The benefits of using armoured joints
Permaban armoured joints (properly called ‘teawave-in-place joint systems’) offer four important benefits:

• They act as a permanent formwork, creating a secure boundary or day joint during the concrete pour.
• They allow the concrete slab to contract in a controlled way, to prevent random cracks occurring.
• They protect the construction joint from impact damage once the building is in use, saving the expense of repair.
• They allow efficient load transfer between concrete slabs, for a stable and durable floor.

How armoured joints work
Armoured joints are used to create a boundary in which to contain a day’s concrete pour. As the concrete sets and contracts, the two sides of the joint (held together with frangible rivet connectors) are gradually pulled apart horizontally. Drawels fixed through the centre stop the slabs moving vertically and allow for load transfer between the two sections of the floor. Once the floor has contracted, the gap between the two sides can simply be filled with a suitable joint sealant.

The value-engineered approach
Traditional-style armoured joints only account for about 5% of the material cost of the floor slab. Joints are a small part of the overall cost - but can make an enormous difference to the floor’s lifetime performance.

By using a combination of Permaban armoured joints you can create an optimum specification without a significant cost increase.

For example, using Signature and Eclipse together in a specification will provide superior joint protection, but with a less than 1% increase in material cost. Using Signature alone means only a 3% increase in material cost. But remember that any additional up-front costs between the two sides can simply be filled with a suitable joint sealant.

Speak to RCR's technical advisers for further guidance on value engineering using Permaban joints.
Permaban Signature® is an armoured joint like no other. The clever half-hexagon shape prevents the wheels of materials handling vehicles from dropping into the gap between the two edges of the joint. Because there’s no impact, there’s no damage to either the joint or the truck. Winner of Most Innovative New Product, UK Concrete Show 2012.

Ideal for:
- General warehousing/distribution centres
- Waste transfer stations
- Cold stores
- Production facilities
- Heavy and light industry

Specific areas of use:
- Defined movement areas
- Transfer aisles, where vehicles cross joints at 90°
- Dock levellers
- Doorway protection
- Jointless floors

'Duty' / wheel type:
- Very heavy duty (small, hard wheels, i.e. motorised pallet trucks)
- Heavy duty (small, hard wheels)
- Medium duty (pneumatic tyres)

Permaban Wave® is the versatile, impact-free plate joint that’s easy to install. Its triple curve design has no straight edges, so MHE crosses smoothly in any direction. The narrow top plate aids stability and levelling. An extension plate allows installers to choose the correct joint height, then use excess stock on the next job site. Galvanised as standard.

Ideal for:
- General warehousing/distribution centres
- Waste transfer stations
- Cold stores
- Production facilities
- Heavy and light industry

Specific areas of use:
- Defined movement areas
- Transfer aisles, where vehicles cross joints at 90°
- Dock levellers
- Doorway protection
- Jointless floors

'Duty' / wheel type:
- Very heavy duty (small, hard wheels, i.e. motorised pallet trucks)
- Heavy duty (small, hard wheels)
- Medium duty (pneumatic tyres)

Eclipse is a tough, hard-working armoured joint for heavy-duty applications. Aligned tensile steel triangular section reinforces the top edge of the joint, as it can withstand heavy and persistent traffic. The full-height divider plate adds to its strength and rigidity, making Eclipse a versatile and economical alternative to a traditional-style joint. Galvanised as standard for internal and external use.

Ideal for:
- General warehousing/distribution centres
- Waste transfer stations
- Cold stores
- Production facilities
- Heavy and light industry

Specific areas of use:
- Defined movement areas
- Transfer aisles, where vehicles cross joints at 90°
- Dock levellers
- Doorway protection
- Jointless floors

'Duty' / wheel type:
- Very heavy duty (small, hard wheels, i.e. motorised pallet trucks)
- Heavy duty (small, hard wheels)
- Medium duty (pneumatic tyres)

AlphaJoint® Classic 4010 is well known as the ‘industry standard’ armoured joint, this remains a popular choice for many projects worldwide due to its strength and versatility. It is now supplied with Permaban’s Universal Divider Plate, with pre-set positions which allow installers to choose the correct joint height, then use excess stock on the next job site.

Ideal for:
- General warehousing
- Distribution centres
- Production facilities
- Heavy and light industry

Specific areas of use:
- Defined movement areas
- Transfer aisles
- Doorway protection
- Jointless floors

'Duty' / wheel type:
- Heavy duty (small, hard wheels)
- Medium duty (pneumatic tyres)

BetaJoint® Range is the versatile, impact-free plate joint that’s easy to install. Its triple curve design has no straight edges, so MHE crosses smoothly in any direction. The narrow top plate aids stability and levelling. An extension plate allows installers to choose the correct joint height, then use excess stock on the next job site.

Ideal for:
- General warehousing
- Distribution centres
- Production facilities
- Heavy and light industry

Specific areas of use:
- Defined movement areas
- Transfer aisles
- Doorway protection
- Jointless floors

'Duty' / wheel type:
- Heavy duty (small, hard wheels)
- Medium duty (pneumatic tyres)

No impact, no damage, no gap! SignatureSlide’s clever double plate top ensures no gap is exposed when the joint opens. Designed to cover large gap sizes, it is ideal for jointless floors, post-tensioned floors and cold/freezer stores, and also where debris or substances might enter the gap. Continuous concrete ties ensure firm anchoring.

Ideal for:
- Cold stores and freezer stores
- Food manufacturing
- Heavy and light industry
- General warehousing

Specific areas of use:
- Jointless floors
- Pedestrian traffic areas
- As a leave-in-place screed rail
- Free movement areas
- External yards (BetaExpansion)

'Duty' / wheel type:
- Medium duty

Eclipse is a tough, hard-working armoured joint for heavy-duty applications. Aligned tensile steel triangular section reinforces the top edge of the joint, as it can withstand heavy and persistent traffic. The full-height divider plate adds to its strength and rigidity, making Eclipse a versatile and economical alternative to a traditional-style joint. Galvanised as standard for internal and external use.

Ideal for:
- General warehousing/distribution centres
- Waste transfer stations
- Cold stores
- Production facilities
- Heavy and light industry

Specific areas of use:
- Defined movement areas
- Transfer aisles, where vehicles cross joints at 90°
- Dock levellers
- Doorway protection
- Jointless floors

'Duty' / wheel type:
- Very heavy duty (small, hard wheels, i.e. motorised pallet trucks)
- Heavy duty (small, hard wheels)
- Medium duty (pneumatic tyres)

Note: All products are available in a variety of finishes and configurations. For more information, please contact your local Permaban supplier.