh



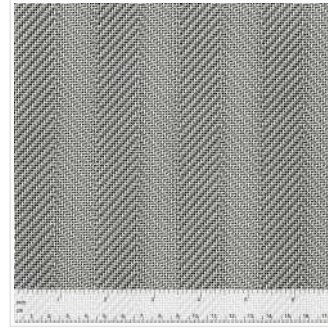
**DETENTION 7016**

Open area ~44%  
Weight ~3,0 kg/m<sup>2</sup>  
Max width ~1,5 m



**CHESS 6013**

Open area ~31%  
Weight ~3,2 kg/m<sup>2</sup>  
Max width ~1,5 m



**ALTERNA 6012**

Open area ~34%  
Weight ~3,0 kg/m<sup>2</sup>  
Max width ~1,5 m

# Specified to project.

Every KAPHS wire mesh pattern is engineered to project — alloy, panel size, finish and fixing system selected against design intent, structural conditions and exposure.

## Materials

- Stainless 316 / 316L
- Stainless 304
- Aluminium (anodised)
- Brass / Bronze
- Copper
- Coated mild steel

## Mesh formats

- Plain weave
- Twill / spiral
- Cable systems
- Crimped / decorative
- Custom geometry

## Panel sizes

- Standard up to ~3.0 m wide
- Up to 4.0 m on select weaves
- Cut-to-size
- Pre-tensioned panels

## Finishes

- Mill (untreated)
- PVD metallic coating
- Anodised aluminium
- Wet paint (RAL)



MIDDLE EAST

GET IN TOUCH

# Let's specify your next façade.

---

OFFICE

KAPHS Middle East Building Materials Trading LLC  
Office 1701, Tower A, Prime Business Centre  
Jumeirah Village Circle, Dubai, UAE

CONTACT

+971 4 554 2145  
sales@kaphsgroup.com  
kaphsgroup.com

The logo for KAPH S, featuring a stylized red 'K' followed by the letters 'A', 'P', 'H', and 'S' in a black serif font.

DECORATIVE WIRE MESH

**WE WEAVE  
THE METAL  
OF ARCHITECTURE.**

# Contents

*A complete guide to the KAPHS Decorative Wire Mesh range — concept, applications, finishes, and the full sixteen-pattern collection of woven stainless steel and aluminium mesh.*

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## INTRODUCTION

# Texture, depth and pattern in architectural metal.

---

KAPHS Decorative Wire Mesh is a premium range of architectural metal mesh designed to enhance interior and exterior spaces with texture, depth and visual impact. The collection combines precision engineering with refined design — from open, lightweight weaves to dense, statement structures.

Manufactured in Stainless Steel 304 / 316 and aluminium, each pattern is engineered for consistency in thickness, structural integrity and visual quality — suitable for both decorative and functional applications.

---

**16**

PATTERNS

---

**2**

MATERIALS

---

**5**

FINISH ROUTES

## 01 / PRODUCT DESCRIPTION

# Texture and structure, woven in metal.

---

## *Engineered architectural mesh*

KAPHS Decorative Wire Mesh is manufactured from high-quality Stainless Steel 304 and 316 as well as aluminium, providing flexibility in weight, performance and finish. Stainless steel delivers maximum strength, durability and corrosion resistance; aluminium offers a lighter solution where reduced load is required.

Each mesh is engineered for consistency in thickness, structural integrity and visual quality — suitable for both decorative and functional uses across a wide range of projects.



SECTION

# 03

## Applications

*Where Decorative Wire Mesh performs — interiors, ceilings, balustrades and cladding.*

## APPLICATIONS

# Decorative Wire Mesh



### Interior Partitions & Feature Walls

In interior spaces, decorative wire mesh is commonly used for partitions, feature walls and room dividers, creating separation while maintaining openness and airflow.



### Ceilings & Architectural Surfaces

Decorative wire mesh is widely specified for suspended ceilings and architectural surface treatments.



### Balustrades & Infill Panels

For balustrades, staircases and infill panels, decorative wire mesh provides a durable, code-compliant alternative to solid materials.



### Façade & Wall Cladding

Used as façade cladding and external wall treatments, decorative wire mesh creates a continuously changing surface as daylight moves across it.

SECTION

# 04

## Finishes

*Two principal finish routes — from raw mill character to decorative PVD metallic tones.*

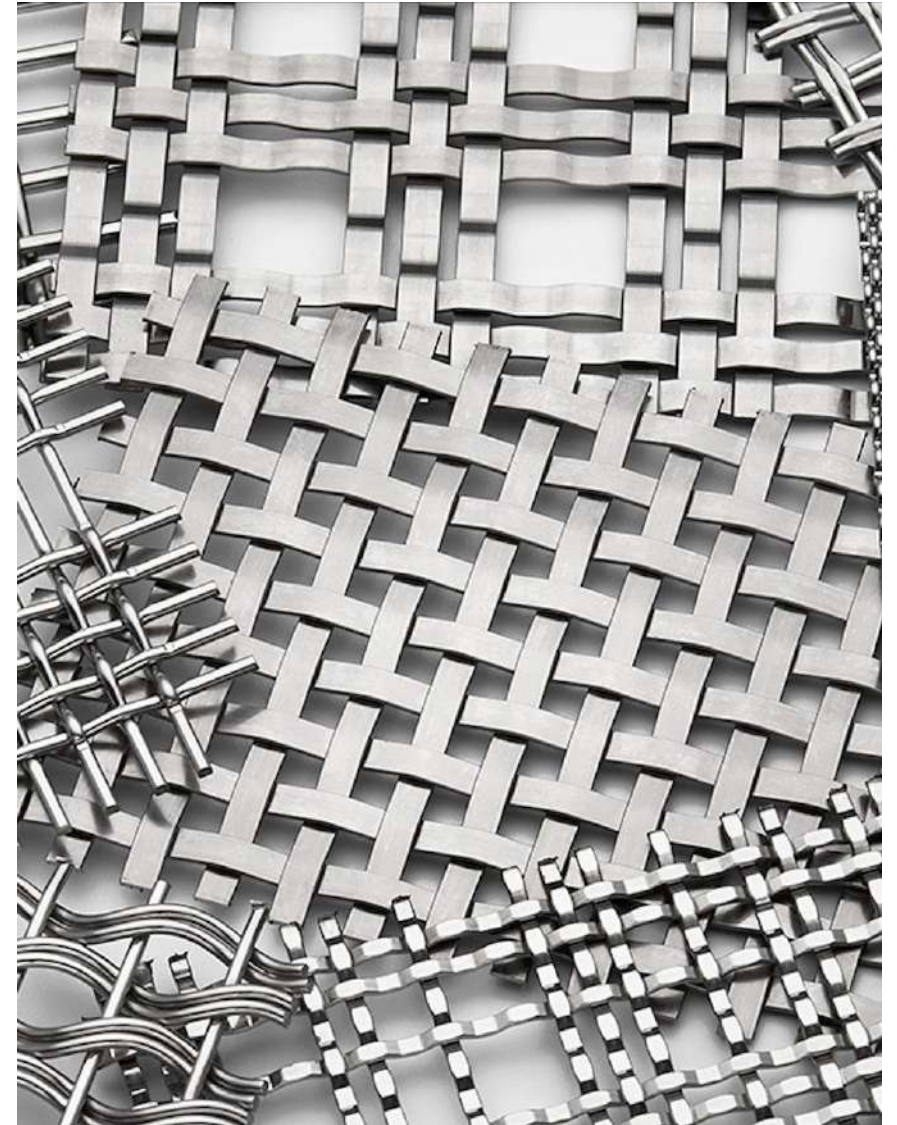
04 / FINISHES / 01

# Mill Finish

---

*The raw character of woven metal.*

A mill finish presents the natural, untreated surface of the wire mesh after weaving. It celebrates the authentic appearance of stainless steel and aluminium and is ideal for projects seeking an honest, industrial expression — interiors, mid-rise commercial fitouts and exposed feature elements.

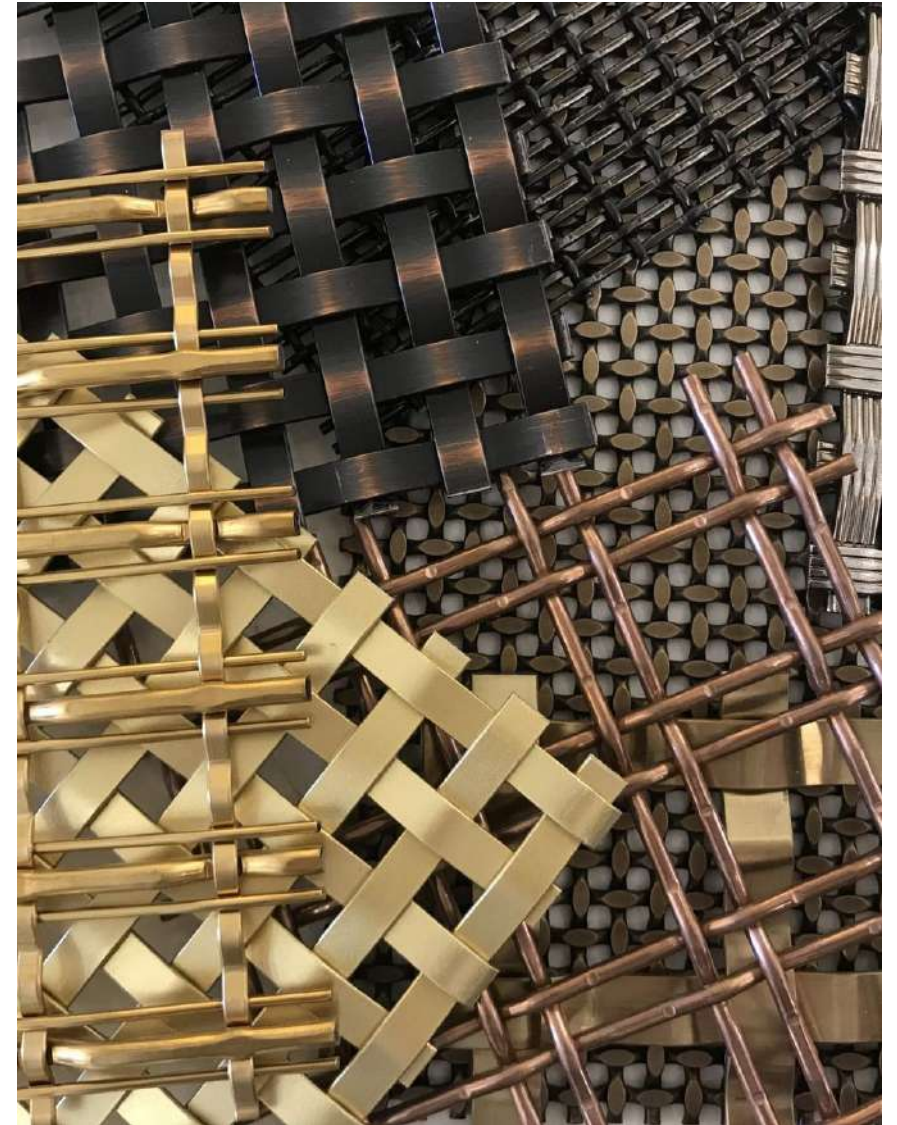


# PVD

---

*Decorative metallic tones, engineered to last.*

PVD (Physical Vapour Deposition) deposits a thin, hard coating that delivers rich decorative tones — gold, rose gold, bronze, champagne, black, gunmetal — with excellent wear and scratch resistance. The underlying mesh character remains visible beneath a true metallic finish.



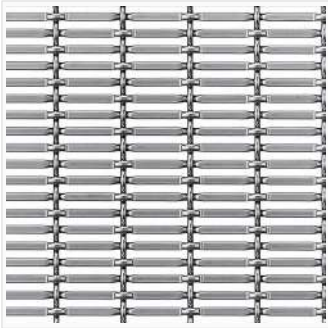
SECTION

# 05

## Product Range

*Sixteen woven patterns in stainless steel and aluminium. From open lattice weaves to dense statement structures.*

# Decorative Wire Mesh

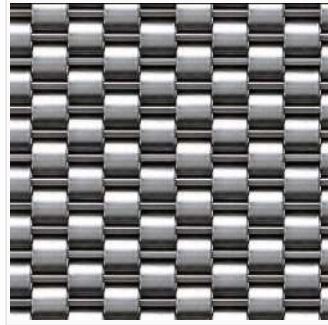


**Barline**

Thickness **3.6 mm**

Open area **47%**

Weight **7 kg/m<sup>2</sup>**

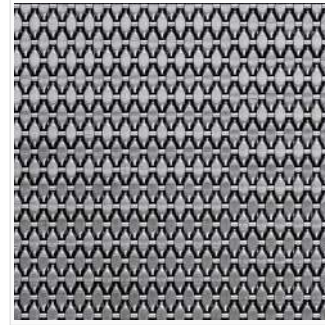


**Basketra**

Thickness **5.5 mm**

Open area **0%**

Weight **18.1 kg/m<sup>2</sup>**

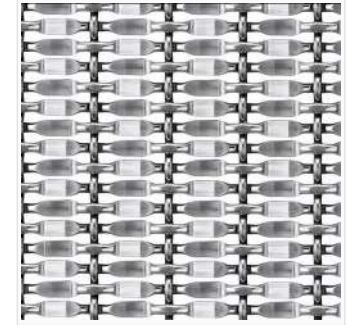


**Beadline**

Thickness **3.3 mm**

Open area **0%**

Weight **17.3 kg/m<sup>2</sup>**

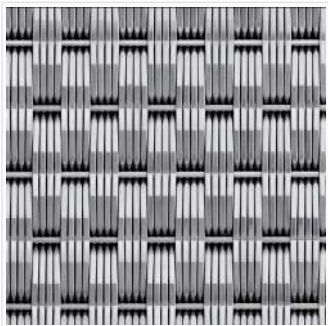


**Capsa**

Thickness **5 mm**

Open area **30%**

Weight **10.8 kg/m<sup>2</sup>**

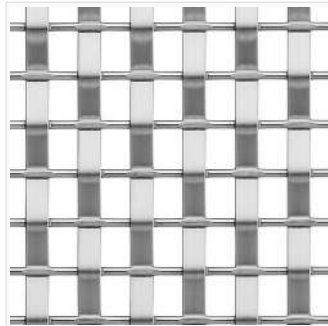


**FrameLine**

Thickness **5.2 mm**

Open area **0%**

Weight **10.2 kg/m<sup>2</sup>**

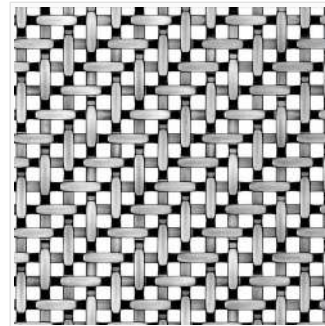


**GridBand**

Thickness **3.6 mm**

Open area **44.6%**

Weight **7.5 kg/m<sup>2</sup>**

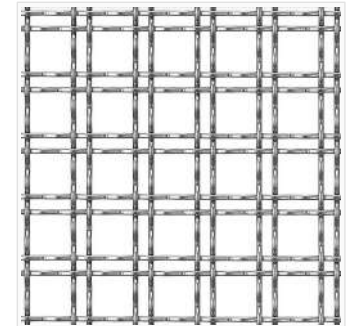


**Interra**

Thickness **3.3 mm**

Open area **28%**

Weight **11.1 kg/m<sup>2</sup>**



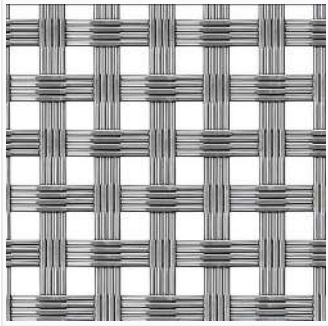
**Lattice**

Thickness **3.2 mm**

Open area **65%**

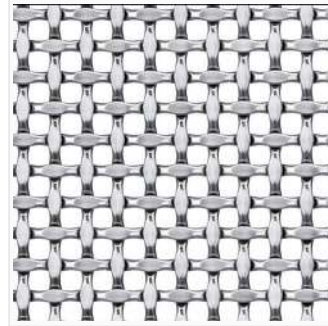
Weight **4.1 kg/m<sup>2</sup>**

# Decorative Wire Mesh



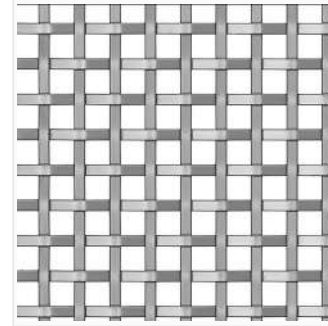
**Nexa**

Thickness 2 mm  
Open area 44%  
Weight 5.7 kg/m<sup>2</sup>



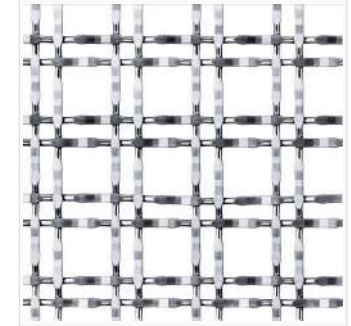
**Nodus**

Thickness 2.5 mm  
Open area 31%  
Weight 10 kg/m<sup>2</sup>



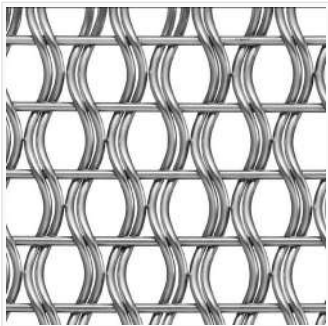
**Plana**

Thickness 2.5 mm  
Open area 45%  
Weight 7 kg/m<sup>2</sup>



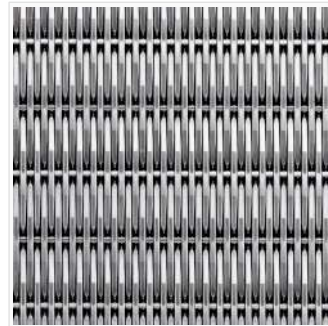
**Quadra**

Thickness 4 mm  
Open area 61%  
Weight 5 kg/m<sup>2</sup>



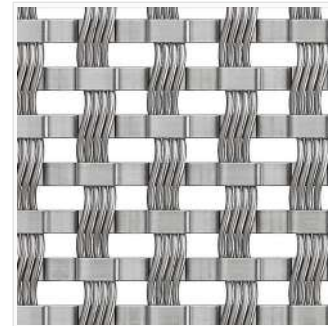
**Sora**

Thickness 4 mm  
Open area 41%  
Weight 8.4 kg/m<sup>2</sup>



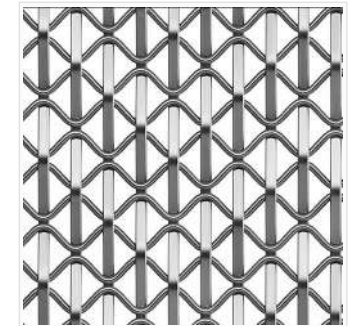
**Spindle**

Thickness 5.2 mm  
Open area 0%  
Weight 11.5 kg/m<sup>2</sup>



**WaveBand**

Thickness 3.5 mm  
Open area 29%  
Weight 10.8 kg/m<sup>2</sup>



**WaveGrid**

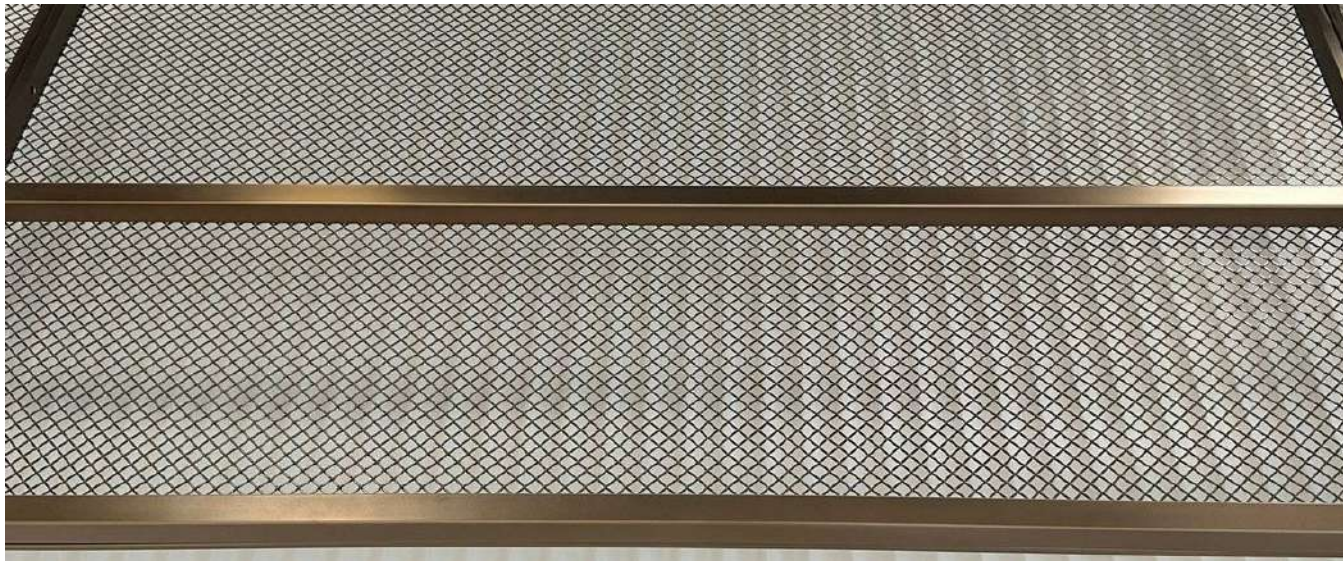
Thickness 5.2 mm  
Open area 48%  
Weight 7 kg/m<sup>2</sup>

SECTION

# 06

## Project References

*KAPHS Decorative Wire Mesh in built work — selected projects in the UAE.*



06 / PROJECT REFERENCES / 01 OF 02

# DAFZA Food Court

*Dubai – United Arab Emirates*

## APPLICATION

**Backdrops & feature panels**

## MESH PATTERN

**Bronze flat-wire architectural mesh**

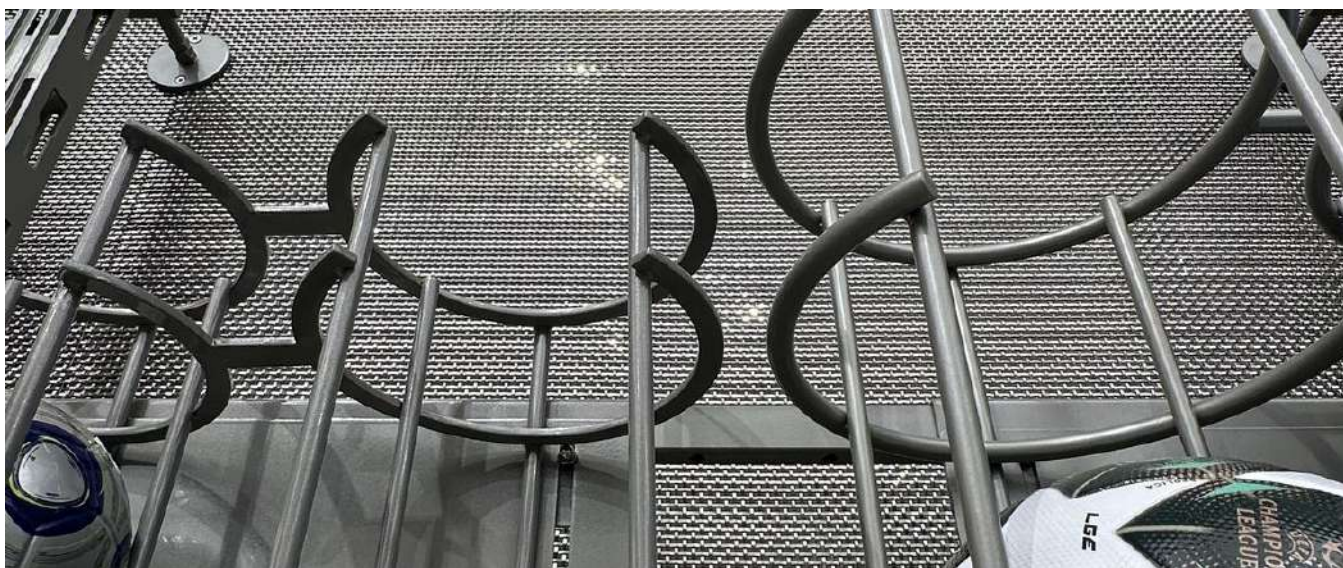
The DAFZA Food Court in Dubai features striking backdrops in bronze-coloured flat wire mesh, adding sophistication and elegance to the dining area. The flat-wire weave increases surface area, reduces transparency and enhances the warmth and brilliance of the bronze tone — a robust, artistic element that elevates the space.

## CLIENT

**DAFZA**

## ARCHITECT

**Archiplexus**



06 / PROJECT REFERENCES / 02 OF 02

## Adidas Young Athletes Store, Dubai Mall

*Dubai – United Arab Emirates*

### APPLICATION

Wall cladding

### MESH PATTERN

LARGO-PLUS flat-wire mesh

The Adidas Young Athletes store in Dubai Mall showcases the LARGO-PLUS wire mesh as wall cladding. Unlike traditional round-wire meshes, LARGO-PLUS is woven from flat wires, lending it a unique and robust appearance. The flat-wire construction increases surface area, reduces transparency and amplifies the visual impact of the store's cladding — vibrant, durable and eye-catching.

### CLIENT

Adidas

### ARCHITECT

Adidas

# Engineered for specification.

---

## MATERIALS

Stainless Steel 304 — interior and general architectural use.  
Stainless Steel 316 — coastal and demanding environments.  
Aluminium — lightweight applications where load is critical.

---

## DIMENSIONS

Standard panel widths up to 1,500 mm.  
Standard lengths up to 6,000 mm.  
Custom sizes available to project specification.

---

## CUSTOMISATION

Bespoke patterns, weave densities and aperture sizes.  
Project-specific finishes and colour matching.  
Engineered framing and fixing systems on request.

# Specify with KAPHS.

*Project enquiries, samples and technical data.*

## KAPHS Middle East

---

WEB

[kaphsgroup.com](http://kaphsgroup.com)

---

EMAIL

[sales@kaphsgroup.com](mailto:sales@kaphsgroup.com)

---

BASED

United Arab Emirates

---



KAPHS MIDDLE EAST

AMMOUJIM

# Expanded Metal *Mesh.*

*Architectural mesh systems  
for facades, ceilings, sunshades, balustrades.*

PRODUCT CATALOGUE

# Contents

*A complete guide to the KAPHS ExpandForm range — concept, applications, finishes, fixing systems and the full 34-pattern product library.*

|           |                           |     |
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| <b>08</b> | Product Range             | 219 |
| <b>09</b> | Customisation & Materials | 225 |
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# A modern architectural language in metal.

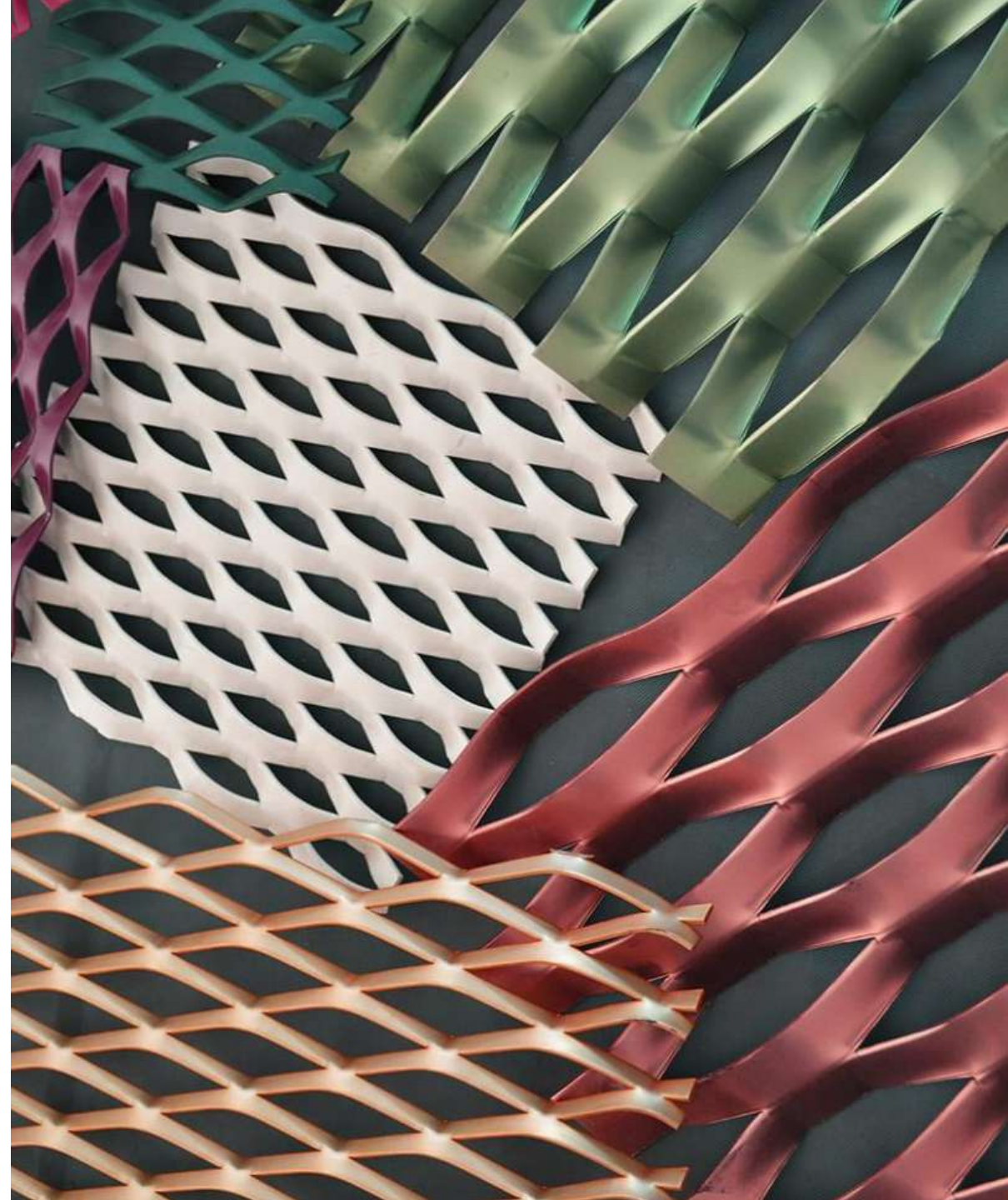
KAPHS ExpandForm expanded metal mesh is a high-performance architectural material that combines strength, durability and modern design.

*Manufactured by slitting and stretching a single metal sheet, ExpandForm creates a continuous diamond pattern that enhances structural integrity while remaining lightweight — the foundation for facades, sunshades, partitions, balustrades and decorative panels worldwide.*



MANUFACTURING PARTNER

**Manufactured in Sinsheim,  
Germany**  
by Rau Streckgitter — partners since 2015



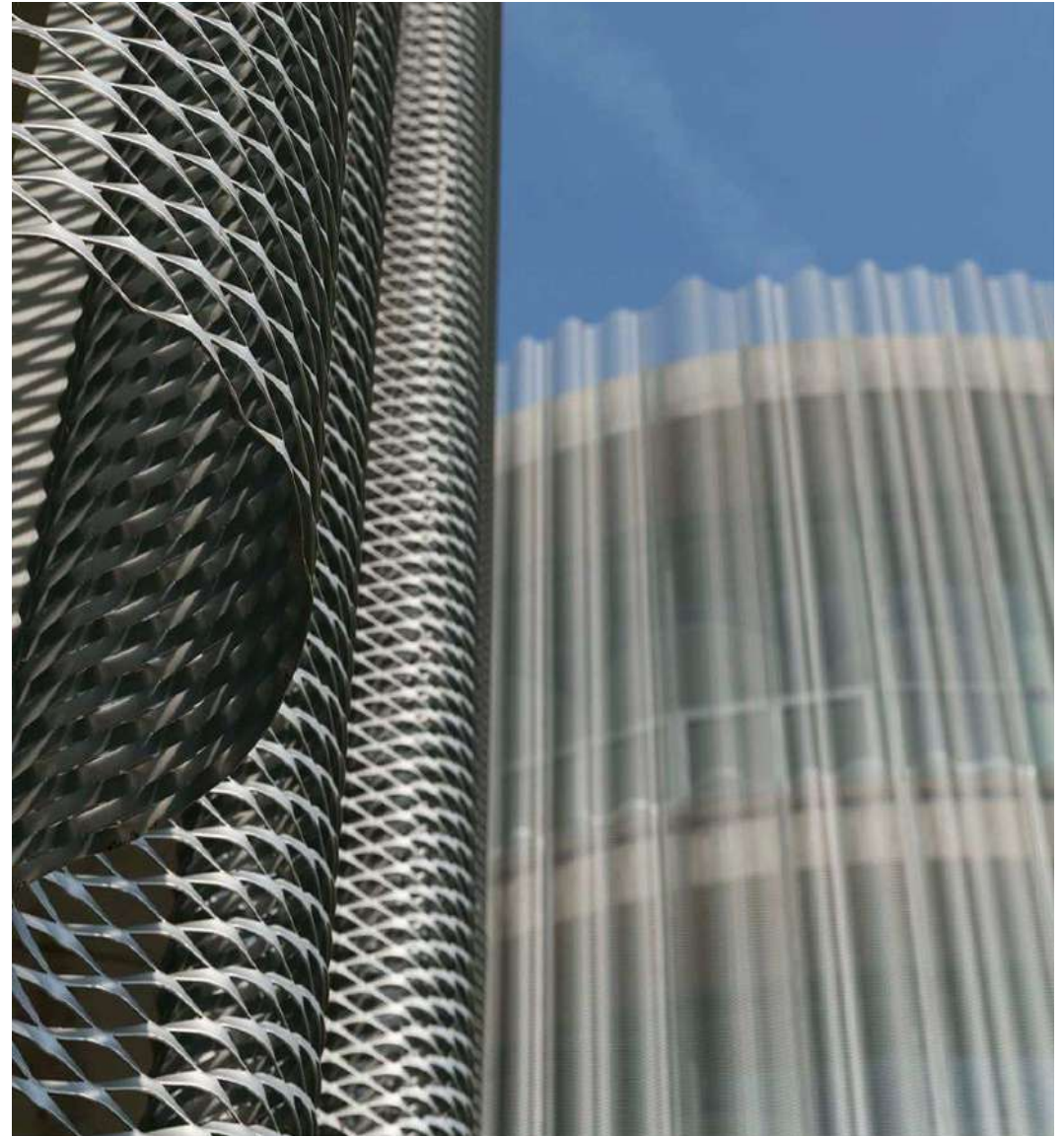
# Strength, light and pattern from a single sheet.

---

## Engineered architectural mesh

KAPHS ExpandForm expanded metal mesh is a high-performance architectural material that combines strength, durability and modern design. Manufactured by slitting and stretching a single metal sheet, the resulting continuous diamond pattern enhances structural integrity while remaining lightweight.

The range is ideal for facades, sunshades, partitions, balustrades and decorative panels. Its open structure allows natural light penetration and airflow, improving ventilation while creating dynamic visual effects. Available for both interior and exterior use, ExpandForm can be customised in different sizes, patterns and finishes — including powder coating and anodizing — making it a versatile solution for architects balancing performance, aesthetics and energy efficiency.





## 03 / HOW IT'S MADE

# How ExpandForm is made.

---

### 01 Sheet selection

A single sheet of aluminium or steel is chosen for the required thickness and finish.

### 02 Slit & stretch

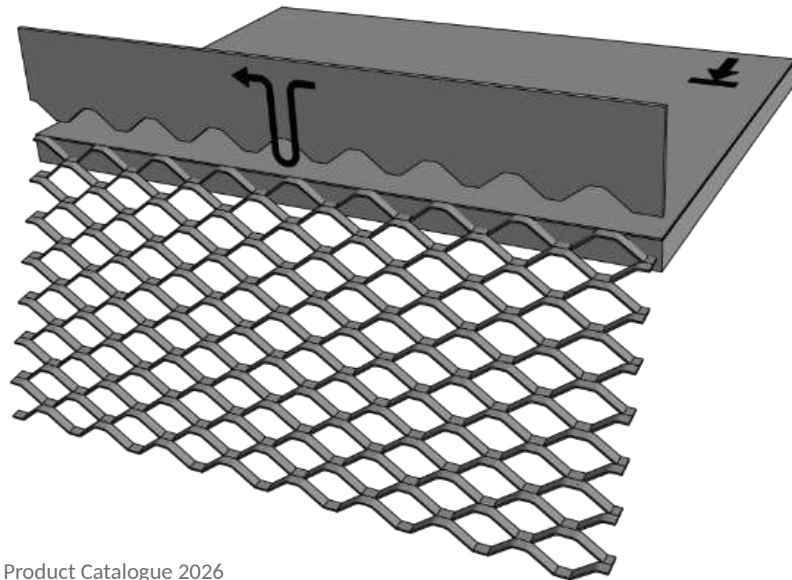
Precision blades slit parallel rows; the sheet is then stretched in a single operation.

### 03 Diamond formation

The slits open into continuous diamond apertures — no welds, no joints, no waste.

### 04 Finishing & framing

Mesh is cut to size, finished (mill / powder coat / anodised) and fitted to the chosen framing system.



# 04 Applications

*Where ExpandForm performs — facades, sunshades, interiors and balustrades.*

# Expanded Metal Mesh



## Facades & Cladding

ExpandForm expanded metal mesh is widely used in building facades and cladding systems to create modern, high-impact exteriors.



## Canopies & Sunshades

For canopies and sunshading systems, ExpandForm provides effective control of natural light and solar heat gain.



## Interior Partitions & Ceilings

Within interior spaces, ExpandForm is used for partitions, ceilings and feature panels.



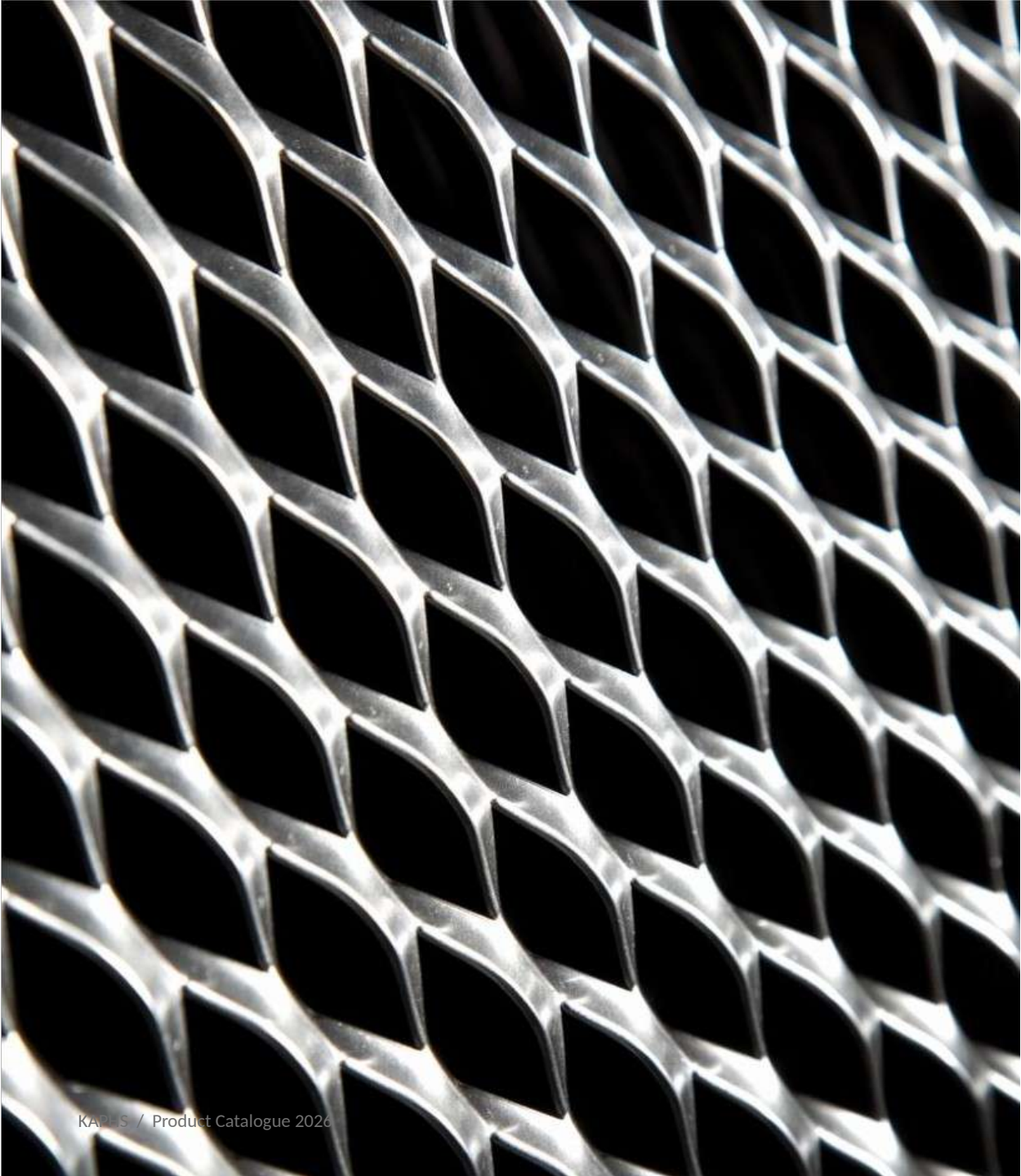
## Railings & Balustrades

ExpandForm is also suitable for railings, balustrades and staircases.

# 05

# Finishes

*Three principal finishing routes — protection, performance, refinement.*

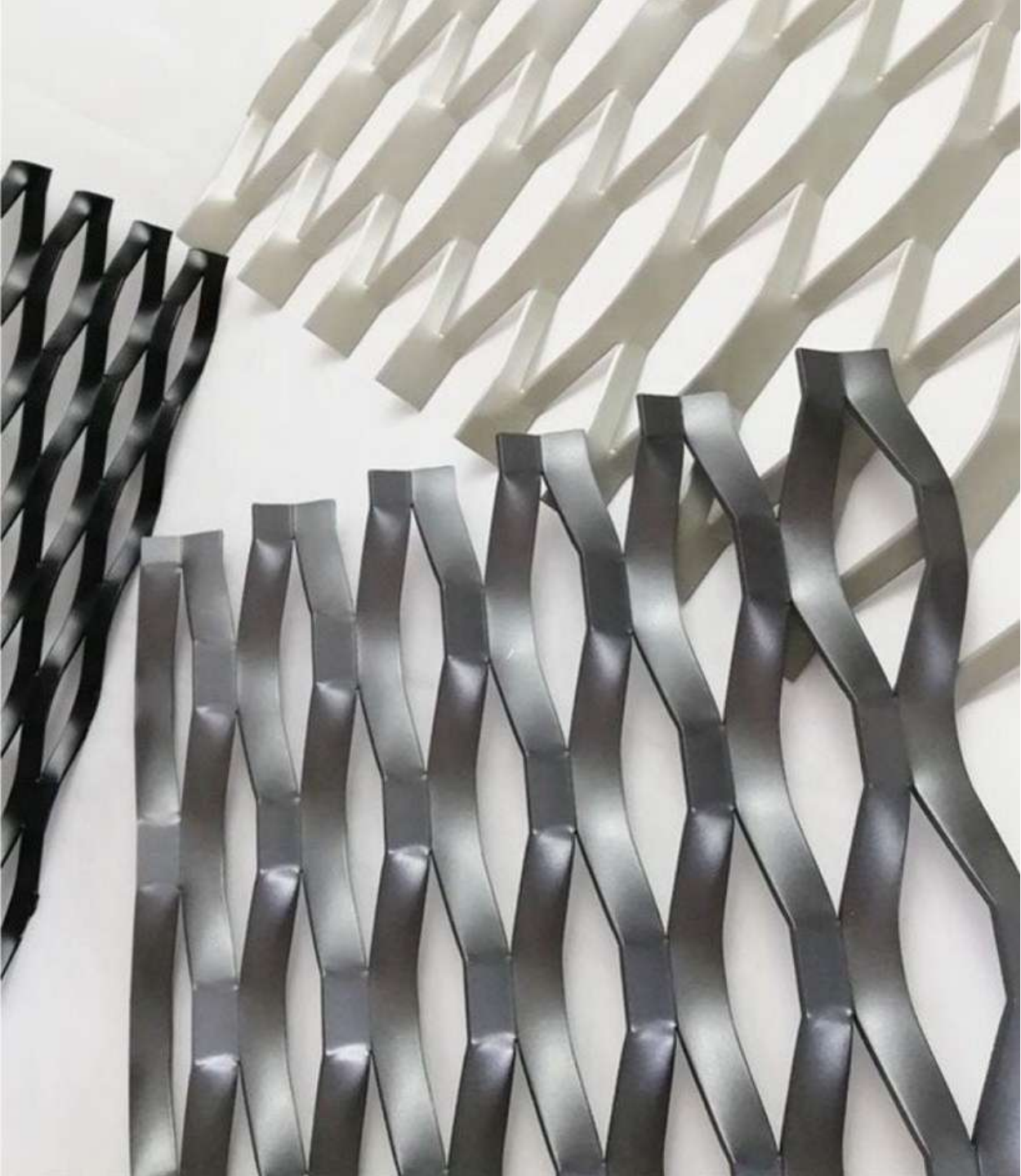


# Mill Finish

---

*The raw character of expanded metal.*

A mill finish represents the natural, untreated surface of ExpandForm expanded metal mesh after production. This raw appearance is ideal for projects seeking an industrial or minimalist aesthetic. As it does not include additional protective coating, it is best suited for interior applications or low-exposure environments.



# Powder Coating

---

*Durable colour. Engineered to last.*

Powder coating is one of the most popular finishes for ExpandForm. The process creates a durable, uniform coating available in a wide range of RAL colours. It provides excellent resistance to corrosion, UV exposure and surface wear, making it ideal for both interior and exterior architectural applications.

# Anodizing

---

*An enhanced oxide layer with a refined metallic finish.*

Anodizing is commonly used for aluminium within the ExpandForm range, enhancing the natural oxide layer of the metal through an electrochemical process. The result is a highly durable, corrosion-resistant finish with a refined metallic appearance — particularly suitable for outdoor use and demanding environmental conditions.

# 06

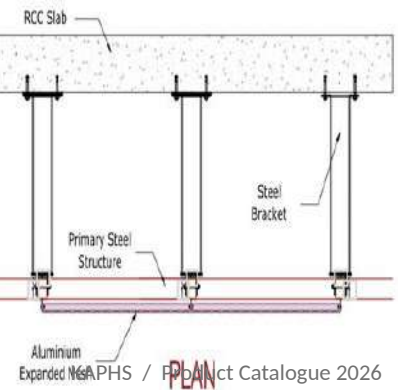
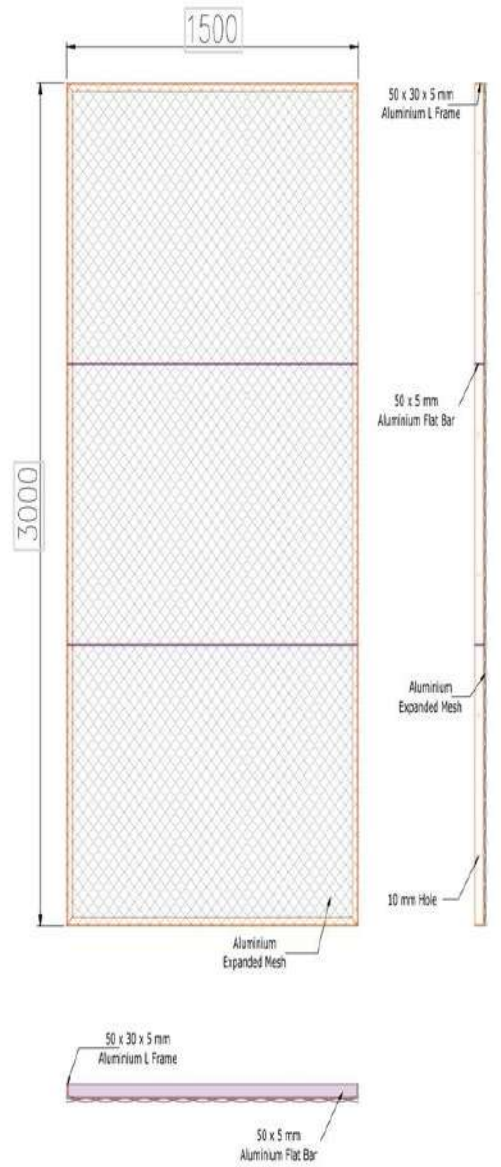
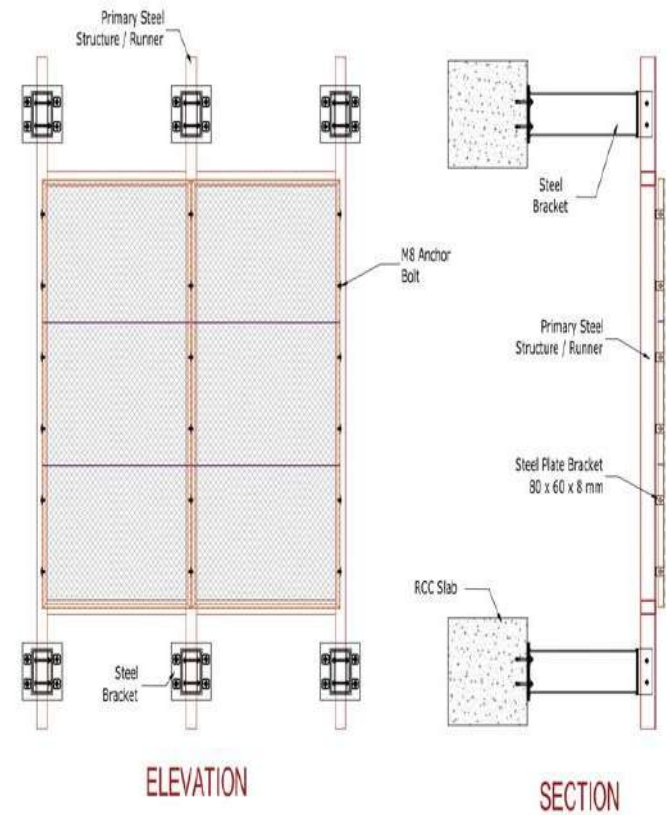
# Fixing Systems

*Three principal fixing systems — for structural confidence and architectural clarity.*

# Angle Frame

*Welded angles for heavy-duty applications.*

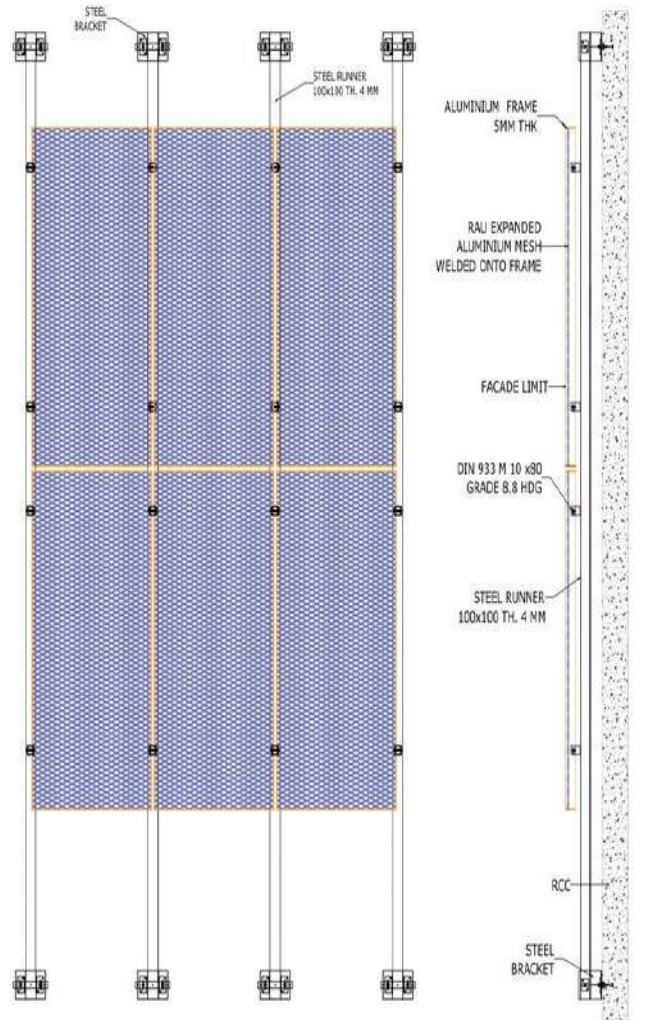
The angle frame system involves welding metal angles — typically aluminium or steel — around the edges of the ExpandForm panel. This method provides strong structural support, making it ideal for heavy-duty applications such as facades, screens and industrial installations. The frame can be finished to match the mesh, ensuring a cohesive and refined appearance.



# Box Frame

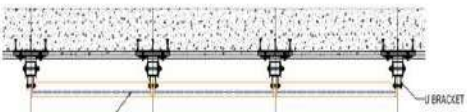
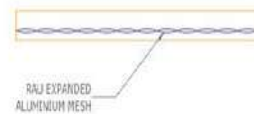
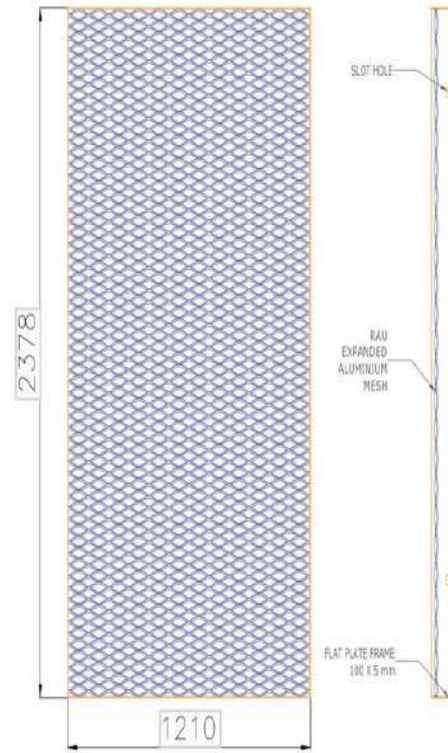
*Maximum strength, full enclosure.*

A box frame fully encloses the ExpandForm panel within a rigid rectangular structure, offering maximum strength and durability. This fixing system is commonly used for security applications, including protective barriers and enclosures, where enhanced impact resistance and stability are required.



ELEVATION

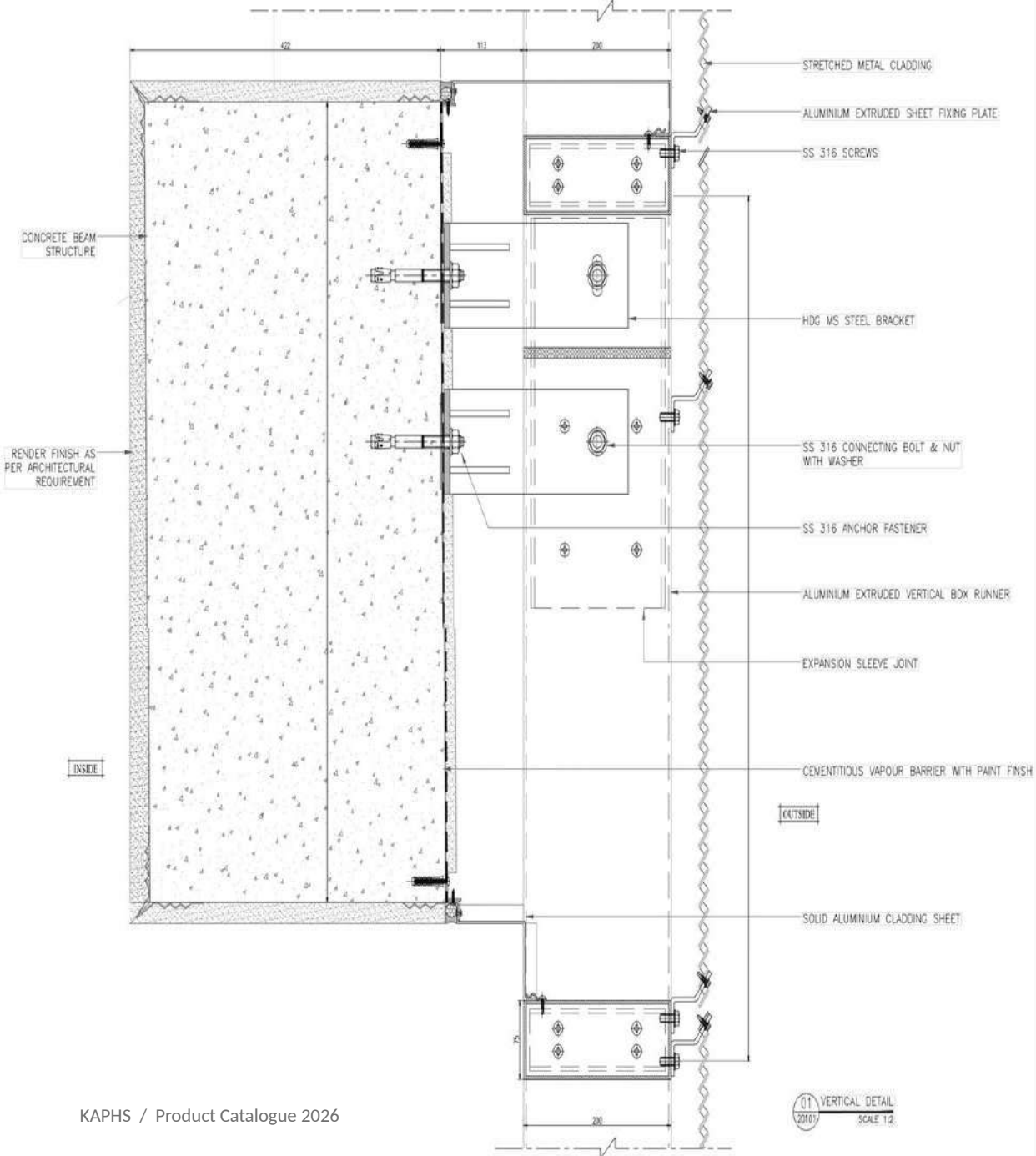
SECTION



# Frameless Bracket System

*Mesh-led aesthetic with discreet support.*

The frameless bracket system secures the ExpandForm panel directly to the mounting surface using discreet L-brackets. This approach creates a minimal, contemporary look by reducing visible framing elements and allowing the mesh pattern to take visual priority. It is ideal for architectural applications where a clean, lightweight aesthetic is desired.



# 07

# Reference Projects

*Selected ExpandForm installations across the UAE — from the DIFC Gate Avenue car park in Dubai to The Galleria rooftop in Abu Dhabi.*



# DIFC Gate Avenue

*200mm round expanded metal mesh facade cladding.*

The DIFC Gate Avenue car park in Dubai features an external wall cladding system in 200mm round expanded metal mesh. The large rounded apertures create a bold, modern facade with strong texture and depth, while the mesh remains robust enough to withstand the climate with minimal maintenance.

**CLIENT**

DIFC

**ARCHITECT**

RMJM

**LOCATION**

Dubai, UAE



# Marina Gate Tower 3

---

*400mm round mesh, alternating depth installation.*

Marina Gate Tower 3 features a car park facade in 400mm round expanded metal mesh. Adjacent panels alternate between interior- and exterior-welded mesh — introducing depth and dimensionality to the facade, with light and shadow shifting across the surface throughout the day.

**CLIENT**  
Select Group

**ARCHITECT**  
Aedas

**LOCATION**  
Dubai, UAE



# Silicon Central Mall

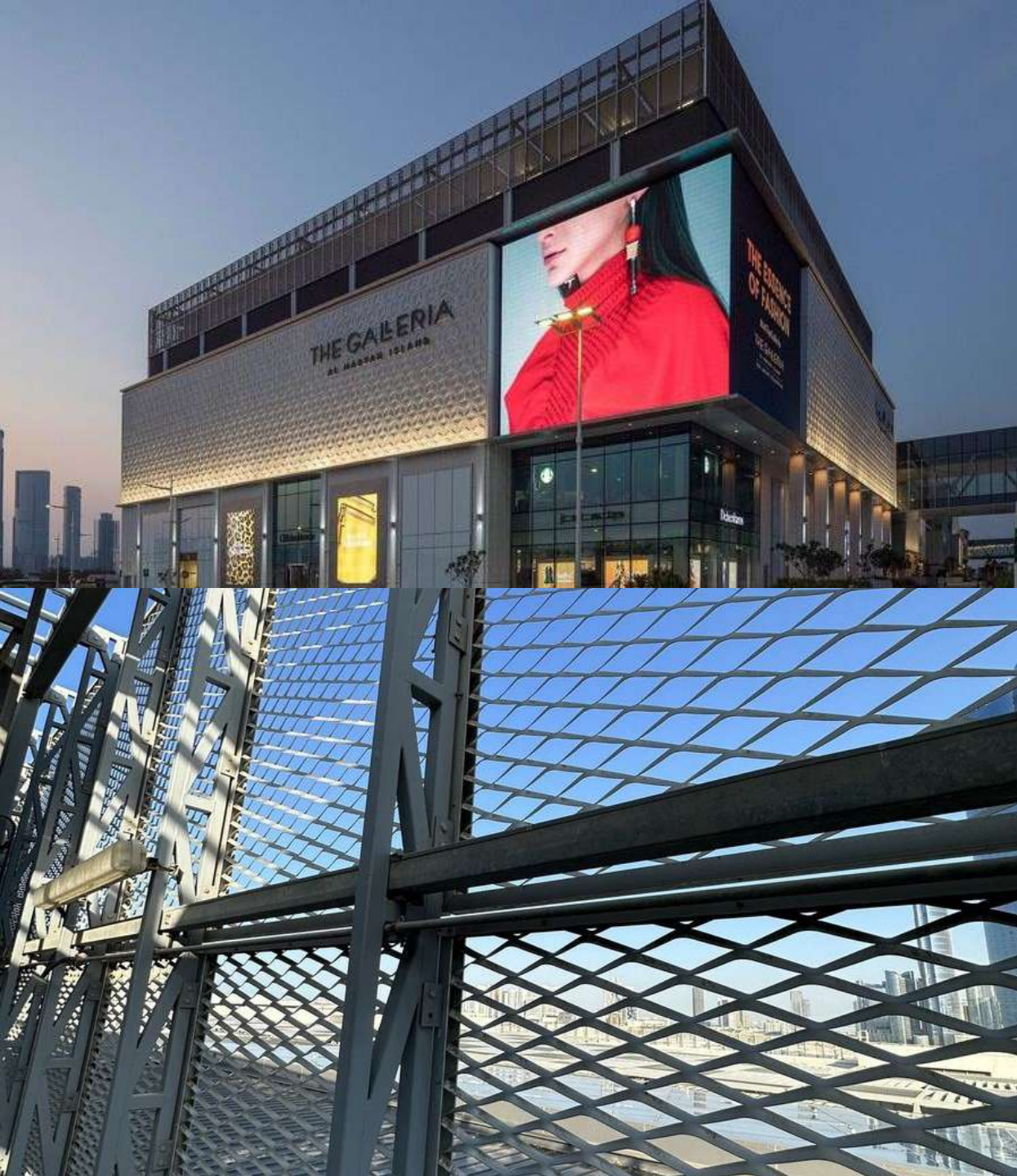
*150mm hexagonal mesh facade, frameless bracket system.*

Lulu Silicon Central Mall in Silicon Oasis, Dubai, is wrapped on its entire facade in 150mm hexagonal expanded metal mesh, installed on a frameless bracket fixing system. The result is a seamless contemporary exterior with improved ventilation and natural light diffusion across the retail interior.

CLIENT  
Lulu Group

ARCHITECT  
Design International

LOCATION  
Dubai, UAE



# The Galleria Al Maryah Island

*200mm diamond mesh rooftop MEP cladding.*

On the rooftop of The Galleria Mall in Al Maryah Island, Abu Dhabi, 200mm diamond pattern expanded metal mesh conceals the rooftop MEP infrastructure. The open weave allows ventilation and maintenance access while delivering a clean architectural finish across a high-exposure surface.

**CLIENT**

Al Maryah Retail Company

**ARCHITECT**

Elkus Manfredi Architects

**LOCATION**

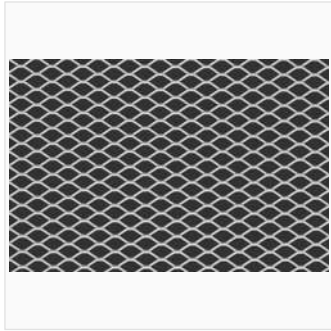
Abu Dhabi, UAE

# 08

# Product Range

*34 expanded metal patterns, each named after a German city. From fine diamond meshes for interior screens to wide-aperture panels for monumental facades.*

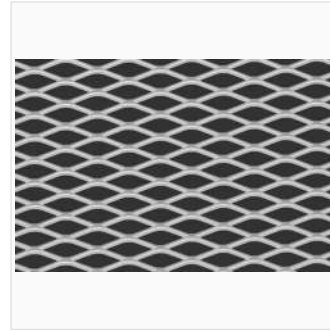
# Expanded Metal Mesh



**Dortmund**

Thickness **ca. 4mm**

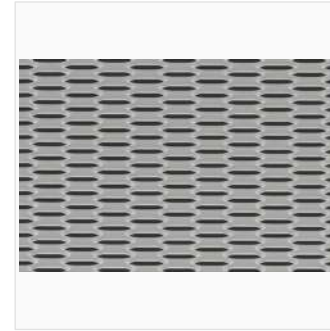
Free openings **70%**



**Saarbrücken**

Thickness **ca. 3,5 mm**

Free openings **60%**



**Homburg**

Thickness **ca. 4mm**

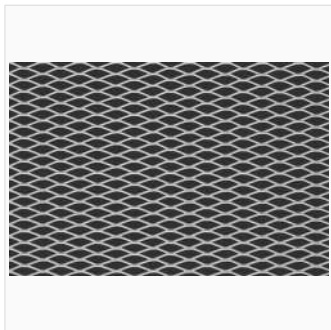
Free openings **17%**



**Neunkirchen**

Thickness **ca. 7mm**

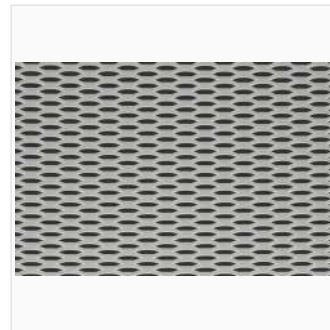
Free openings **29%**



**Karlsruhe**

Thickness **ca. 5mm**

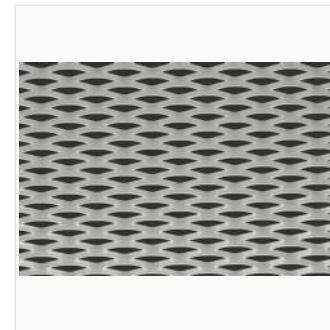
Free openings **67%**



**Lübeck**

Thickness **ca. 8mm**

Free openings **26%**



**Kiel**

Thickness **ca. 11mm**

Free openings **26%**



**Magdeburg**

Thickness **ca. 11mm**

Free openings **29%**

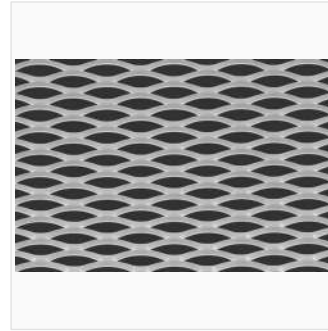
# Expanded Metal Mesh



**Koblenz**

Thickness **ca. 16mm**

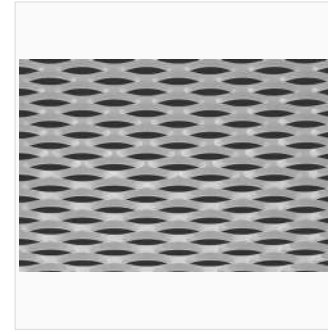
Free openings **38%**



**Lörrach**

Thickness **ca. 12 mm**

Free openings **39%**



**Lahr**

Thickness **ca. 12 mm**

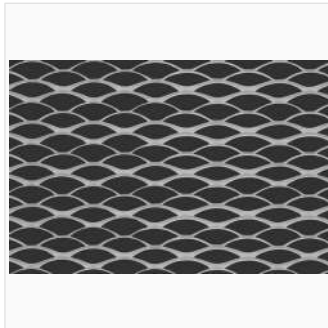
Free openings **24%**



**Freiburg**

Thickness **ca. 13 mm**

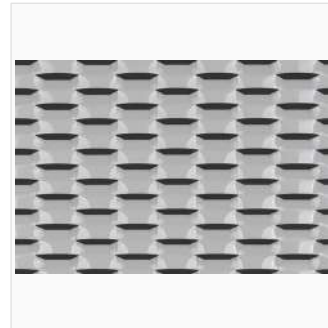
Free openings **34%**



**Offenburg**

Thickness **ca. 13 mm**

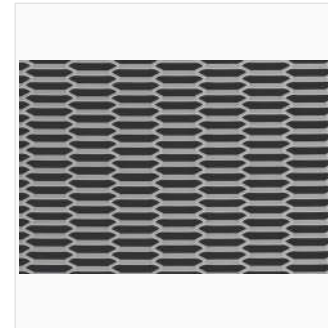
Free openings **54%**



**Augsburg**

Thickness **ca. 12 mm**

Free openings **14%**



**Hannover**

Thickness **ca. 8 mm**

Free openings **43%**



**Kassel**

Thickness **ca. 21 mm**

Free openings **40%**

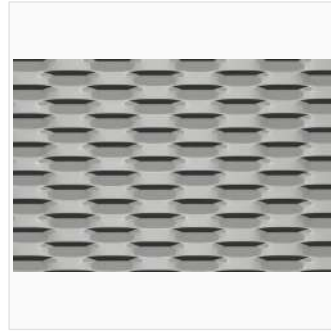
# Expanded Metal Mesh



**Frankfurt**

Thickness **ca. 14mm**

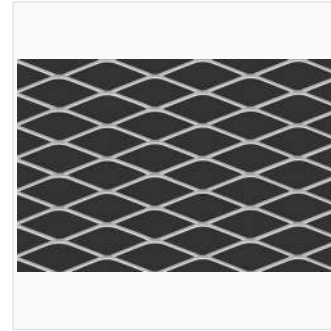
Free openings **42%**



**Wiesbaden**

Thickness **ca. 12 mm**

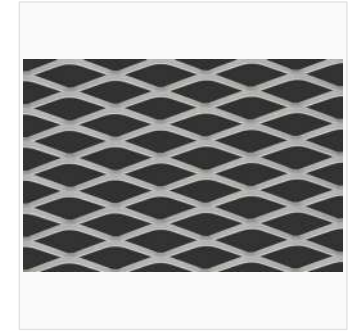
Free openings **12%**



**Rostock**

Thickness **ca. 12 mm**

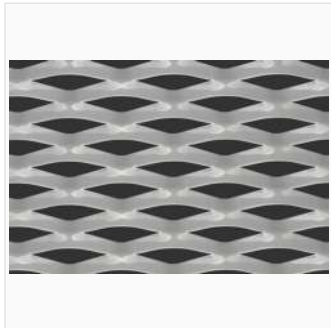
Free openings **70%**



**Ludwigshafen**

Thickness **ca. 17 mm**

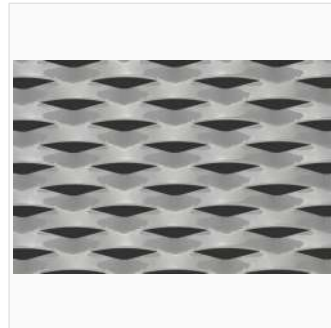
Free openings **53%**



**Köln**

Thickness **ca. 21mm**

Free openings **25%**



**Mannheim**

Thickness **ca. 20 mm**

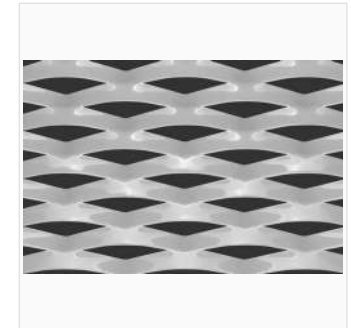
Free openings **17%**



**Singen**

Thickness **ca. 24mm**

Free openings **24%**

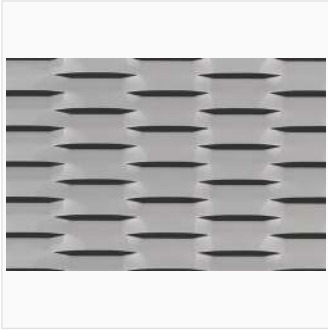


**Eppingen**

Thickness **ca. 26 mm**

Free openings **20%**

# Expanded Metal Mesh



**Dresden**

Thickness **ca. 16mm**

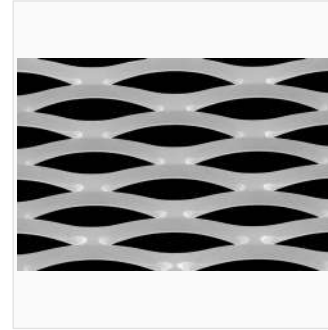
Free openings **10%**



**Rastatt**

Thickness **ca. 17mm**

Free openings **65%**



**Regensburg**

Thickness **ca. 25 mm**

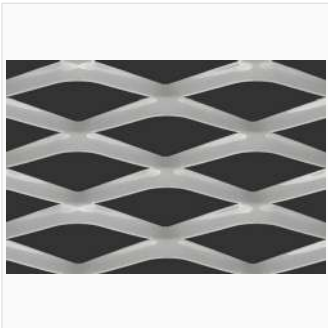
Free openings **29%**



**Erlangen**

Thickness **ca. 28 mm**

Free openings **42%**



**Sinsheim**

Thickness **ca. 33 mm**

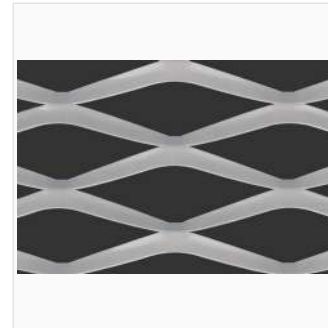
Free openings **40%**



**Darmstadt**

Thickness **ca. 31 mm**

Free openings **52%**



**Friedrichshafen**

Thickness **ca. 36mm**

Free openings **47%**

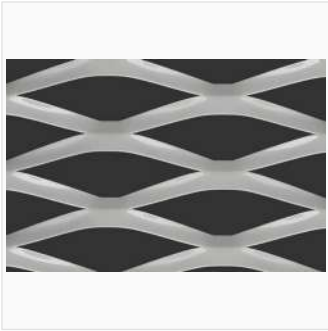


**München**

Thickness **ca. 43 mm**

Free openings **28%**

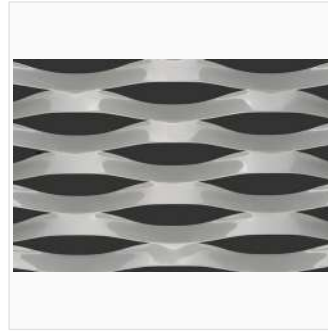
# Expanded Metal Mesh



**Hamburg**

Thickness **ca. 41 mm**

Free openings **44%**



**Mossbach**

Thickness **ca. 45 mm**

Free openings **24%**

# Built to specification.

*Each ExpandForm pattern can be specified in steel or aluminium across multiple sheet thicknesses, with custom panel sizes and a full range of finishes.*

## Materials

- Aluminium
- Mild / galvanised steel
- Stainless steel (on request)

## Thicknesses

- 1.0 mm
- 1.5 mm
- 2.0 mm
- 3.0 mm

## Sheet sizes

- Standard panels
- Cut-to-size
- Custom geometries

## Finishes

- Mill (untreated)
- Powder coat (RAL)
- Anodised aluminium



MIDDLE EAST

GET IN TOUCH

# Let's specify your next facade.

## OFFICE

---

KAPHS Middle East Building Materials Trading LLC

Office 1701, Tower A, Prime Business Centre

Jumeirah Village Circle, Dubai, UAE

## CONTACT

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+971 4 554 2145

[sales@kaphsgroup.com](mailto:sales@kaphsgroup.com)

[kaphsgroup.com](http://kaphsgroup.com)

SPIRALFORM

# Spiral Mesh

*Architectural spiral mesh for facades, partitions, balustrades and shading systems*

# Contents

---

*A complete guide to the KAPHS SpiralForm range —  
concept, applications, finishes, fixing systems and the  
full seven-pattern product library.*

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## INTRODUCTION

# Transparency, structure, rhythm.

KAPHS SpiralForm is an architectural spiral mesh system designed to deliver a balance of transparency, structure, and visual rhythm.

Constructed from interlocking spirals connected by horizontal rods, it forms a continuous surface that interacts dynamically with light and perspective.

*Developed for modern architecture, SpiralForm provides controlled openness for daylight, airflow and visibility — equally suited to interior and exterior use, and capable of effects ranging from light and transparent to defined and textured.*

7

PATTERNS

2

MATERIALS

∞

FINISHES



# Transparency, structure, rhythm.

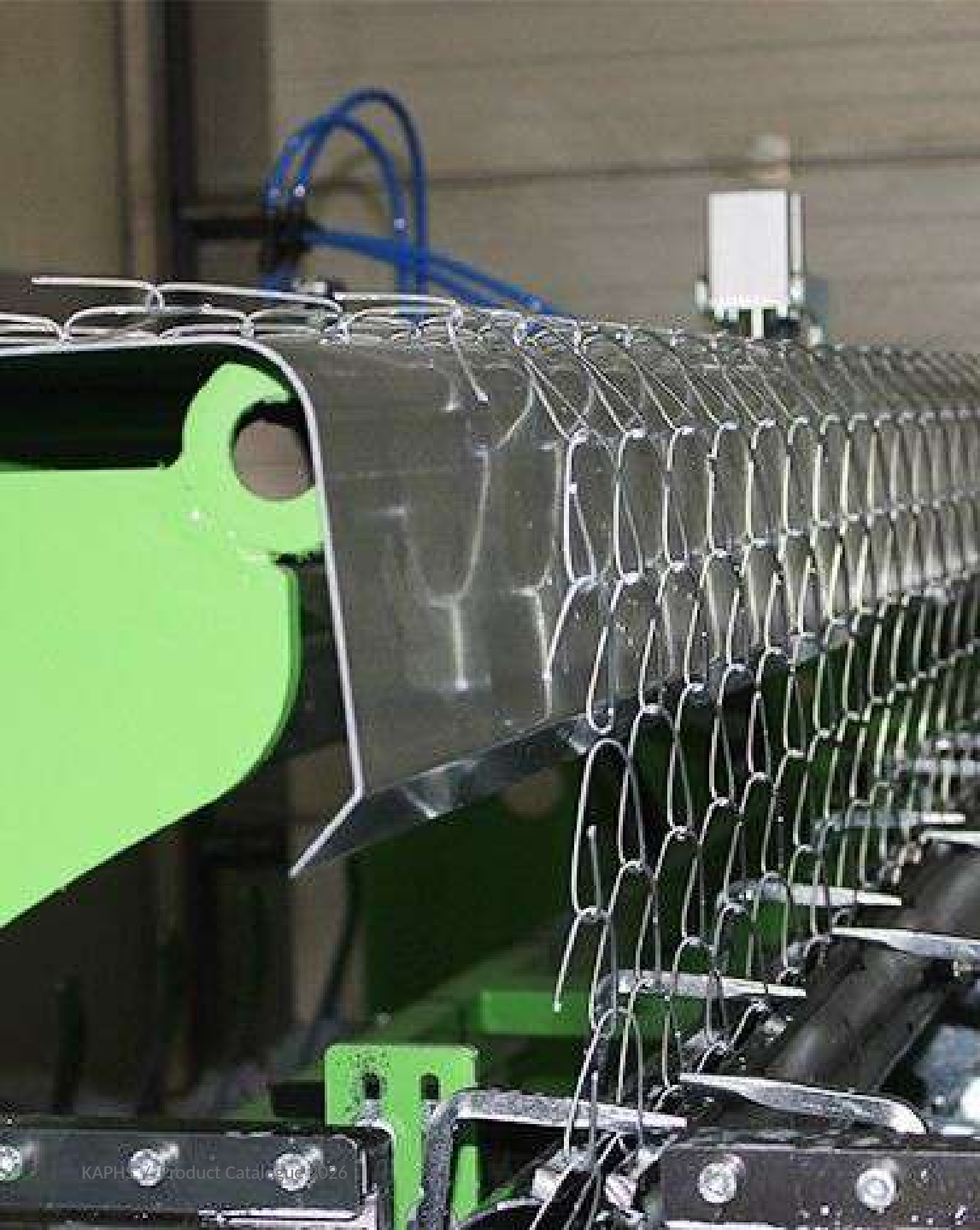
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## Architectural spiral mesh

KAPHS SpiralForm is an architectural spiral mesh system designed to deliver a balance of transparency, structure, and visual rhythm. Constructed from interlocking spirals connected by horizontal rods, it forms a continuous surface that interacts dynamically with light and perspective.

Developed for modern architecture, SpiralForm provides controlled openness for daylight, airflow and visibility, making it suitable for both interior and exterior applications. Its flexible configurations allow designers to achieve a range of effects, from light and transparent to more defined and textured surfaces. Durable and versatile, KAPHS SpiralForm is ideal for façades, partitions, balustrades, and shading systems, offering a refined material solution for contemporary architectural design.





# How SpiralForm is made.

---

## 01 Wire selection

Stainless or aluminium wire — flat or round — is selected for the required diameter, grade and finish.

## 02 Helical forming

Wire is precision-wound into continuous helices on dedicated forming machines, producing the spiral element.

## 03 Spiral interlocking

Adjacent spirals are interlocked along their length, threading into one another to form a continuous fabric.

## 04 Cross rods & finish

Horizontal rods are inserted to lock the geometry; the panel is cut to size and the chosen finish is applied.

# 04 Applications

*Where SpiralForm performs — facades, interiors, balustrades and shading.*

# Spiral Mesh



**Facade Cladding**

KAPHS SpiralForm spiral mesh is widely used as a secondary skin for façades, providing solar shading, ventilation, and a dynamic architectural expression while maintaining.



**Interior Partitions**

As a spiral mesh solution, SpiralForm is ideal for space division, creating subtle separation without blocking light or openness while adding texture and depth to interiors.



**Balustrades & Safety Screens**

This architectural spiral mesh combines transparency with structural integrity, offering a safe and visually lightweight solution for railings, mezzanines and protective barriers.



**Shading & Screening Systems**

Engineered control of light, heat and view.

# 05

# Finishes

*Two principal finishing routes — protection, performance, refinement.*



# Mill Finish

---

*The raw character of spiral mesh.*

A mill finish represents the natural, untreated surface of SpiralForm spiral mesh after production. This raw appearance is ideal for projects seeking an industrial or minimalist aesthetic. As it does not include additional protective coating, it is best suited for interior applications or low-exposure environments.



05 / FINISHES / 02

# Powder Coating (Aluminium)

---

*Durable colour. Engineered to last.*

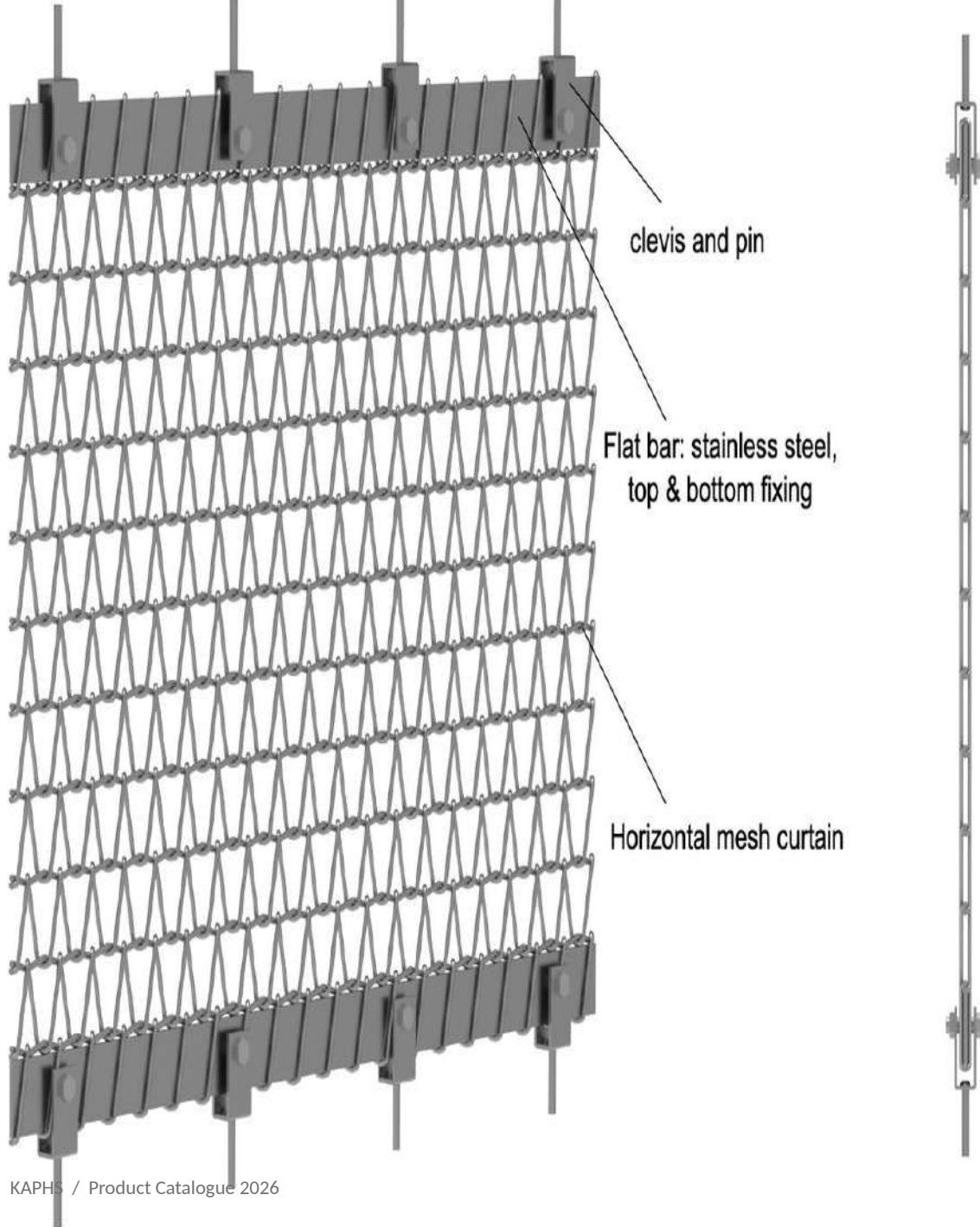
Powder coating is one of the most popular finishes for SpiralForm. The process creates a durable, uniform coating available in a wide range of RAL colours. It provides excellent resistance to corrosion, UV exposure and surface wear, making it ideal for both interior and exterior architectural applications.

# 06

# Fixing Systems

*Two principal fixing systems — for structural confidence and architectural clarity.*

# Flat Bar



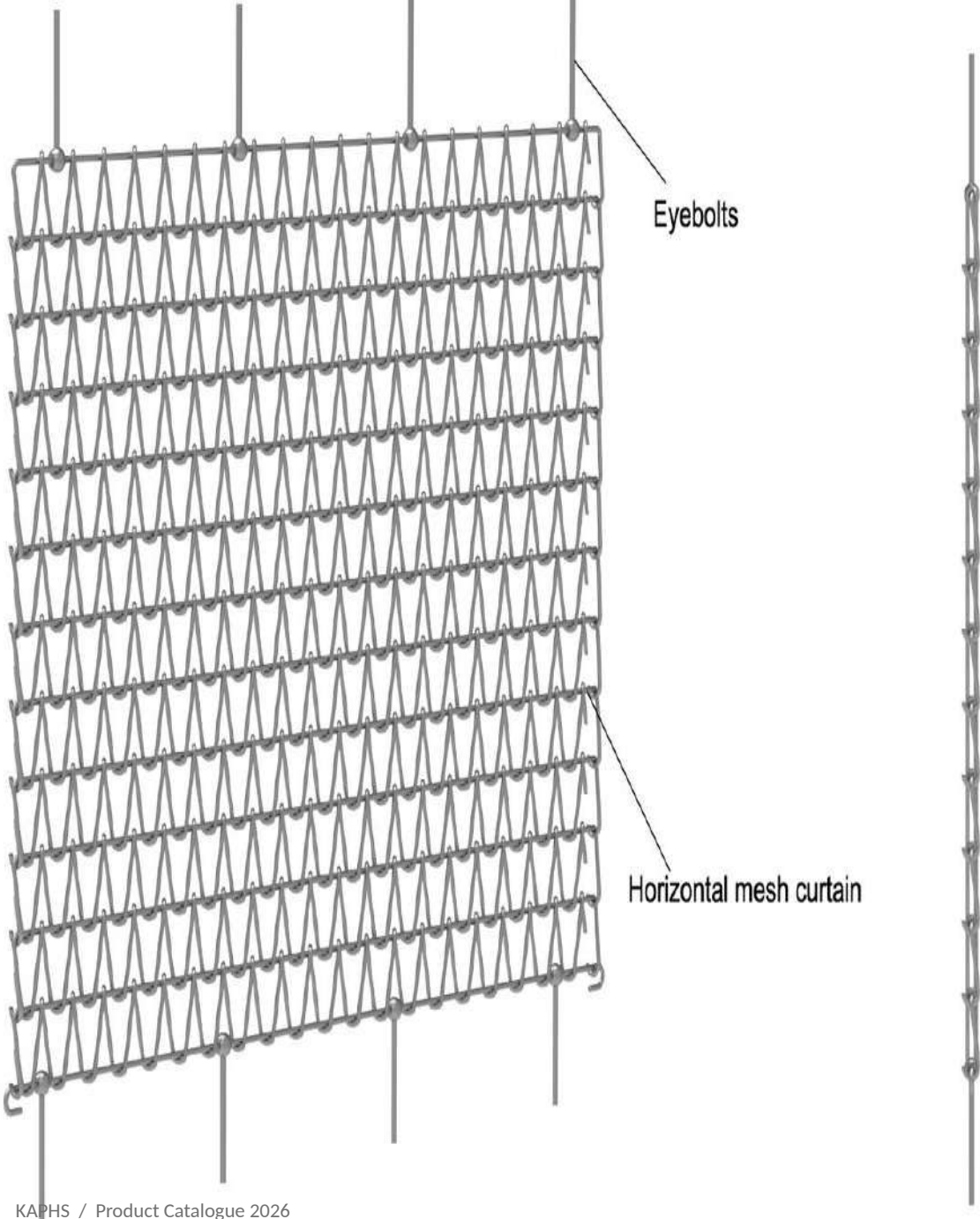
*Robust top-and-bottom fixing with clevis and pin.*

The KAPHS SpiralForm flat bar fixing system provides a robust and structured solution for securing spiral mesh panels. The spiral mesh curtain is fixed at the top and bottom using stainless steel flat bars, combined with clevis and pin connections for enhanced stability. Designed for applications requiring increased rigidity and precise tensioning — ideal for façades, balustrades and large-scale architectural installations. The flat bar fixing ensures a clean, linear finish while maintaining the integrity and performance of the spiral mesh system.

# Eyebolts

*Lightweight suspension with precision-mounted eyebolts.*

The KAPHS SpiralForm eyebolt fixing system offers a clean and efficient solution for installing architectural spiral mesh panels. Using precision-mounted eyebolts, the spiral mesh curtain is securely suspended while maintaining flexibility and natural movement. Ideal where a lightweight appearance and simple installation are required — suitable for façade screens, partitions and suspended architectural features. The system allows easy alignment and adjustment on site.

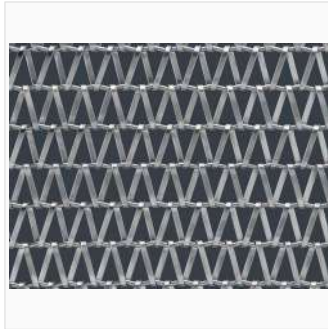


# 07

# Product Range

*Seven spiral mesh patterns. From fine flat-wire spirals for screens and curtains to wider flat-wire and round-rod spirals for monumental facades and shading systems.*

# Spiral Mesh



**Apex**

Thickness **ca. 28 mm**

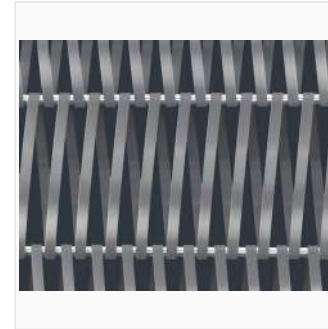
Free openings **64%**



**Drift**

Thickness **ca. 19 mm**

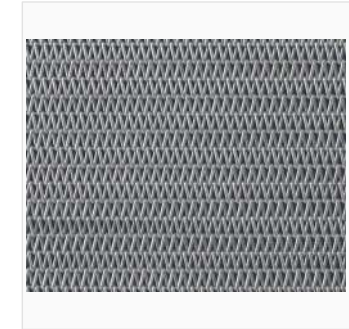
Free openings **47%**



**Flow**

Thickness **ca. 100 mm**

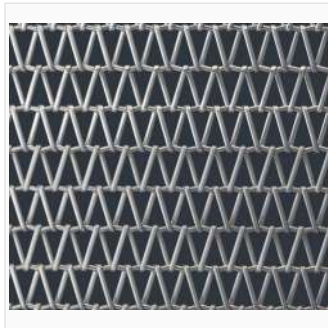
Free openings **36%**



**Matrix**

Thickness **ca. 12.7 mm**

Free openings **28%**



**Nexus**

Thickness **ca. 27 mm**

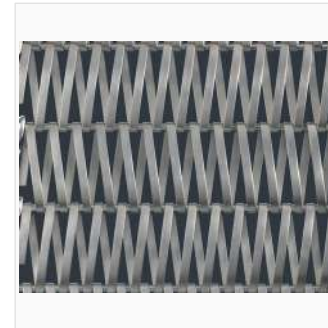
Free openings **62%**



**Rhythm**

Thickness **ca. 13 mm**

Free openings **40%**



**Vector**

Thickness **ca. 50 mm**

Free openings **33%**

# Built to specification.

*Each SpiralForm pattern can be specified in stainless steel or aluminium across flat or round spiral wires, with custom spiral and cross-rod pitches, panel sizes and a full range of finishes.*

## Materials

- Aluminium
- Stainless Steel 304L
- Stainless Steel 316

## Spiral wire

- 2 x 1 mm
- 2,5 x 1 mm
- 4 x 1 mm
- 5 x 1 mm

## Panel options

- Standard panels
- Cut-to-size
- Curved & shaped

## Finishes

- Mill (natural)
- Powder coat (RAL)
- Anodised aluminium



MIDDLE EAST

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# Let's specify your next facade.

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 KAPHS

---

CHAINFORM

---

# Chainlink Curtain Mesh.

*An architectural curtain system  
in 13 architectural finishes.*

---

PRODUCT CATALOGUE

2026 EDITION · [kaphsgroup.com](http://kaphsgroup.com)

# Contents

A complete guide to the KAPHS ChainForm range — overview, applications, fixing systems and the full 13-finish architectural library.

---

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---

## INTRODUCTION

# A flowing architectural language in metal.

---

KAPHS ChainForm is a chainlink curtain mesh system engineered with a continuous, interlocking loop structure — combining flexibility, strength and a refined architectural presence.

Its open geometry transmits light, creates depth through subtle reflection, and adapts seamlessly to ceilings, dividers, wall coverings and feature panels across interior and architectural projects worldwide.

13

FINISHES

5

FIXING SYSTEMS

∞

APPLICATIONS

## PRODUCT DESCRIPTION

# Strength, flexibility and depth from a single loop.

---

## Architectural chainlink mesh

ChainForm is a high-quality chainlink curtain mesh system engineered with a continuous interlocking loop structure that delivers flexibility, strength and a refined architectural mesh appearance. Designed for use within laminated glass and interior applications.

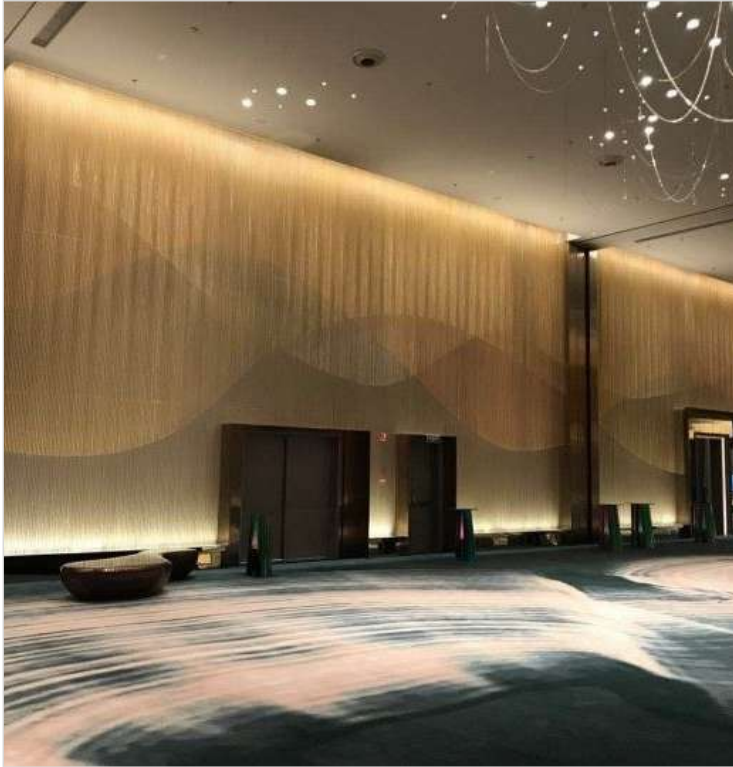
The controlled loop geometry creates a consistent, fluid pattern — a softer visual alternative to conventional chainlink systems. Its open structure transmits light while generating subtle reflections and shadow depth. Developed as a single, uniform system, ChainForm maintains consistent geometry across all applications, with variation achieved through a curated range of architectural finishes.



# 03 Applications

*Where ChainForm performs — interior walls, ceilings and architectural dividers.*

# Chainlink Curtain Mesh



**Wall Coverings**

ChainForm is an ideal solution for wall coverings — combining chainlink curtain mesh aesthetics with architectural performance.



**Dividers**



**Ceiling Designs**

ChainForm is highly effective in ceiling designs, where flowing geometry and reflective qualities enhance overhead surfaces.

# 04 Fixing Systems

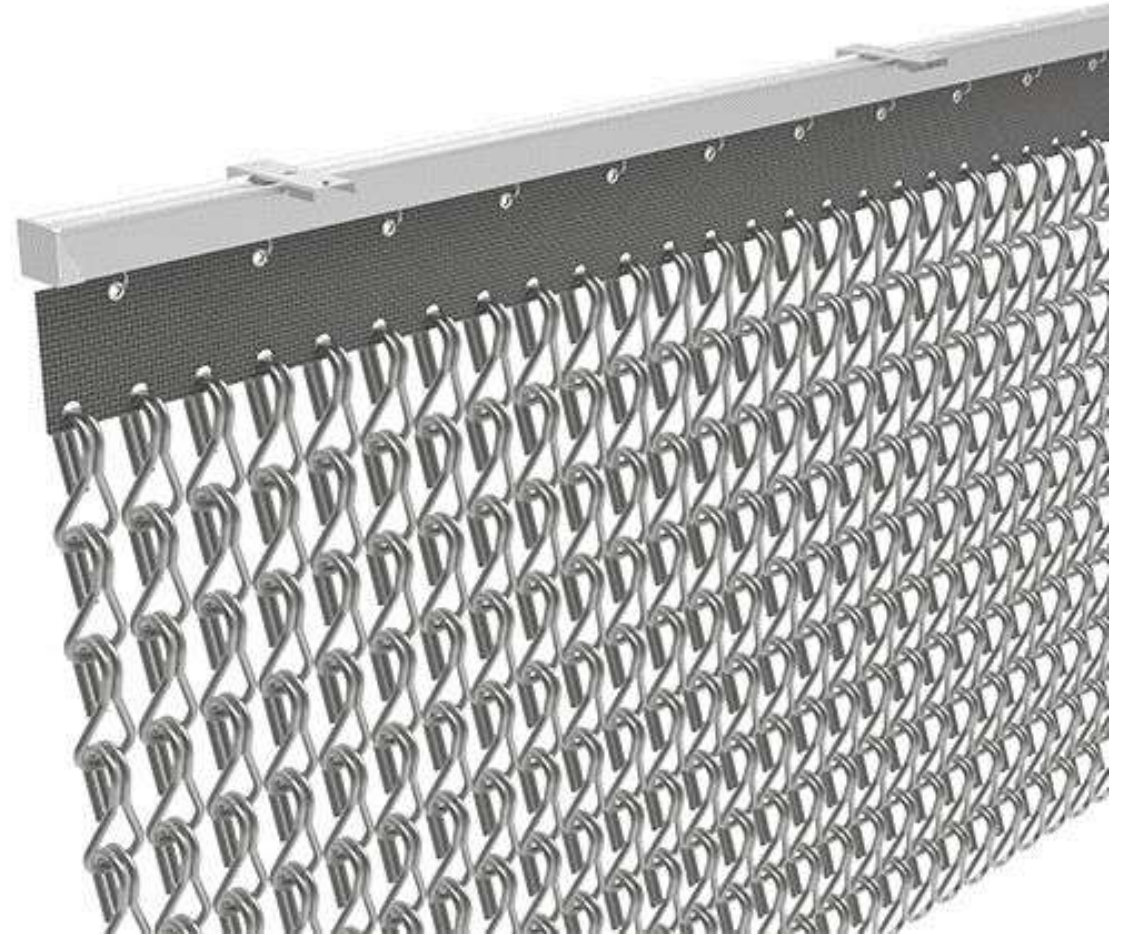
*Five engineered fixing systems — from suspended curtains to flush wall-mounted panels.*

## FIXING SYSTEMS

# Hanging Ceiling Mount

---

The Hanging Ceiling Mount Fixing System suspends ChainForm chainlink curtain mesh from overhead structures, allowing it to hang freely and express its natural flexibility. Ideal for ceiling-mounted applications, it delivers a flowing, lightweight appearance suited to feature ceilings and spatial dividers.



## FIXING SYSTEMS

# Plate Ceiling Mount

---

The Plate Ceiling Mount Fixing System provides a secure method for fixing ChainForm directly to ceilings. A rigid plate connection ensures stability and precise alignment, making it suitable for clean, fixed installations in both interior and exterior environments.



## FIXING SYSTEMS

# Plate Wall Mount

---

The Plate Wall Mount Fixing System allows ChainForm to be mounted directly onto vertical surfaces. It offers a strong, flush fixing solution — ideal for wall cladding, feature panels and decorative applications where the mesh sits tight to the substrate.



## FIXING SYSTEMS

# Rail Ceiling Mount

---

The Rail Ceiling Mount Fixing System uses a continuous rail to support ChainForm from above. It enables consistent alignment with the potential for controlled movement, making it ideal for flexible or sliding ceiling installations.



## FIXING SYSTEMS

# Rail Wall Mount

---

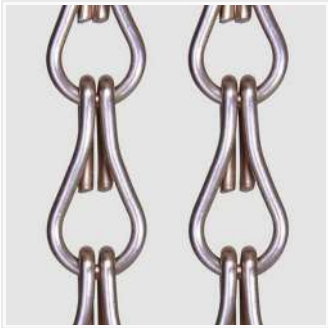
The Rail Wall Mount Fixing System provides a streamlined way to install ChainForm along walls using a continuous rail profile. It ensures uniform spacing and offers adjustability — suitable for both decorative and functional applications.



# 05 Product Range

*Thirteen architectural finishes — one chainlink curtain system. From muted matte tones to high-lustre metallic surfaces.*

# Chainlink Curtain Mesh

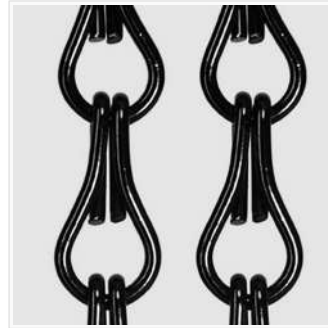


**AM**

Tone **Warm taupe tone**

Finish code **ChainForm - AM**

System **Chainlink Curtain M...**

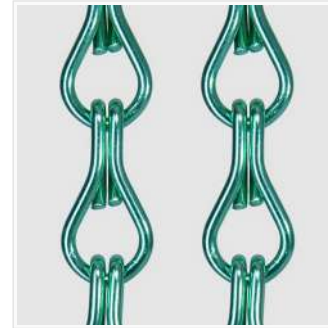


**BG**

Tone **Deep black tone**

Finish code **ChainForm - BG**

System **Chainlink Curtain M...**



**GG**

Tone **Forest green tone**

Finish code **ChainForm - GG**

System **Chainlink Curtain M...**

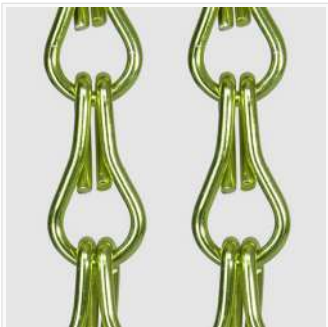


**GM**

Tone **Soft gold tone**

Finish code **ChainForm - GM**

System **Chainlink Curtain M...**

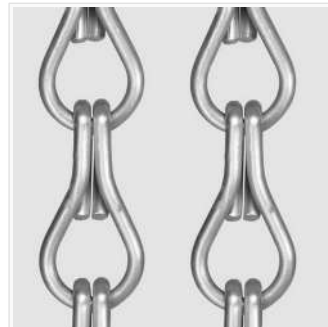


**LG**

Tone **Olive green tone**

Finish code **ChainForm - LG**

System **Chainlink Curtain M...**

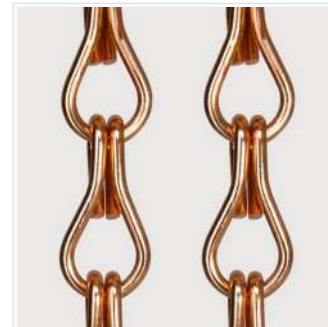


**MS**

Tone **Neutral silver tone**

Finish code **ChainForm - MS**

System **Chainlink Curtain M...**

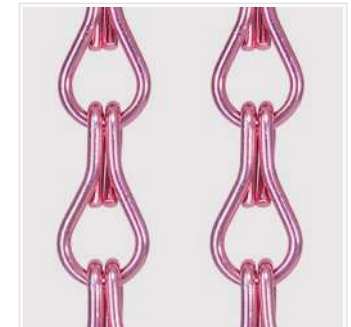


**PC**

Tone **Copper bronze tone**

Finish code **ChainForm - PC**

System **Chainlink Curtain M...**



**PG**

Tone **Pink lustre tone**

Finish code **ChainForm - PG**

System **Chainlink Curtain M...**

# Chainlink Curtain Mesh

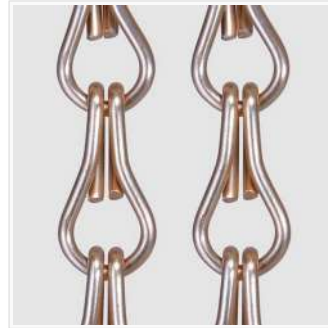


**RGG**

Tone **Bronze gold tone**

Finish code **ChainForm - RGG**

System **Chainlink Curtain M...**

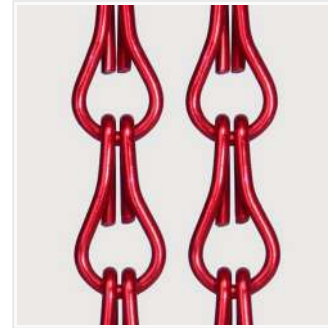


**RGM**

Tone **Muted bronze tone**

Finish code **ChainForm - RGM**

System **Chainlink Curtain M...**

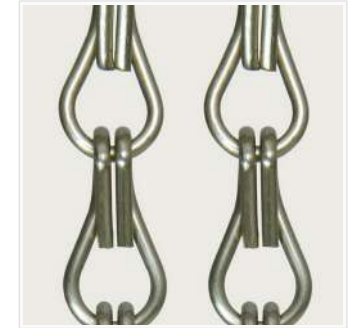


**RM**

Tone **Deep red tone**

Finish code **ChainForm - RM**

System **Chainlink Curtain M...**

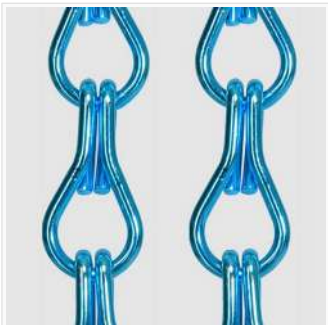


**SM**

Tone **Sage neutral tone**

Finish code **ChainForm - SM**

System **Chainlink Curtain M...**



**TG**

Tone **Teal blue tone**

Finish code **ChainForm - TG**

System **Chainlink Curtain M...**

## CUSTOMISATION &amp; MATERIALS

# Built to specification.

ChainForm maintains a single, uniform chainlink geometry. Variation is delivered through material, finish, panel size and fixing system — engineered to project requirements.

## Materials

- Aluminium
- Stainless steel
- Mild / galvanised steel (on request)

## Finishes

- 13 architectural finishes
- Anodized / brushed / polished
- Matte and glossy options

## Panel sizes

- Standard panels
- Cut-to-size
- Custom drops & widths

## Applications

- Walls & ceilings
- Dividers & screens
- Laminated glass interlayer



MIDDLE EAST

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---

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your next interior.

---

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---

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RINGMESH

# Ring Mesh

*Architectural metal ring mesh for partitions, screens, ceilings and cladding.*

# Contents

---

*A complete guide to the KAPHS RingMesh range — concept, applications, finishes, fixing systems and the full product library.*

|           |                     |     |
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# Movement and texture, in linked metal.

---

KAPHS RingMesh is a contemporary architectural metal mesh crafted from precision-linked metal rings — a soft, flowing surface that responds to gravity, light and perspective.

*Designed primarily for interior environments — partitions, ceilings, decorative screens and cladding — and suited to selected exterior applications where openness and movement are essential.*

2

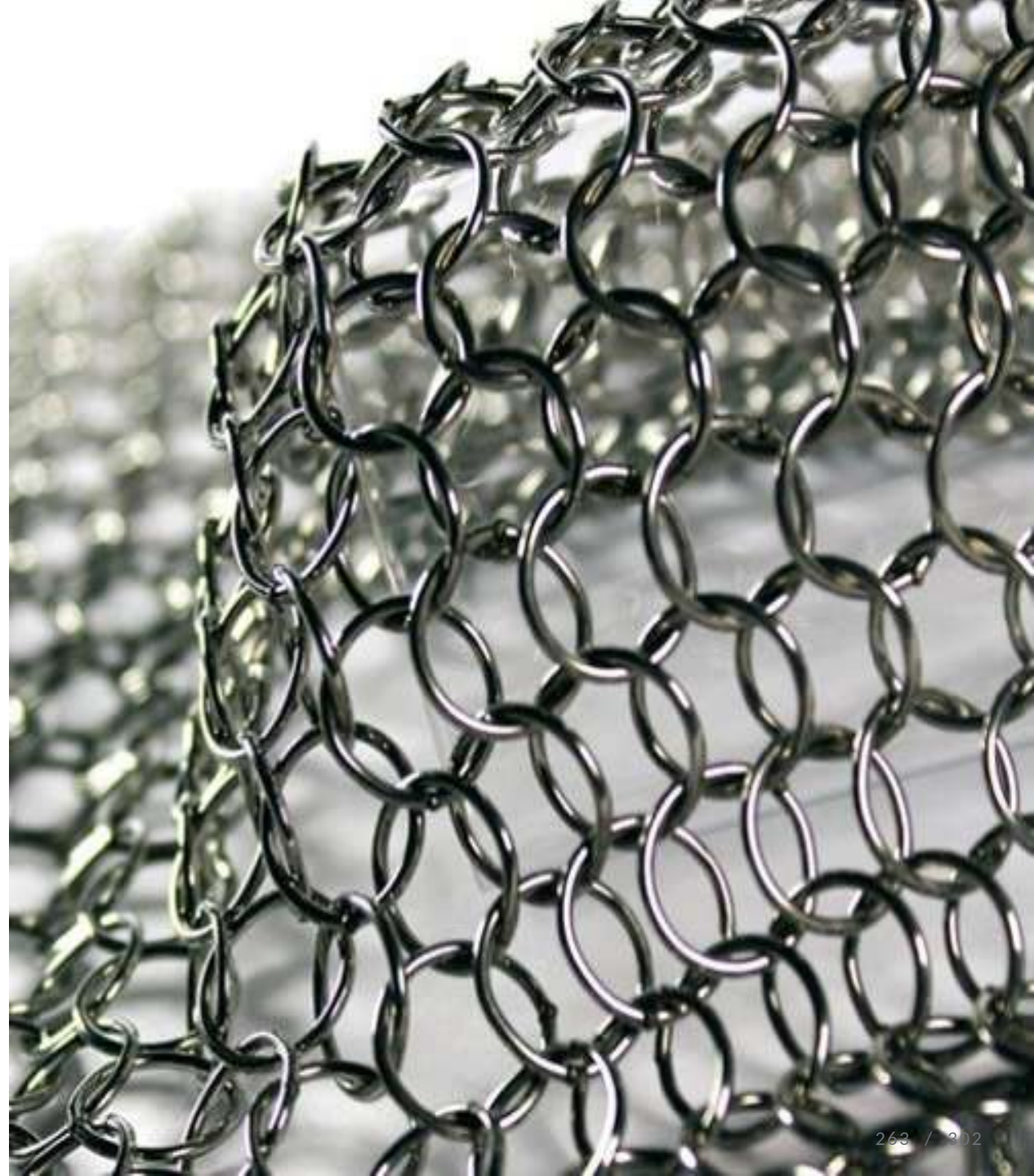
PRODUCTS

4

MATERIALS

∞

FINISHES



# 01 Product Description

*A contemporary architectural mesh built from precision-linked metal rings.*

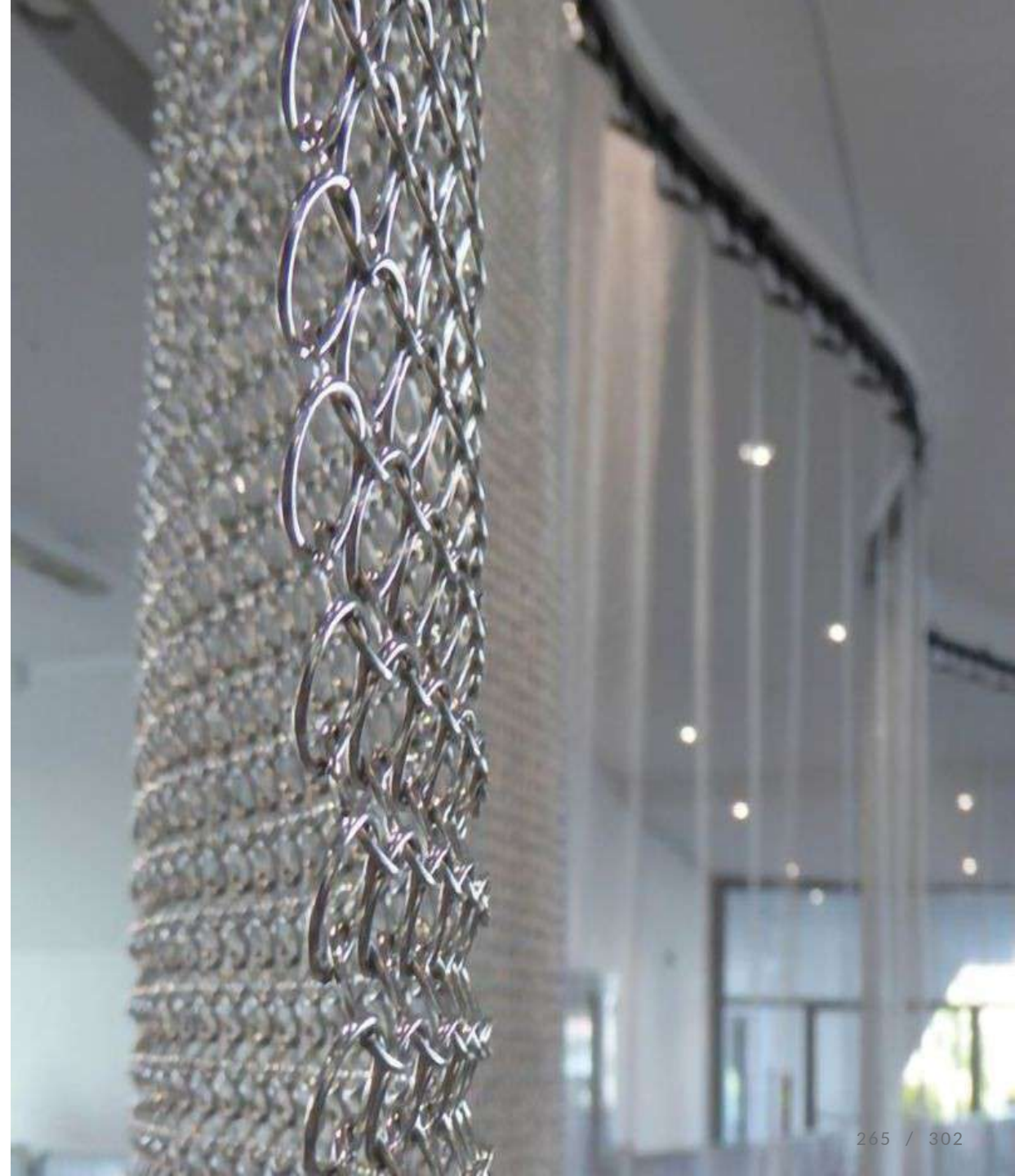
# Linked rings, flowing form.

---

## Engineered architectural ring mesh

KAPHS RingMesh — commonly referred to as Ring Mesh — is a contemporary architectural metal mesh system crafted from precision-linked metal rings. Designed with a focus on interior environments, it introduces a refined balance of openness, movement and metallic texture, while remaining suitable for selected exterior applications.

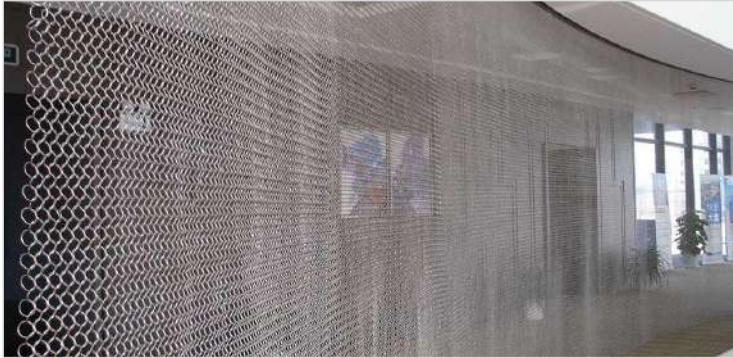
Unlike rigid mesh systems, RingMesh offers a soft, flowing structure that responds naturally to gravity, creating a dynamic surface that shifts with light and perspective — ideal for designers looking to add depth and visual interest without compromising spatial openness.



# 02 Applications

*Where RingMesh performs — partitions, screens, ceilings, cladding and façades.*

# Ring Mesh



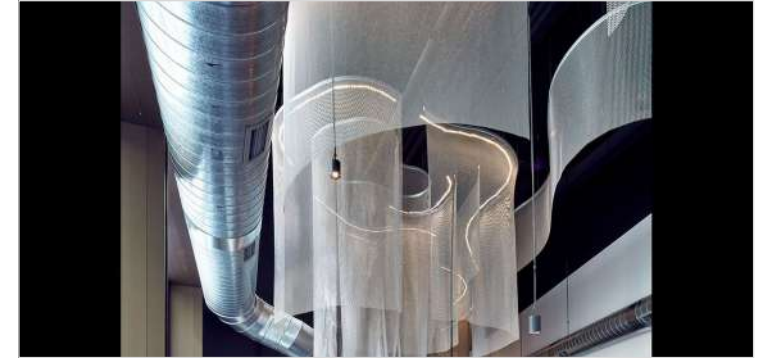
## Partitions & Space Dividers

RingMesh is widely specified as a partition or space divider in interior environments.



## Decorative Screens

Used as a decorative screen, RingMesh adds depth and material richness to interiors.



## Ceiling Features

Suspended overhead, RingMesh forms expressive ceiling features that catch and diffuse light.



## Wall Cladding & Feature Panels

Applied to walls and feature panels, RingMesh delivers a refined metallic finish with depth and tactility.



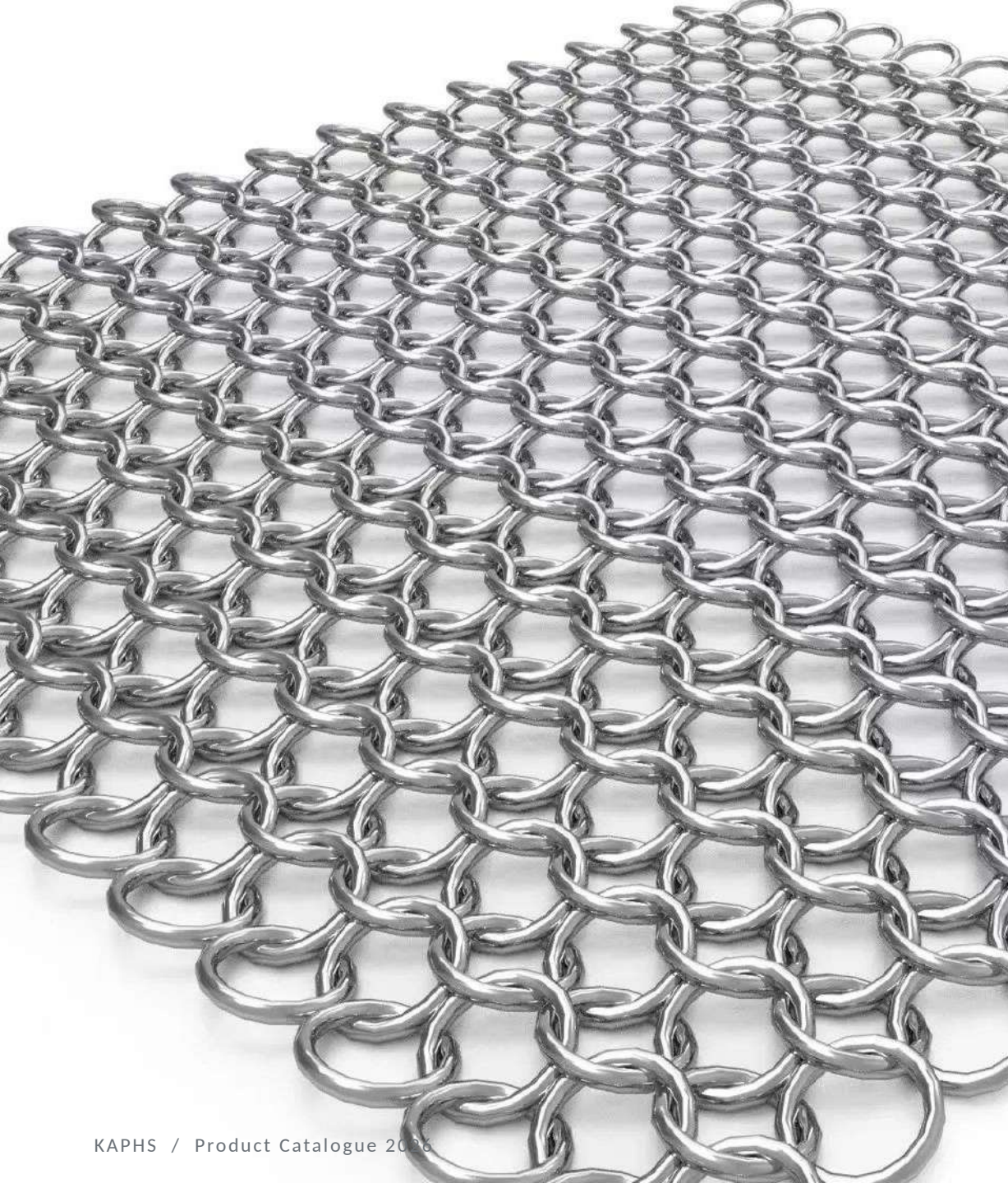
## Façade & Screening

Lightweight visual screening and shading.

# 03

# Finishes

*Two principal finishing routes — clarity of material, depth of colour.*



## Natural Metallic

---

*Polished or matte — the raw character of metal.*

The natural metallic finish highlights the inherent character of the base material — stainless steel, bronze, copper or brass. Specified in polished or matte form, it offers either a clean, reflective surface or a softer, light-absorbing finish, depending on the desired interior atmosphere.

# PVD Coating

---

*Premium colour, enhanced durability.*

PVD (Physical Vapour Deposition) coating delivers a high-performance metallic finish, available in a curated palette of consistent colours. Beyond appearance, PVD provides enhanced durability and resistance to wear — extending the visual and functional lifespan of the mesh.



# 04 Fixing Systems

*Four principal fixing systems — for structural confidence and design flexibility.*

# Hook Chain & Rod

---

*Suspended, curtain-like installation.*

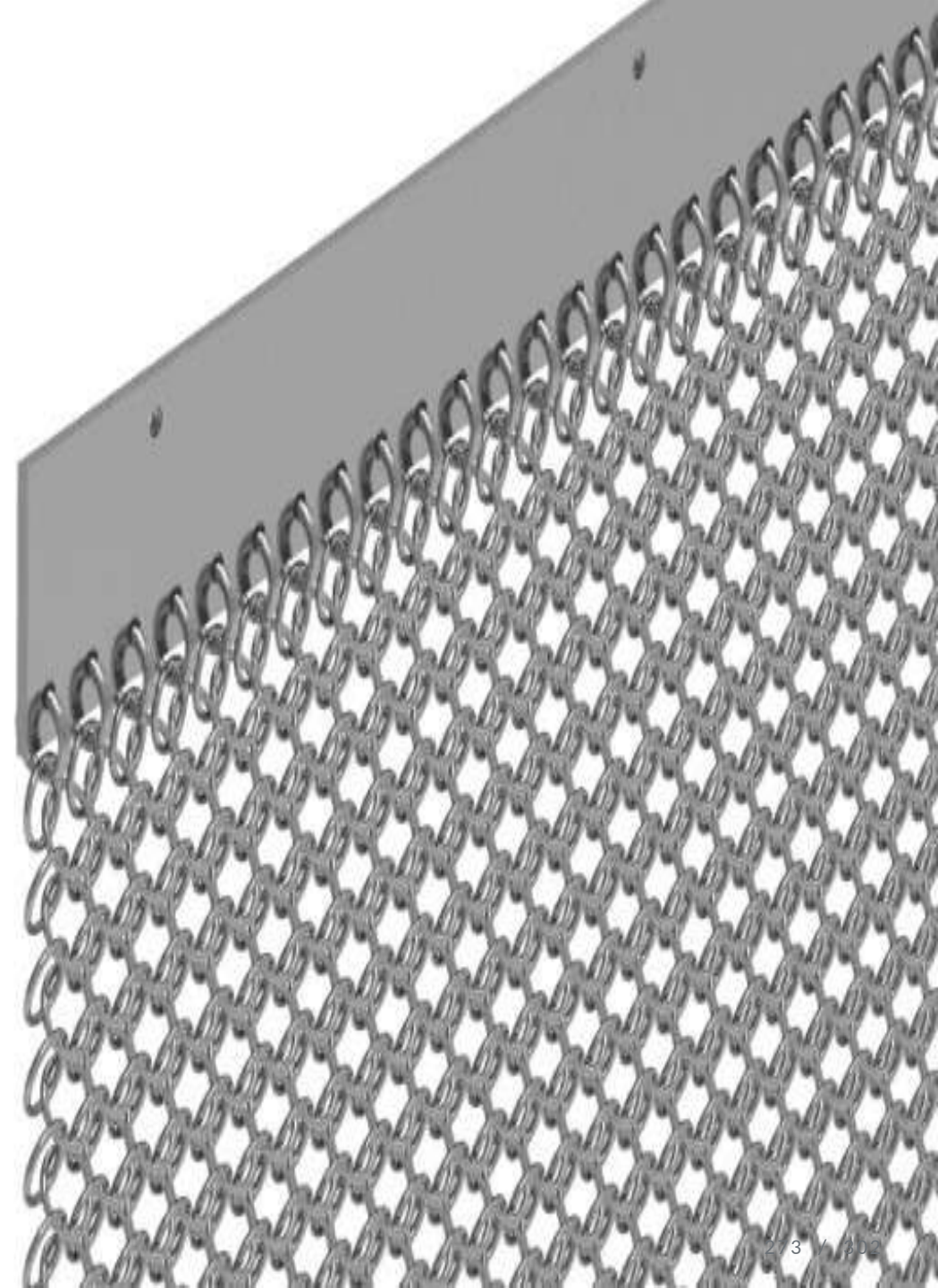
Mesh panels are suspended from a metal rod using hook chains, allowing smooth movement and a flowing, curtain-like installation. The system is ideal for ceiling drops, vertical drapes and partitions where soft articulation of the mesh is desired.

# Hook Profile

---

*Clean, linear top support.*

Rings are directly fixed into a continuous hook profile, creating a clean and linear top edge. This method delivers a precise architectural detail at the head of the mesh, ideal for ceilings, soffits and structured partitions where alignment is critical.



## Plate & Side Rail

---

*Structured panel installation.*

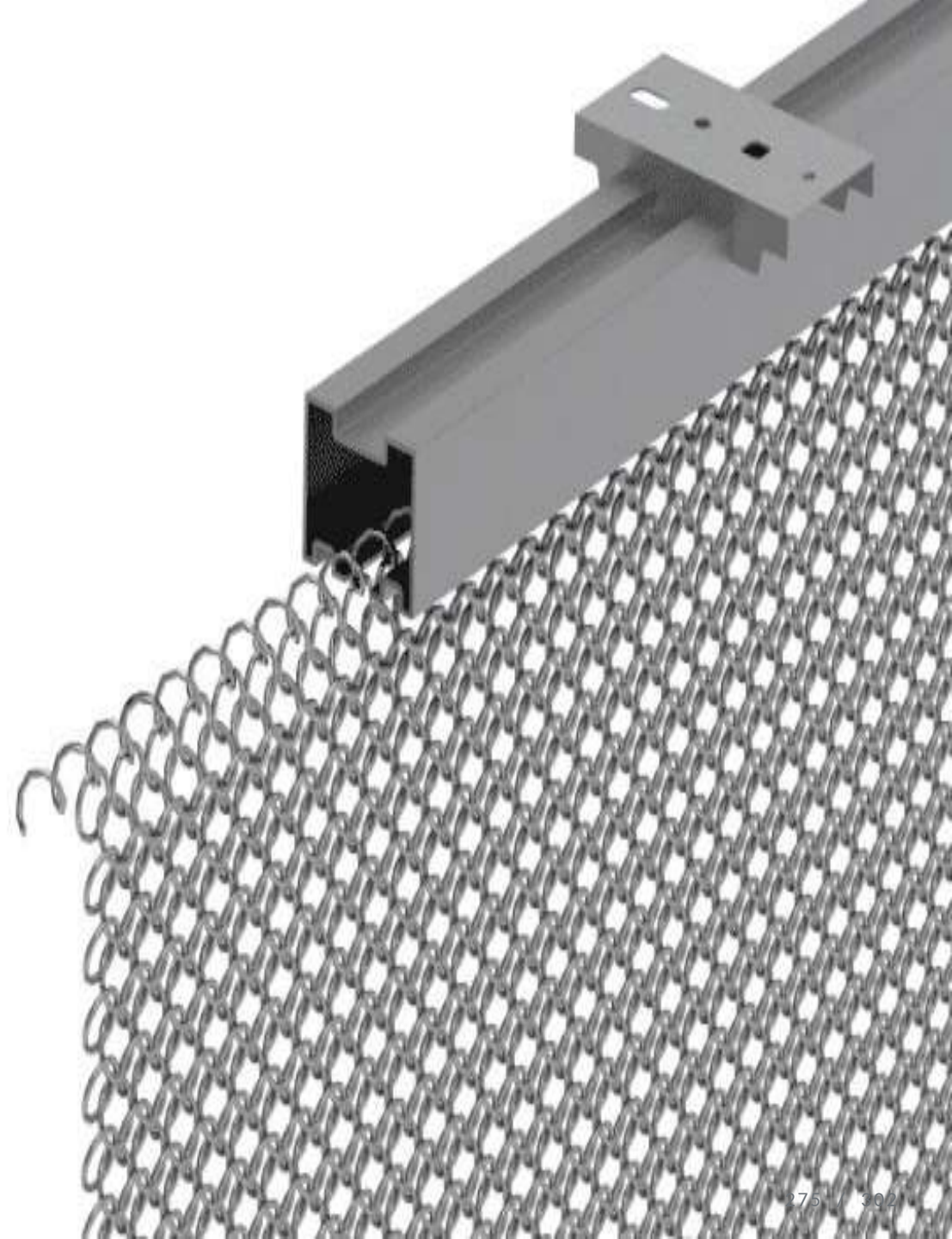
The mesh is secured within rigid panels using top plates and side rails, producing a more structured and contained installation. This method suits feature walls, cladding panels and applications where the mesh is framed and held under controlled tension.

# Track System



*Sliding, operable mesh panels.*

Integrated track profiles enable sliding or operable mesh panels for flexible space division. The system combines the visual openness of RingMesh with practical adaptability — allowing spaces to be opened, divided or reconfigured as needed.



# 05

# Product Range

*Two signature RingMesh products — selected for scale, density and visual character.*

RINGMESH

# Orbit

RING DIAMETER

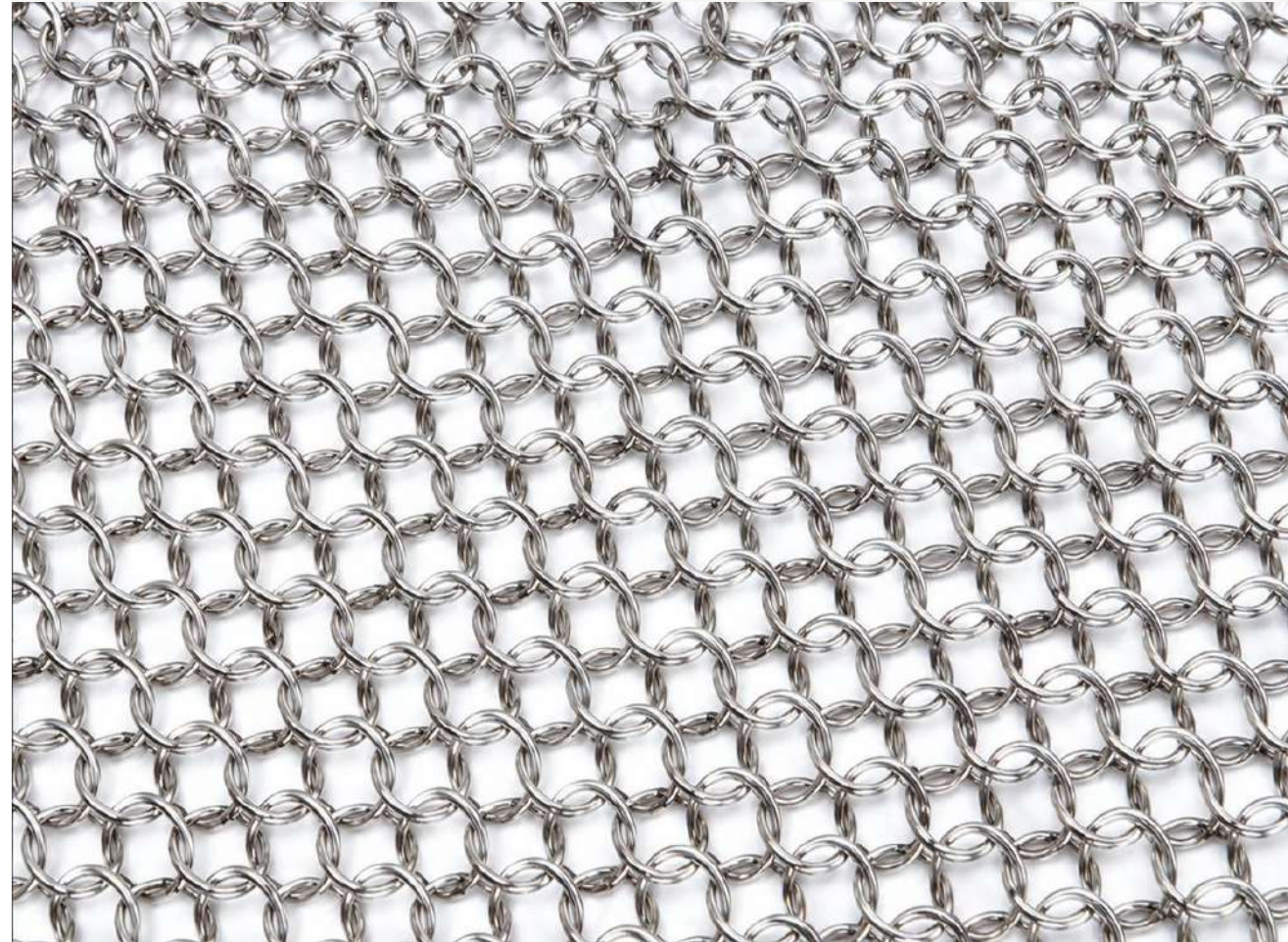
**Ø 12.0 mm**

OPEN AREA

**approx. 63%**

AVAILABLE SPECIFICATIONS

| Material        | Wire Gauge | Weight                         | Rings / LM |
|-----------------|------------|--------------------------------|------------|
| Stainless Steel | 1.10 mm    | approx. 3.06 kg/m <sup>2</sup> | 83         |



RINGMESH

# Flow

RING DIAMETER

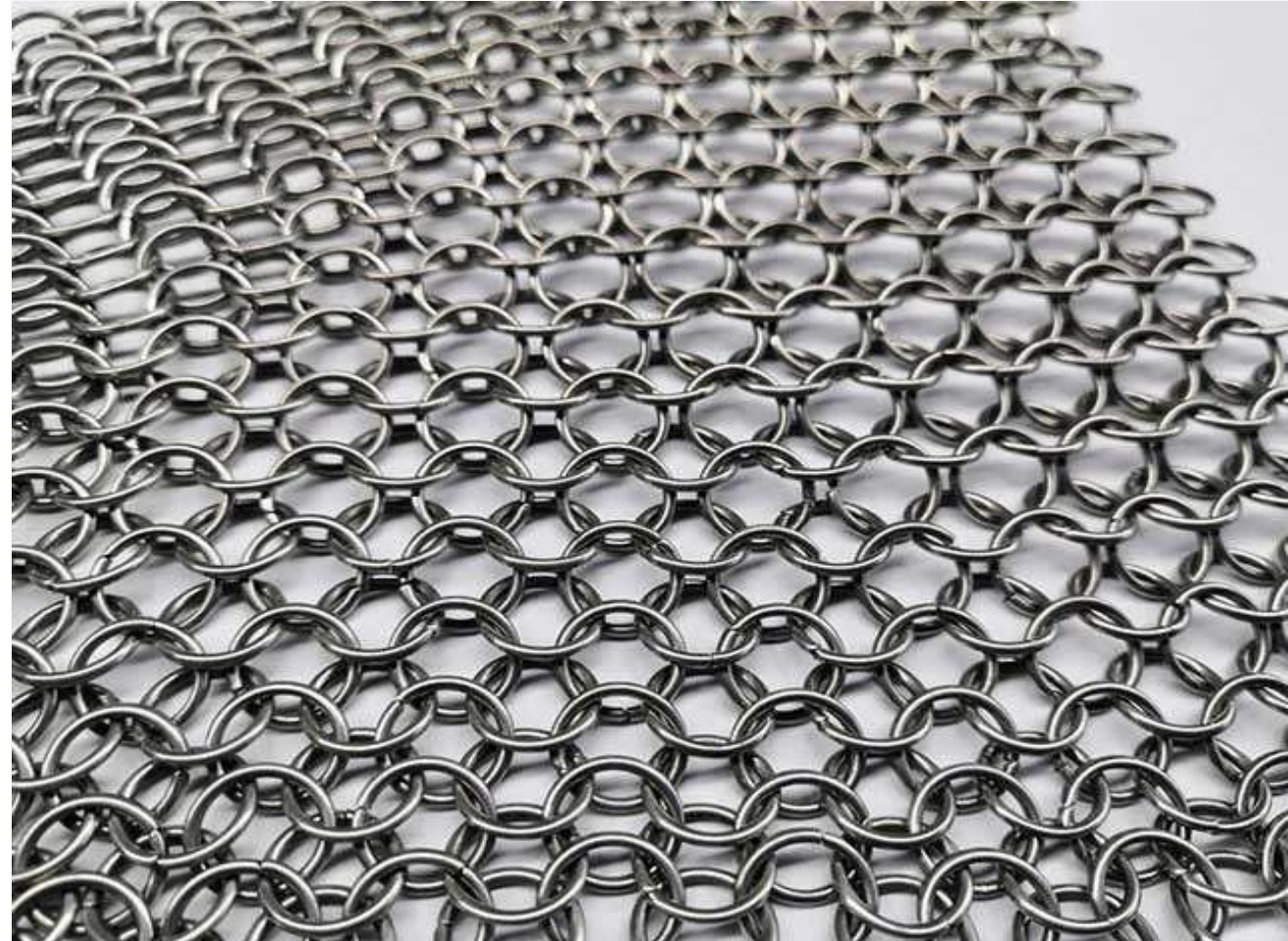
**Ø 7.0 mm**

OPEN AREA

**approx. 60%**

AVAILABLE SPECIFICATIONS

| Material        | Wire Gauge | Weight                        | Rings / LM |
|-----------------|------------|-------------------------------|------------|
| Stainless Steel | 0.70 mm    | approx. 2.2 kg/m <sup>2</sup> | 143        |



# Built to specification.

---

*Each RingMesh product can be specified in a range of metals, ring diameters and finishes — with custom panel sizes engineered to the architectural intent of the project.*

## Materials

- Stainless steel
- Bronze
- Copper
- Brass

## Ring options

- Ø 7.0 mm (Flow)
- Ø 12.0 mm (Orbit)
- Custom diameters
- Custom densities

## Panel sizes

- Standard panels
- Cut-to-size
- Curtain drops
- Custom geometries

## Finishes

- Natural — polished
- Natural — matte
- PVD coated
- Custom colours



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# Let's specify your next interior surface.

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---

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C U S T O M S T E E L B Y S H B O

# Custom Steel.

*Architectural custom steel profiles — slender, precise, engineered for transparency and span.*

---

# Contents

*A complete guide to the KAPHS Custom Steel system by SHBO — concept, capabilities, product range and projects.*

|    |                            |     |    |                           |     |
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| 05 | Custom Steel vs. Aluminium | 290 | 10 | Get in Touch              | 302 |

---

# Strength made slender.

KAPHS Custom Steel by SHBO is an architectural profile system that delivers the slender appearance of aluminium with the structural performance of steel. Engineered for large spans, ultra-high transparency and bespoke façade geometries, it solves the pain points that conventional aluminium and traditional steel cannot.

Pioneered by SHBO Group — co-editor-in-chief of the national Technical Specifications for Custom Steel Profile Curtain Wall Systems — Custom Steel has been delivered on more than 100 landmark buildings across China and is now available in the Middle East through KAPHS.

# 100+

LANDMARK BUILDINGS

---

# 30

PATENTED TECHNOLOGIES

---

# 25+

YEARS COATING LIFE

---

# An aluminium look, with the strength of steel.

## ARCHITECTURAL CUSTOM STEEL PROFILE

KAPHS Custom Steel is a high-precision, made-to-order steel profile system designed specifically for architectural curtain walls. Profiles are produced from carbon, weathering or stainless steel and finished with premium fluorocarbon coatings (AkzoNobel, Jotun, PPG).

Because steel has roughly three times the elastic modulus of aluminium, Custom Steel can carry far greater loads at a fraction of the cross-section — enabling long spans, super-tall window walls, and high-permeability façades that aluminium cannot achieve.

Custom Steel ships either as profiles, assembled unitised steel frame panels, or full space grid structures, reducing on-site work and tightening tolerances.



The World Laureates Forum, Shanghai — ~900 t Custom Steel, 28 m arc spans

---

# How Custom Steel is made.

*An eight-stage process condensed into four disciplines — precision cutting, dual-head welding, fully automated grinding, and a constant-temperature coating line.*

## 01

### LASER CUTTING

---

20 kW CNC laser blanking.  
Positioning accuracy 0.05 mm, repeat 0.02 mm. Profiles are nested digitally from 1:1 three-dimensional lofting.

## 02

### WELDING

---

Dual-head robotic CO<sub>2</sub> shielded welding and laser welding — up to 4× faster than manual arc welding, all welds to Level 2 quality.

## 03

### GRINDING

---

The first fully automated grinding line in the industry. CNC groove-planing to  $\pm 0.01$  mm, surface roughness Ra 0.8-1.6  $\mu\text{m}$ , R-angle  $\leq 0.5$  mm.

## 04

### COATING

---

Integrated sandblast → spray → bake line, constant-temperature rooms. Three-coat fluorocarbon system to ISO 12944-2018; 20-year warranty.

---

# Applications

*Where Custom Steel earns its place — transportation hubs, exhibition landmarks, public buildings, super-tall towers.*

# Custom Steel



## Transportation Hubs

High-speed rail stations, airports and subway concourses demand long-span roofs, high transparency, and façades that read as light as aluminium while carrying steel loads.



## Exhibition & Cultural Landmarks

Museums, art galleries, libraries, concert halls and exhibition centres rely on Custom Steel for daylit atria, sculptural roofs, and free-form grid shells.



## Public Buildings

High-ceilinged lobbies, atriums, daylighting roofs, entrances, canopies and unitised steel frame panels — the everyday architecture of public life.



## Super-Tall Buildings

Non-standard irregular nodes, bent and twisted components in super-tall structures.

---

# Engineered at every scale.

*Profiles, unitised steel frame panels, and full space grid structures — delivered from five production bases.*

## Profiles

---

Standard architectural Custom Steel profiles cut, welded and finished to spec. Lengths customisable. Suitable for façades, curtain walls, fins and brise-soleil.

## Unitised Panels

---

Pre-assembled steel frame panels with glass and infill ready for site lift. Reduced on-site work, tighter tolerances, faster programmes.

## Space Grid Structures

Complete reticulated and grid shell structures with bespoke nodes — delivered as transport-ready assemblies for cultural, public and transport architecture.

---

# Standards, certifications, recognition.

*SHBO is the co-editor-in-chief of the national Custom Steel Profile Curtain Wall standard.*

## **ISO 9001:2008**

Quality Management System certification across all production bases.

---

## **National Standard (Co-Editor-in-Chief)**

Technical Specifications for Custom Steel Profile Curtain Wall Systems.

---

## **Shanghai High-Tech Enterprise**

Assessed 2020 by Shanghai Science & Technology Commission.

---

## **Specialized, Refined, Featured & Innovative**

Recognised " 专精特新 " enterprise (Shanghai).

## **Polaris Architecture Awards — Best of the Best**

Two-time recipient of the 至尊奖 (top architecture honour).

---

## **Shanghai Curtain Wall 718 Innovation Award**

Three-time recipient.

---

## **30 Patents, 9 Software Copyrights**

Proprietary IP across cutting, welding, grinding and coating processes.

---

## **100+ Landmark Buildings**

Delivered across China; now available in the Middle East via KAPHS.

# Why Custom Steel, not aluminium.

*Four material properties that change what's possible on the façade.*

| PROPERTY                    | CUSTOM STEEL                          | ALUMINIUM                              | ADVANTAGE             |
|-----------------------------|---------------------------------------|--|-----------------------|
| <b>Elastic Modulus</b>      | $2.06 \times 10^5 \text{ N/mm}^2$     | $0.7 \times 10^5 \text{ N/mm}^2$       | <i>3× stronger</i>    |
| <b>Linear Expansion</b>     | $1.2 \times 10^{-5} / ^\circ\text{C}$ | $2.35 \times 10^{-5} / ^\circ\text{C}$ | <i>2× more stable</i> |
| <b>Thermal Conductivity</b> | 50 W/(m·K)                            | 200 W/(m·K)                            | <i>4× lower</i>       |
| <b>Melting Point</b>        | 1,538 °C                              | 660 °C                                 | <i>2.3× higher</i>    |

*Combined with thin intumescent coatings, Custom Steel achieves 2-hour fire resistance — a slender, safer alternative to both aluminium and conventional steel.*

---

# Product Range

*Eight connection nodes — the architectural vocabulary of Custom Steel.*

# The complete node family.

*Eight standard node geometries — each can be customised in size, material and finish.*



**Triangle Node**



**Diamond Connection Node**



**Diamond Connection Node II**



**Diamond-Head Connection Node**



**Rectangular Connection Node**



**Rectangular Thermal-Sensitive Node**



**Steel Plate Connection Node**



**Curved Connection Node**

---

# Reference Projects

*Over 100 landmark buildings delivered worldwide — a selection.*

# Zhangjiang Science Hall

SHANGHAI, CHINA

ARCHITECT — Christian de Portzamparc

A special-shaped spatial grid structure with thin fire-protection requirements. The project was split into 40 transportable units and assembled with 1:1 three-dimensional positioning lofting. Themes: sunlight, earth, water, air.

15 m

SPAN

150 t

STEEL

1,200 m<sup>2</sup>

AREA



# The World Laureates Forum

LIN-GANG SPECIAL AREA, SHANGHAI

ARCHITECT — Arcplus Institute of Shanghai Architectural Design & Research

"Future wings and green aesthetics." Feather-like, overlapping BIPV panels integrated into the roof — a symbiosis of architecture, city and nature. 21 m beams and 28 m arc components, ~5 t each, in single-curved Custom Steel.

28 m arc

SPAN

~900 t

STEEL

5,000 m<sup>2</sup>

AREA



# Qingdao SCO Pearl International Expo Center

JIAOZHOU, QINGDAO

ARCHITECT — Cui Kai (Chinese Academy of Engineering)

"Sea of blossoms, glowing pearls and shells" — Qingdao's coastal heritage rendered in white Custom Steel. 50-day production cycle, 0.1 mm hole-distance tolerance on cable-stayed ear plates, all welds to Level 2.

32 m

LENGTH

~500 t

STEEL

3,100 m<sup>2</sup>

AREA



# Shenzhen Bay Huiyun Center

NANSHAN DISTRICT, SHENZHEN

ARCHITECT — AREP (France) + Shenzhen AUBE

The first TOD super-complex by Shenzhen Metro Group, inspired by "the lighthouse on the bay." Trapezoidal Custom Steel columns and beams in bright fluorocarbon silver.

17 m

SPAN

150 t

STEEL

3,000 m<sup>2</sup>

AREA



# Lululemon Shanghai Flagship

KERRY CENTRE, JING'AN, SHANGHAI

ARCHITECT — AIM Architecture

The largest Lululemon flagship store in the world. Curved columns and arc beams up to 17 m, with crisp 90° edges in pearl white. "A perfect combination of art and engineering."

17 m

LENGTH

12 t

STEEL

1,041 m<sup>2</sup>

AREA



# 179 East Nanjing Road

HUANGPU DISTRICT, SHANGHAI

ARCHITECT — Coast Palisade Consulting Group (Canada)

A cross-shaped corridor roof set between four 1920s-1930s historic buildings on Nanjing Road. Silver irregular grid shell, split into 64 maximum-transportable units using 1:1 three-dimensional lofting. "Respecting history, reviving style."

~500 t

STEEL

2,750 m<sup>2</sup>

AREA

64 panels

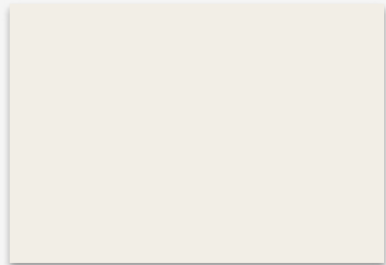
UNITS



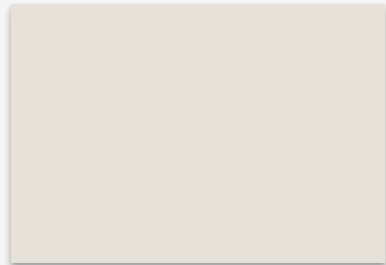
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# Surface finishes.

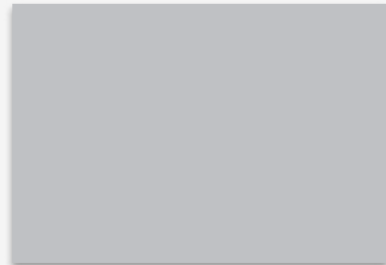
*Premium fluorocarbon coatings, stainless treatments, and fully bespoke colour matching.*



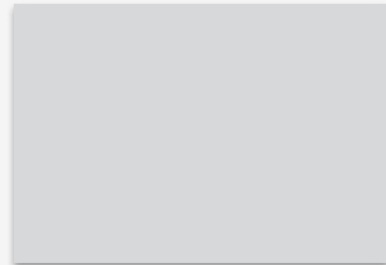
**Pearl White**



**Winland White**



**Silver Fluorocarbon**



**Bright Silver**



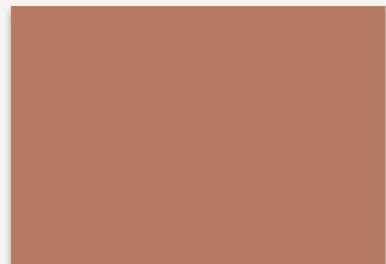
**Coffee Gold**



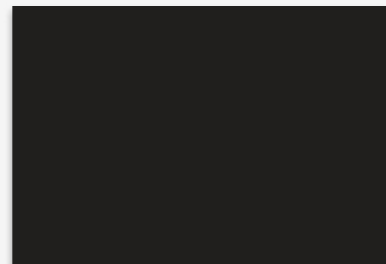
**Antique Bronze**



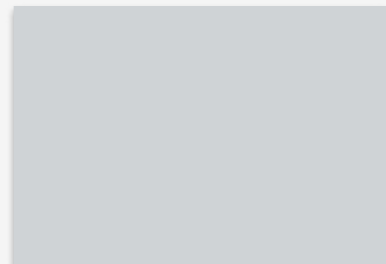
**Fluorocarbon Gold**



**Rose Gold**



**Fluorocarbon Black**



**Mirror Polished**



**Wire-Drawing**



**Apple Sand**

# Built to specification.

*Every Custom Steel profile is engineered project-specific — material, geometry, finish and connection.*

## MATERIALS

## TOLERANCES

## COATING SYSTEM

## WARRANTY & FIRE

Q235B / Q355 carbon steel

Laser position  $\pm 0.05$  mm

ISO 12944-2018 / NORSOK M-501

20-year coating warranty

Weathering steel

CNC groove  $\pm 0.01$  mm

Epoxy zinc-rich primer 60–80  $\mu\text{m}$

25+ year coating design life

Stainless 304 / 316

Punch  $\pm 0.05$  mm

Epoxy micaceous mid 120–140  $\mu\text{m}$

2-hour fire resistance available

Hot-dip galvanised options

Straightness  $< 0.5\%$  L

Fluoropolymer topcoat 50–60  $\mu\text{m}$

ISO 9001:2008 certified

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# Let's specify your next façade.

## OFFICE

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## CONTACT

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