

Project Case Study: APC National Sortation Centre, Cannock, UK

Our Eclipse armoured joint is protecting the concrete floor at a major new UK logistics hub.

APC Overnight is the UK's largest independent parcel network, handling more than 1 million parcels every month. Now with 115 depots spanning the country, the business is thriving – so much so that the company found itself outgrowing its Essington depot, near Wolverhampton. To support the company's further development, the decision was made to construct a new state-of-the-art national base at Cannock.

At 138,000 sq ft, the Cannock hub would be more than twice the size of the Essington premises, and the two sites would operate in parallel. Thus the £15m new building would give the company the capacity to triple its previous throughput.

On-site technical support

Main contractor Buckingham Group Contracting Ltd appointed specialist flooring contractor KonFloor to create the internal concrete floor and the external slab. KonFloor in turn sought assistance from GHW Consulting Engineers to design the slab.

KonFloor are experienced in installing Permaban's armoured joints, and well aware of the on-site technical support we provide to contractors. Recognising the benefits of Eclipse over traditional armoured joints, KonFloor decided to use Eclipse for this project. We attended site during the pour to offer installation support, if needed.

Benefits for client and installer

Eclipse is designed for heavy-duty applications, where traffic is heavy and frequent – yet its appearance is unlike other joints in its class. Instead of traditional thick steel strips along the top edges, Eclipse uses thinner steel, wrapped around high-tensile steel triangular reinforcing sections. These ensure the edges of the joint will not deform, making it just as robust as a traditional-style joint. Because the steel profile completely encases the joint arris, the concrete is fully protected – even more so than with a traditional-style joint.

Eclipse also has twin full-height divider plates to ensure it remains completely rigid during installation. KonFloor found this made the joint particularly easy to work with and helped speed the installation process.

Continuous 'grid-cut' concrete ties allow Eclipse to be cut at any point, while still ensuring it anchors firmly into the concrete. This means there are no 'flying ends', thus eliminating any post-installation remedial work.

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Project Key Facts

Project type	Logistics hub
Location	Cannock, Staffordshire, UK
Products	Eclipse (non-galvanised) 140mm depth with TD6 dowels (432m) Eclipse galvanised with TD6 dowels 140mm depth (501m) Fibretop dryshake (40T used on external slab)

Client	APC (The Alternative Parcel Company)
Engineer	Rodgers Leask
Main contractor	Buckingham Group Contracting Ltd
Flooring contractor	KonFloor
Slab designer	GHW Consulting Engineers



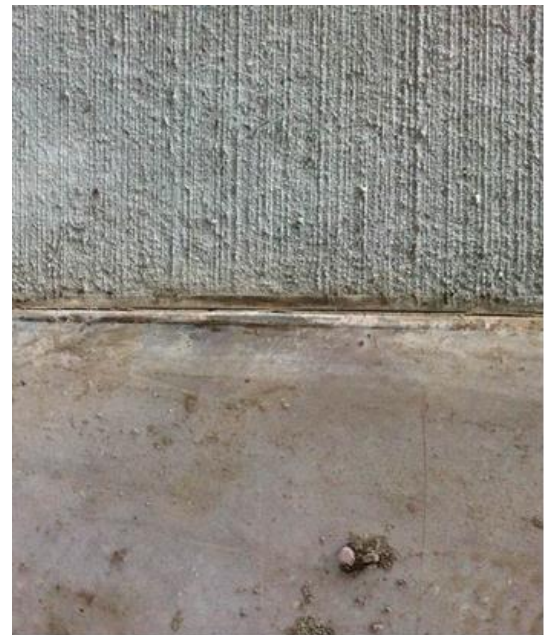
Weather protection for an unusual building design

The building itself has a strikingly unusual design: the 'walls' are constructed entirely from roller-shutter doors (see right) to enable easy access for delivery vehicles. However, this open design increased the possibility of weather ingress during the floor's construction, so additional weather protection was needed for the slab.

To withstand the elements once the building was in use, durable galvanised joints were needed across every doorway – virtually the entire perimeter of the building. Because Eclipse is available in a galvanised finish, the same style of joint could be used throughout the building (non-galvanised Eclipse was used for internal joints, and galvanised for doorways).

External dry-shake topping

The external slab was created using steel fibre reinforced concrete (SFRC) – and the contractor made the decision to top the surface with our Fibretop dry-shake. This was to help improve the finish by suppressing any steel fibres near the surface of the slab, and has proven to be highly effective. (The photograph bottom right shows the external and internal slabs, with the galvanised joint between.)



Eclipse is stiff and easy to work with, which made the joint installation very straightforward. We'd happily use it again. Permaban's technical support on-site was also appreciated.

Kevin O'Reilly, Commercial Director, KonFloor

