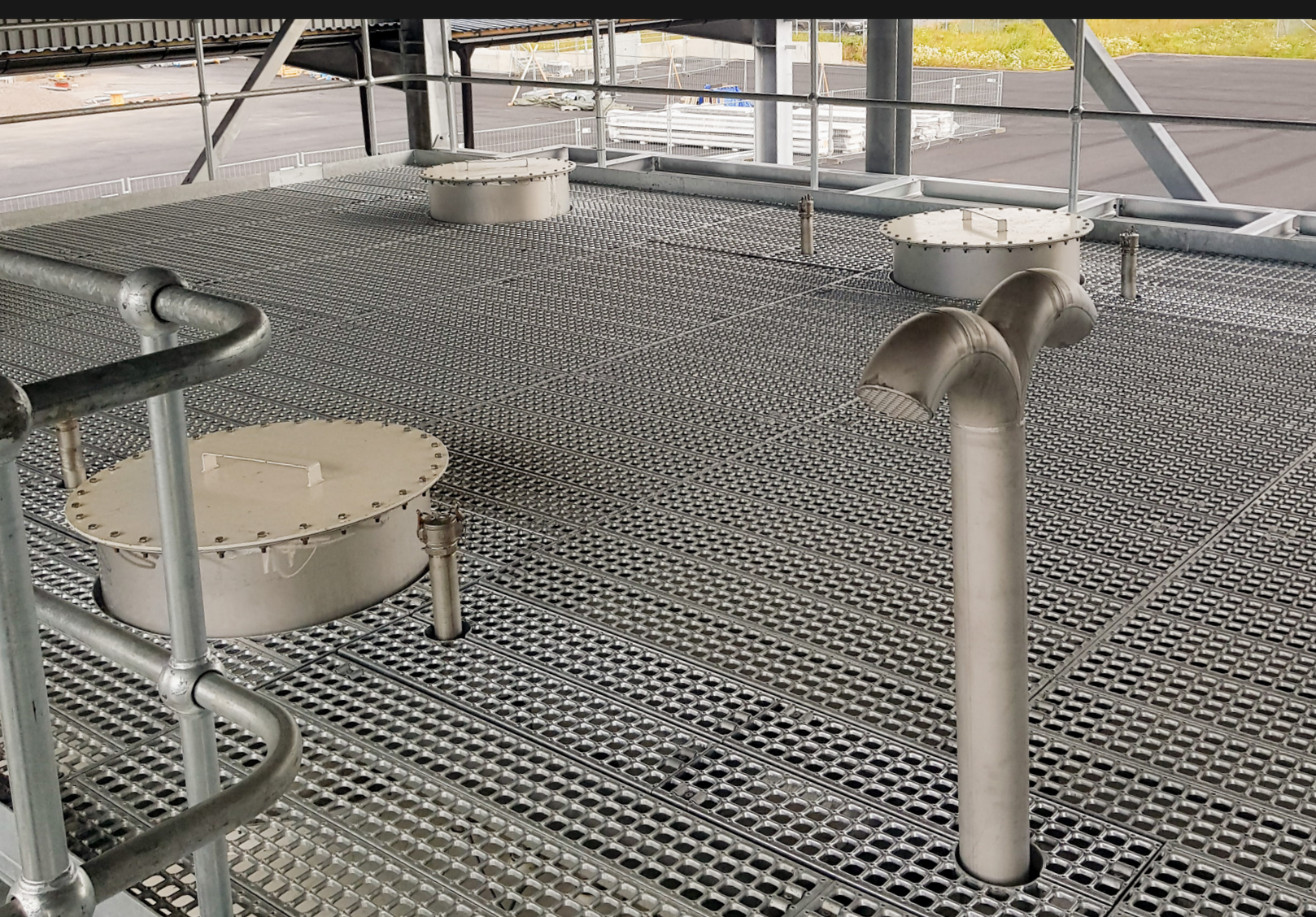
PcP
Engineering Safety™

Optimised Access Solutions

Modern alternatives to traditional bar gratings



Traditional bar gratings have long been the standard for industrial access flooring

Their proven performance, versatility and widespread acceptance by engineers and specifiers have made them the default choice for walkways, platforms and stair systems for many decades.

However, changing project requirements are encouraging designers to look beyond traditional formats. Increased focus on slip resistance, weight reduction, sustainability, manual handling and whole life project costs has created demand for more optimised access solutions.



The difference is in the design

Traditional bar gratings and modern punched-profile flooring are designed to achieve the same purpose. The difference lies in how the steel is used.

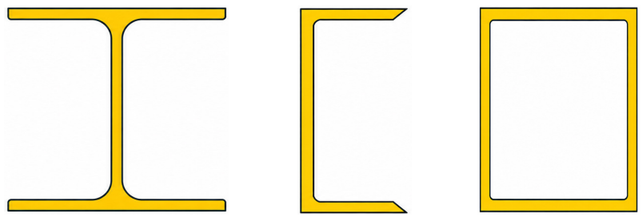
Modern access flooring combines engineered profiles with punched-hole patterns to deliver performance through the efficient use of geometry and material.

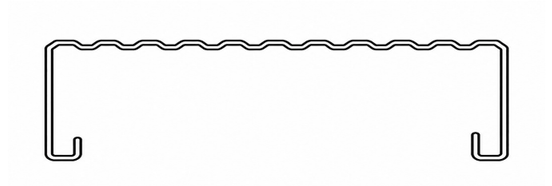
Shape matters

Better performance starts with more efficient use of steel.

We know that when it comes to safety performance, the right choice isn't determined by how much steel is used. How the steel is shaped is important too. Why? Because I-beams, hollow sections and profiled steel sheets are designed to place material where it contributes most effectively to strength and stiffness.

The evolution of steel did not stop with structural sections. It now extends to access flooring.







The same principle. A different application

The same engineering principles that transformed structural steel can also be applied to access flooring.

By using profile geometry more efficiently, it is possible to achieve the required performance whilst reducing weight, embodied carbon and installation effort.

Less steel.
Lower weight.
Reduced carbon.
Improved handling.



How does it compare?

Typical weight comparison

Based on EN ISO 14122 access platform loading requirements.

Span (mm)	Flooring Type	Weight (kg/m²)	Weight Reduction
1000	Traditional Bar Grating 33x33 / 35x2	25	-
1000	CUBE 240/40x2	20	20 %
1000	OPTIMO O2 125/32x2	20	20 %
1000	OPTIMO O5 125/32x2	22	12 %
1500	Traditional Bar Grating 33x33/50x2	33	-
1500	CUBE 240/40+15x2	23	30 %
1500	OPTIMO O2 150/45x2	22	33 %
1500	OPTIMO O5 200/45+15x2	24	27 %
2000	Traditional Bar Grating 33x33/60x2	39	-
2000	CUBE 240/50+20x2	24	38 %
2000	OPTIMO O2 100/45+15x2	30	23 %
2000	OPTIMO O5 100/45+15x2	32	17 %
2500	Traditional Bar Grating 33x33/70x3	61	-
2500	CUBE 200/70+20x2	27	56 %
2500	OPTIMO O2 100/57+15x2	34	44 %
2500	OPTIMO O5 100/57+15x2	36	40 %

Slip resistance comparison

Classisfied in accordance with BS 4592-0.

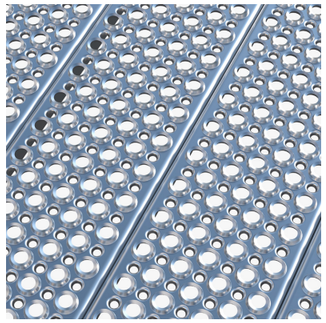
Flooring Type	Wet PTV (Lowest Average Directional Value)	BS 4592-0 Slip Classification
Traditional Bar Grating 33x33 / 30x2 Plain Top	24	Unsuitable for wet conditions
Traditional Bar Grating 33x33 / 30x2 Serrated Top	58	Slip resistant
Traditional Bar Grating 36x100 / 40x2 Plain Top	38	Unsuitable for wet conditions
Traditional Bar Grating 36x100 / 40x2 Serrated Top	65	Enhanced slip resistant
Traditional Bar Grating with Twisted Transverse 30x100 / 30x3 Plain Top	31	Unsuitable for wet conditions
CUBE	66	Enhanced slip resistant
OPTIMO O2	41	Slip resistant
OPTIMO O5	71	Enhanced slip resistant

Optimise your access solution with modern alternatives to traditional bar grating

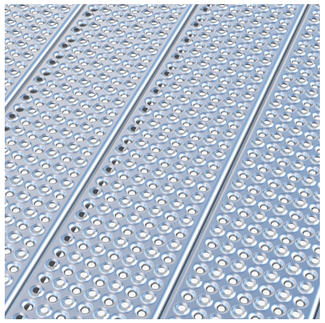
Explore PcP grating solutions designed to meet different access requirements.

OPTIMO

A flexible punched-hole grating combining slip resistance, drainage and strength. Designed for safe access across walkways, platforms, stairs and other demanding applications.



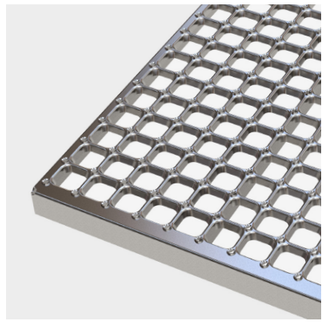
OPTIMO™ O2
steel | stainless steel | aluminium
pattern: dia. 9/5 mm



OPTIMO™ O5
steel
pattern: dia. 5/5 mm

CUBE

A punch hole grating that offers a very high strength-to-weight ratio. Therefore CUBE™ is an efficient alternative to the traditional mesh grating where structural performance, handling and installation matter.



CUBE™ Oyster
steel | stainless steel
pattern: serrated dia 6,5/34x34 mm

Explore our products at www.pcp.corp.com

PcP offers a wide range of gratings, treads and planks in different materials, finishes and patterns – designed to meet different requirements for safe and efficient access.



Performance you can document

Third-party verified EPD data for an informed approach to optimised access

When comparing access solutions, performance and weight are not the only factors to consider. Environmental impact can also form part of the specification.

PcP's third-party verified EPD's provides documented environmental data for our grating products, giving specifiers a transparent basis for assessing environmental performance alongside other project requirements.



Case study

When every kilogram counts

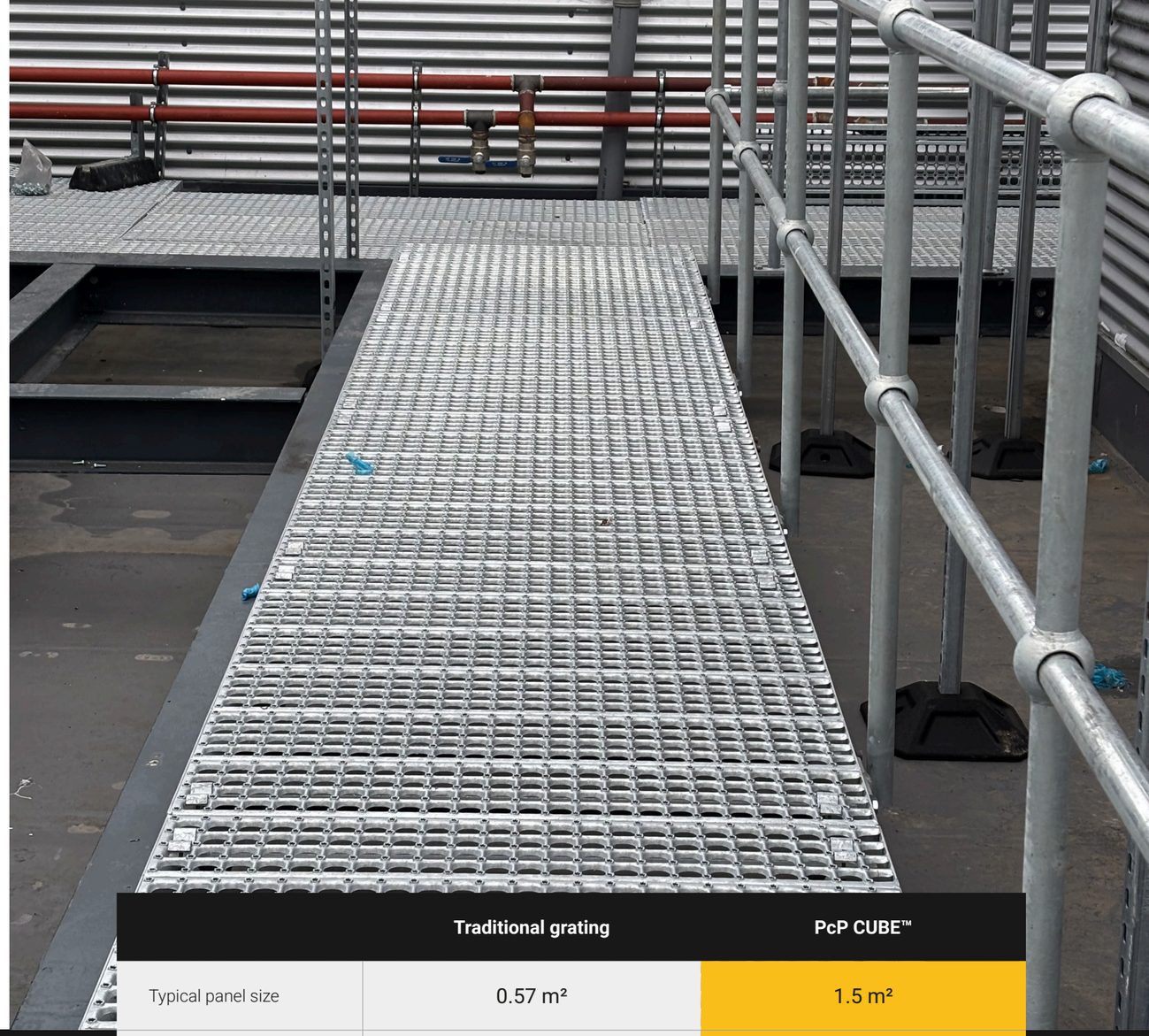
Optimising a rooftop access walkway within a 40 kg panel limit

Looking beyond the price per square metre

When specifying access flooring, the cost per square metre is only one part of the overall project cost. Panel weight and size can also influence transport, handling, the number of panels and fixings required, and the amount of installation work on site.

A rooftop access project provides a practical example.

The project involved approximately 198.2 m² of rooftop walkway, with site handling requirements limiting each individual panel to a maximum weight of 40 kg. The solution also had to accommodate the existing support structure, including areas with clear spans of up to 2.2 metres. For comparison, a 60 × 5 mm welded steel grating was used as the traditional grating benchmark, based on the structural requirements of the project.



	Traditional grating	PcP CUBE™
Typical panel size	0.57 m²	1.5 m²
Panels required	348	133
Reduction		**>60%**

Traditional bar grating

At approximately 70 kg/m², a 60 × 5 mm welded grating panel would need to be limited to around 0.57 m² per panel to remain below the 40 kg panel-weight restriction. Across 198.2 m² of walkway, this equates to approximately 348 panels. Each panel represents another component that must be transported, handled, positioned, aligned and fixed during installation.

PcP CUBE™

The lower weight per square metre of PcP CUBE™ allowed substantially larger panels to remain within the same 40 kg restriction. Panels of approximately 1.5 m² could be used. For the same 198.2 m² walkway area, this equates to approximate

For this project-specific comparison, CUBE™ reduced the calculated panel requirement by approximately 62% That means around 215 fewer individual panels across the walkway area.

Weight Comparison

For the same 198.2m² walkway area, the traditional grating solution would have weighed approximately 13,874kg (13.9 tonnes). The equivalent PCP CUBE™ solution weighed approximately 5,351kg (5.4 tonnes).

This represents a total weight reduction of approximately 8,523kg (8.5 tonnes), or 61% less steel.

Why does panel count matter?

Panel weight affects more than the grating itself. When weight restrictions force panels to become smaller, more individual components are required to cover the same area. Every additional panel adds another handling, positioning and fixing operation.

By allowing each panel to cover a larger area while staying within the project's weight restriction, CUBE™ helped simplify the installation approach. This is where product weight can influence the wider economics of an access solution.

Thinking beyond the product price

Material cost remains important. But panel weight, panel quantity, handling, fixings and installation effort can all contribute to the overall project cost. The purchase price is the starting point. The real value lies in getting the job done efficiently.

For this rooftop walkway project, the difference was clear:

- 198.2 m² of walkway
- The same 40 kg panel restriction
- Approximately 348 panels with the traditional benchmark
- Approximately 133 panels with CUBE™

Fewer panels can mean

- ✓ Fewer individual lifts and handling operations
- ✓ Larger areas covered with each panel
- ✓ Fewer panel joints
- ✓ Less repetitive installation work
- ✓ Fewer fixing locations





Less weight per panel area.

Fewer panels to install.

A more efficient approach to access flooring

CUBE



Explore our cases and applications

Safe and efficient access solutions in practice

Maintenance platforms & access walkways

Steel flooring solutions for industrial and public safety

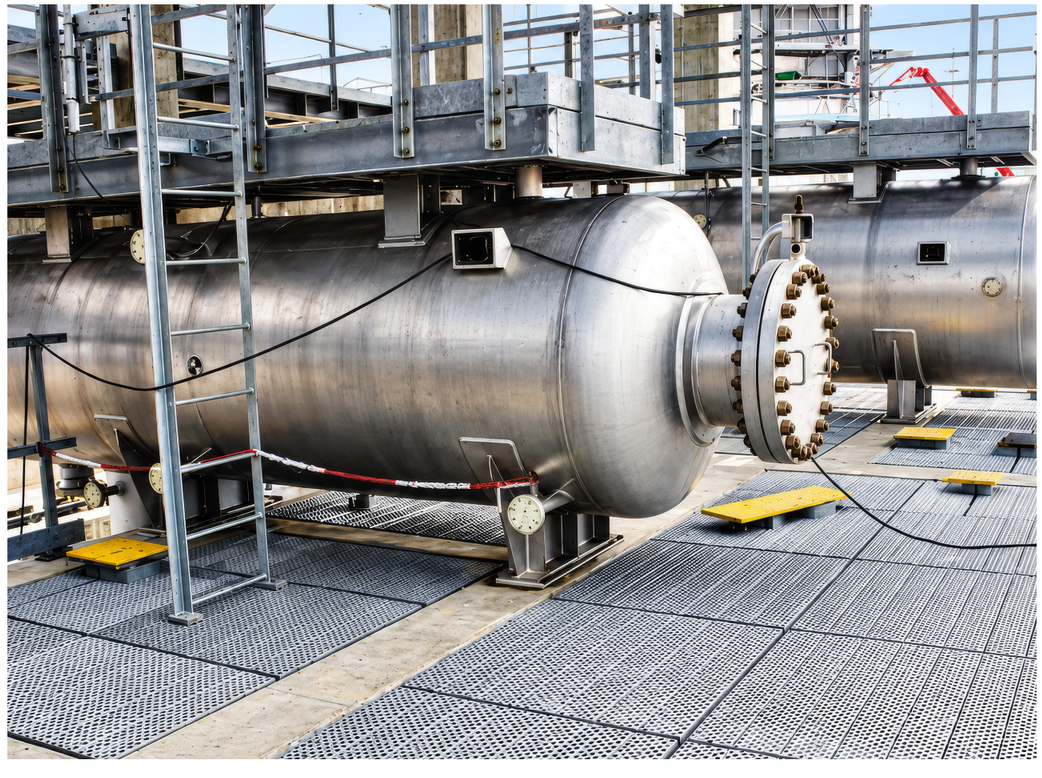
OPTIMO™ gratings are the optimal solution for open steel flooring and access walkways in all industries without compromising safety or quality. OPTIMO™ gratings offer optimal safety and strength and are an effortless fit for maintenance platforms, public walkways, emergency access, specialised or restricted access, i.e. areas with a specific design criterion. We have designed OPTIMO™ steel flooring solutions to ensure the highest safety for the users.

Maximum safety on industrial maintenance platforms

We offer a wide selection of steel, stainless steel gratings and treads for industrial maintenance access platforms. With an excellent slip resistance, strength-to-weight ratio and high load capacity, OPTIMO™ gratings are a safe and robust choice for industrial maintenance access and work platforms.

Standard or custom. The choice is yours.

We have a significant number of stock products in the OPTIMO™ series, ready for immediate delivery. But if your project has unique requirements, our flexible production allows for quick manufacturing and low cost of your next project.







Benefits when using OPTIMO™ in walkways and platforms

High strength. Low Weight.

The OPTIMO™ grating offers the optimal balance between weight and strength, making it a suitable and cost-efficient solution for all types of industrial applications.

Enhanced slip resistance.

The slip resistance offered by the OPTIMO™ complies with BS 7976-2 and with DIN 51130.

Access walkways

A modern approach to steel flooring

Designed as an alternative to traditional mesh grating, CUBE™ provides a strong and safe solution for open steel flooring and access walkways. It can be used across industrial and public applications, including maintenance platforms, public walkways, emergency routes and areas with specialised access or specific design requirements.
With safety central to the design, CUBE™ combines the performance required for demanding access applications with a different approach to conventional steel flooring.

Built for demanding maintenance access

For maintenance and work platforms, CUBE™ is available as gratings and treads in both steel and stainless steel. Excellent slip resistance, high load capacity and a high strength-to-weight ratio make the range well suited to safe and robust industrial access.

From stock sizes to project-specific solutions

The CUBE™ range includes a large selection of stock products available for immediate delivery. Where standard products do not meet the project requirements, PcP's flexible production also makes it possible to manufacture customised solutions quickly and cost-effectively.

Benefits when using CUBE™ in walkways and platforms

High strength. Low Weight

CUBE™ combines low weight with high strength, providing a cost-efficient grating solution for a wide range of industrial applications.

Enhanced slip resistance

The slip resistance offered by the CUBE™ complies with BS 7976-2 and with DIN 51130.

OPTIMO

HMS Victory

OPTIMO™ gratings for access walkways, landings and stairs for public safety at HMS Victory.

HMS Victory, situated in Portsmouth Historic Dockyard, is best known for her role in the Battle of Trafalgar. HMS Victory currently has a dual role as the Flagship of the First Sea Lord and as a living museum to the Georgian Navy. She transferred to The National Museum of the Royal Navy in 2012.

The solution

More than 150m2 walkways/landings plus stair treads with DDA compliant Nosings for public access at HMW Victory. The under-hull walkway required new access walkways, landings, and stairs for visitors to be able to visit this area of the ship. It was essential to provide a safe solution that not only met but exceeded the criteria for public access walkways, treads & landings while also meeting the design brief.

"Working with the PCP team ensured the complex arrangement of flooring required on this project was delivered and installed on time and fitted without any major issues. Our installation team appreciated the manner in which the deliveries were made and packaged helping speed up our installation task. The team were always keen to help and address any issues. Looking forward to working with them on projects in the future."

Stephen Makepeace, General manager of Power System Services Ltd.







Benefits from using OPTIMO™ in the solution

Loading Calculations

Most economical solution with excellent high-quality finish

Strength

Better strength-to-weight ratio than the twisted bar that originally was considered

DDA Compliance

Product supplied fit for purpose

Fully Dimensional Drawing

Access to after-sales support including relevant datasheet and certification



Air BP

The Air BP fuel station project is based on a collaboration involving the Swedish partners Totech as project lead and Fremek. They installed the entire construction that includes PcP's solution to provide a safe platform.

This project PcP's solution includes CUBE™ steel gratings and treads for a modern design and ladder systems for easy access to the fuel tanks. Fremek and Totech chose PcP's solution to install a new fuel station for Air BP's - one of the world's largest aviation suppliers.

The solution

PcP provided standard CUBE™ gratings and treads for the maintenance platform. Vertical access ladders and safety handrails were provided for easy access to the platform. PCP CUBE™ gratings and treads benefit slip-resistance, lightweight but strong and fitted perfectly into the existing construction from the ground to roof. Fremek installed the platform, and the workers made cut-outs on-site to make space for the fuel tanks. Additionally, PcP provided vertical access ladders to mount on to the fuel tanks.









Benefits from using CUBE™ in the solution

Slip-resistant platform

The risk for accidents and falls is significantly minimized.

Easy and quick to install

With CUBE™ gratings and treads in standard sizes, it was quick to install the platform and stairs.

Easy maintenance

Today, it's easier and safer to check fuel and make tests

Safe work environment

Maintenance workes feel safer during the job.

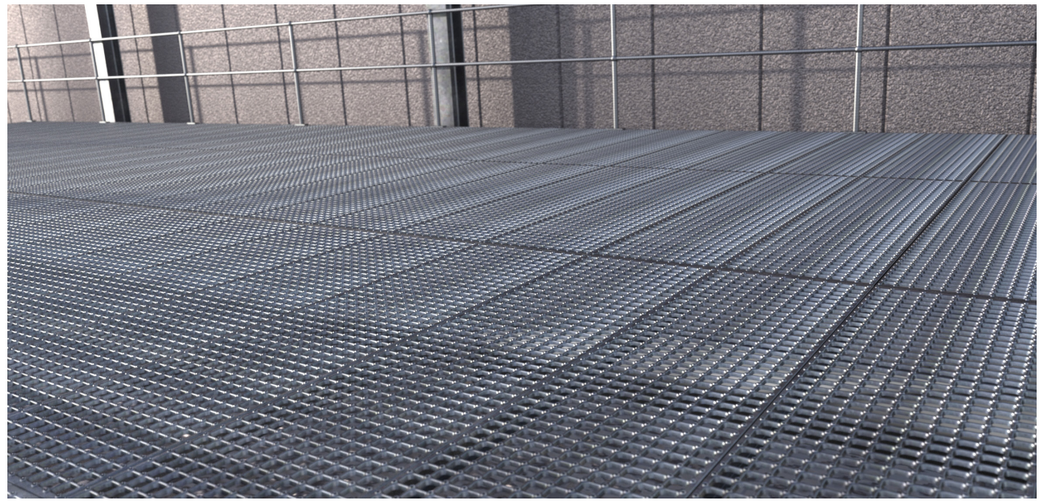
Heathrow Park

CUBE™ gratings applied for 3,260 m2 steel flooring for Heathrow Park access walkway

Heathrow Park is an industrial estate situated close to Heathrow Airport, UK. The construction project involved different collaboration partners – a UK steelwork and installation company and the main contractor, operating as crucial stakeholders in the Heathrow Park project. The steelwork company contacted PcP on behalf of the main contractor, looking for a cost-efficient steel maintenance roof walkway to access roof equipment.

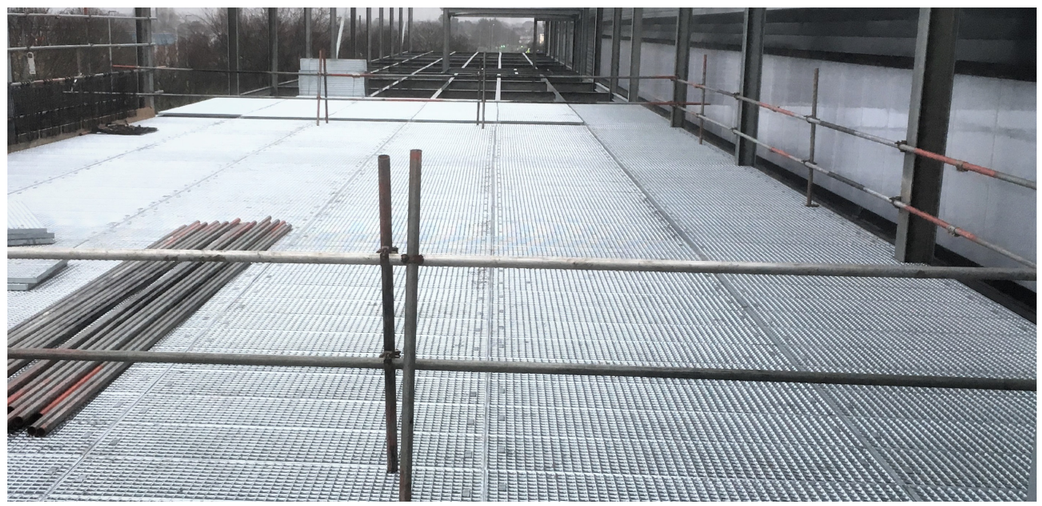
The solution

PcP proposed the new CUBE™ steel grating for Heathrow Park flooring as it could be designed to suit the spans required at a competitive price. However, and more importantly, CUBE™ steel gratings proved a viable proposition to the client due to the product's low weight compared to other gratings. The delivery time also met the strict site requirements. For the project, PcP manufactured CUBE™ gratings over six weeks using robotic welding on both day and night shifts to complete the project schedule. PcP experts delivered tailor-made CUBE™ gratings for the steel flooring, and the work included paying particular attention to details, accurate technical drawings, and providing all the necessary product certification and datasheets.









Benefits from using CUBE™ in the solution

Cost-effective

Most economical solution with excellent high-quality finish

Strength

Better strength-to-weight ratio than the twisted bar that originally was considered

Tailor-made

Product supplied fit for purpose

Full support

Access to after-sales support including relevant datasheet and certification



Beyond the grating

Explore complementary products for a complete access solution

GUARDRAIL

Guardrail™

Handrail & ladder systems







Guardrail™ handrail system

Designed to provide safe and reliable access, the Guardrail™ handrail system offers a durable and flexible solution for platforms, walkways and stairs. The modular system can be tailored to suit different layouts and loading requirements, making it well suited for complex access solutions. Available in steel, stainless steel and aluminium, the system is designed for easy installation and can be adapted to meet specific project requirements.



Guardrail™ ladder system

Designed for safe and practical vertical access, the Guardrail™ ladder system features a simple modular design that offers a flexible solution for a wide range of access requirements.

Flat-pack ladder components are available ex stock to suit heights from 2,000 mm to 10,000 mm. Other bespoke sizes are available on request.

Stair Treads

Designed for safe and reliable access





ACHIL® O2 Tread
Steel 240 YP
Loadings designed to suit EN 14122 / BS 4592

Designed for demanding access areas, with punched holes that provide slip resistance and drainage. Rolled flanges provide high load capacity while avoiding sharp edges.



CUBE™ Tread Oyster
Steel 240 YP | Stainless steel
Loadings designed to suit EN 14122 / BS 4592

A lightweight stair tread with a high strength-to-weight ratio and Oyster surface for slip resistance. Its open design provides high air and liquid flow.

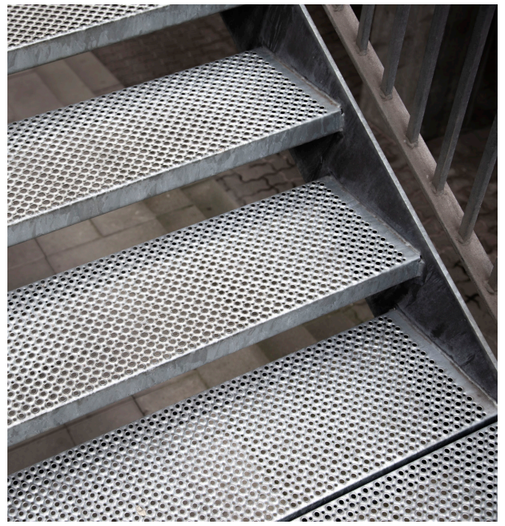


HiVis Tread
Steel 240 YP
Loadings designed to suit EN 14122 / BS 4592
& UK NA EN 1991-1-1:2002

Combines a durable stair tread design with a high-visibility nosing for clear visual indication of each step. The nosing is available in any standard RAL colour to suit specific project requirements. Available with or without a rear riser.











Engineering Safety™

Safety is at the very heart of our products and through everything we do. Our drive is to enable our customers - no matter their industry - to safely operate in their business routine, supported and surrounded by innovative PcP solutions.

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