IKO permatrack

Bituminous Repair & Protection Systems





Advanced Repair and Maintenance Systems for Highways and Engineering Projects

IKO
Setting the standard in roofing and waterproofing

Keeping Traffic on Track

Traffic levels on our highways are higher than ever. So the demands on road surfaces – and the need to repair them quickly – have never been greater. No-one can afford for roads to be shut longer than necessary so it pays to rely on the industry's leading maintenance and reinstatement systems.

IKO PLC is a company at the very forefront of bituminous technology and UK manufacturing and a company committed to delivering total excellence, from product development and design through to technical specification and consultation during the installation process.

Working closely with local authorities, the Highways Agency and many of the UK's leading specialist installation contractors, IKO has not only built an enviable reputation, but also a portfolio of prestigious projects the length and breadth of the country.

CarbonZero®

Mastic asphalt was the first industry in the world to achieve the CarbonZero status. IKO PLC, together with over 100 independent contractors, hauliers and installers from across the industry, have wherever possible reduced their carbon emissions and use of energy.

The remainder has been offset with environment friendly energy saving schemes in the third world. This means that any project receiving the benefits of an advanced mastic asphalt system will get a 100% CO_2 neutral solution.

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Highway Maintenance from Permatrack.
Minimum Disruption, Maximum Durability.

At the heart of IKO's success lies Permatrack, an advanced bituminous repair and protection system for highways, bridges and infrastructure projects.

Simple maintenance means lower costs

Flexible, versatile and waterproof, the Permatrack system is ideal for repairing reflective cracking in tarmac or concrete, and for transitional joints, expansion joints and reinstatement of ironworks.

Its rapid installation minimises contractor downtime and inconvenience for road users, while its high bond strength and long-term durability mean fewer return visits – making it extremely cost-effective and reducing overall maintenance costs.

HIGHWAYS AGENCY BBA HAPAS

How the system works

A technically advanced polymer modified asphalt, the system is made up of two products:

Permatrack PSB, a rubberised waterproofing layer designed to increase flexibility and improve adhesion to existing surfacing.

Permatrack H, a high modulus material that uses a binder of SBS modified bitumen and Trinidad Lake Asphalt, giving low temperature flexibility and high temperature rut resistance suitable for even heavily trafficked roads.

During application, stone chippings are applied to the Permatrack H to match the existing highway surface and meet the highest skid resistance specifications. Alternative skid-resistant surfacings can be specified by the engineer.

Key applications:

Bridges
- Heavy duty expansion joints

Highways
- Repairing reflective cracking
- Reinstating roadways

Ironworks
- Reinstating ironworks
- Manhole covers

Infrastructure
- Pavement & surface repair
- Expansion joints
- Airports & carparks

Rail
- Transitional joints where roads meet tram and train rails

Flood Defence
- Grouting Mortars to protect against the effects of flooding

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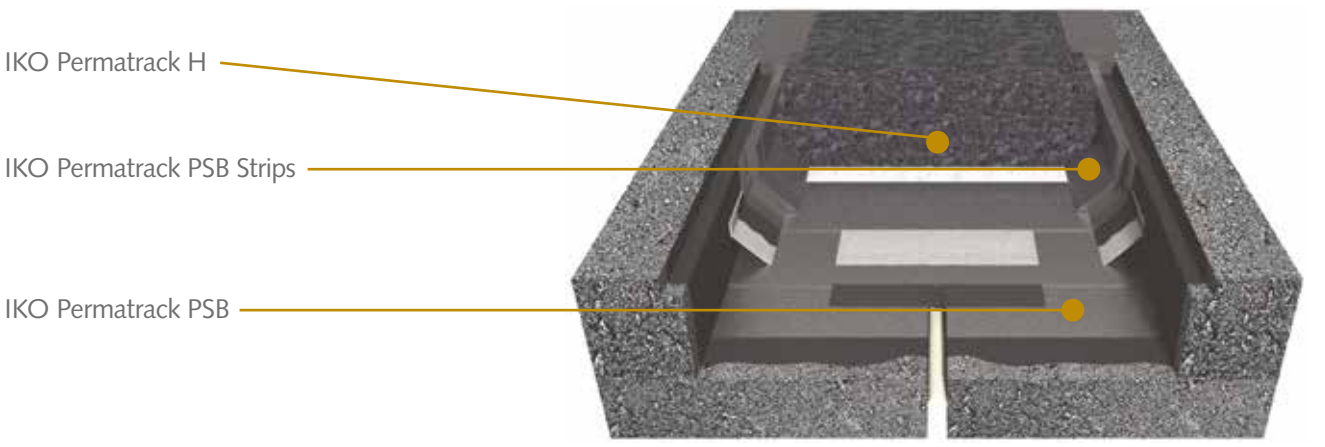
Bridge Expansion Joint System

Heavy duty, high flexibility

Bridge expansion joints can become distorted through heavy, slow moving vehicles or overloading, leading to irreversible damage – especially with low movement asphaltic plug type systems.

The Permatrack H heavy duty bridge expansion joint is a structurally enhanced movement joint ideal for repairing and replacing such damage, able to accommodate the movement inherent in bridges. And as it can be installed to any depth or width, any localised surface deterioration can be taken into account, avoiding the need to use a more expensive system of jointing.

In addition, it's a fully-registered Highways Agency product.



Reasons to choose

- Versatile and waterproof system
- Rapid installation reducing delays and inconvenience
- Unlimited joint width and depth
- Long term durability
- Withstands heavy traffic
- Cost effective
- Range of finishes to match different surfaces and skid resistance levels
- High bond strength to substrate
- Accommodates differential movement
- Highways Agency Registered (No. 028 –22/08/2002)

Permatrack in action M4 Chiswick Flyover

Sector	Highways
Client	Birse Civils Ltd on behalf of The Highways Agency
System	High Modulus Bridge Deck Expansion Joint System
Products Used	IKO Permatrack PSB & IKO Permatrack H
Date	2006 - 2009

As part of a total refurbishment of the flyover Permatrack Heavy Duty Expansion Joints were chosen by the project consultants to replace the existing Asphaltic Plug joints. The jointing system was installed by specialist contractors. The high modulus joints incorporate Permatrack PSB, a highly polymerised elastic bituminous membrane in preformed strips to provide the movement properties of the joint which is bonded to Permatrack H, a high modulus matrix consisting of SBS modified bitumen and Trinidad Lake Asphalt.

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Inlaid Crack Repair System

Rapid repairs

A rapidly installed repair providing a long-term solution to reflective cracking in tarmac or concrete, designed to withstand even heavy traffic.

The structurally enhanced material supports the adjacent wear surfaces and can accommodate movement within the substrate – and its impervious nature protects substrates from deterioration caused by moisture and de-icing salts.

A wide variety of finish options is available, all meeting the Highways Agency's highest skid-resistant specifications.

Reasons to choose

- Simple, versatile system
- Unlimited repair width and depth
- Rapid installation reducing delays and inconvenience
- Long term durability
- Withstands heavy traffic, including aircraft, trucks and tracked vehicles
- Cost effective
- Range of finishes to match different road surfaces
- High bond strength to substrate
- Accommodates differential/substrate movement
- BBA HAPAS approved (certificate 02/H072)

Permatrack in action M4, Junctions 5-7

Sector	Public Sector
Client	Highways Agency
System	Inlaid Crack Sealing
Products Used	IKO Permatrack H & IKO Permatrack Samiband
Date	January - May 2002

M4 junctions 5-7 is a composite pavement with the construction being made up of 190mm of wetmix at the base overlaid with 140mm of bituminous surfacing. The project involved treatment of longitudinal and transverse cracking in lanes 1 and 2 of the carriageway. IKO Permatrack Inlaid Crack Repair System was installed as a solution to a reflective crack extending to a length of 6.7km and IKO Permatrack Samiband was used to repair over 3km of transverse cracking in the carriageway.

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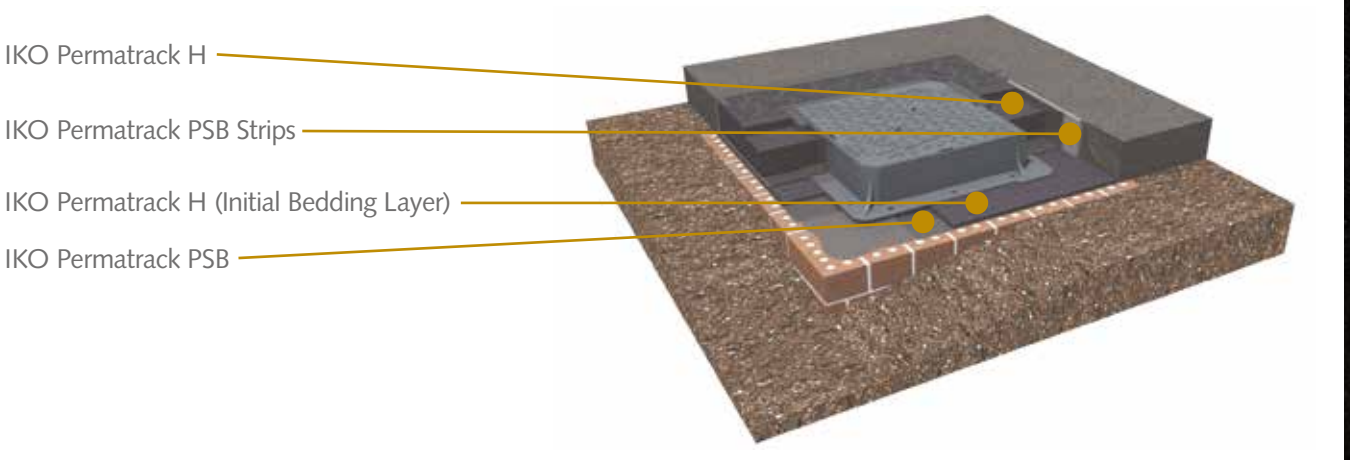
Ironworks Reinstatement System

Fast and flexible

The road surface around street ironworks is subject to extraordinary stresses, making it particularly vulnerable to damage. When these areas are in need of repair, the material used needs versatile bonding strength, the ability to cope with movement and be suitable for installation in small sections.

That's why the Permatrack Ironworks Reinstatement System is ideal. Easy to install in a minimal time to reduce delays and inconvenience, it has high bond strength to a variety of materials, the ability to accommodate differential movement and offers exceptional performance, even in high traffic areas. So, as in so many road maintenance situations, for reinstating ironworks Permatrack will prove a highly cost-effective repair solution.



Reasons to choose

- Versatile and waterproof system
- Rapid installation reducing delays and inconvenience
- Long term durability
- Withstands heavy traffic
- Cost effective
- High bond strength to substrate
- Accommodates differential movement

Permatrack in action A55 North Wales Trunk Road

Sector	Local Government
Client	NMWTRA
System	Ironworks Reinstatement
Products Used	IKO Permatrack PSB & IKO Permatrack H
Date	May 2001

The A55 is a busy trunk road in North Wales which, due to high levels of traffic, was experiencing degradation of its ironworks. A series of manholes were in urgent need of reinstatement as the existing internal metal frames were worn out. The client required new manholes to be installed and insisted on a product that would have a long life-expectancy and be able to cope with the increasing stresses caused by traffic. After carrying out extensive trials with a number of other products, the client decided that the IKO Permatrack Ironworks Reinstatement System would be the most cost-effective and durable option.

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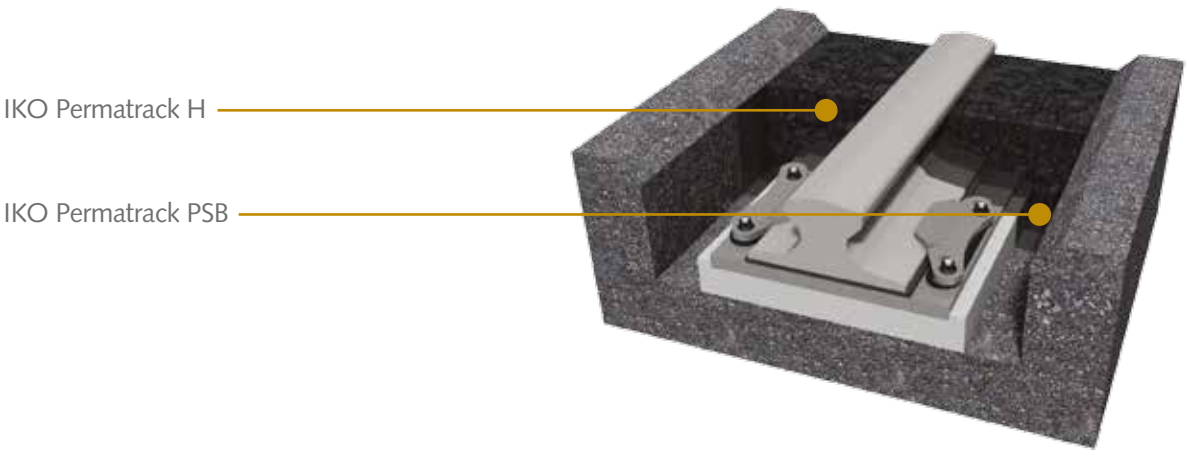
Transitional Joint System

Where tracks meet traffic

Where road surfaces meet metal tram and train rails, severe fatiguing and traffic damage can occur. This is caused not only by road vehicles, but also from the increased vibration and excessive tensile movements within the rails at crossovers and bends.

The Permatrack H Transitional Joint System has been specifically developed to resist these stresses, offering a flexible and long-lasting solution. In particularly heavy traffic areas, an additional 20mm buffer zone can even be added on either side of the Permatrack sections.

The area is finished with Permatrack H and topped by an anti-skid dressing equal to the highest Highways Agency skid resistance specification, while the actual finish can be aesthetically matched to the adjacent road surface.



Reasons to choose

- Versatile and waterproof system
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- High bond strength to substrate
- Accommodates differential movement

Permatrack in action Major Docks Crane Rail Infill Project

Sector	Private Sector
Client	UK Ports Authority
System	Transitional Joint System
Products Used	1,000 linear metres of IKO Permatrack PSB & H
Date	November 2013

One of the UK's most significant ports required a facility to take advantage of receiving new 'super containers'. For commercial reasons, this high profile project needed to be completed quickly and yet with the strength and rigidity capable of withstanding heavy HGV traffic. IKO's Permatrack Transitional Joint System proved to be the ideal solution and offered the perfect combination of strength, application speed and waterproofing integrity.

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Road Surface Patch Repair

The simple surface repair solution

The combination of increased traffic levels and severe weather events has led to a marked increase in potholes in recent years - and their appearance puts pressure on highway engineers to repair them quickly with minimum disruption.

The Permatrack Patch Repair System has been specifically designed to address the pothole problem, along with larger delaminated areas such as bus stops, HGV pull-ins or areas with severe sub-base problems.

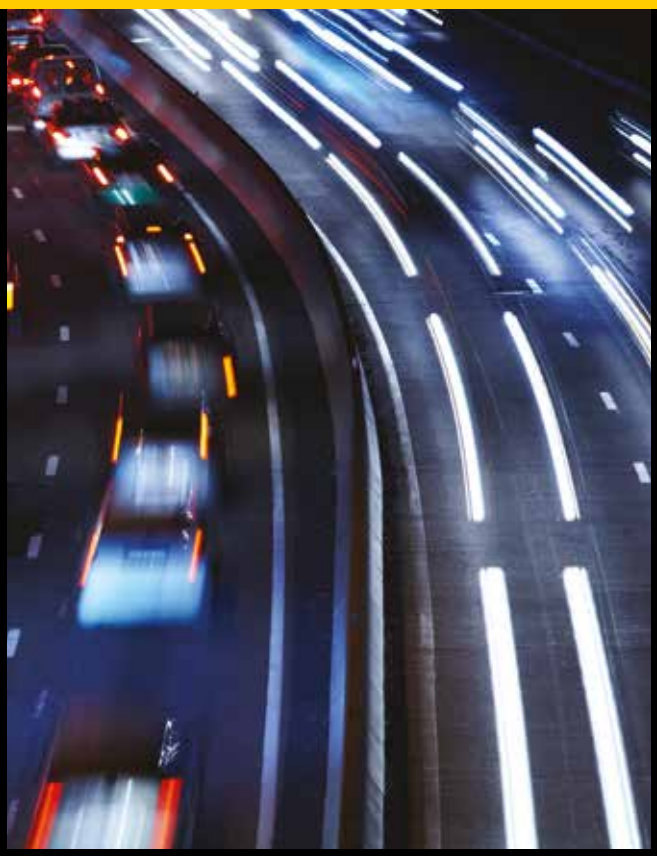
The material arrives on site ready mixed, and after removing the defective area by cold milling it is levelled into place. Traffic can pass over the area within just two hours, meaning not only less inconvenience for road users but lower highway maintenance costs.

Reassurance from start to finish

To support IKO's state of the art manufacturing facility, we also offer a comprehensive technical support service to assist at all stages of the product specification and installation. We can assist with specific projects and our expertise means we can offer solutions to a wide range of applications.

Reasons to choose

- Minimum depth of repair 40mm
- No maximum depth
- Repairs thin wearing layers with no need for large patch removal, including SMA
- Rut resistance @ 50°C 3mm/hr
- Excellent skid resistance properties
- Long service life, even in high shear situations and standing traffic areas
- Proven in even the most demanding situations
- BBA HAPAS approved (certificate 02/H072)



Permatrack in action Wigman Road, Nottingham

Sector	Public Sector
Client	Nottingham City Council
System	Structural Roadway Reinstatement
Products Used	IKO Permatrack H
Date	June 2002

Wigman Road on the outskirts of the City of Nottingham is a major thoroughfare for both light and heavy traffic. Excavation of the existing road surfacing revealed the full extent of the engineers' problems, where it was found that the underlying concrete structure had completely broken down and had to be removed. With the knowledge that the laying and curing of a new concrete sub-base would cause prolonged traffic disruption, the engineer selected IKO Permatrack H high modulus polymer modified asphalt for its qualities as a structural repair material.

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Flood Defence System

For protection of sea walls, embankments and revetments.

As innovators in the field of mastic asphalt technology, the Permatrack name has become synonymous with the highest quality range of flood defence systems, specifically in the area of Grouting Mortars.

IKO PLC work extensively and have forged close relationships with the Environmental Agency, regional water companies, local authorities and major civil engineering contractors. We also operate our own self offload vehicles as well as a fleet of hot charge transporters designed to deliver hot molten product direct to project locations, therefore reducing contractor time on site.

Grouting Mortars are hot-type mixes of sand, filler and bitumen. Stone and gravel can be added if required. These mortars are ideal for grouting stone revetments above and below water level and also for slab construction.

Quality manufacturing, quality products.

IKO Permatrack Bituminous Grouting Mortars are manufactured at IKO's state of the art factory in Matlock, Derbyshire. The system has also demonstrated successful results on sea walls, river and canal embankments, channels and underground works.

Reasons to choose

- Ideal for sea walls, embankments, channels and underground works
- Unlike other systems, can be placed both above and below the water level
- Simple to install
- Outstanding strength and robustness
- Able to withstand high impact of waves
- Flexible enough to follow long-term settlement of sea defence structures
- Can be recycled at end of working life
- Cost-effective, long-term protection
- Durability up to 40 years

Permatrack in action Dover Court, Harwich

Sector	Public Sector
Client	Tendring District Council
System	Permatrack Grouting Mortars
Products Used	60 tonnes bituminous sea wall grout
Date	March 2014

The West End Revetments of Dover Court had been regularly upgraded and replaced, but were continually suffering from premature failure. Following an extension to the revetment in 1999, the foreshore level along the coastline was regularly monitored and there were concerns that the existing revetment could be undermined due to higher than expected levels of erosion. The client needed a more reliable solution, and selected the Permatrack Bituminous Grout System. Specialist contractors installed a grouted stone toe up to 5 metres wide, providing long-term protection to the revetment that would be flexible enough to follow future scour.

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