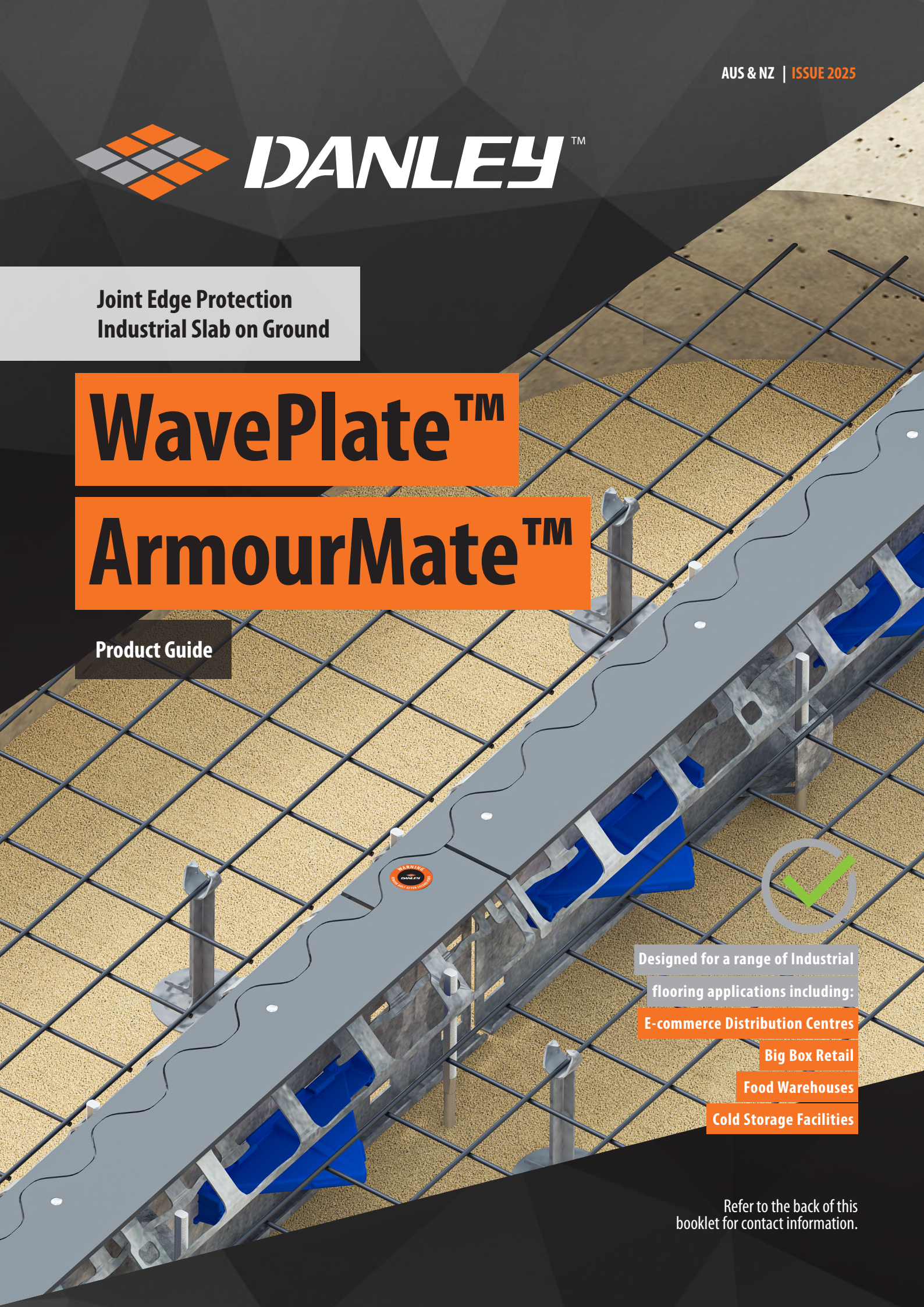
AUS & NZ | ISSUE 2025

DANLEY™

Joint Edge Protection
Industrial Slab on Ground

WavePlate™
ArmourMate™

Product Guide



Designed for a range of Industrial flooring applications including:

- E-commerce Distribution Centres
- Big Box Retail
- Food Warehouses
- Cold Storage Facilities

Refer to the back of this booklet for contact information.

New Innovation. Same Trusted System.

Introducing a step forward in joint system technology-enhancing performance without changing what you already trust.

WavePlate™ Enhanced Design Features:

Flush Top Plate

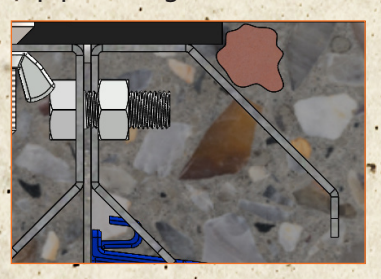
Enables smooth, uninterrupted concrete finishing.

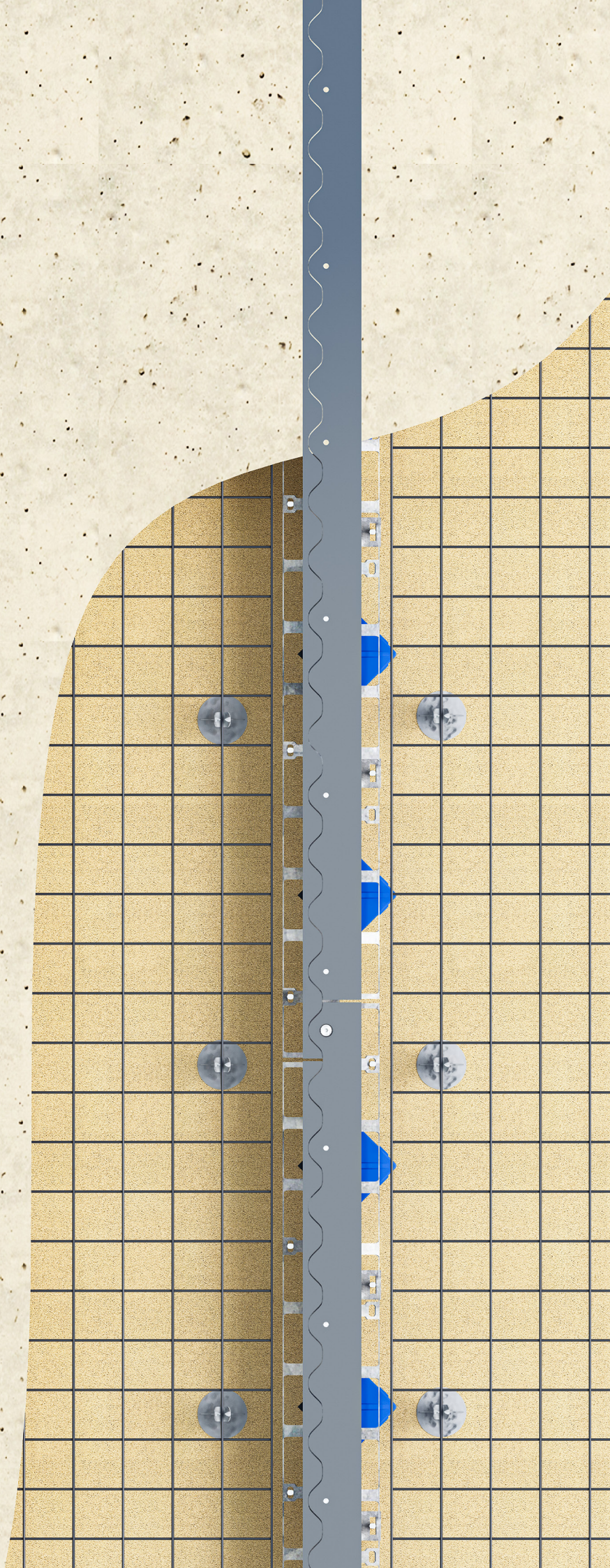
Advanced Lateral Movement

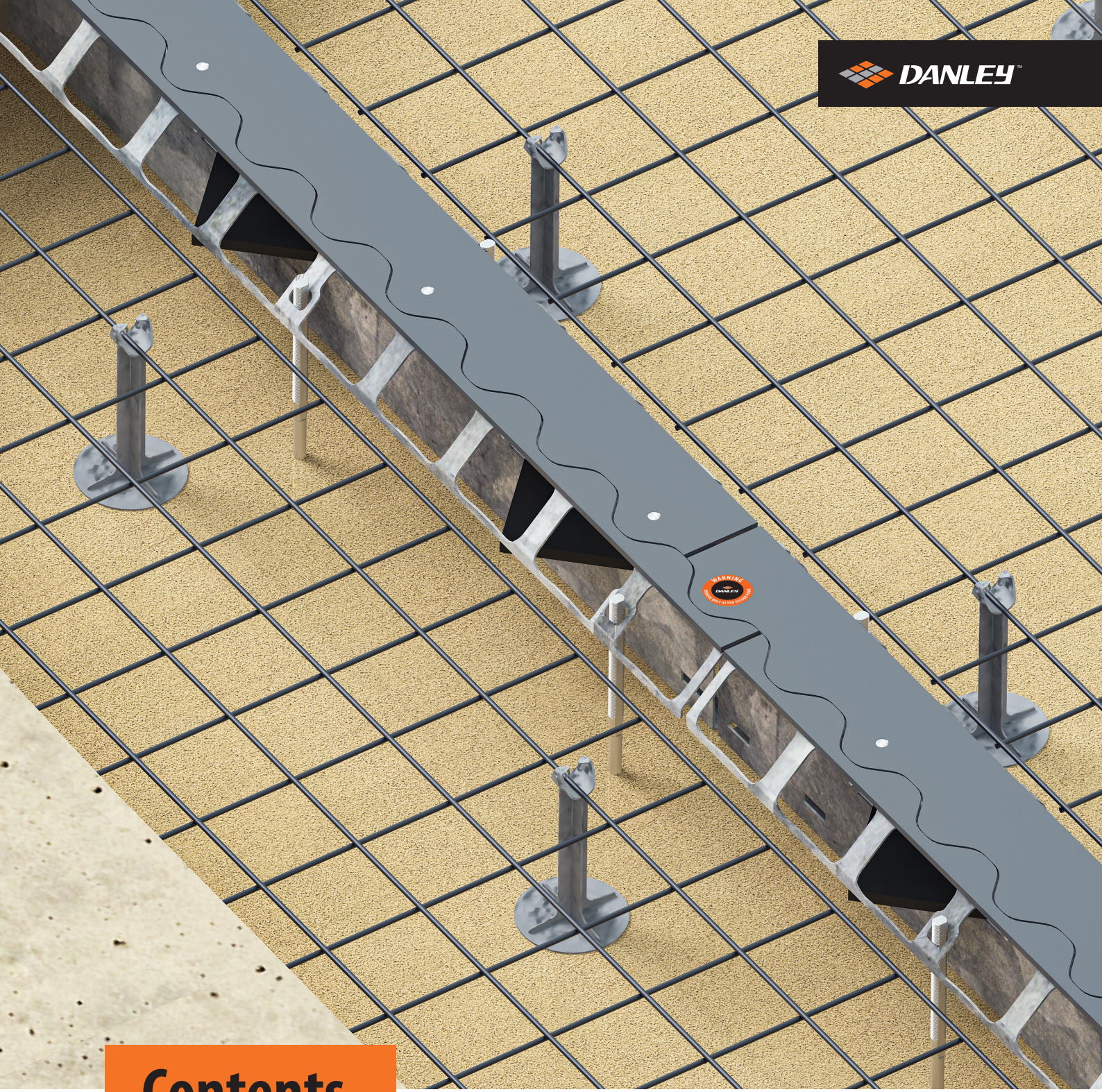
4mm defined joint end gaps prevent joint binding laterally while 2.5mm gaps either side of the teeth provide addition early lateral movement for irregular slabs.

Improved Aggregate Compaction

More consistent concrete compaction by allowing 20mm aggregate up to both top plate edges.







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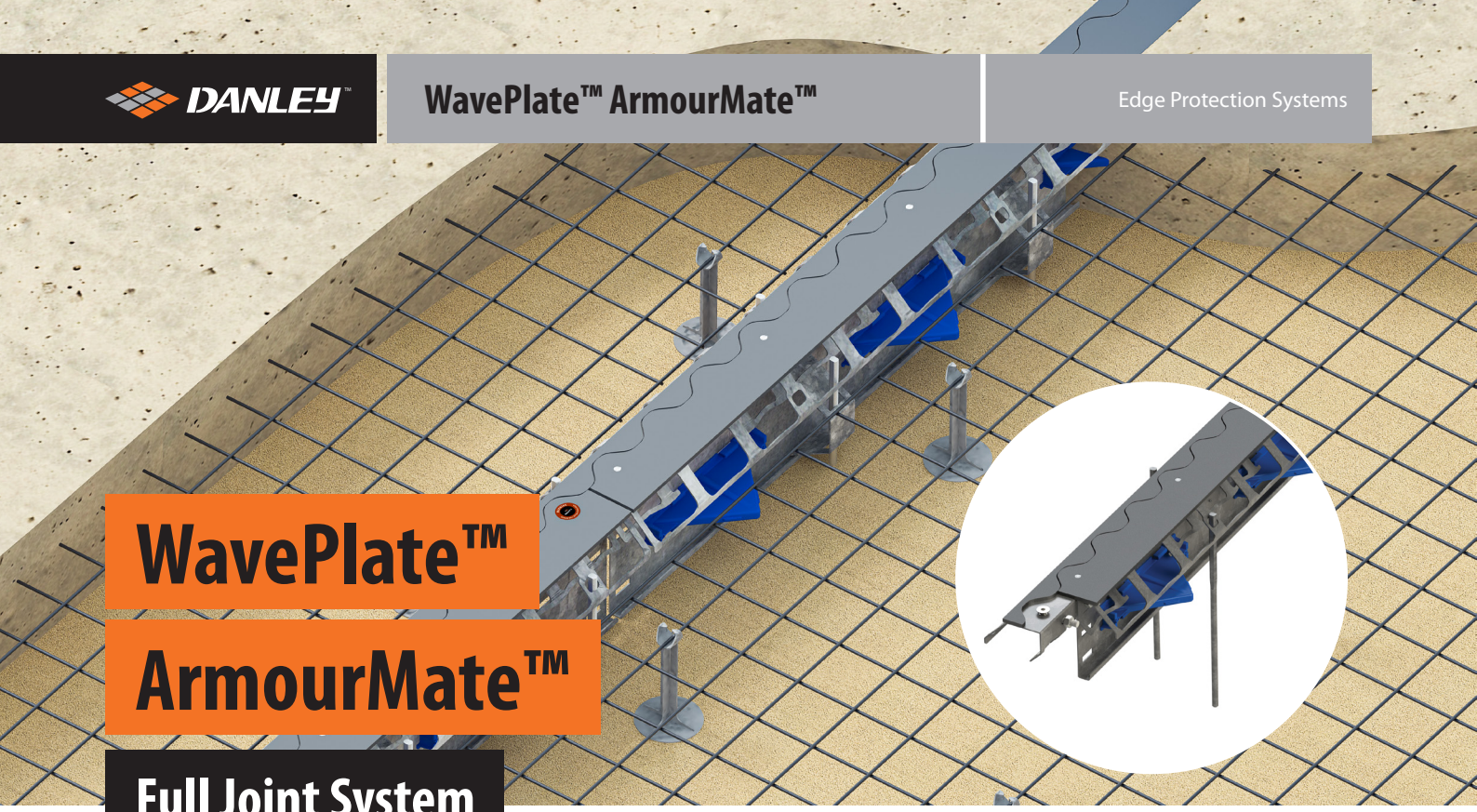


WavePlate™ ArmourMate™

Full Joint System

Product Description

The innovative Danley™ WavePlate™ ArmourMate™ utilises disruptive joint technology to protect concrete edges and continuously supports passing material handling equipment (MHE), providing for a smooth, low impact transition across joints up to 20mm wide.

The offset design of the WavePlate ArmourMate improves joint performance and serviceability by preventing debris and other contaminants from filling the joint – aiding thermal expansion and protecting the load transfer mechanism - without the need of a filler or sealant. The continuous studding profile provides consistent, even anchorage in the concrete.

The full joint WavePlate ArmourMate is supplied in standard 2.1 metre lengths and is available in a range of profile heights for common slab thicknesses in Black or Galvanised finish. WavePlate is also available in a Top Rail Assembly configuration. Intersection Nodes are available in both Black and Galvanised.

Features

- Disruptive Joint Technology fully supports MHE to 20mm joint width gap.
- Supplied in 2.1 metre lengths.
- Available in 145mm, 165mm, 190mm and 245mm profile heights.
- Supplied with Galvanised sacrificial separation plate. Replaces traditional timber formboards.
- Danley™ Diamond™ Dowels provide load transfer to the requirements of TR34 (4th Edition).
- WavePlate Node Intersections are available.
- Flush top plate design enables smooth and efficient concrete finishing.
- 4mm offset ensures Advanced lateral movement capabilities. precise and consistent joint spacing.
- Complete concrete aggregate consolidation and compaction, minimises concrete spalling, enhancing durability.

WavePlate's disruptive plate technology provides the smoothest possible transition over the joints. WavePlate future-proofs your asset - tested and validated to a 25+ year design life.

Trade Benefits

Concreter Benefits

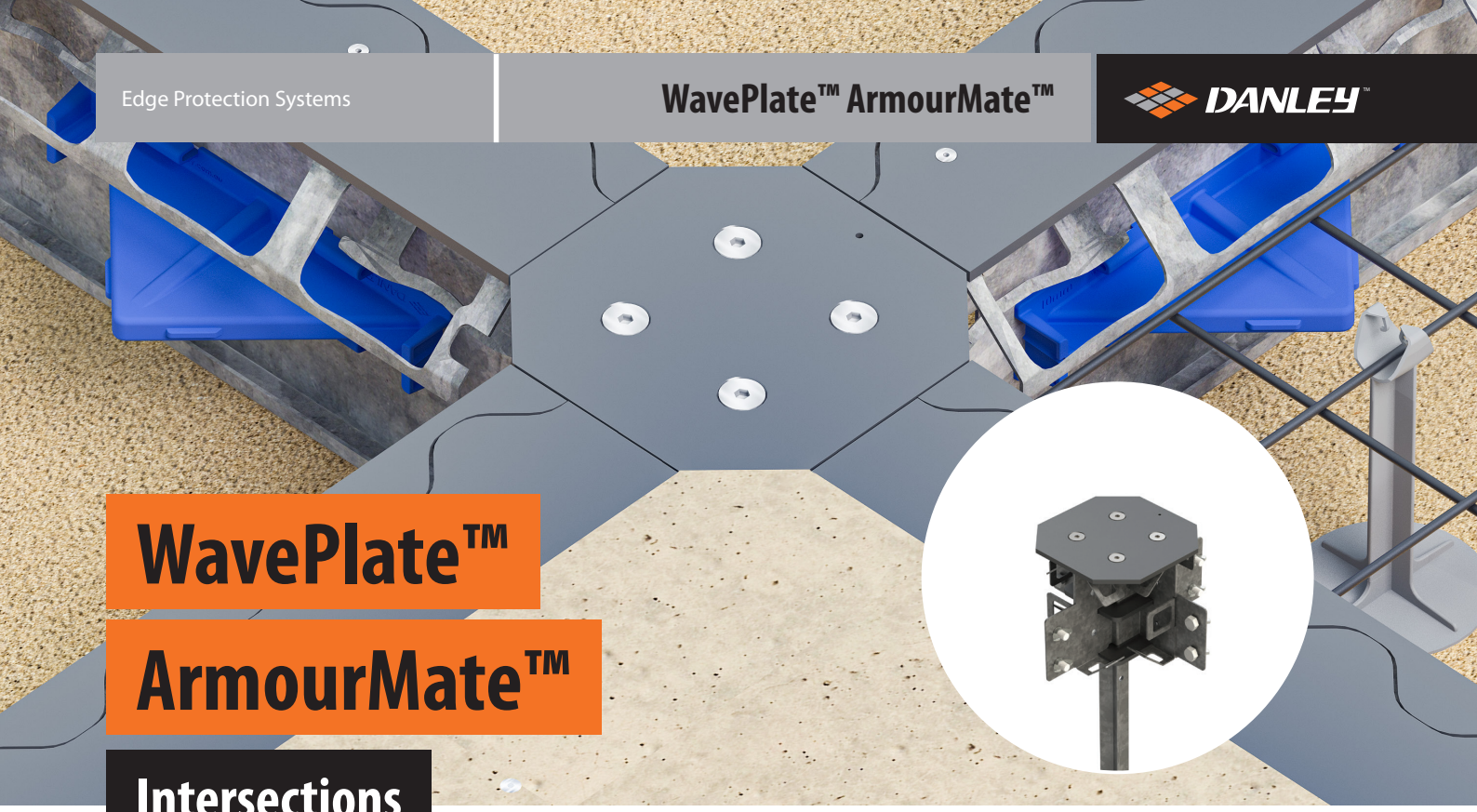
- Full System configuration eliminates formboards.
- Twist-and-Lock Stake system provides fine height adjustment.
- Staking system eliminates hot work (onsite welding).
- Top "Wave" Plates provide a straight edge and screed rail.
- Innovative continuous studding provides consistent anchorage.
- 100mm offset plates for seamless joining of lengths.
- Flush top plate design enables smooth and efficient concrete finishing.

Asset Protection Benefits

- Reduces concrete spalling damage at the joints.
- Smooth transition over joints provides significant noise reduction.
- Provides a safer operating environment for tenant employees.
- Reduces floor maintenance and downtime costs over the life-cycle of the facility.
- Extends the life-cycle of the asset by protecting the floor. Tested and validated to a 25+ year design life.
- Provides a level of future proofing for environment and layout changes.
- Increases tenant satisfaction and return on investment.
- The 4mm offset guarantees precise and consistent joint spacing, reducing the likelihood of uneven wear and ensuring long-term structural stability.
- Complete concrete aggregate consolidation and compaction, minimises concrete spalling, enhancing durability.

Engineering Benefits

- Complies with the requirements of TR34 (4th Edition).
- Extends the life-cycle of the asset by protecting the floor. Tested and validated to a 25+ year design life.
- Accuracy of dowel placement height and centres ensures the most effective load transfer performance.
- Offset "wave" design improves joint performance and serviceability.
- Fully Supports MHE at joint width gaps up to 20mm.
- Prevents debris and other contaminants from filling the joint.
- The 4mm offset provides exact and uniform joint spacing, ensuring compliance with engineering specifications and improving load distribution.
- Complete concrete aggregate consolidation and compaction, minimises concrete spalling, enhancing durability.



WavePlate™ ArmourMate™

Intersections

Product Description

Designed specifically for use with the Full Joint System, the WavePlate™ Intersection is a lightweight, compact, innovative modular system that allows for quick and easy set-up of 2, 3 and 4 way intersections.

Available in standard profile heights of 145mm, 165mm, 190mm and 245mm – in Black and Galvanised, the node intersections are supplied complete with a locking star-picket.

The smart design of the WavePlate Intersection ensures that joint lines do not need to continue linearly across the intersection, providing for the hassle-free intersecting of lengths that can't be mis-matched.

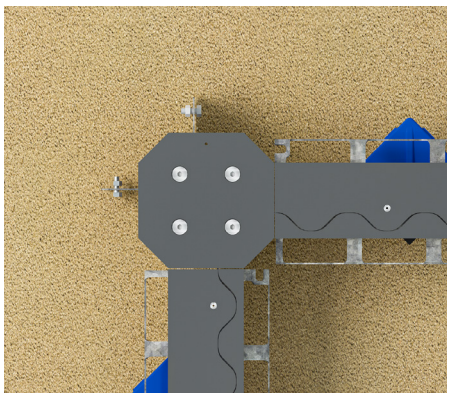
With a simple bolt-together design, the intersections significantly reduce the amount of welding/hot work required on site.

Features

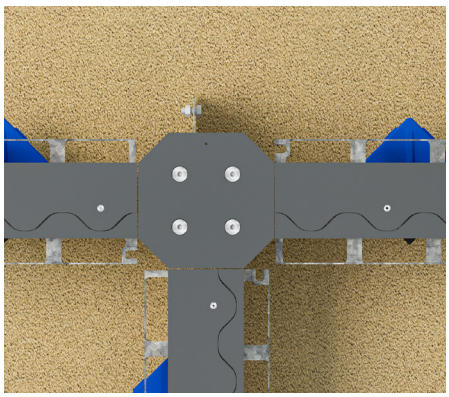
- Compact, lightweight, safe and easy to carry around site.
- Available in 4 Standard profiles: 145mm, 165mm, 190mm and 245mm.
- Available in Black and Galvanised.
- A single node provides for 2 way, 3 way and 4 way intersections.
- Supplied complete with Star Picket that locks the intersection in place, minimising rotation during set-up.

The innovative modular WavePlate Intersections are lightweight and safe to carry around site. Designed for fast & easy installation - joint lines do not continue across the intersection.

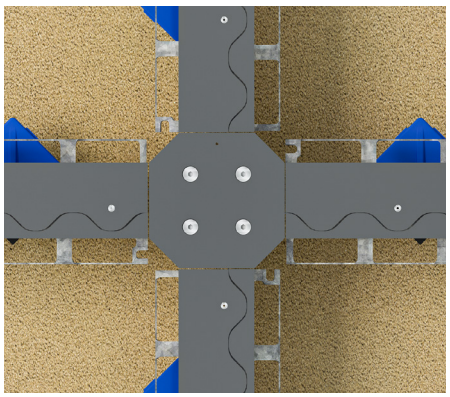
WavePlate Intersection Configurations



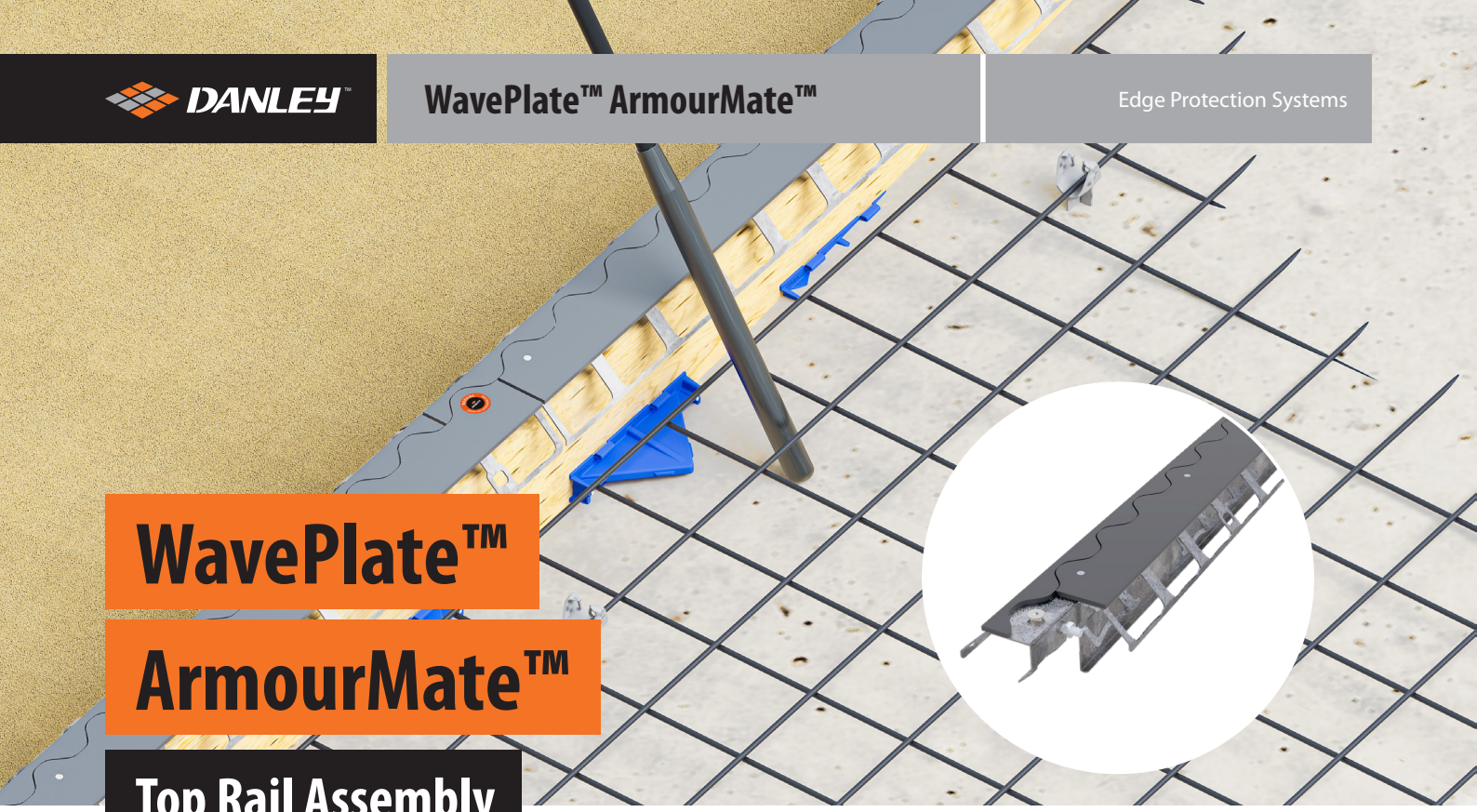
2-Way Configuration



3-Way Configuration



4-Way Configuration



WavePlate™ ArmourMate™

Top Rail Assembly

Product Description

The innovative Danley™ WavePlate™ ArmourMate™ Top Rail Assembly utilises disruptive joint technology to protect concrete edges and continuously supports passing material handling equipment (MHE), providing for a smooth, low impact transition across joints up to 20mm wide.

The WavePlate ArmourMate Top Assembly is available in Black or Galvanised and supplied in standard 2.1 metre lengths which can be easily fixed to traditional timber formboards. WavePlate Top Rail Assemblies are available on a made-to-order basis. Minimum order quantities will apply.

Features

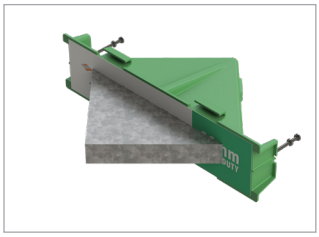
- Disruptive Joint Technology fully supports MHE up to 20mm joint width gaps.
- Top "Wave" Plates provide a straight edge and screed rail.
- Supplied in 2.1 metre lengths.
- Easily fixes to traditional timber formboards.
- Danley™ Diamond™ Dowel AirEx™ sleeves are easily fastened to timber formboards.
- Available in Black and Glavanised.
- Flush top Plate design enables smooth and efficient concrete finishing.
- 4mm offset ensures precise and consistent joint spacing.
- Complete concrete aggregate consolidation and compaction, minimises concrete spalling, enhancing durability.

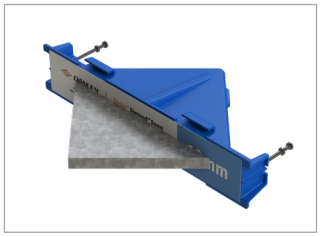
WavePlate Top Rail Assembly is ideal for use in slabs greater than 300mm in depth and is compatible with the use of high movement dowels.

Compatible Dowel System: Diamond™ Dowel AirEx™

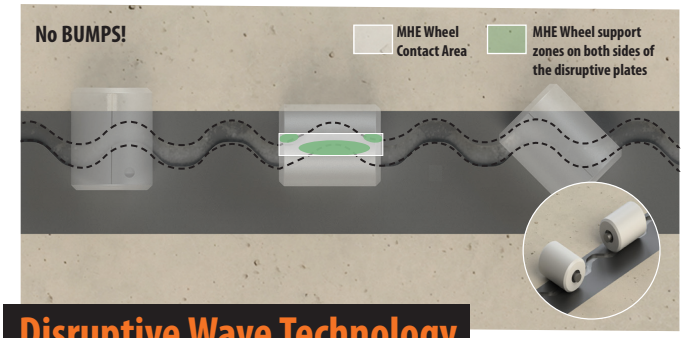
Diamond™ Dowel AirEx™ is a load transfer plate dowel and sleeve system designed for construction joint applications in concrete slabs and pavements. Diamond™ Dowel AirEx™ is designed as a fast fix system that provides load transfer across the joint and minimises differential deflection between adjacent slab panels."

For more information on the Danley™ range of dowel solutions visit our website.





How it Works



Disruptive Wave Technology

The innovative disruptive "wave" plate design delivers a significant benefit over traditional armoured edge rail systems, providing a smooth, low impact transition across the joint. Both halves of the "wave" supports the smallest of transitioning wheels on LGV, automated Material Handling Equipment (MHE), forklift trucks and pallet jacks (as depicted by the green shaded areas above).

Fully Encapsulated Joint Gap

The offset support bracket of WavePlate fully supports the top plates to a joint width gap of up to 20mm, providing an annex over the joint that prevents debris and other contaminants from entering the joint gap. Ideally suited for foodstuff warehousing and cold store environments, the WavePlate encapsulated joint also prevents the ingress of vermin and rodents.

Continuous Studding Profile

WavePlate features a continuous studding profile that provides consistent, even anchorage in the concrete on both sides of the joint. Large cut-outs along the studding profile allow adequate concrete and aggregate - up to 20mm in size - to flow around the anchor points and beneath the joint plates. Cut infill lengths ensure stud anchorage either side of the joint, within 100mm of the cut without the need to weld on additional anchorage.

Epoxy Filler Reservoir (Optional)

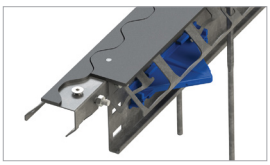
The encapsulated design does not require the use of an epoxy filler to protect the joint, nor is a filler required to prevent the ingress of debris or other containments entering the joint. However, if specified - WavePlate provides a fully supported 6mm deep well or channel that is ideal for applying joint epoxies and sealants.

WavePlate: Tested and Validated to a 25+ Year Design Life.

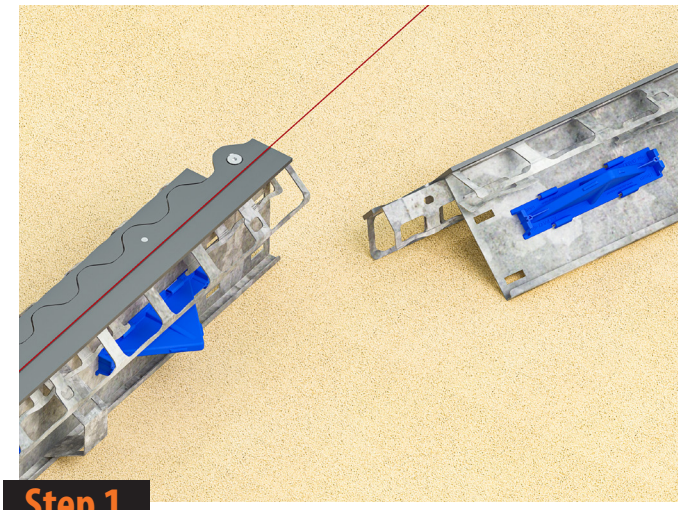
WavePlate aims to deliver asset owners, tenants and operating staff with a construction joint system that not only provides a smooth transition across the joint, but also mitigates concrete spalling and reduces floor maintenance and downtime costs over the life of the facility. During the prototyping phase, we ran the Danley WavePlate through its paces - subjecting it to the toughest of Impact and Wear testing conditions to ensure it delivered on our promise – a high functioning, low maintenance joint with a Design Life of 25+ years.

To watch the video, scan the QR Code.

How to Install

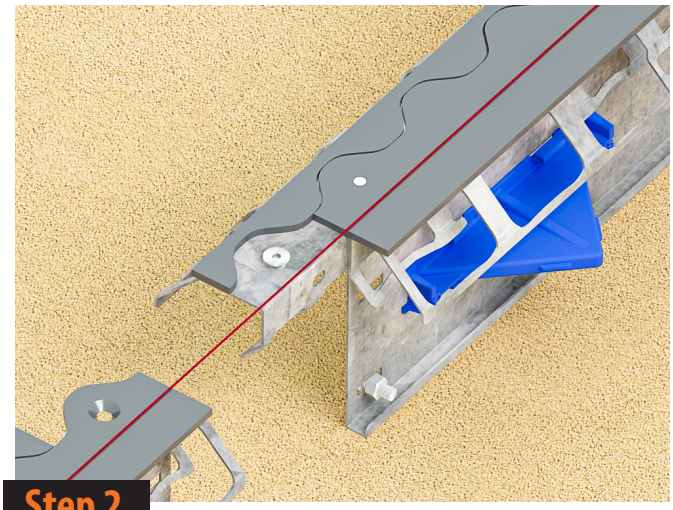


Full Joint Installation



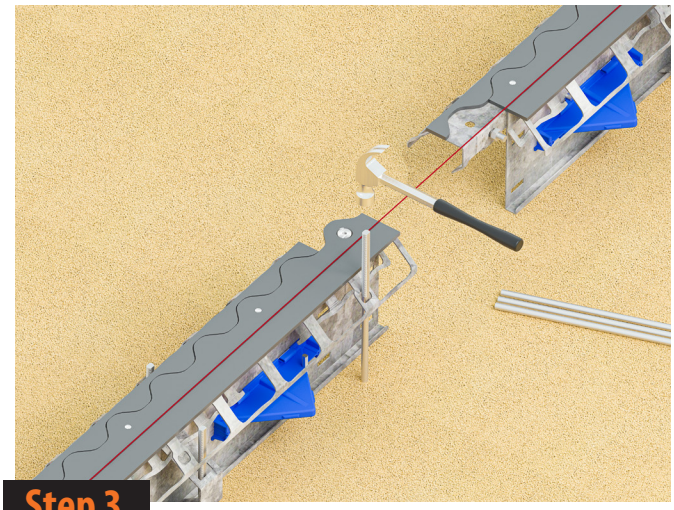
Step 1

Check sub-grade for levelness and grade. Set a string line along the joint path and position the first length of WavePlate.



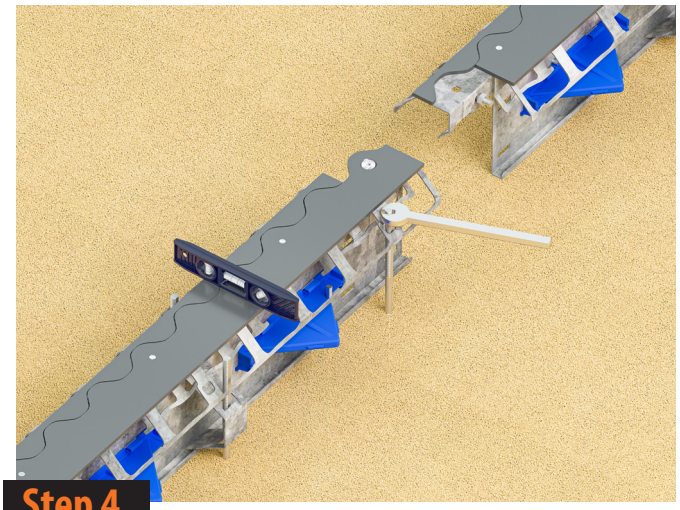
Step 2

Position all joints at the required joint line ready for install. Cut infills as required. Infills will be required at the start and the end of the pour break. The 100mm offset will need to be removed.



Step 3

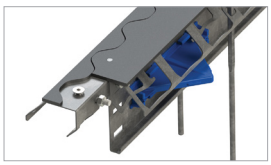
Ensure joint is positioned so that the sleeves go on the side of the first concrete pour. Insert 6 stakes per length (3 on each side) through the stake brackets attached to the WavePlate separation plate. Hammer the stakes into the ground until they are minimum 30mm below the top of the joint. Additional staking and bracing may be required to keep sections steady during the concrete pour.



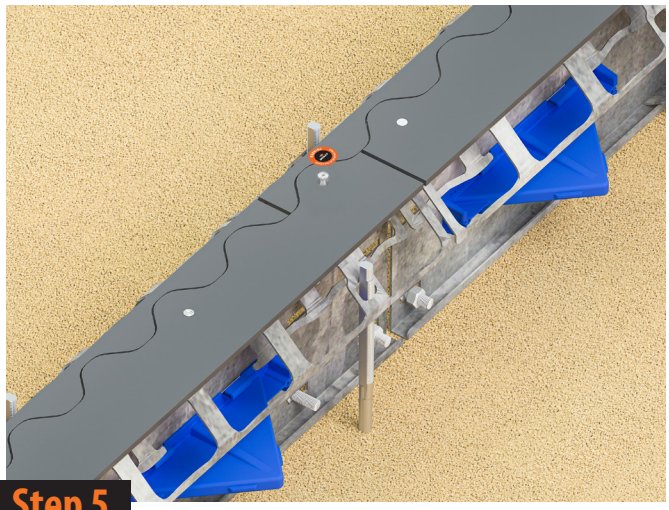
Step 4

Adjust the height of the joint until it is level and at the required slab depth. Turn the stakes 90 degrees using the shifter to lock the joint in place. To assist with leveling and height adjustment of WavePlate, stakes may be inserted in the opposing side and locked into place.

How to Install



Full Joint Installation (Continued)

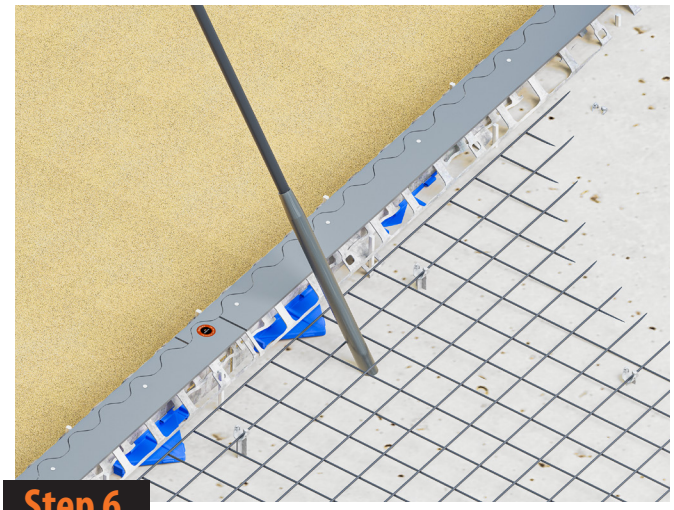


Step 5

The WavePlate lengths are offset on each end by 100mm. Join the next length by matching up the offset and fastening together with provided steel bolt at the top wave plate and Nylon bolt at the 2mm anchor rail.

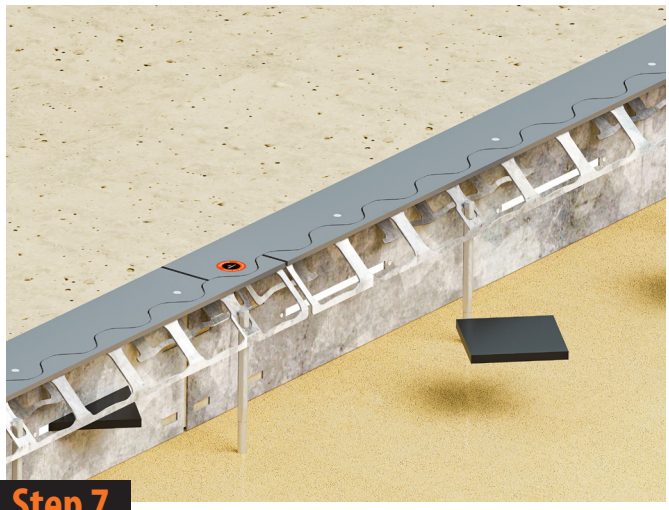
Ensure a 4mm gap per metre is left between each length. Repeat the process for each section until the desired length is achieved.

Place Orange Danley warning sticker on the bolt to as a reminder to remove after second pour.



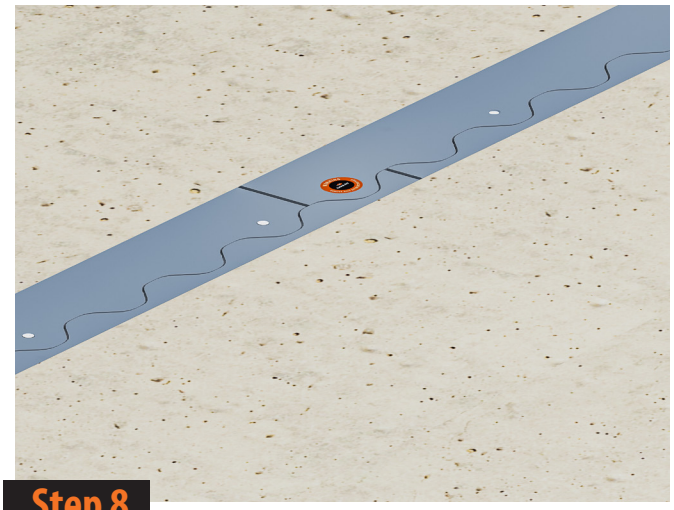
Step 6

Pour the first concrete pour ensuring to vibrate along the joint at regular intervals. The top plates of WavePlate can be used as a screed rail during concrete finishing.



Step 7

After the first pour, remove any additional staking. Prior to the second pour, insert the Diamond™ Dowels through the separation plate slots and into the sleeves of the first pour. Dowels should be inserted into the sleeves within 36 hours of the first pour.

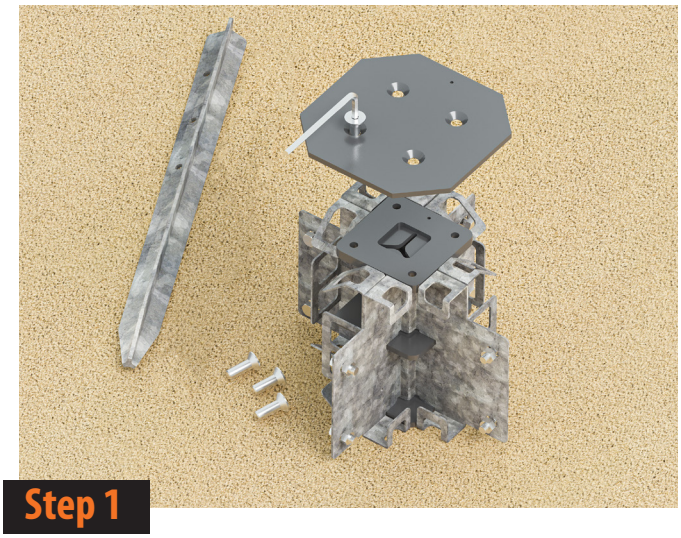


Step 8

Continue with pour 2. Remove steel bolts from top plates 3-4 hours after both slabs have been poured to prevent joint lock up. Ensure the steel bolts are removed before the end of the day. Use the provided colorful joiner bolt covers to review any bolts still left in place.

How to Install

Intersection Installation



Step 1

Undo the 4 countersunk screws connecting the top plate to the intersection assembly. Keep top plate and bolts secure. Screws can be screwed back into the holes once the plate is removed for safe keeping.

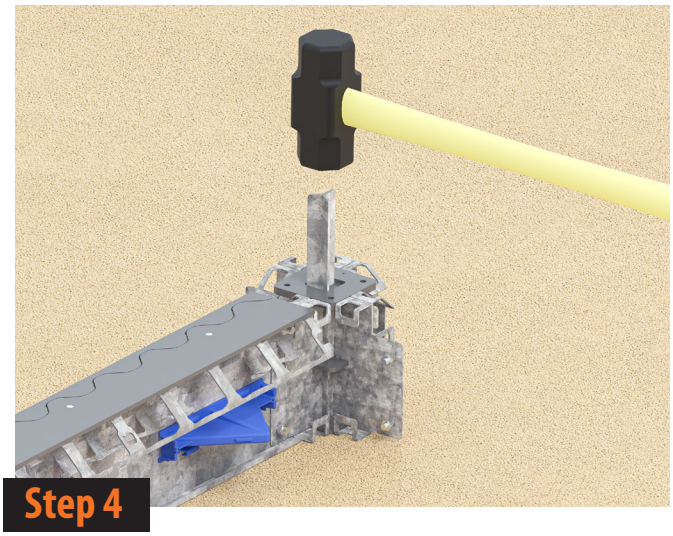
Step 2

Cut standard or infill joints flush on the intersection connecting end onsite. For standard joints the 100mm offset just needs to be cut off. Cut through the complete joint profile. Be careful not to cut through dowels when cutting infills. Cut joints to suit required intersection type (2, 3 or 4 Way) and direction.

Step 3

Connect up the required joint to the intersection using the provided Nylon bolts (2 places). The connection cleat on the intersection slides to sit on the stake bracket side of the joint. If connecting a cut infill to the intersection, ensure the cut end is against the intersection.

10mm holes may need to be drilled in the correct positions to connect the joint to the intersection cleat plates with Nylon bolts. The cleat on the intersection can be used as a guide for drilling the connection holes.



Step 4

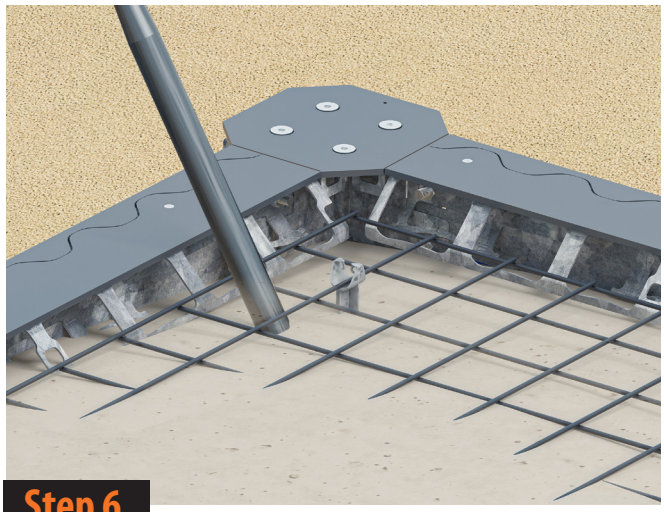
Place the star picket down through the centre of the intersection positioning the star picket in the correct direction through the top and bottom guides. Hammer the star picket into the ground until the picket top is below the top of the recessed cleat plate. The intersection joint can now be levelled with the joint to the correct height sliding on the star picket.

How to Install

Intersection Installation (Continued)

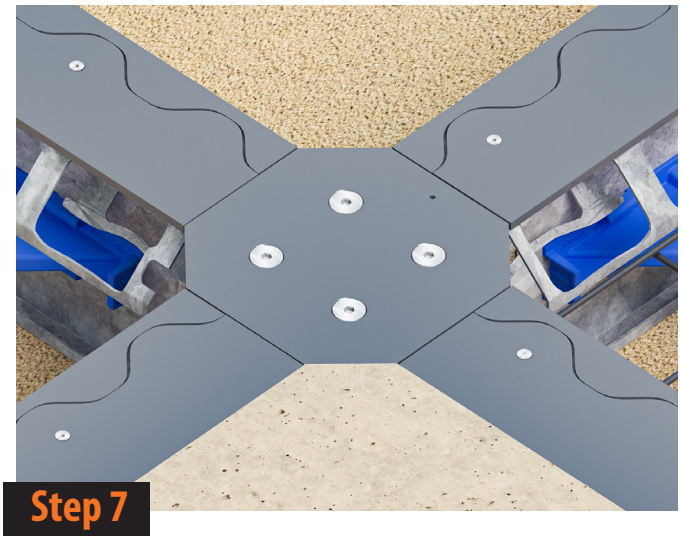
Step 5

Re-install the top plate over the hammered star picket and re-bolt using the 4 countersunk screws ensuring the positioning hole on the top plate, cleat plate and anchor plate are positioned in the same direction.



Step 6

At concrete placement, ensure to vibrate along both the WavePlate joint and intersection at regular intervals.



Step 7

Pour concrete flush with joint and intersection. The top of the WavePlate can be used to screed along. Ensure to remove all steel bolts from connected joint lengths 3-4 hours after the second pour to prevent lockup.

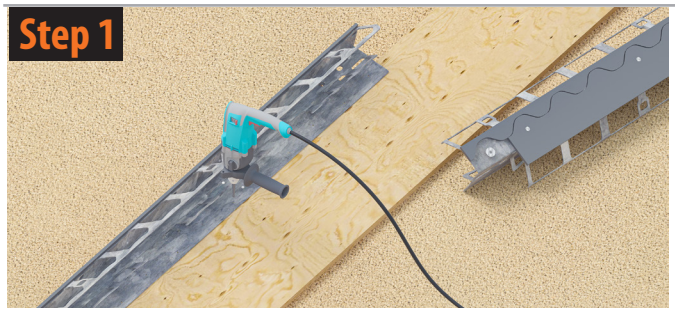
Step 8

Ensure when placing subsequent intersections on the same project that the positioning hole on the top plate of the intersection is facing in the same direction at the first-placed intersection. This will ensure all joints line up throughout the project. The intersection is directional and misaligned intersections will not match if placed incorrectly.

How to Install

Top Rail Assembly Installation Process

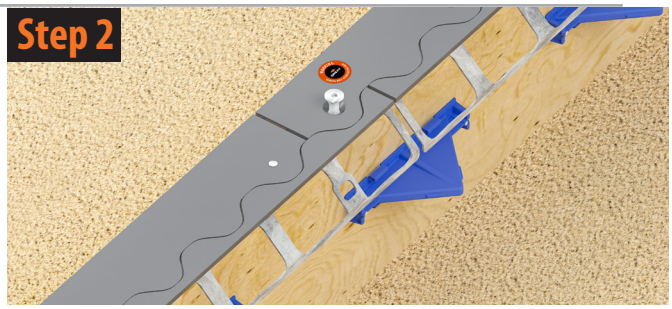
Step 1



Secure the top assembly joint to the wooden formwork, ensuring the smaller angle (large top plate) side is positioned on the intended first pour side. The formwork should sit below the joint.

Secure the joint by tech screwing from the formwork side (recommended) into the 2mm formwork plate, alternating the screws for optimal fastening.

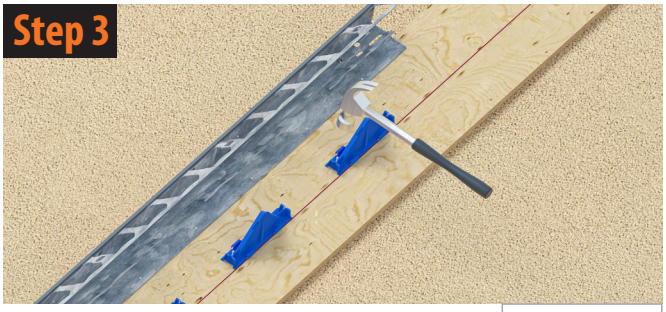
Step 2



Align and connect ArmourMate™ lengths using the 100mm offset connection to maintain level and alignment.

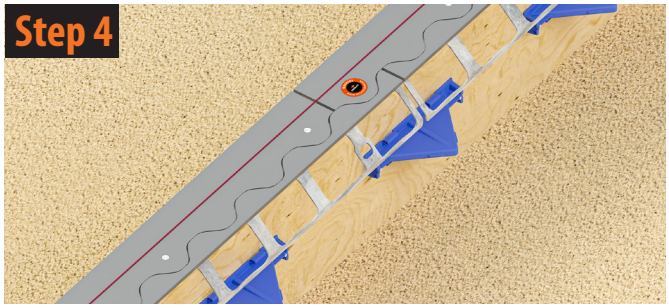
Bolt the lengths together with the provided steel countersink bolts, then cover with stickers to prevent slurry ingress during concrete finishing. Maintain a 4mm gap between each length to allow for lateral movement of the joint. Repeat this process until the desired length is achieved.

Step 3



Nail dowel sleeves at specified centres to the formboard on the studded side (1st pour) at approx 1/2 slab depth.

Step 4



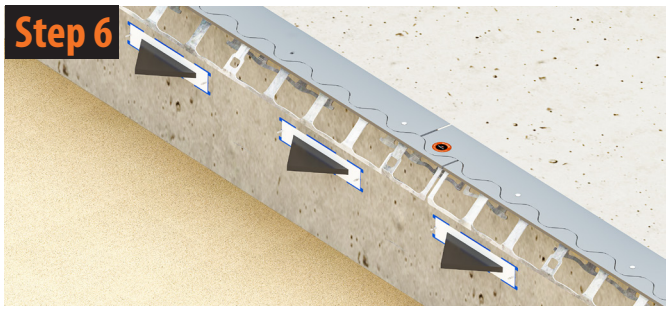
Brace the joint and level it using the installer's preferred method. Place all required concrete reinforcement.

Step 5

Pour the first side, ensuring proper vibration around the joint for consolidation. The top of the ArmourMate™ rails can be used as a screeding guide.

Once the first slab has set, remove the wooden formwork, ensuring all securing tech screws are removed beforehand. Grind them off if secured from other side.

Step 6



Insert diamond dowels into the sleeves in the first pour before proceeding with the second pour. Dowels should be placed within 36 hours of the first pour.

After the second pour, remove stickers and all steel joiner bolts to eliminate restraint as the joint opens. The bright-coloured stickers serve as indicators for any left-in-place bolts.

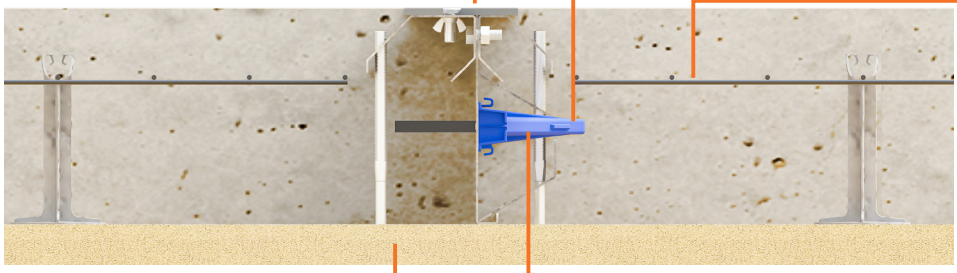
How to Specify

How to Specify Danley™ WavePlate™ ArmourMate™

DANLEY™ WAVEPLATE™ WITH DISRUPTED JOINT TECHNOLOGY CREATES A FULLY SUPPORTED, SMOOTH TRANSITION FOR MATERIAL HANDLING EQUIPMENT (MHE) ACROSS THE JOINT WIDTH. WAVEPLATE™ FULL JOINT SYSTEM FITTED WITH DANLEY™ DIAMOND™ DOWELS THAT PROVIDE LOAD TRANSFER ACROSS THE JOINT. DANLEY™ DIAMOND™ DOWELS ARE AVAILABLE IN BLACK, GALVANISED OR STAINLESS STEEL.

Construction Joint.

Dowel Sleeve located in first pour.



In the absence of any other information, this mesh placement is a suggestion only, and is superseded by the engineer's design.

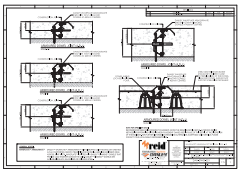
Reinforcement should be supported correctly with bar chairs complying to AS/NZS 2425:2015. The Danley™ Diamond™ Dowel is not to be used as reinforcing support.

Danley WavePlate Full Joint System with Diamond Dowels provide load transfer for construction joint applications in concrete slabs and pavements.

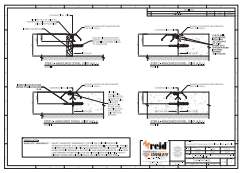
Danley™ Diamond™ Dowels & Sleeves placed at 410mm centres on the WavePlate™ Full Joint System.

WavePlate™ ArmourMate™ Specification Details

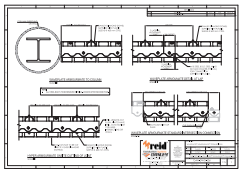
DWG format: Scan QR Codes to access the WavePlate™ Specification details.



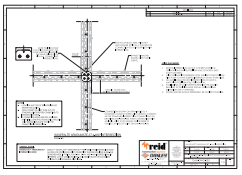
Danley™ WavePlate™ Sectional Views (Full Joint)



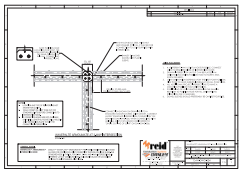
Danley™ WavePlate™ Sectional Views (Top Rail)



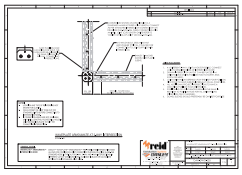
Danley™ WavePlate™ Connections



Danley™ WavePlate™ 4-Way Intersection

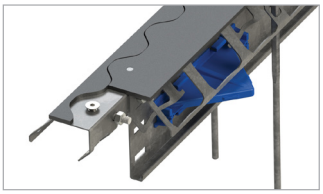


Danley™ WavePlate™ 3-Way Intersection



Danley™ WavePlate™ 2-Way Intersection

How to Order

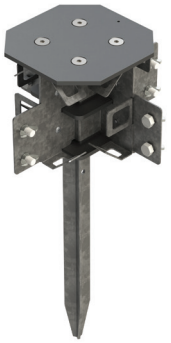


WavePlate™ ArmourMate™ Full Joint System

Component	Description	Length (m)	Weight (Kg)	Finish	Slab Thickness	Diamond™ Dowel	Dowel Centres (mm)
Black:							
AMWFJS145B	WavePlate ArmourMate Joint System 145mm	2.1	22.8	Black	150 - 160	10mm	410
AMWFJS165B	WavePlate ArmourMate Joint System 165mm		23.5		170 - 185	10mm	
AMWFJS190B	WavePlate ArmourMate Joint System 190mm		24.5		195 - 240	10mm	
AMWFJS245B	WavePlate ArmourMate Joint System 245mm		26.5		250 - 300	20mm	
Galvanised:							
AMWFJS145G	WavePlate ArmourMate Joint System 145mm	2.1	23.1	Galv	150 - 160	10mm	410
AMWFJS165G	WavePlate ArmourMate Joint System 165mm		23.8		170 - 185	10mm	
AMWFJS190G	WavePlate ArmourMate Joint System 190mm		24.8		195 - 240	10mm	
AMWFJS245G	WavePlate ArmourMate Joint System 245mm		26.8		250 - 300	20mm	

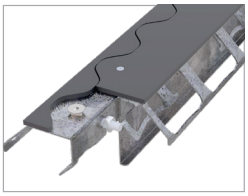
WavePlate™ ArmourMate™ Intersections

Code:	Description:	Weight (Kg)	Finish
Black:			
AMWP145INTB	WavePlate Intersection 145mm	6.4	Black
AMWP165INTB	WavePlate Intersection 165mm	6.7	Black
AMWP190INTB	WavePlate Intersection 190mm	7.2	Black
AMWP245INTB	WavePlate Intersection 245mm	8.3	Black
Galvanised:			
AMWP145INTG	WavePlate Intersection 145mm	6.6	Galv
AMWP165INTG	WavePlate Intersection 165mm	7.0	Galv
AMWP190INTG	WavePlate Intersection 190mm	7.5	Galv
AMWP245INTG	WavePlate Intersection 245mm	8.5	Galv



WavePlate™ ArmourMate™ Top Rail Assembly

Code:	Description:	Length (m)	Weight (Kg)	Finish
AMWTRB	WavePlate ArmourMate Top Rail Assembly	2.1	16.9	Black
AMWTRG	WavePlate ArmourMate Top Rail Assembly	2.1	17.1	Galv



Product Compliance

Compliance statement

Danley™ WavePlate™ ArmourMate™ complies with the New Zealand Building Code clauses identified below.

Compliance details: NZBC

NZBC Clause	Criteria	Compliance Status
B1 Structure		
B1.3.1	Buildings, building elements and sitework shall have a low probability of rupturing, becoming unstable, losing equilibrium, or collapsing during construction or alteration and throughout their lives.	✓
B1.3.2	Buildings, building elements and sitework shall have a low probability of causing loss of amenity through undue deformation, vibratory response, degradation, or other physical characteristics throughout their lives, or during construction or alteration when the building is in use.	✓
B1.3.3	Account shall be taken of all physical conditions likely to affect the stability of buildings, building elements and sitework, including: (b) imposed gravity loads arising from use (d) earth pressure (c) temperature (j) impact (m) differential movement (p) equipment, services, non-structural elements and contents (q) time dependent effects including creep and shrinkage.	✓
B1.3.4	Due allowances shall be made for: a. the consequences of failure, b. the intended use of the building, c. effects of uncertainties resulting from construction activities, or the sequence in which construction activities occur, d. variation in the properties of materials and the characteristics of the site, and e. accuracy limitations inherent in the methods used to predict the stability of buildings	✓
B2 Durability		
B2.3.1	Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated, or: (a) the life of the building, being not less than 50 years, if: i. those building elements (including floors, walls, and fixings) provide structural stability to the building, or ii. those building elements are difficult to access or replace, or iii. failure of those building elements to comply with the building code would go undetected during both normal use and maintenance of the building.	✓
B2.3.2	Individual building elements which are components of a building system and are difficult to access or replace must either: (a) All have the same durability, or (b) Be installed in a manner that permits the replacement of building elements of lesser durability without removing building elements that have greater durability and are not specifically designed for removal and replacement.	✓

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