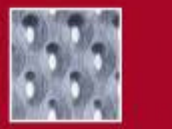
RIMEX
METALS GROUP

The application of finishes on stainless steel and other metals.

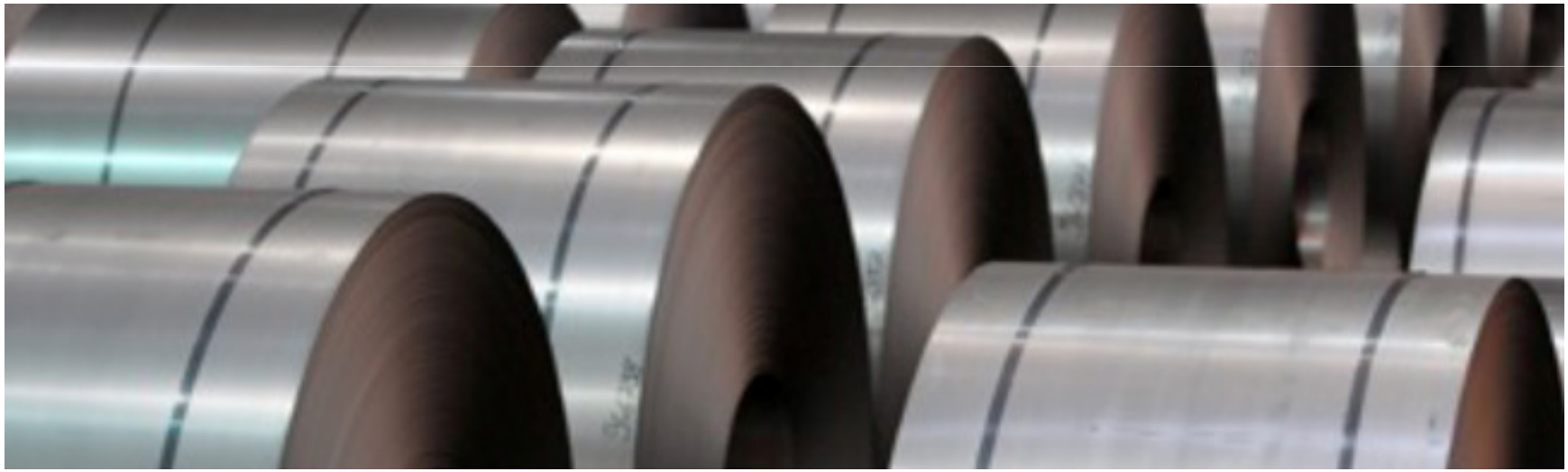
A reference guide to the technical application of metal finishes by The Rimex Metals Group



Australia • France • Germany • South Africa • Spain • UK • USA

Background

- **Rimex Metals (UK) Ltd** is Rimex's Group Headquarters.
- Manufacturing facilities are in the UK, USA, South Africa and Australia.
- Global representation through Rimex subsidiaries and a network of agents.
- Manufacturing since 1959. With +50 years **experience** ensures **quality control** and appropriate **material selection** which is crucial for manufacturing high quality products.



Rimex's DesignScape™ Collection

A collection of finishes on stainless steel and other metals includes:

- **Patterns -** on stainless steel and other metals.
- **ColourTex®** - Coloured stainless steel.
- **Granex™** - Bead blasted stainless steel.
- **MetalArt™** - Etched finishes.
- **VorTex™** - Vibration polish.
- **Super Mirror** Stainless steel.
- **Imprimo™** - custom-made pattern finishes.

All are suitable for use in architecture, interior, retail, transit and industrial design.

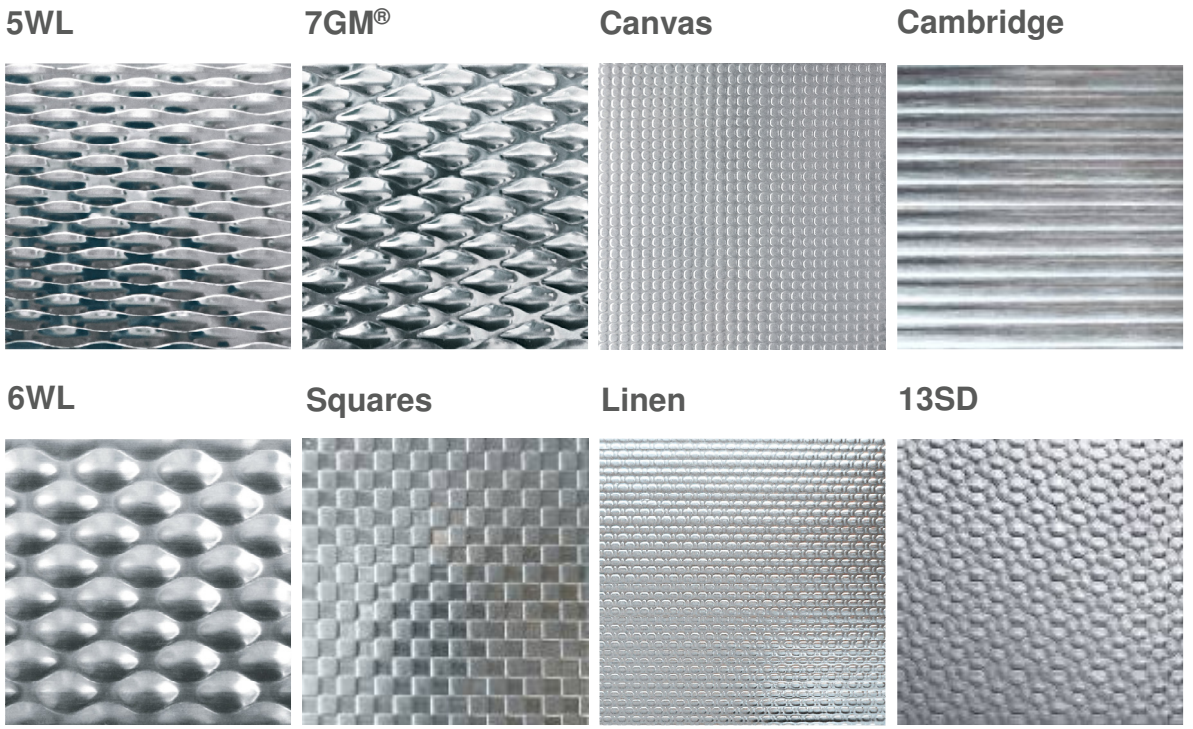
2. Patterned Finishes

2.1 Introduction:

Cold rolling of stainless steel and other metals through patterned rolls. This has been Rimex's expertise since 1959.

Stainless steel, aluminium, galvanised steels, brass & bronze are typical metals suitable for patterned finishes.

See our brochure or website (www.rimexmetals.com) for details of all patterns and product parameters.



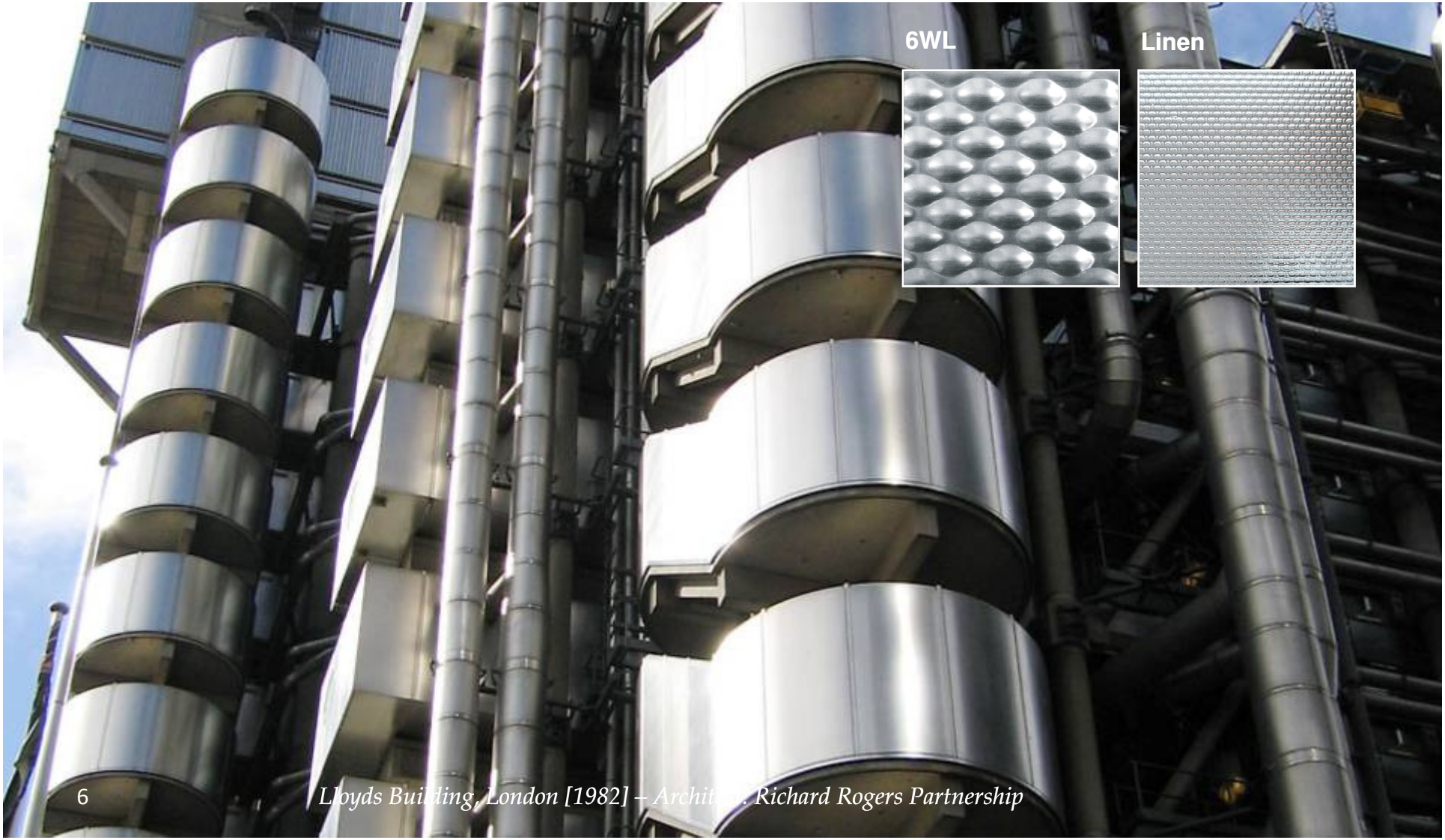
Rimex manufactures a total of 20 different patterns.

2. Patterned Finishes

2.2 Aesthetics:

2. Patterned Finishes

2.2 Aesthetics:



Lloyds Building, London [1982] – Architect: Richard Rogers Partnership

2. Patterned Finishes

2.3 Help to prevent the ‘oil canning’ effect common in satin/brush polished stainless steel:

2. Patterned Finishes

2.4 Provides optically flat panels:

2. Patterned Finishes

2.5 Ideal for cladding systems:

Metropolitan University, London [2004] – Architect: Studio Daniel Libeskind

2. Patterned Finishes

2.5 Ideal for cladding systems:

Specification Note:

To control the consistency, tone and brightness of material make sure that it is batch ordered.

2. Patterned Finishes

2.5 Ideal for cladding systems:

Specification Note:

Be aware that patterned finishes have directionality.

In the installation process follow the arrows on the protective tape.

Or utilise the tonal differences.

2. Patterned Finishes

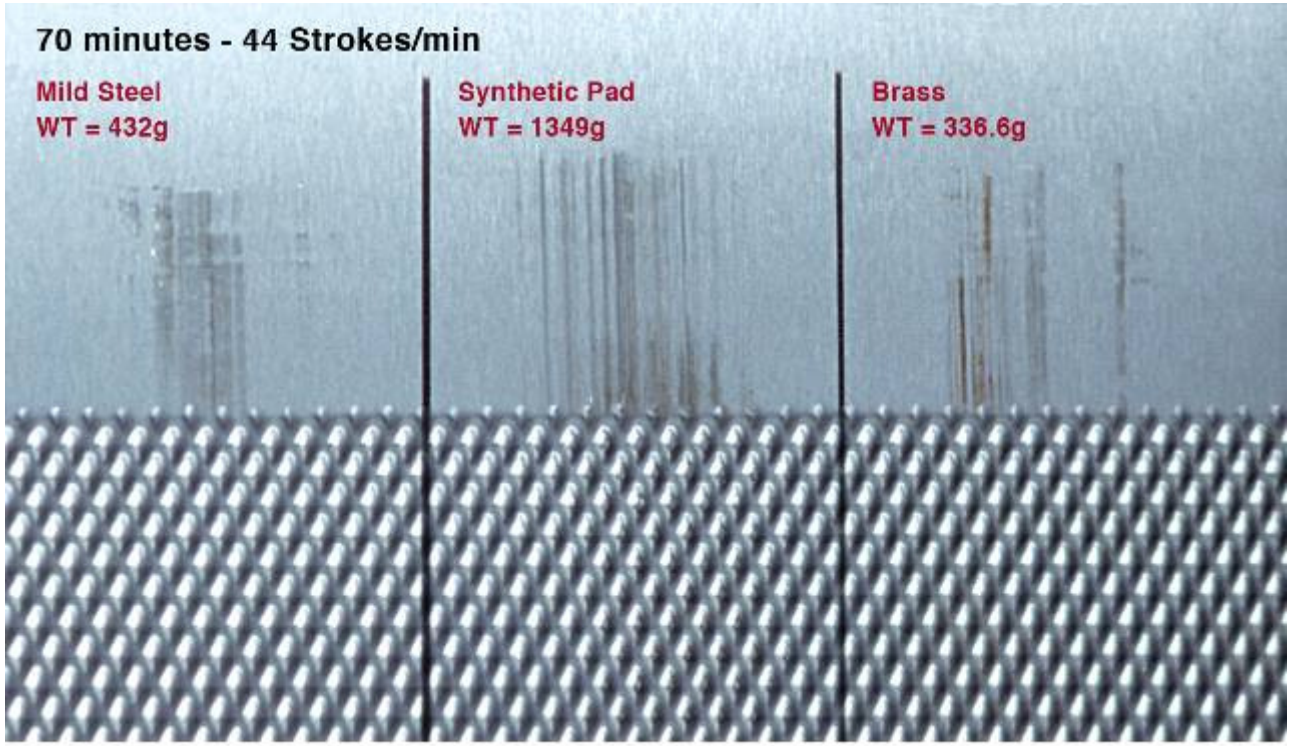
2.6 Durability:

Patterned finishes are ideal for use in terminal buildings to hide the impact damage from pedestrian wear and tear.

Applications include columns, panel and cladding systems, toilet partitions, canteen and refrigeration units.

To provide life cycle costing benefits and reductions in maintenance costs.

Stainless Steel - *Comparison of impact damage to un-patterned and patterned finishes*



2. Patterned Finishes

2.6 Durability:

Specification Note:

The use of heavy gauge stainless steel (e.g. +2.0mm) instead of a patterned stainless steel will not hide impact damage.

Consider a patterned stainless steel finish instead of heavy gauged materials.

Heavy Gauge Stainless Steel

Patterned Stainless Steel

2. Patterned Finishes

2.6 Durability:

East London Line [2009]

2. Patterned Finishes

2.6 Durability:

Dalston Junction Station, East London Line [2009]

2. Patterned Finishes

2.6 Durability:

Dalston Junction Station, East London Line [2009]

2. Patterned Finishes

2.6 Durability:

Dalston Junction Station, East London Line [2009]

2. Patterned Finishes

2.6 Durability:

Knightsbridge Underground Station, London [2004]

2. Patterned Finishes

2.6 Durability:

Specification Note:

The use of 6WL in BA stainless steel can provide maintenance and cleaning benefits over satin polish or bead blast finishes.

2. Patterned Finishes

2.6 Durability:

Jubilee Line, London [1999]

2. Patterned Finishes

2.6 Durability:

Jubilee Line, London [1999]

2. Patterned Finishes

2.6 Durability:

Specification Note:

After proven and successful use at Waterloo International Terminal, Grimshaw Architects used the same specification of Rimex's 5WL pattern at Paddington Station in London.

2. Patterned Finishes

2.7 Parameters:

Width: 1,000m and 1,250mm as STANDARD.

Wider products are available from Rimex (USA) – these are 5WL, 6WL, 9EH and TreadTex®.

Width: 1,500mm.

Length: 2,000mm, 2,500mm and 3,000mm as STANDARD.

Specific lengths are available on request.

Gauges: 0.5mm MIN to 2.0mm MAX dependant on the pattern.

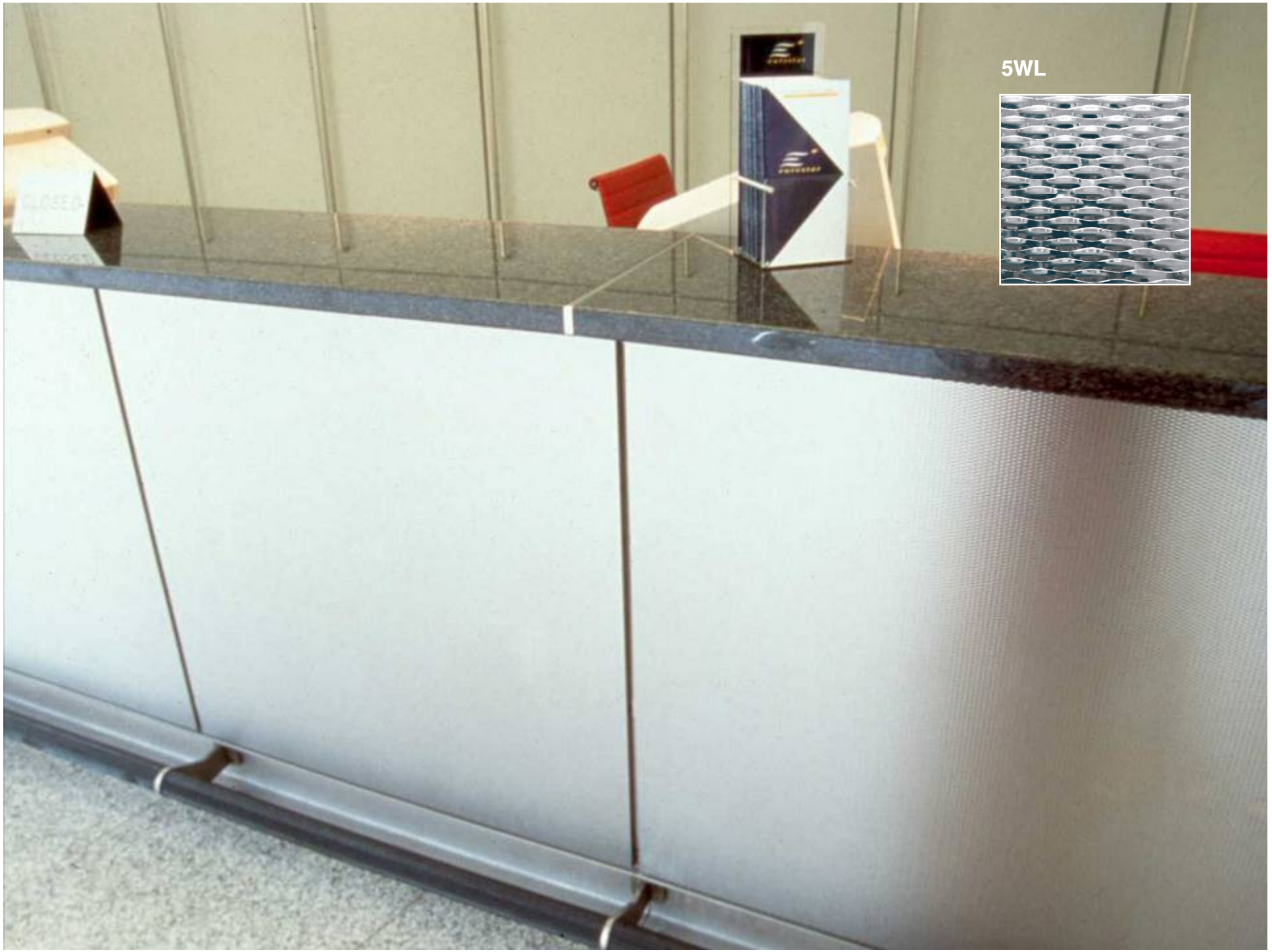
Flatness: -/+5-10mm as STANDARD.

Flatness tolerances will extend for +3,000mm lengths.

2. Patterned Finishes

2.8

Other Applications and Ideas


5WL


5WL


5WL


Which Terminal ?
Shuttle to North Terminal
Which Terminal ?
30/06/2010

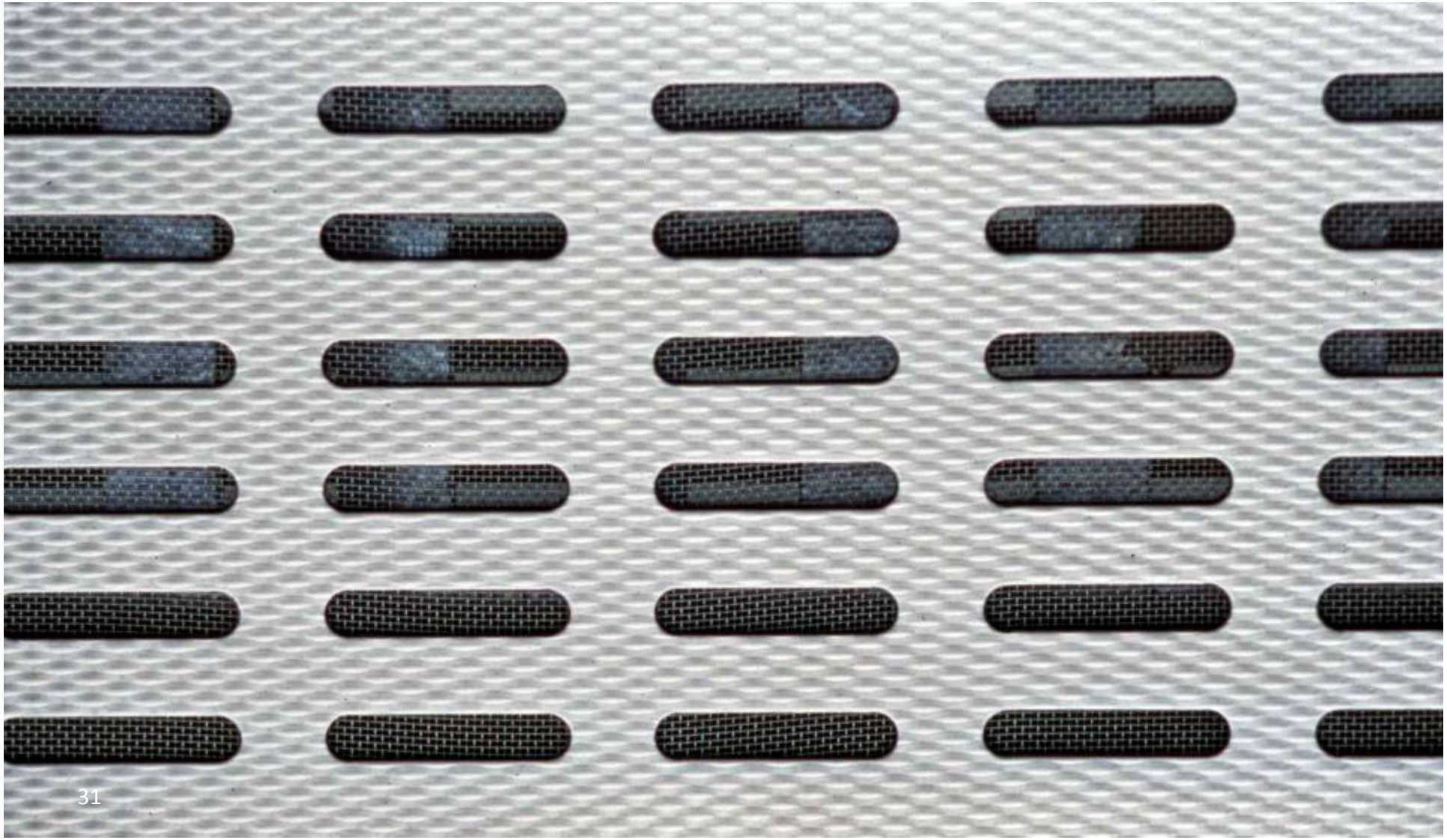

30/06/2010

3. Fabrication

3.1 Curved and Flanged Panel:

3. Fabrication

3.2 Perforation/Punched:



3. Fabrication

3.3 Laser and Water-Jet Cutting:

3. Fabrication

3.4 Bending:

3. Fabrication

3.5 Welding:

3. Fabrication

3.6 Bending and Folding:

4. Granex™ Finish

4.1 Introduction:

- Granex™ is Rimex's name for its bead blast finish.
- A sophisticated matt finish with a lustre effect.
- Material selection is crucial to obtaining a quality finish.
- Different coarseness of finishes available.
- Use 2B or BA substrates of stainless steel for dull / bright tones.
- Gloss meter/RA readings to control the finish.
- **Note:** 2.0mm and over results in a poorer surface quality with 2B material.
- Bead blasting by hand-held gun spray causes overlap of finish that is unsightly. Rimex's processes avoid this.
- Flatness is not always obtainable by hand-held spray process. Rimex's processes avoid this.

4. Granex™ Finish

4.2 Anti-glare:

Specification Note:

A Bead blasted finish reduces the glare, to reduce reflectivity.

Standard polished Stainless Steel

Granex™ Stainless Steel

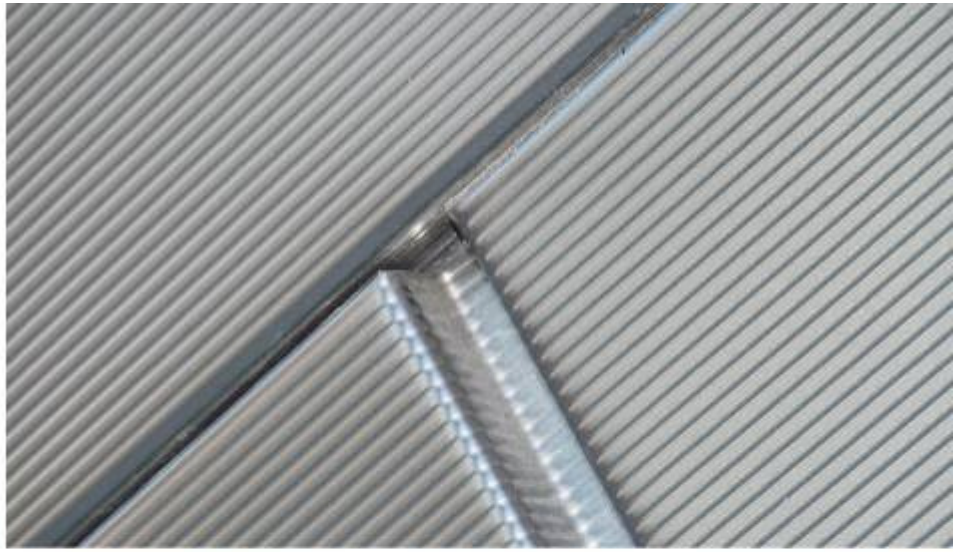
4. Granex™ Finish

4.3 Ideal for cladding systems:

Crystal's City Center Mall, Las Vegas, USA [2010] – Architect: Studio Daniel Libeskind

4. Granex™ Finish

4.3 Ideal for cladding systems:



Crystal's City Center Mall, Las Vegas, USA [201] – Architect: Studio Daniel Libeskind

4. Granex™ Finish

4.3 Ideal for cladding systems:

Shepherd's Bush Overground & Underground Stations, London [2008]

4. Granex™ Finish

4.3 Ideal for cladding systems:

Shepherd's Bush Overground & Underground Stations, London [2008]

4. Granex™ Finish

4.3 Ideal for cladding systems:

Shepherd's Bush Overground & Underground Stations, London [2008]

4. Granex™ Finish

4.4 Ideal for furnishing:

Nelson Atkins Museum of Art, Kansas City, MO, USA [2007]

4. Granex™ Finish

4.4 Ideal for furnishing:

Nelson Atkins Museum of Art, Kansas City, MO, USA [2007]

4. Granex™ Finish

4.4 Ideal for furnishing:

Nelson Atkins Museum of Art, Kansas City, MO, USA [2007]

4. Granex™ Finish

4.5 Parameters:

Width: 1,000m, 1,250mm and 1,500mm as STANDARD.

Length: 2,000mm, 2,500mm and 3,000mm as STANDARD.

Specific lengths available on request.

Gauges: 0.5mm MIN to any thickness.

The quality of the raw material finish will deteriorate above 2.0mm on 2B material.

Flatness: -/+5-10mm as STANDARD.

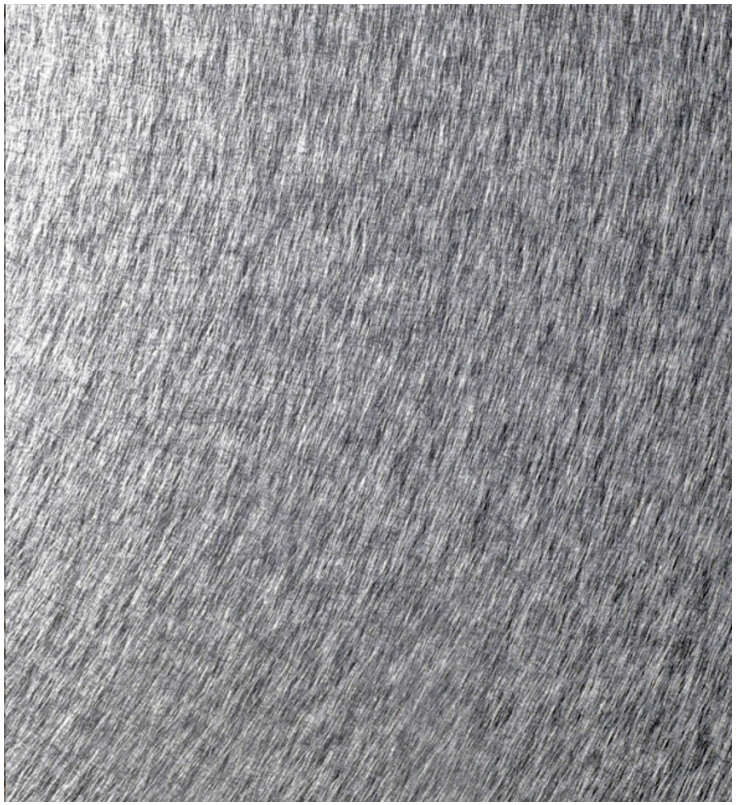
Flatness tolerances will extend for +3,000mm lengths.

Can be supplied coil or in sheets.

6. Vortex™ Finish

6.1 Introduction:

- Vortex™ finish is Rimex's name for its vibration or orbital polish finish.
- An alternative to satin or brush polish – but more interesting.
- A sophisticated polish with no linear direction provides a mother of pearl appearance to stainless steel.
- Material selection is crucial to obtaining a quality finish.
- Different coarseness of finishes available.
- Use 2B or BA stainless steel for different tone.
- Gloss meter readings to control brightness.



6.Vortex™ Finish

6.2 Ideal for cladding systems:

Disney Concert Hall, Los Angeles, USA [2003]

6. Vortex™ Finish

6.2 Ideal for cladding systems:

Disney Concert Hall, Los Angeles, USA [2003]

6. VorTex™ Finish

6.3 Durability:

Specification Note:

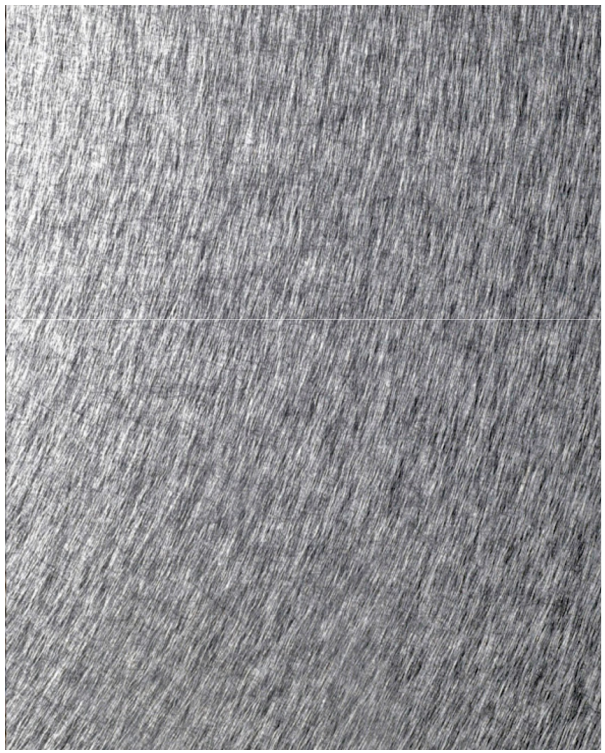
The use of heavy gauge stainless steel (e.g. +2.0mm) instead of a patterned stainless steel will not hide impact damage.

If a polish needs to be used consider VorTex™ as a mulit-directional polish to hide marks and scratches.

Available in heavy gauges.

Heavy Gauge Stainless Steel

Heavy Gauge Stainless Steel



7. ColourTex® Finishes

7.1 Introduction:

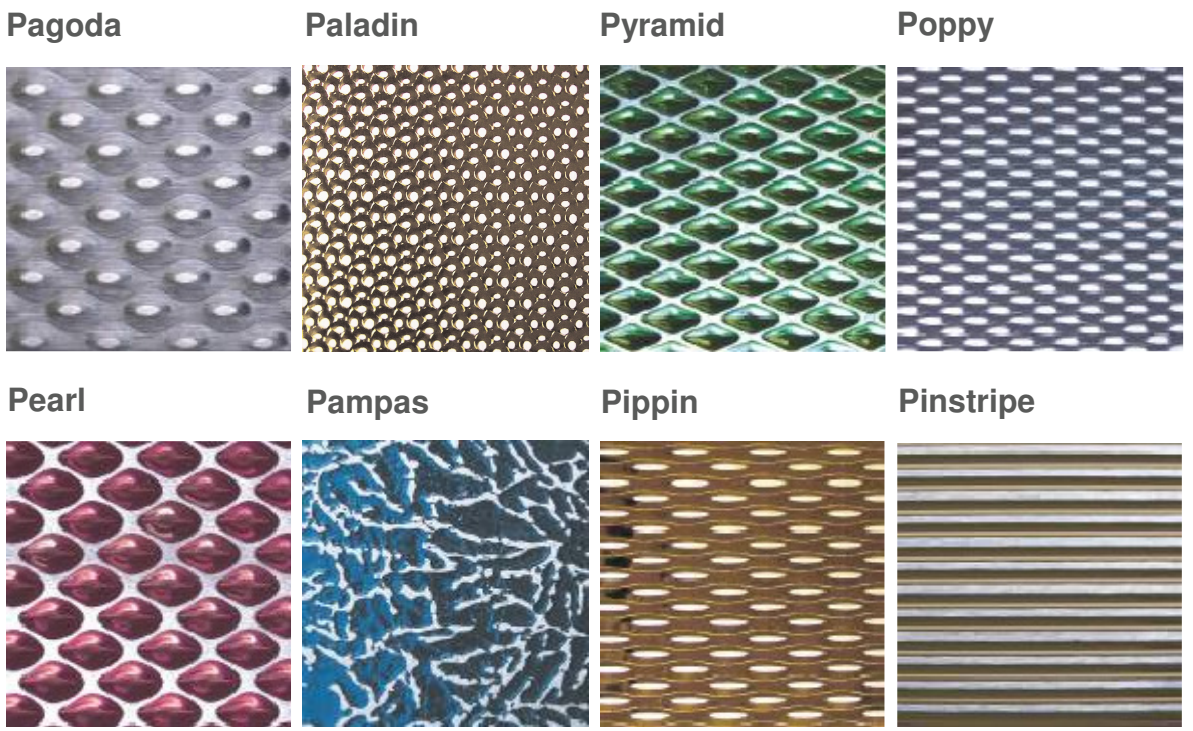
- ColourTex® is Rimex's name for its coloured range of finishes (also known as the INCO process).
- Manufacturing involves immersing sheet stainless steel in chemical tanks to thicken the chromium oxide passive film present on stainless steel. This changes the colour of the material.
- The colours produced are **black**, **blue**, **bronze**, **charcoal**, **gold**, **green** and **red**.
- Raw material selection is crucial.
- There are also 3 intermediate colours of **Champagne, Purple** and **Rosy Gold**
- A colour parameter of dark to light is needed for larger scale project to work.
- The choice of finishes include: **Mirror finish**, **Satin polish finish**, **Granex™ finish,** the **Pattern products, Vortex™ finish**.

7. ColourTex® Finish

7.1 Introduction:

There is a range of 20 Patterned finishes available in 9 colours. You can use either side of the pattern and have combination finishes.

See our brochure or website (www.rimexmetals.com) for details of all patterns and product parameters.



Rimex manufactures over 400 different colour, pattern and finish combinations.

7. ColourTex® Finishes

7.2 Ideal for signage:

7. ColourTex® Finishes

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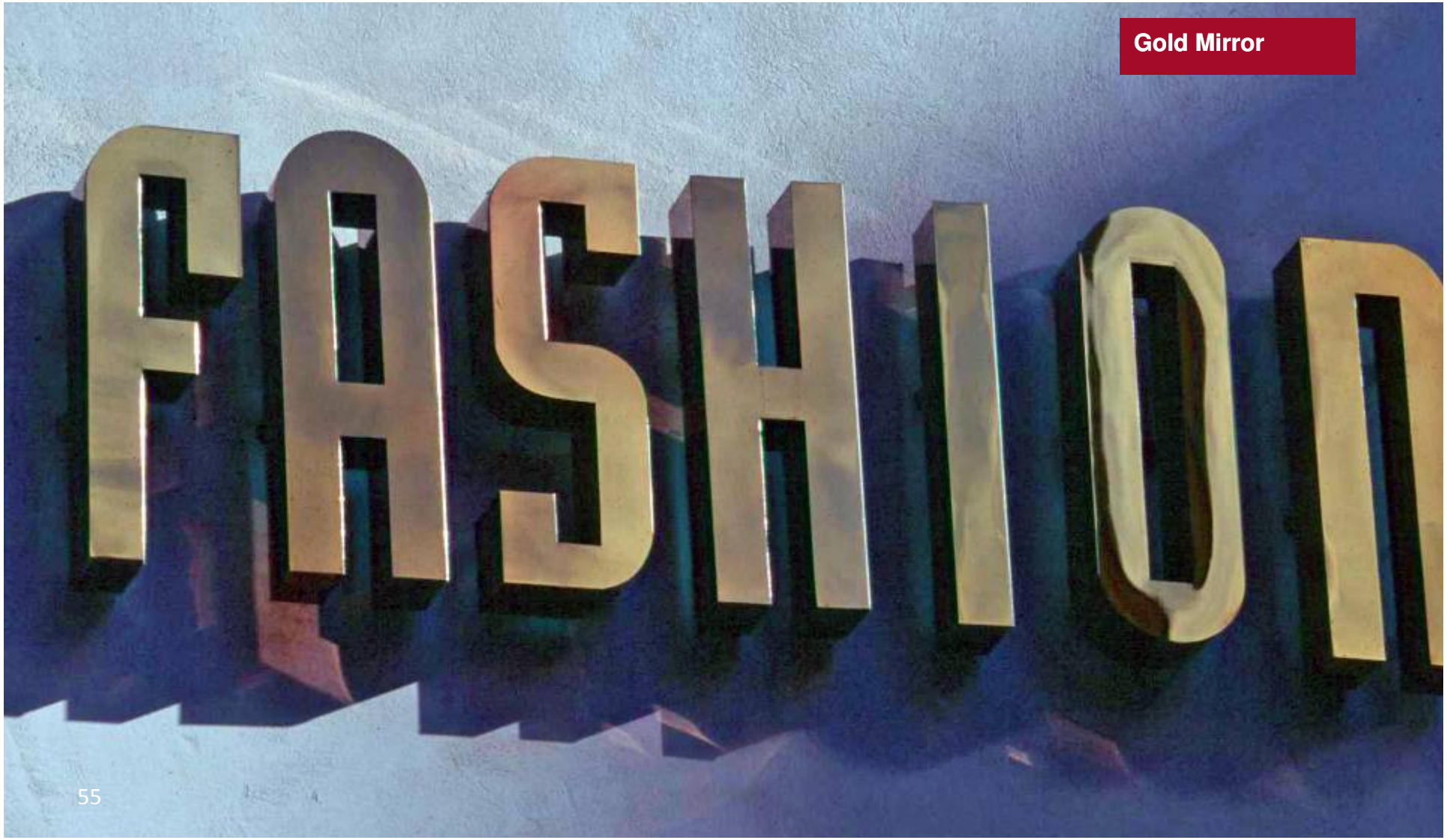


7. ColourTex® Finishes

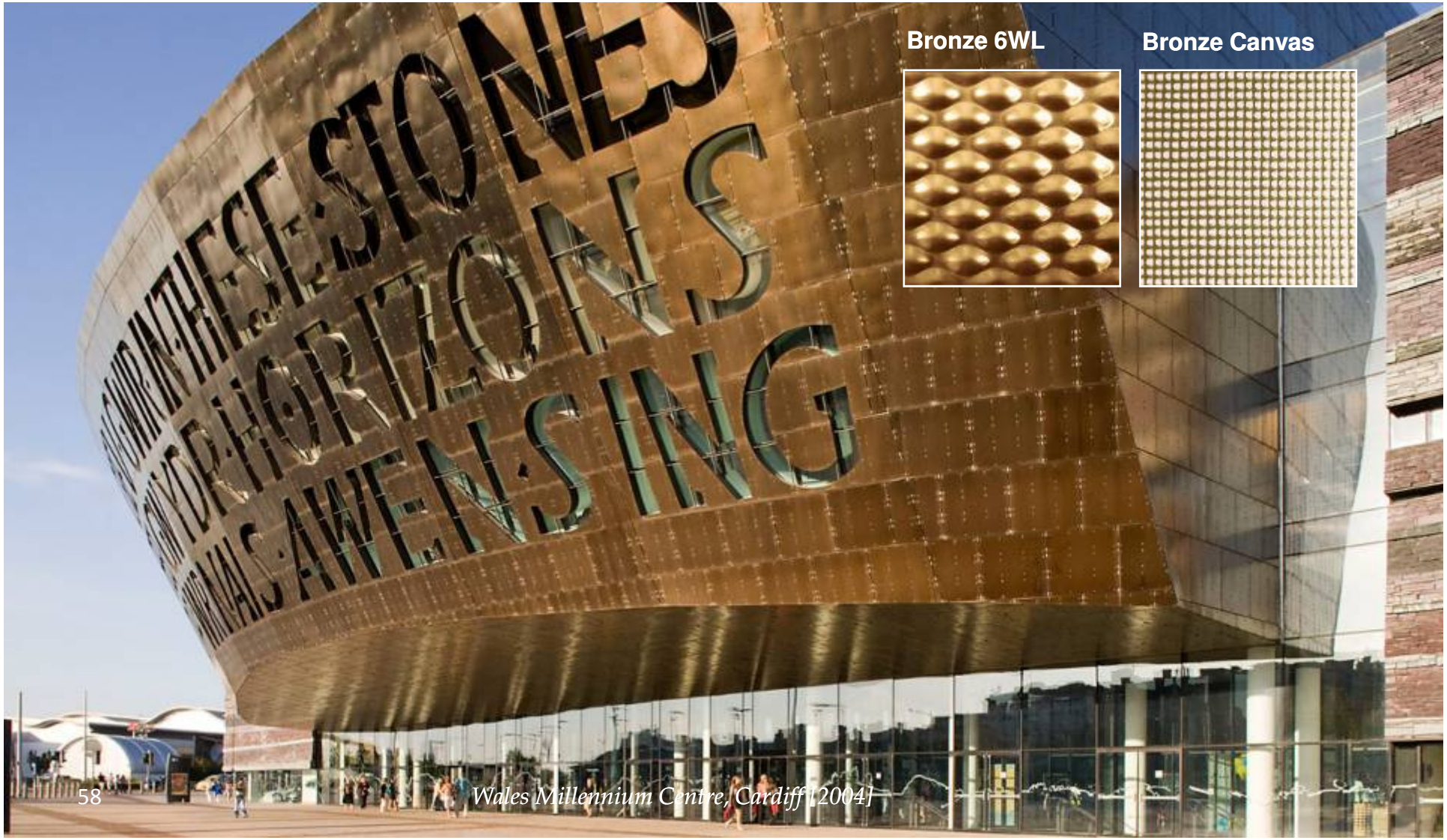
7.2 Ideal for signage:

7. ColourTex® Finishes

7.2 Ideal for signage:

7. ColourTex® Finishes

7.3 Ideal for cladding systems:



Wales Millennium Centre, Cardiff [2004]

7. ColourTex® Finishes

7.3 Ideal for cladding systems:

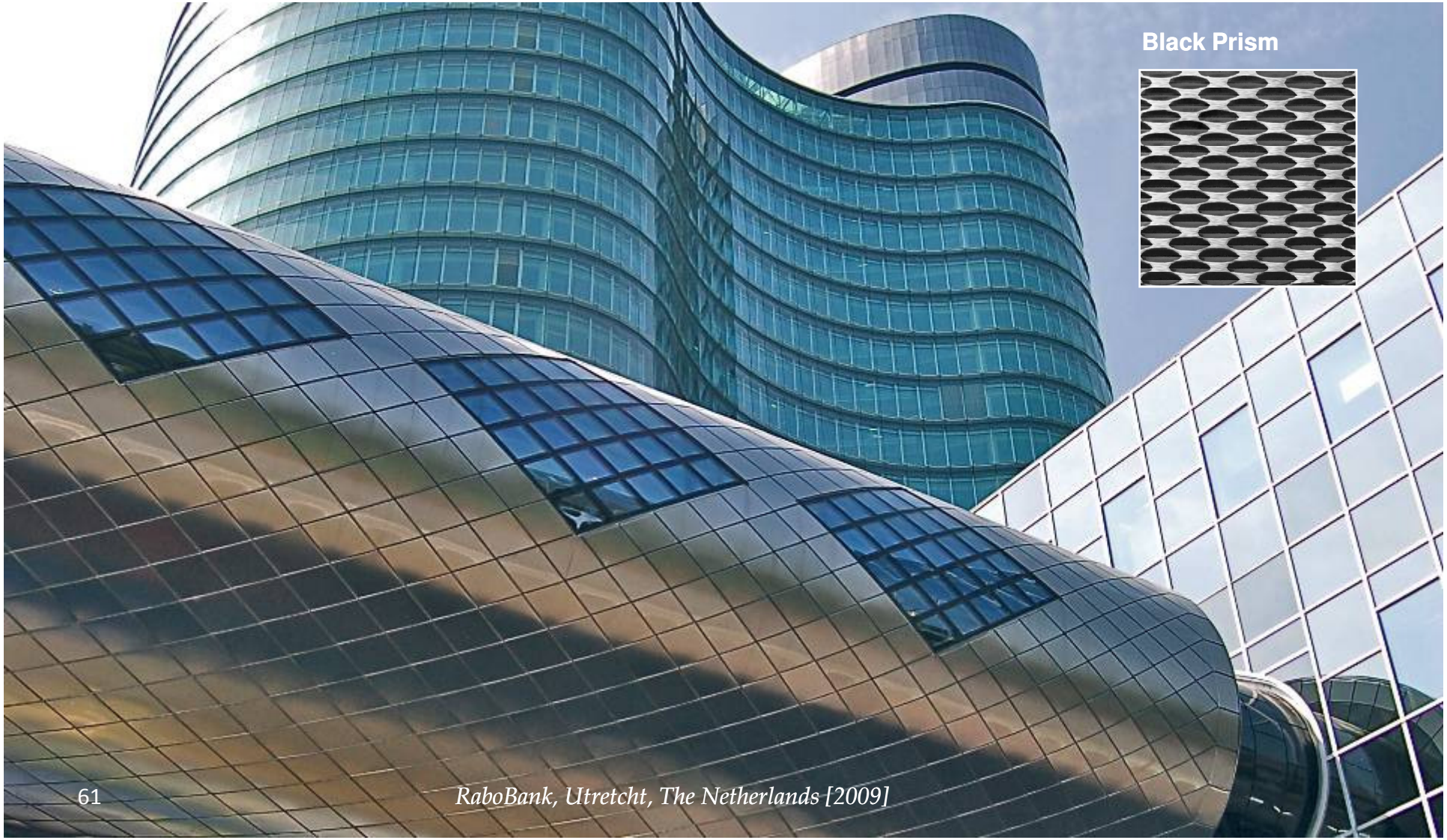
7. ColourTex® Finishes

7.3 Ideal for cladding systems:

RaboBank, Utretcht, The Netherlands [2009]

7. ColourTex® Finishes

7.3 Ideal for cladding systems:



RaboBank, Utretcht, The Netherlands [2009]

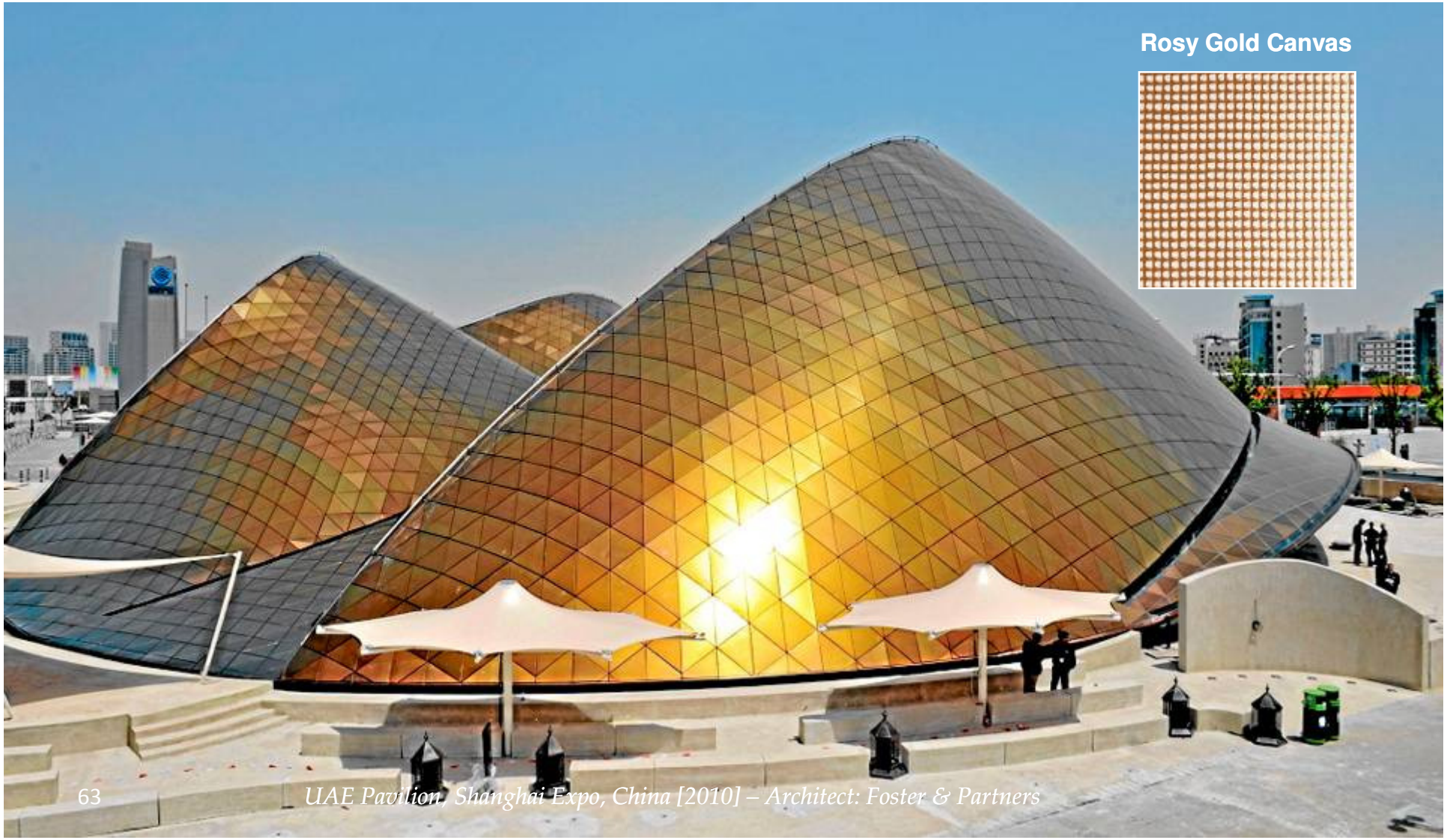
7. ColourTex® Finishes

7.3 Ideal for cladding systems:

Brand Loyalty, The Netherlands [2008]

7. ColourTex® Finishes

7.3 Ideal for cladding systems:



UAE Pavilion, Shanghai Expo, China [2010] – Architect: Foster & Partners

7. ColourTex® Finishes

7.3 Ideal for cladding systems:

Blue Mirror

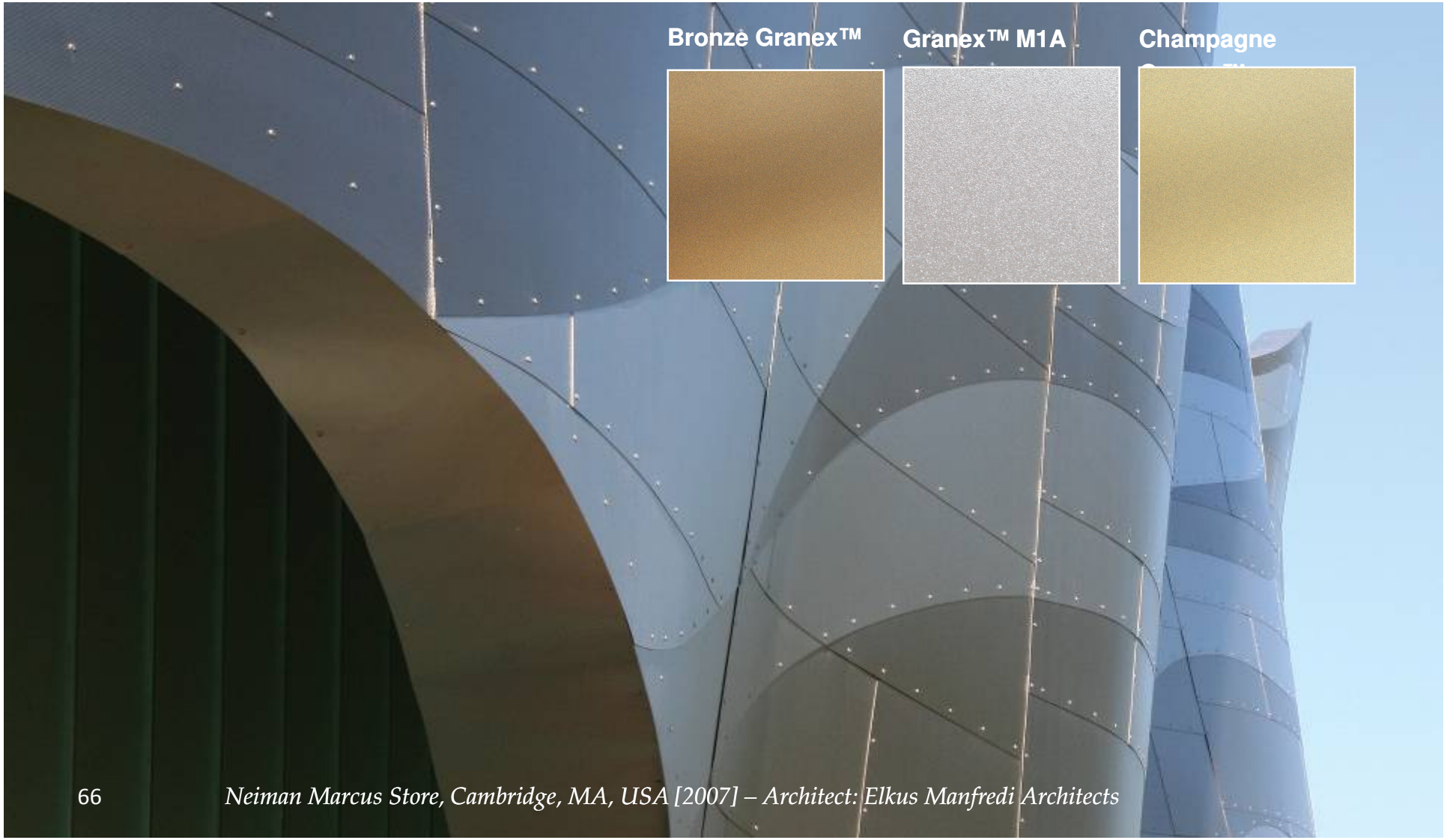
7. ColourTex® Finishes

7.3 Ideal for cladding systems:

Neiman Marcus Store, Cambridge, MA, USA [2007] – Architect: Elkus Manfredi Architects

7. ColourTex® Finishes

7.3 Ideal for cladding systems:



Neiman Marcus Store, Cambridge, MA, USA [2007] – Architect: Elkus Manfredi Architects

7. ColourTex® Finishes

7.3 Ideal for cladding systems:

Finsbury Park Station, London [2006]

7. ColourTex® Finishes

7.3 Ideal for cladding systems:

University of Buckingham, High Wycombe, UK [2009]

7. ColourTex® Finishes

7.3 Ideal for cladding systems:

University of Buckingham, High Wycombe, UK [2009]

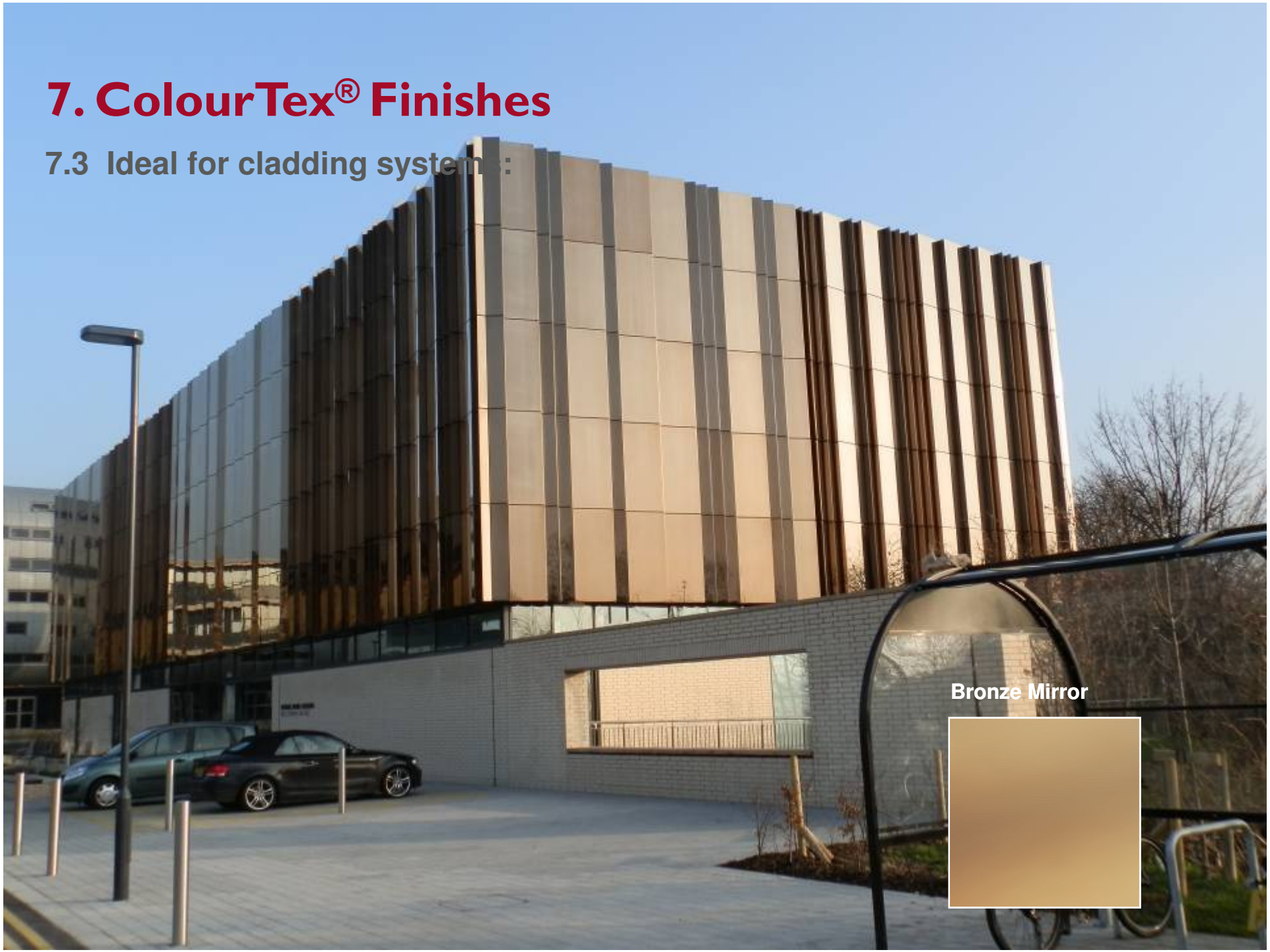
7. ColourTex® Finishes

7.3 Ideal for cladding systems:

Residential Property in USA [2010] – Architect: Studio Daniel Libeskind

7. ColourTex® Finishes

7.3 Ideal for cladding systems:



7. ColourTex® Finishes

7.3 Ideal for cladding systems:

Bronze Mirror

7. ColourTex® Finishes

7.3 Ideal for cladding systems:


MANCHESTER
Dalton Cumbrian
Facility

7. ColourTex® Finishes

7.3 Ideal for cladding systems:

Team Disney Building, Anaheim, CA, USA [2008] – Architect: Frank O. Gehry

7. ColourTex® Finishes

7.3 Ideal for cladding systems:

University of Texas, Dallas, USA [2006]

7. ColourTex® Finishes

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University of Texas, Dallas, USA [2006]

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7.3 Ideal for cladding systems:

7 ColourTex® Finishes

7.4 Public art

7 ColourTex® Finishes

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7.4 Public art

7. ColourTex® Finishes

7.4 Parameters:

Width: 1,000m and 1,250mm as STANDARD.

Length: 2,000mm, 2,500mm and 3,000mm as STANDARD.

Certain products available to 4,000mm.

Specific lengths available on request.

Gauges: 0.5mm MIN to 2.0mm MAX.

The quality of raw material is crucial to the production of coloured stainless steel.

Flatness: -/+5-10mm as STANDARD.

Flatness tolerances will extend for +3,000mm lengths.

Sheet supply only.

8. Other Rimex Finishes

8.1 Introduction:

Other finishes we can provide:

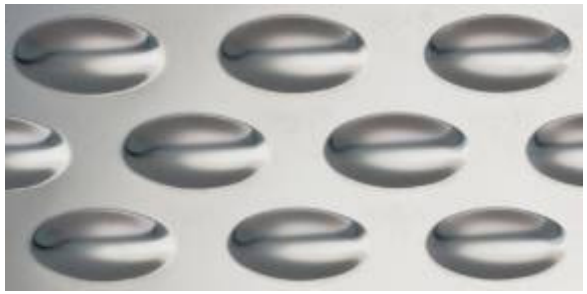
- **Super Mirror**
- **Imprimo™ custom-made patterned finishes**
- **MetalArt™ etched finishes**
- **Custom-made Combination finishes**

See our or website (www.rimexmetals.com) for further finishes and details.

Utilitise Rimex's Expertise!

Super Mirror

Imprimo™



MetalArt™

Custom-made Combination Finishes

8. Other Rimex Finishes

8.2 Super Mirror:

8. Other Rimex Finishes

8.3 Imprimo™:

8. Other Rimex Finishes

8.3 Imprimo™:

9. Green Credentials

9.1 Recycling Properties of Stainless Steel:

- Stainless steel is 100% recyclable, hence its high scrap value.
- It can be continuously recycled without degradation of its properties, quality or performance.
- By using recycled stainless steel in the production of new stainless steel material, less ores are sourced to be used in the manufacturing process so reducing the carbon footprint of the product.
  - **International Stainless Steel Forum**
- The recovery rate of stainless steel products from UK demolition sites is currently 94%; with 84% going into recycling and 10% being directly recycled.
  - **Stainless Steel & Sustainable Construction (BSSA 2004)**
- Stainless steel has a very high recycled content. Globally it was concluded following a case study led by the **International Stainless Steel Forum (ISSF)**, that the recycled content of stainless steel is 60%. In Europe **ISSF** calculated that the input of recycled stainless steel is 74%.

This makes stainless steel one of the most green materials available to the construction industry.

9. Green Credentials

9.2 Sustainability of Stainless Steel:

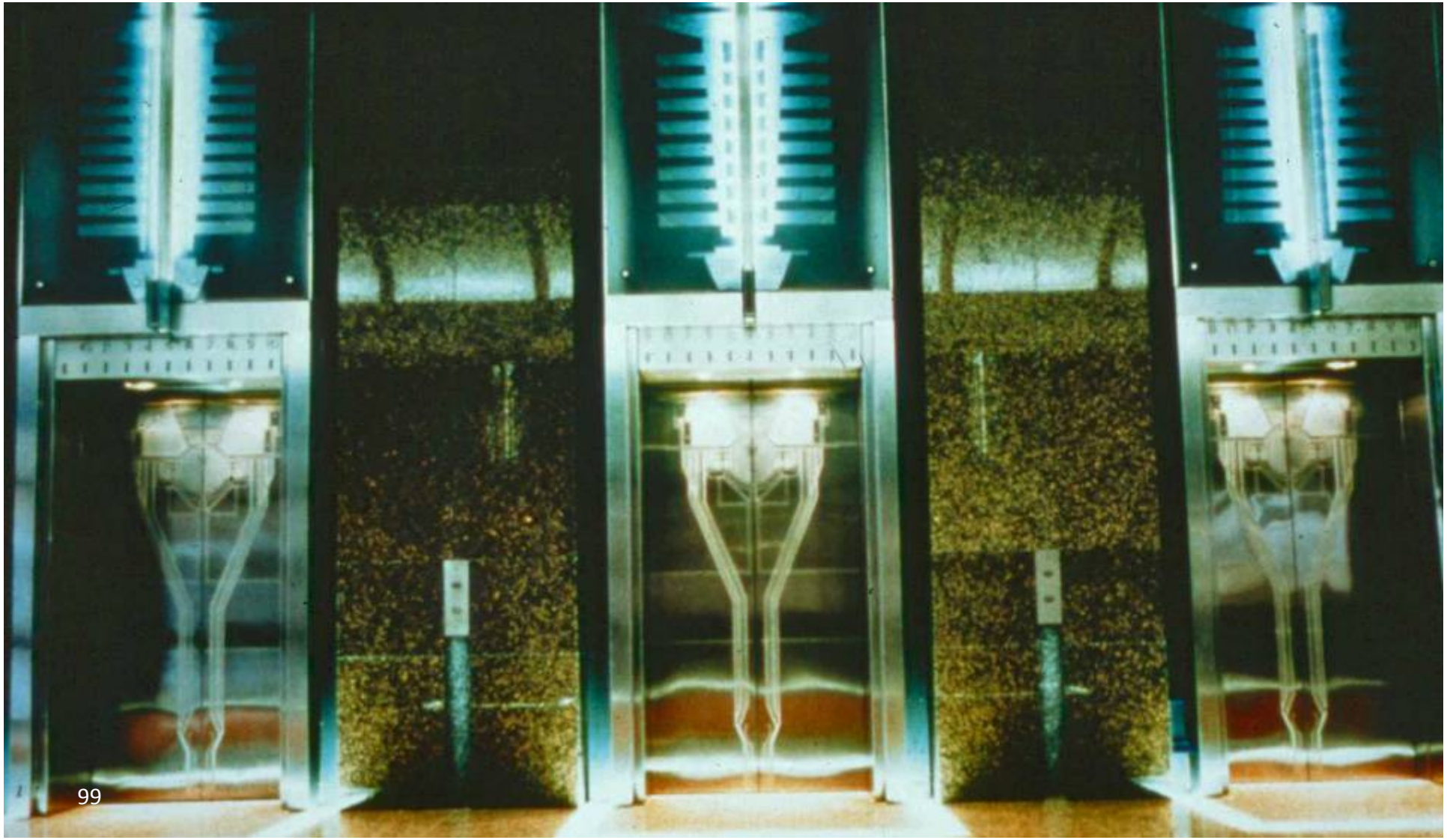
Stainless steel has excellent life-cycle benefits:

- High corrosion resistance to provide long-life values.
- Add the benefits of Rimex's finishes and stainless steel has aesthetics combined with reduced replacement and maintenance requirements because impact damage is hidden; resulting in the increased longevity of building components or structures.
- *For example; stainless steel buildings are now being designed to last 100 years. When the building is eventually demolished, the stainless steel will be recovered, recycled and reused.*
- Environmental credits can be claimed because there are zero emissions from stainless steel.
- Stainless steel finishes manufactured by Rimex can be designed to reflect heat, to reduce building temperatures as well as the overall heat island effect of a building.

Stainless steel yields long life and value qualities.

8. Other Rimex Finishes

8.3 MetalArt™ + Custom-made Combination Finishes:



The following are optional slides and templates for use for specific points that might be needed do not need to go in the standard presentation.

7. ColourTex® Finishes

7.5 Fabrication:

Specification Note:

Coloured stainless steel finishes require careful fabrication technique but are be readily fabricated by able contractors with appropriate equipment.

7. ColourTex® Finishes

7.5 Fabrication:

Specification Note:

Coloured stainless steel can be perforated.

But needs to be appropriately specified.

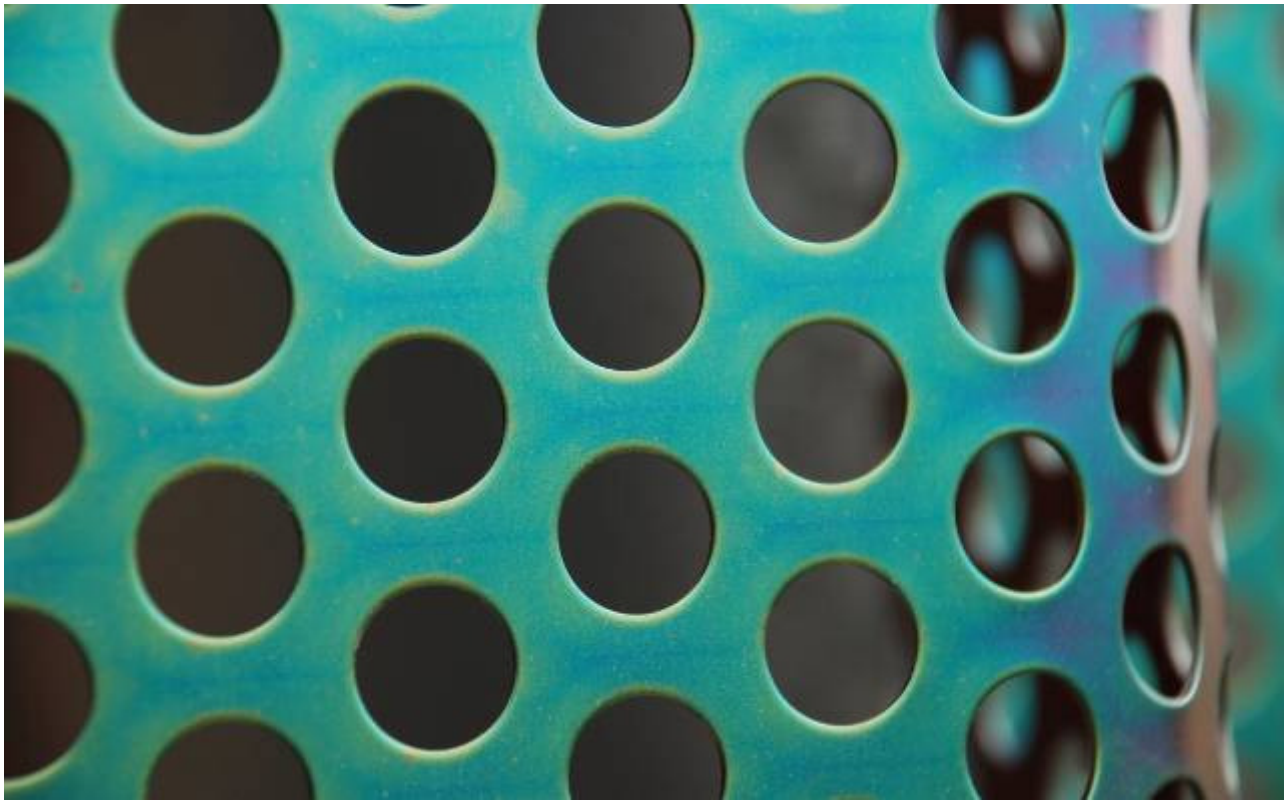
7. ColourTex® Finishes

7. Perforation:

Specification Note:

Coloured stainless steel can be perforated.

But needs to be appropriately specified.



2. Patterned Finishes

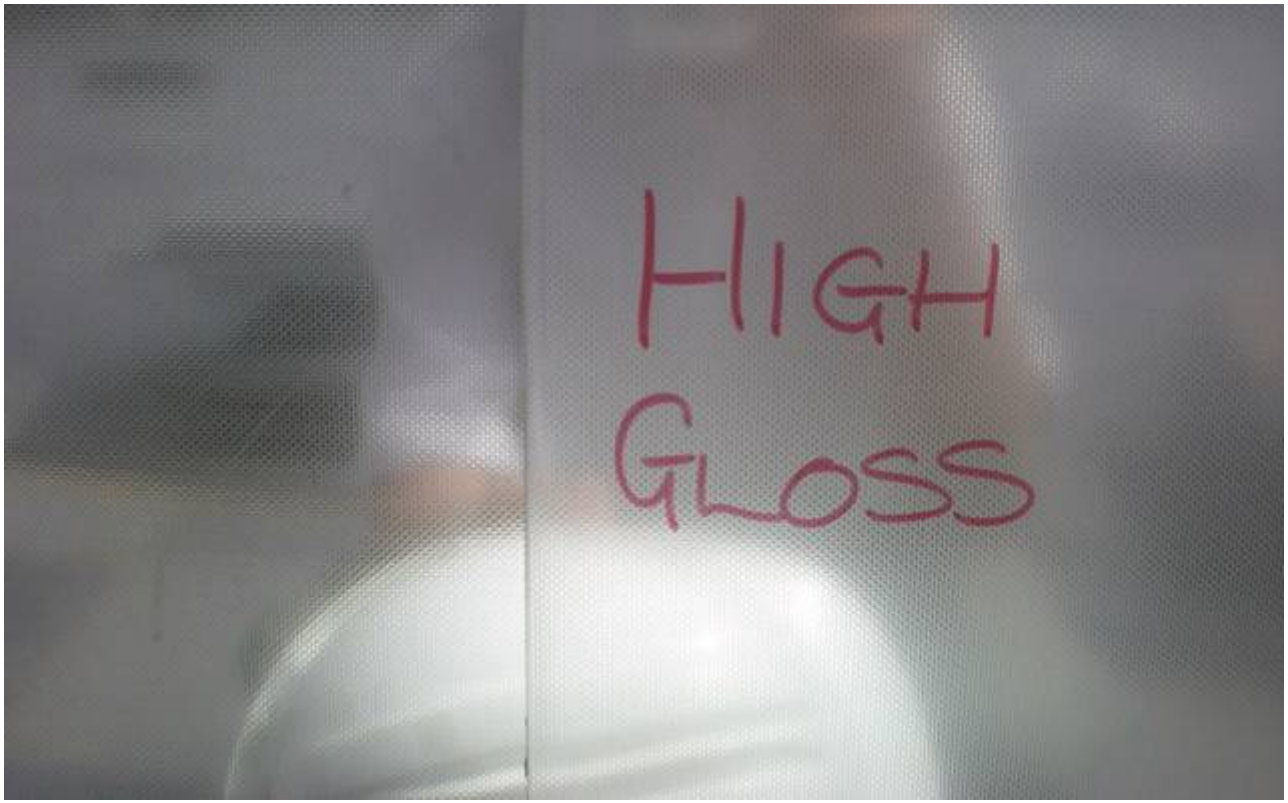
2.5 Ideal for cladding:

Specification Note:

For cladding contracts the addition of a Granex™ / bead blast finish to the Patterned product selected will dull down the material's brightness.

This will provide tonal control of the material as well.

This can be important for cladding contracts.



2. Patterned Finishes

2.5 Ideal for cladding:

Specification Note:

Standard commercial quality stainless steel can contain ‘rail track’ marks from the mill manufacturing process.

These ‘rail track’ marks can be visible once formed into panels for external cladding systems.

This can be avoided by securing material from a mill guaranteed not to have such markings.

2. Patterned Finishes

2.5 Ideal for cladding:

Specification Note:

Standard commercial quality stainless steel can contain ‘rail track’ marks from the mill manufacturing process.

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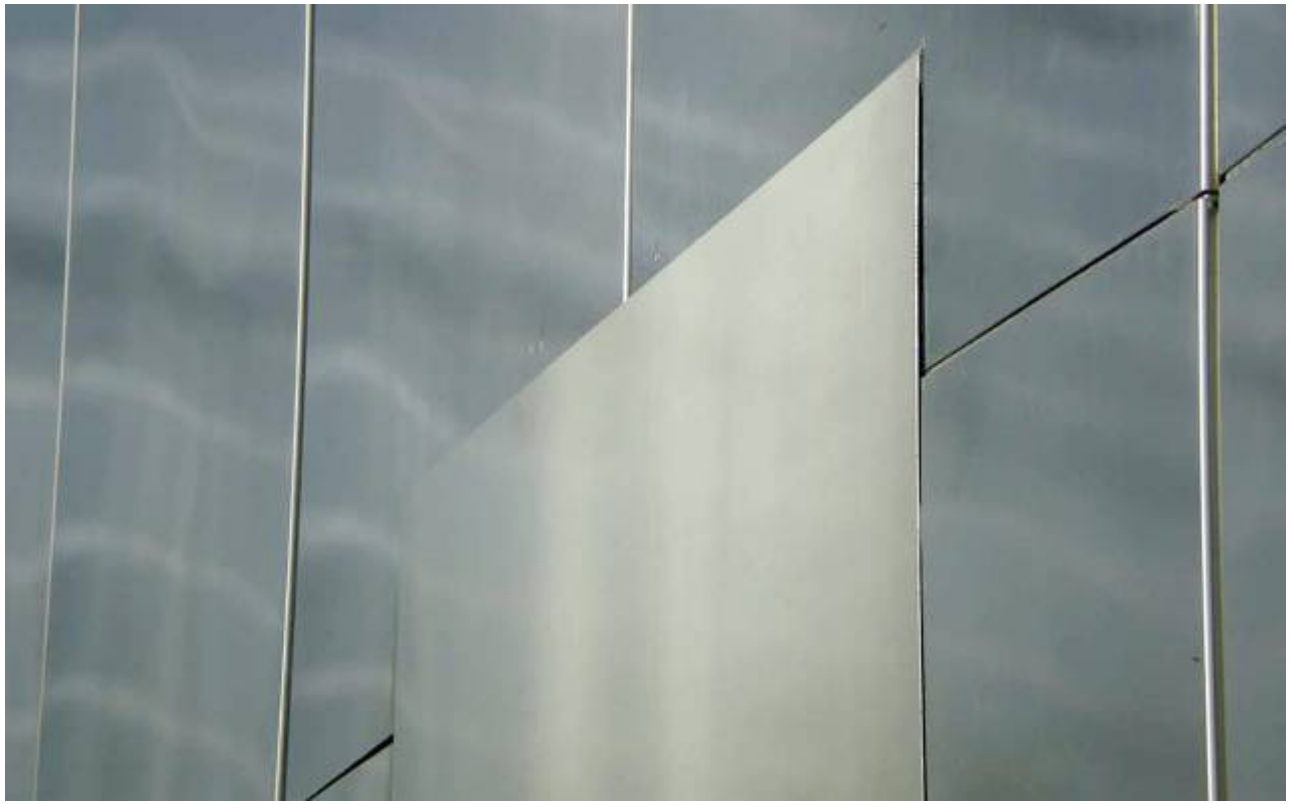
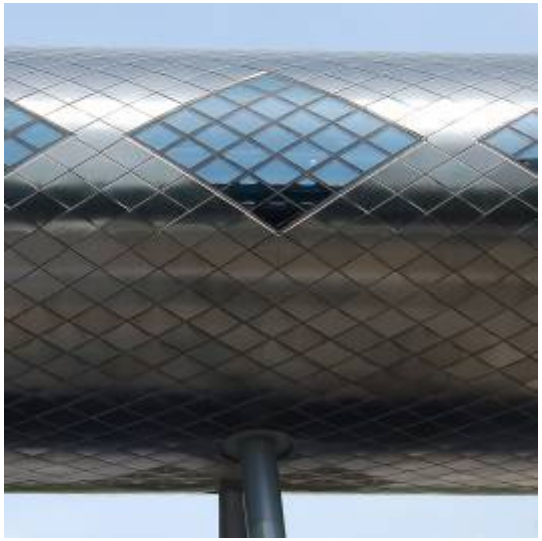


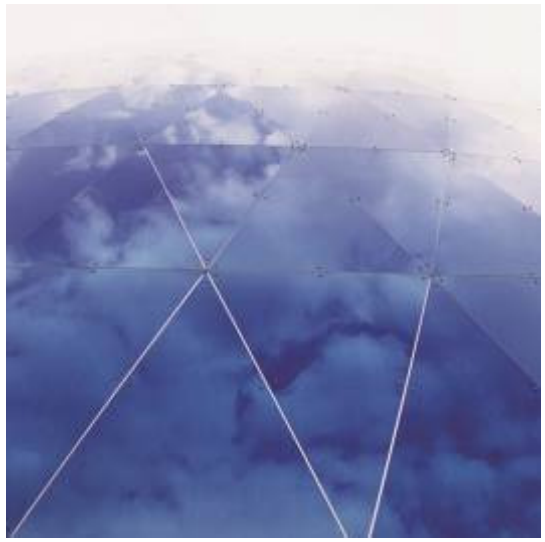





Specialists in Metal Finishes

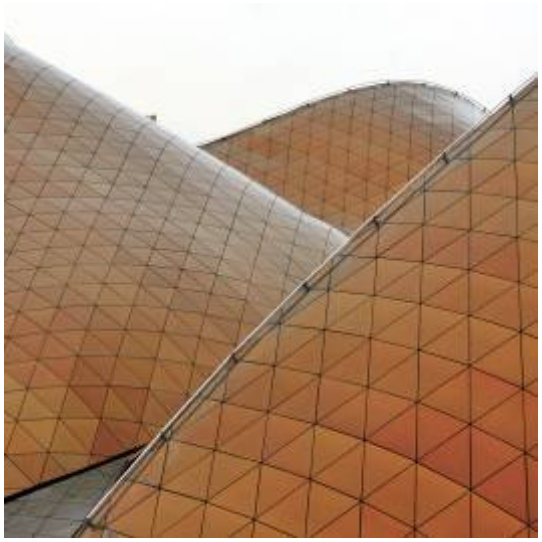
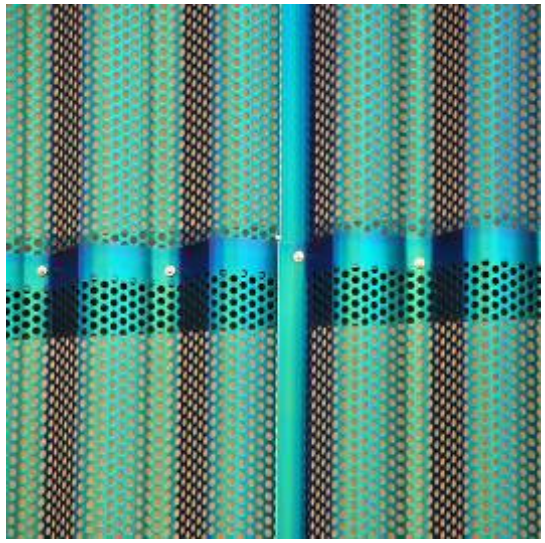


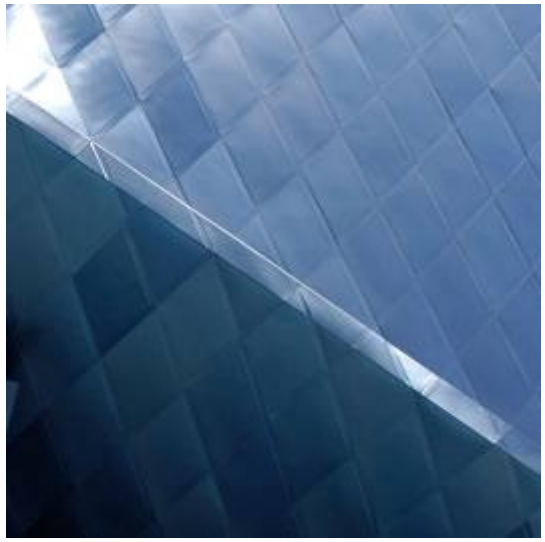
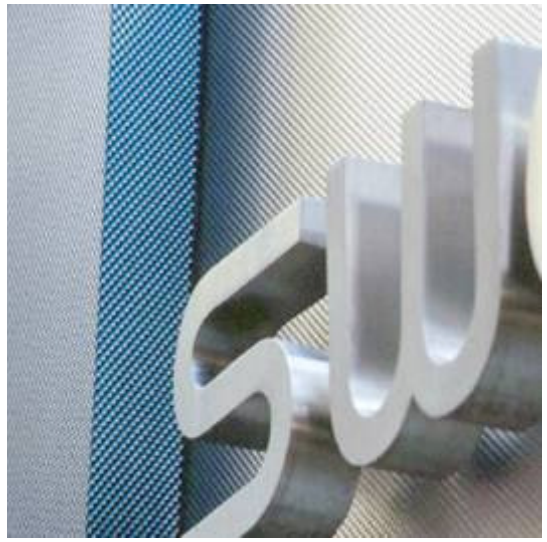





Specialists in Metal Finishes

RIMEX
METALS GROUP

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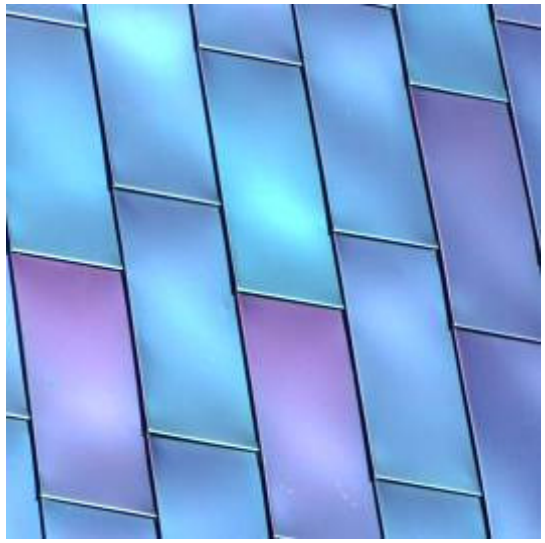

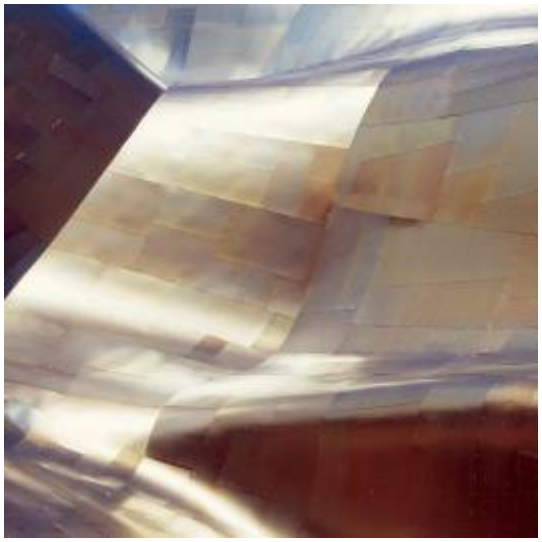

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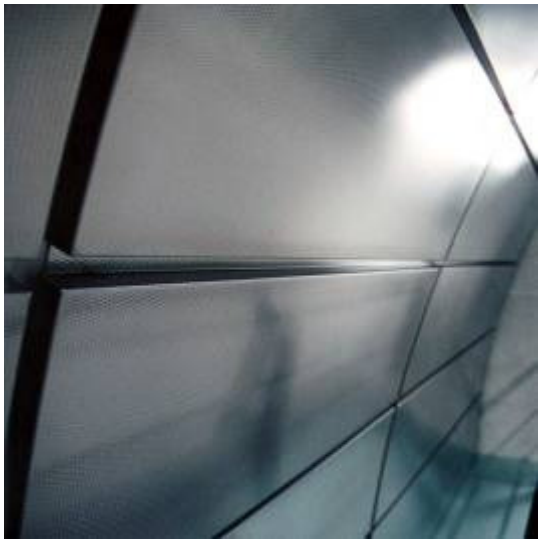

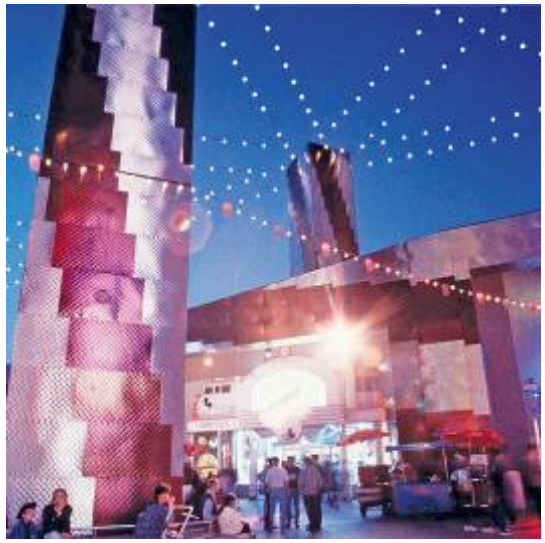

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