



INTRODUCING

# EXPANDED METAL

FROM SORST STRECKMETALL GMBH  
AND THE EXPANDED METAL COMPANY

# EXPANDED METAL

## What is Expanded Metal?

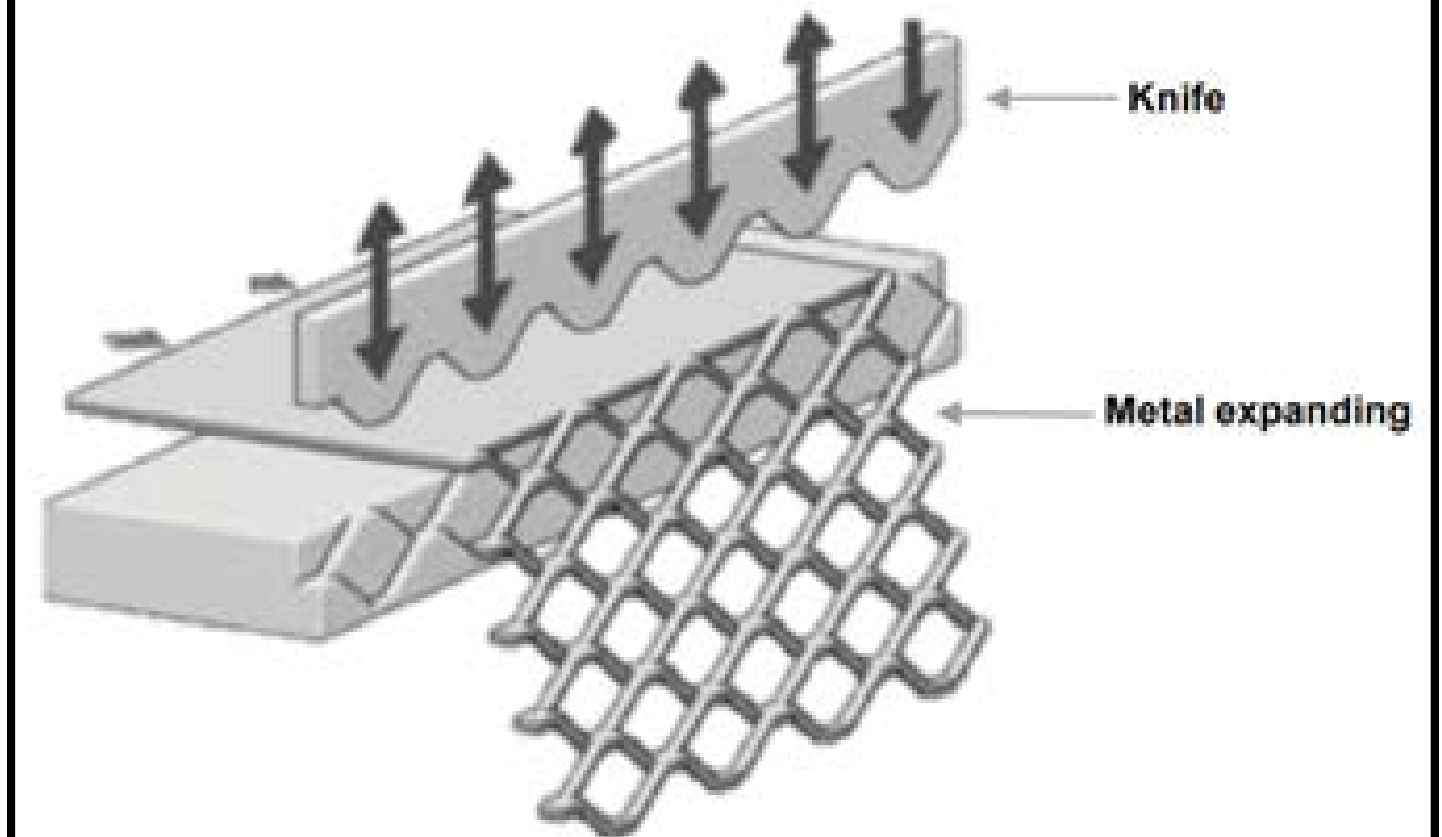
- Durable, versatile material formed from a piece metal.
- Metal is slit and stretched to create a diamond shape.
- Can be produced from any malleable material including steel, aluminium, COR-TEN steel, brass, bronze, and titanium.



## How it's Made

- Sheets or coils of metal are fed into the expanding machine.
- Machines are fitted with a cutting tool (knife), which has a particular pattern.
- Machines are pre-programmed to ensure an exact specification.
- The metal is repetitively slit and stretched, row by row, to create the holes and expand the material.
- Metal can also be flattened through a roller and cut into sheets or wound into coils.

Process diagram



Expanding press



Knife



Product

# EXPANDED METAL BENEFITS

**Highly Efficient:** Electricity magnetic flux through expanded metal mesh, as there is a continuous connection across each sheet of mesh.

**Anti-slip:** Strong grip and natural drainage.

**Aesthetics:** Used to create stunning effects with numerous designs and finish.


**Minimum Waste:** Slitting and stretching is used to create holes, rather than punching them out creating immediate cost savings as less raw-material is wasted.

**Composite Substrates:** Expanded metal mesh can be easily combined with other materials such as plastics for added strength and flexibility.


**High Strength to Weight Ratio:** The uncut knuckles of expanded metal mesh withstand pressure better than welds of joints.

**Formed from One Piece of Material:** Expanded metal mesh is ideal for forming, plus there is nothing to work loose.


# SECURITY APPLICATIONS

A photograph showing several orange modular security cages arranged in a row on a wooden deck. The cages have a diamond-shaped mesh pattern.

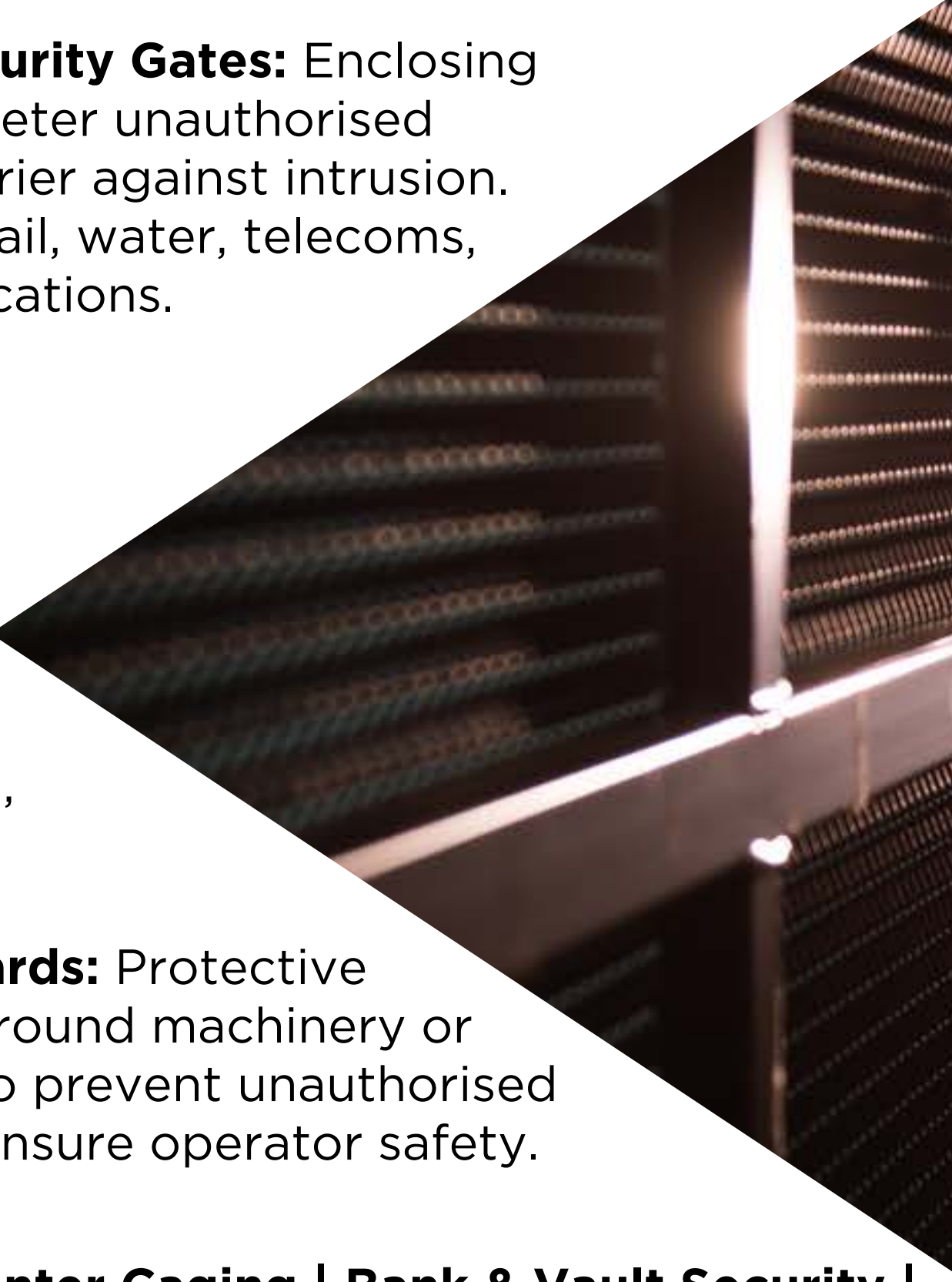
**Modular Security Cages:** Easy to assemble and disassemble protecting high-value items and tools.

A photograph of a person in an orange safety vest standing next to a white metal security gate. The gate is made of a diamond-shaped mesh.

**Perimeter Fencing & Security Gates:** Enclosing property boundaries to deter unauthorised access and provide a barrier against intrusion. Used extensively within rail, water, telecoms, electricity and port applications.

A photograph of a brown security mesh fence installed in a garden. The mesh is supported by wooden posts and is surrounded by green grass and purple flowers.

**Security Mesh:** Securilath™ used extensively within cash handling environments, petrol stations, firearm stores, high-value goods stores, computer rooms, museums, and within partitioning, ceiling joists and roofs.

A close-up photograph of a dark-colored machine guard. The guard is made of a diamond-shaped mesh and is mounted on a metal frame.

**Machine Guards:** Protective enclosures around machinery or equipment to prevent unauthorised access and ensure operator safety.

A photograph of a long, silver metal caging unit, likely used in a data center. The caging has a diamond-shaped mesh pattern.

**Data Center Caging | Bank & Vault Security | Retrofit Security Mesh | Anti Climb**

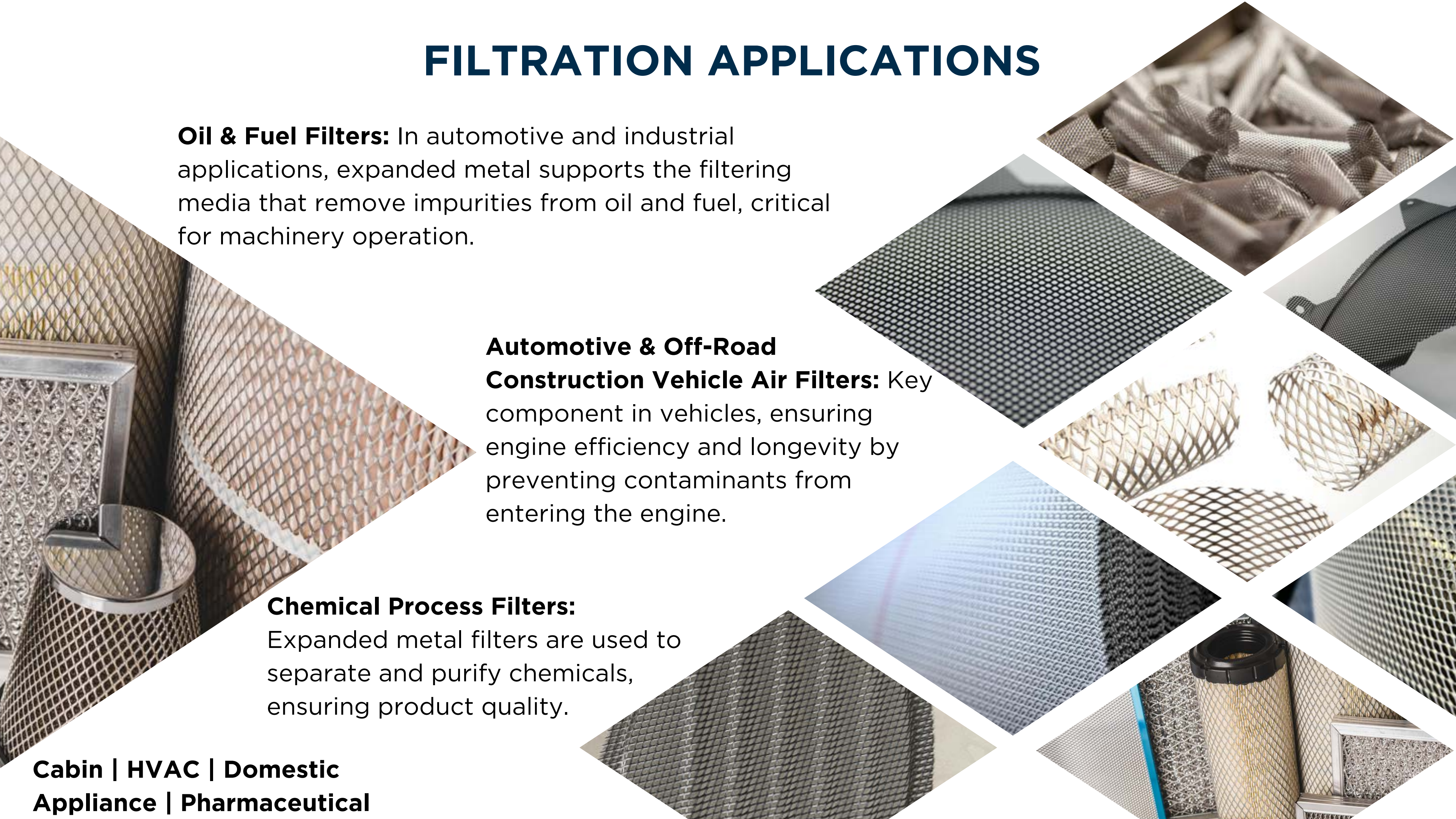
# FILTRATION APPLICATIONS

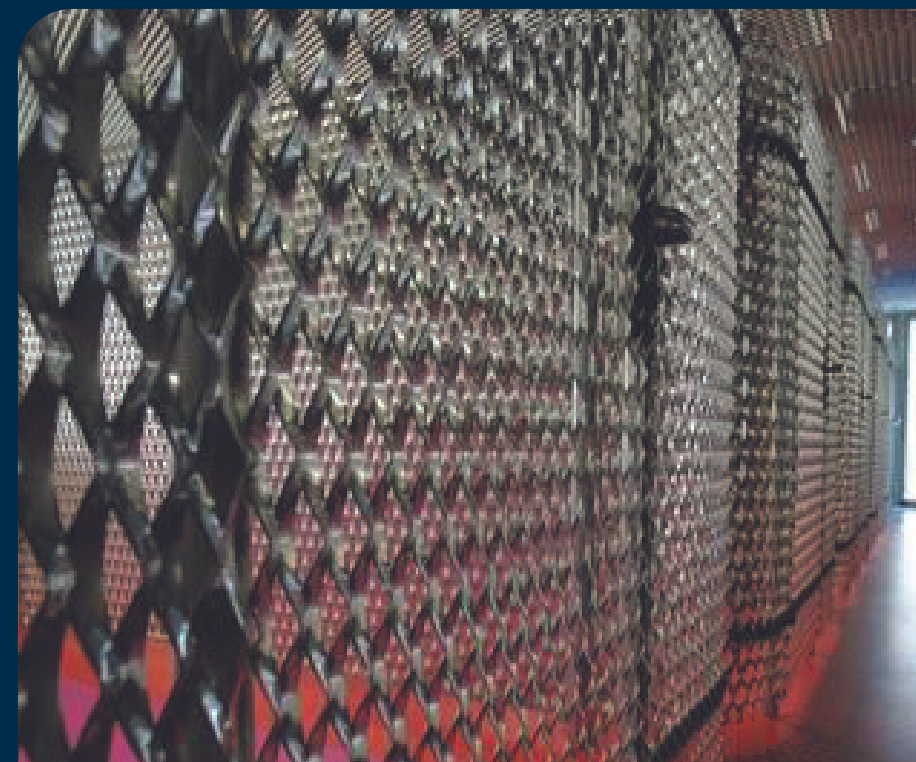
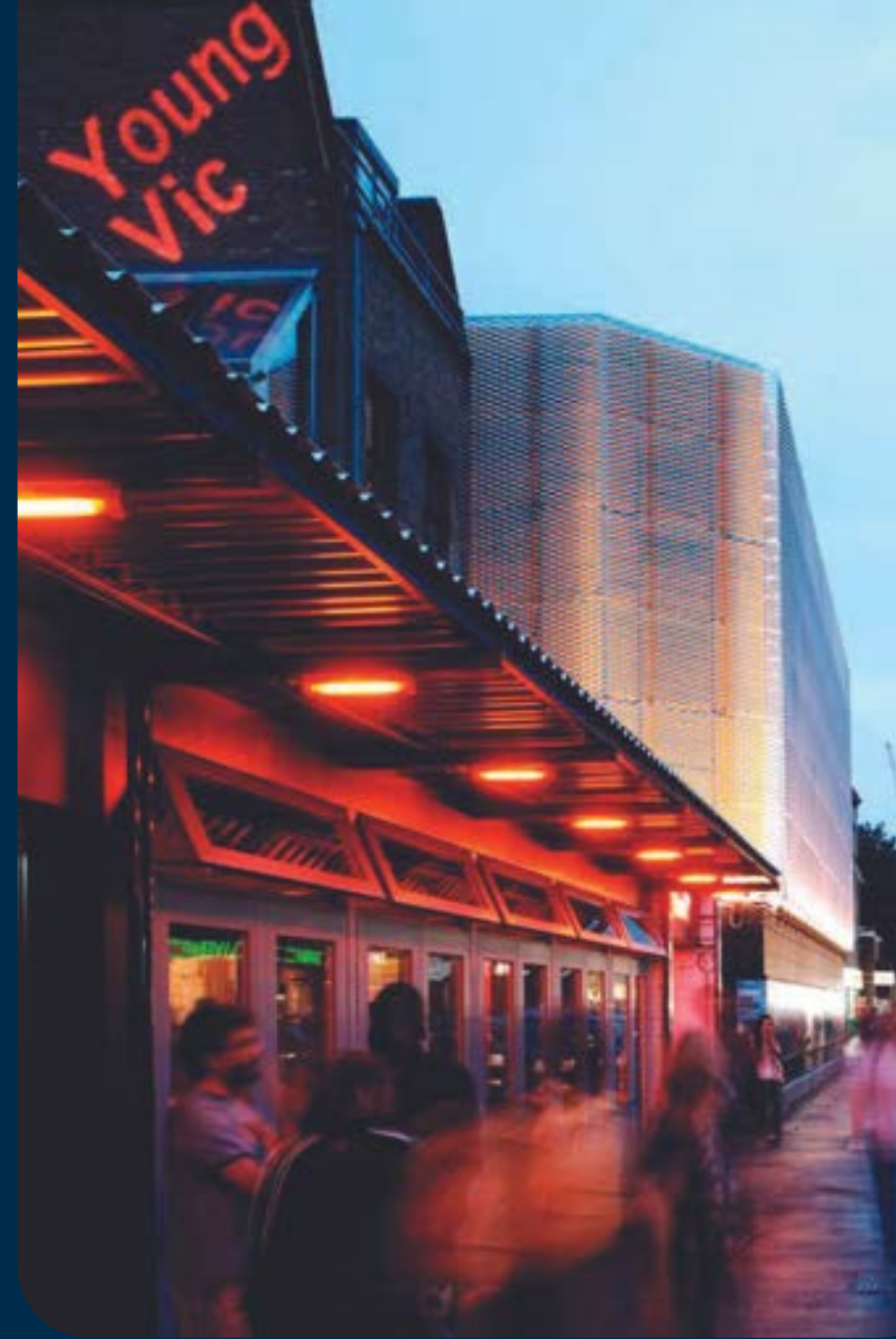
**Oil & Fuel Filters:** In automotive and industrial applications, expanded metal supports the filtering media that remove impurities from oil and fuel, critical for machinery operation.

**Automotive & Off-Road Construction Vehicle Air Filters:** Key component in vehicles, ensuring engine efficiency and longevity by preventing contaminants from entering the engine.

**Chemical Process Filters:** Expanded metal filters are used to separate and purify chemicals, ensuring product quality.

**Cabin | HVAC | Domestic Appliance | Pharmaceutical**





# ARCHITECTURAL APPLICATIONS

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Sunshades and Solar Screens | Balustrade Infill Panels and Juliette Balconies | Decorative Partitions and Screens | Acoustic Panels | Ventilation Grills | Signage & Branding

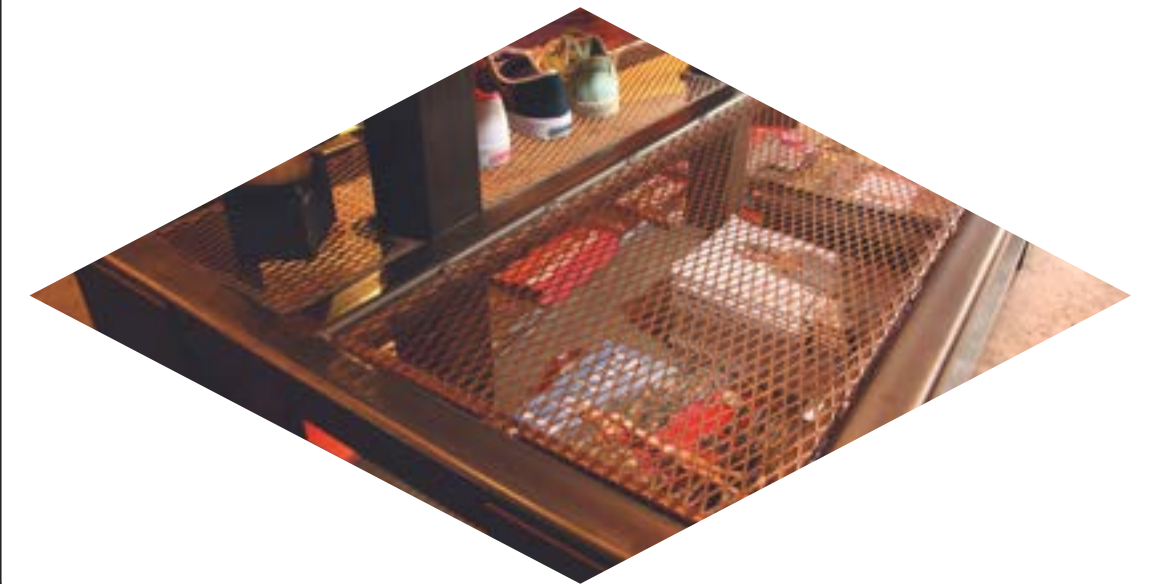
**Building Facades:** Widely used in building facades for its aesthetic appeal and functionality.



**Ceiling Tiles:** Used in ceiling panels for aesthetic design, acoustic control and integrated lighting and services solutions.



**Shopfitting & Retail:** Creates sturdy and attractive shelving units and display racks that can hold a variety of products.



# HYDROGEN APPLICATIONS



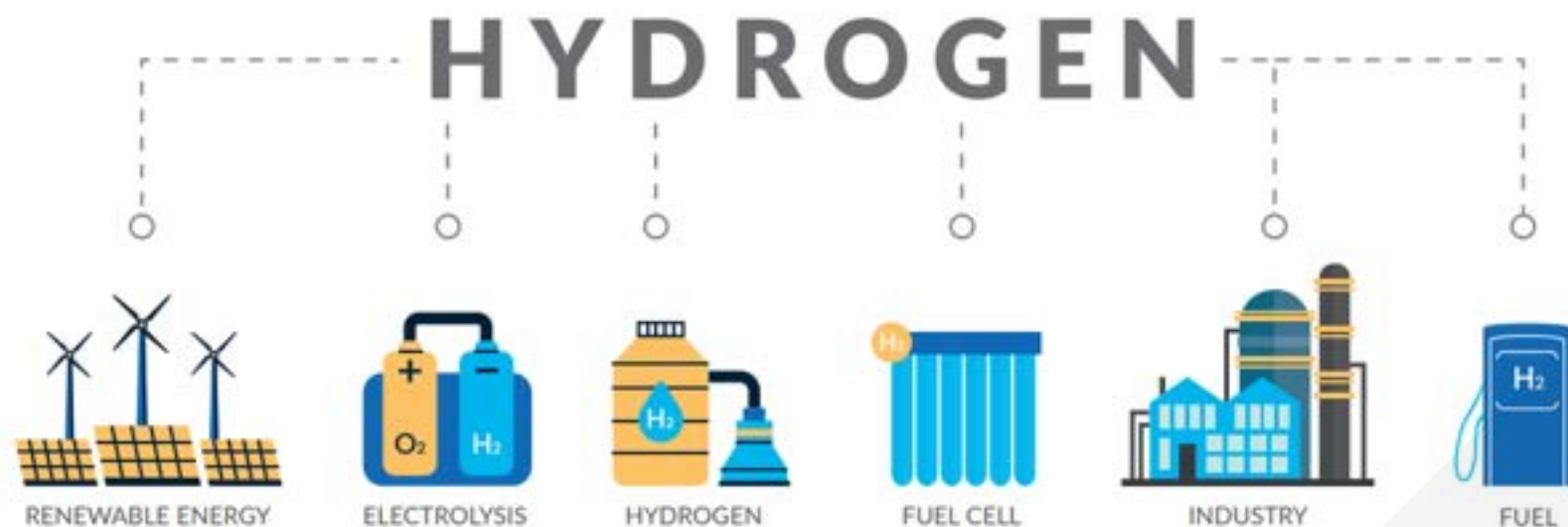
**Electrolysers:** Expanded metal is used as an electrode within electrolysers for efficient water splitting, facilitating the production of hydrogen.

**Fuel Cell Components:** Acts as a conductor and support structure in fuel cells, optimising the flow of hydrogen and oxygen to generate electricity. Components for PEM-cells as well as AEL-cells.

**Hydrogen Storage:** In metal hydride storage systems, expanded metal can enhance the surface area for hydrogen absorption and desorption.

**Gas Diffusion Layers:** In fuel cells, expanded metal serves as gas diffusion layers to distribute hydrogen evenly across the cell.

**Catalyst Support:** Provides a high-surface-area scaffold for catalysts that facilitate hydrogen production reactions.





# LIGHTNING PROTECTION



**Grounding Systems:** Expanded metal is used in grounding systems to dissipate lightning strikes safely into the ground, protecting structures and equipment.

**Faraday Cages:** Enclosures made from expanded metal can shield sensitive electronic equipment from electromagnetic interference caused by lightning.

**Conductive Pathways:** Provides a low-resistance path for lightning currents to travel, minimising the risk of damage to the structure.

**Lightning Rods & Masts:** Expanded metal components can be used in the construction of lightning rods and masts, enhancing their durability and conductivity.

**Surge Protection Devices:** Within surge protectors, expanded metal components can help in dissipating excess electrical energy from lightning strikes.

**Shielding:** Components within aeroplanes and wind turbines, structures with flammable or volatile substances inside also need protecting such as oil, gas and petroleum storage, wind turbines and transport structures.

# TRANSPORT & INFRASTRUCTURE

**Bridge Railways & Walkways:** Provides strength and visibility, ensuring pedestrian safety, allowing for water and light passage.

**Highways Sound Barriers:** Used along highways to reduce noise pollution while maintaining airflow and light penetration.

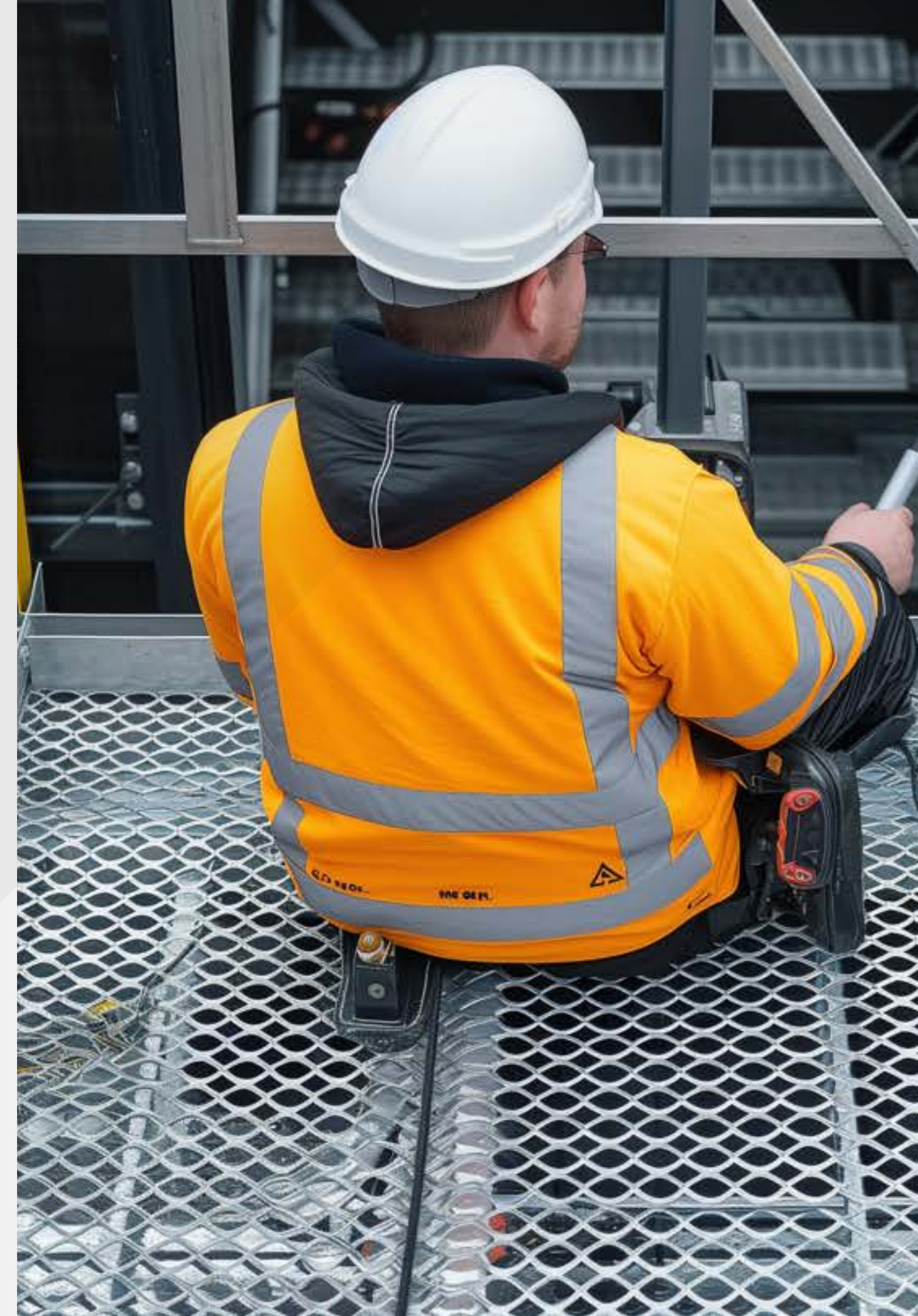
**Railway Platforms:** Used for surfaces and shelters, offering durability and slip resistance, as well as visual transparency.

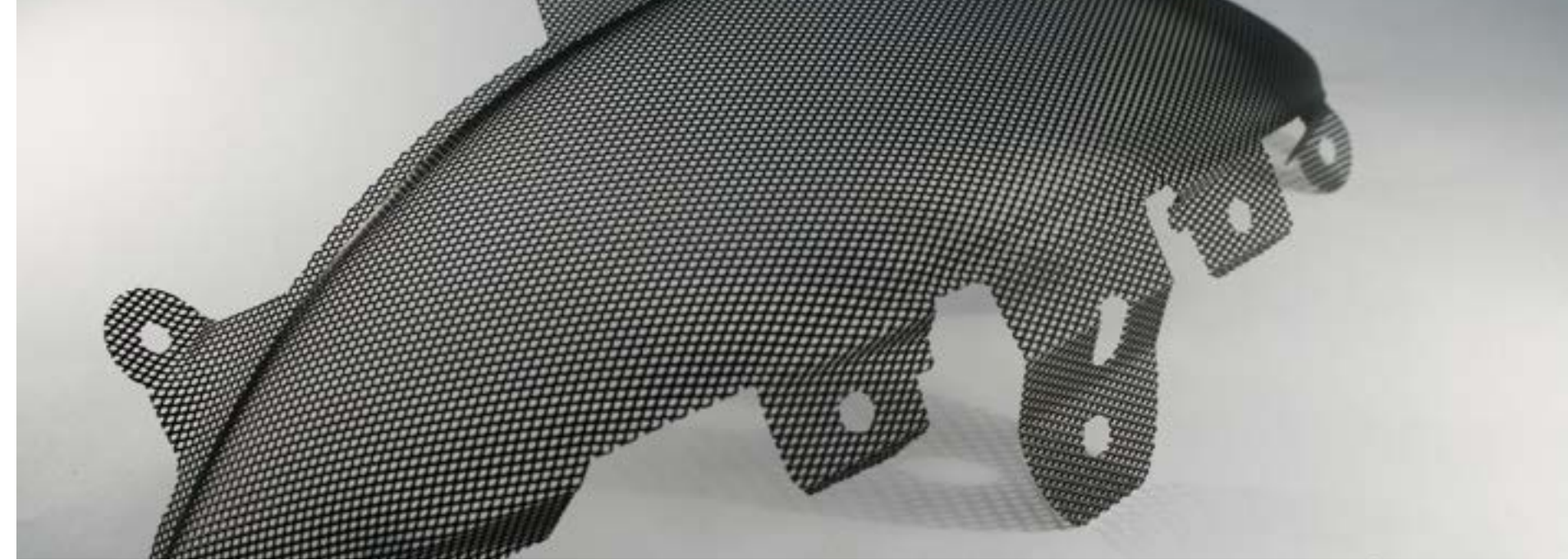
**Airport Fencing:** Secures airport perimeters with robust and tamper-resistant fencing; security without obstructing views.

**Bus & Train Station Systems:** Seating, shelters, and screens in stations utilise expanded metal for aesthetics and functional benefits.

**Tunnel Ventilation Systems:** Used in ventilation grilles and ducts within tunnels, ensuring efficient air circulation.

**Signage and Lighting Supports:** Provides sturdy backing and support for signs and lighting fixtures, enhancing visibility and safety in transport infrastructure.





## **AUTOMOTIVE APPLICATIONS**

**Radiator Grilles | Filtration | Door Bushings | Heat Shields | Trailer Loading Ramps | Ventilation Systems | Loudspeaker Grilles | Interior Decorative Elements**

# PRODUCTION CENTRES



## THE EXPANDED METAL COMPANY

HARTLEPOOL,  
UNITED KINGDOM

We specialise in manufacturing expanded metal products with main areas of expertise focusing on architectural, filtration and security, which falls under ExMesh branding.

[Watch our company video.](#)

## SORST STRECKMETALL GMBH

HANNOVER,  
GERMANY

Specialising in expanded metal manufacturing, our key areas of expertise are automotive, electrolysis, roofing, and non-ferrous products.

[Watch our company video.](#)

## MEISER GROUP

SCHMELZ-LIMBACH,  
GERMANY

In a strategic move, Meiser Group successfully acquired Sorst Streckmetall GmbH in 2022, followed by The Expanded Metal Company in 2023. This shows Meiser Group's dedication to enhancing its capabilities in expanded metal manufacturing.

**Useful Links:**

[How to measure expanded metal](#)

[ExMesh](#)

[Roof flashing](#)



The Expanded Metal Company and Sorst Streckmetall GmbH are companies of Meiser Group.



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