

AUS & NZ  
ISSUE 2024



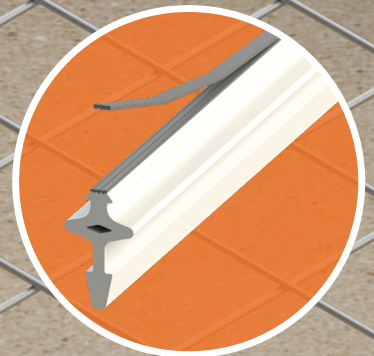
**DANLEY**™

Residential  
Pavement Joints

**PAVE**X™

**Eco-system**

Product Guide



**SMART:** Fully integrated pavement system.

**EFFECTIVE:** Reduces maintenance & repair costs.

**SAFE:** Mitigates trip hazards and public liability exposure.

Refer to the back of this  
booklet for contact information.



**Expansion & Construction Joint**  
**PaveX™**  
**Expanda™**

**Residential Pavements. Evolved.**

Why use

**PAVE X™**

**EPD**



**The Evolution of Residential Pavements starts with PaveX™**

Designed and developed in conjunction with councils and concrete contractors alike, PaveX™ raises the bar as the industry's most comprehensive jointing eco-system for footpaths, bikeways, driveways and urban streetscapes.



**EPD Certified Environmentally Transparent Pavement Solutions**



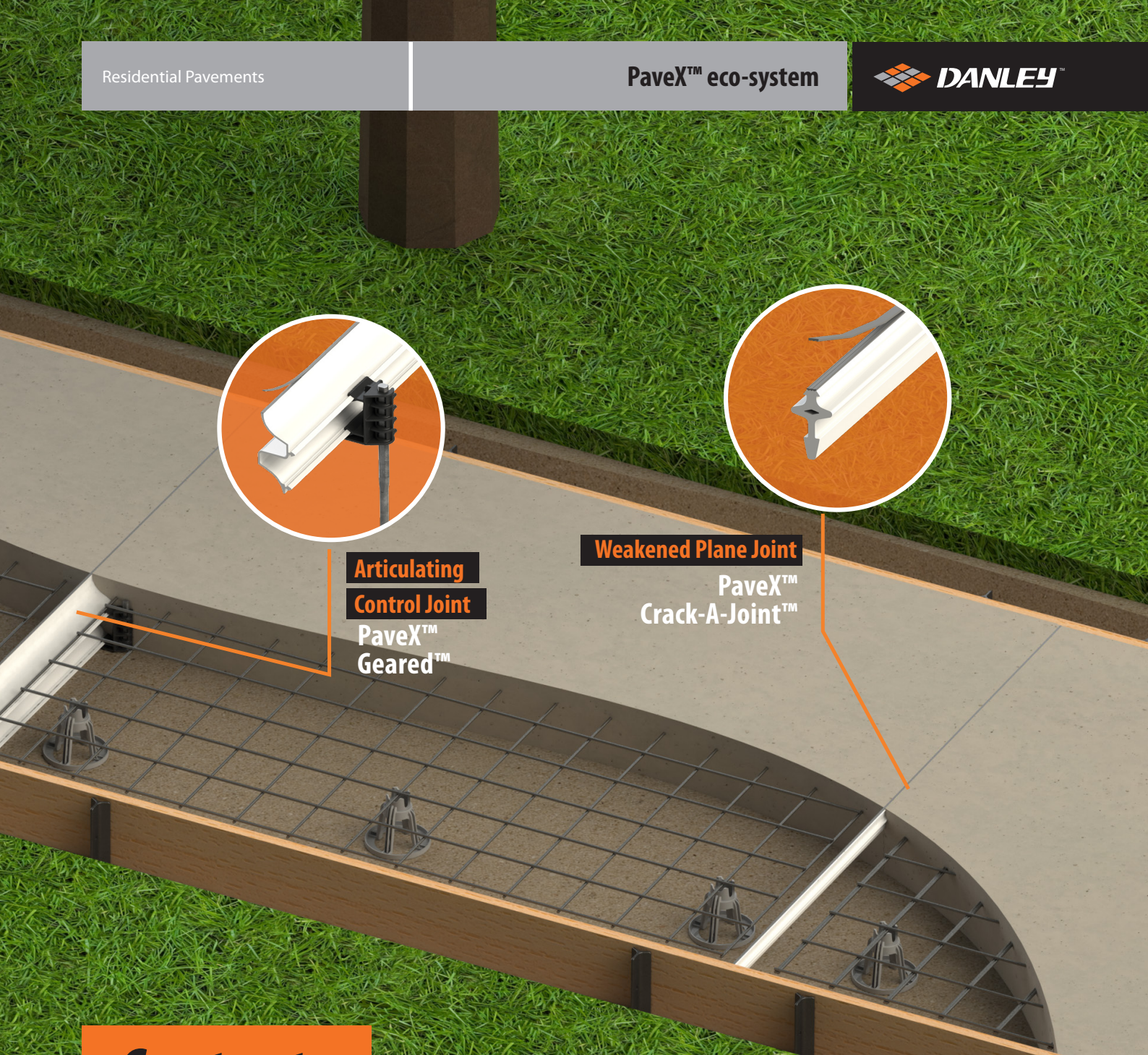
**Complies with the requirements of AS 3727.1:2016 Residential Pavements**



**Corrosion-Free & UV Stable uPVC**



**Limits deflection and spalling that may cause tripping hazards.**



**Articulating  
Control Joint  
PaveX™  
Geared™**

**Weakened Plane Joint  
PaveX™  
Crack-A-Joint™**

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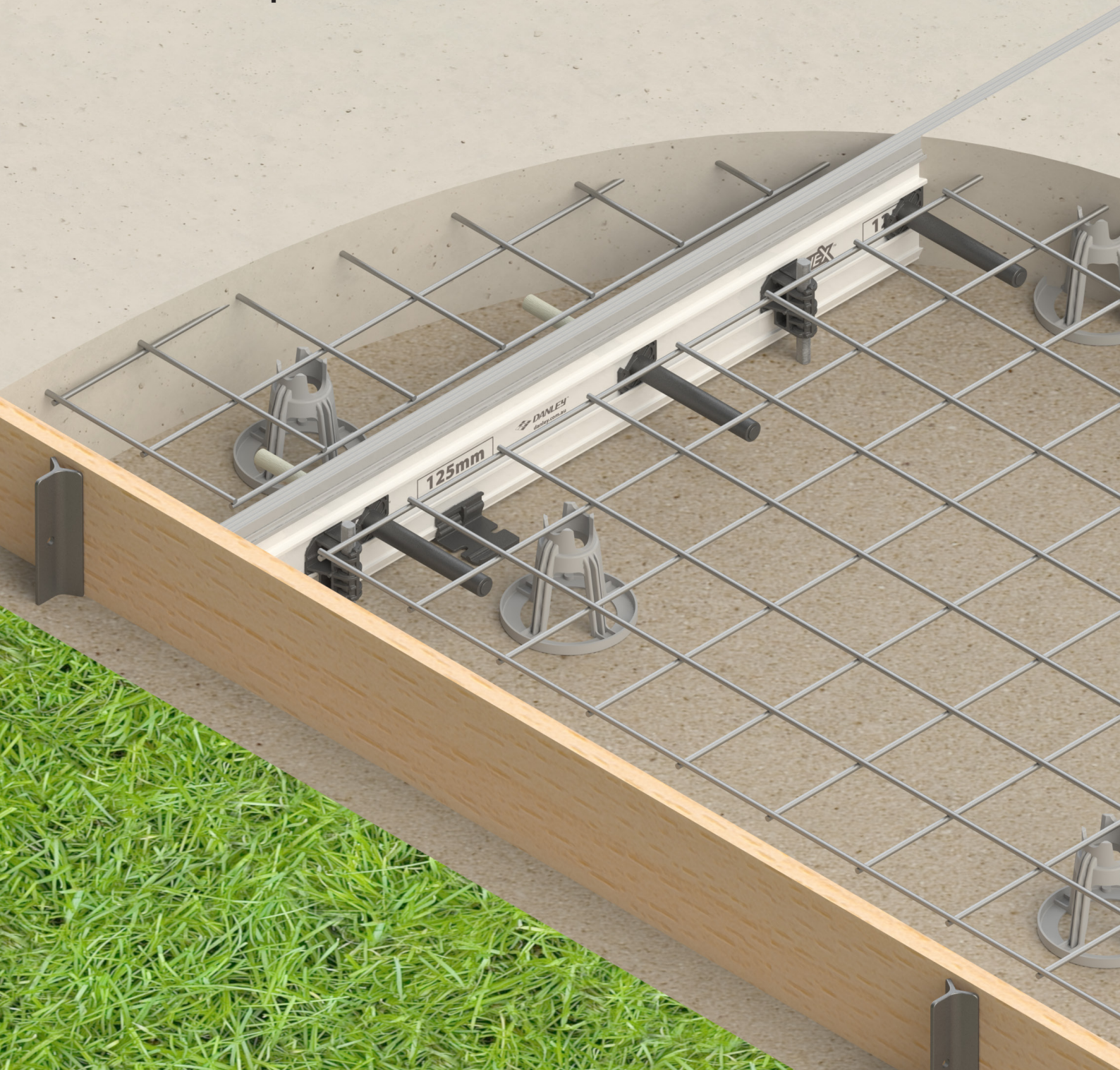
**PaveX™ eco-system**

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# Construction Joints

- **PaveX Expanda™**
- **PaveX Expanda™ HD**



# PaveX™ Expanda™

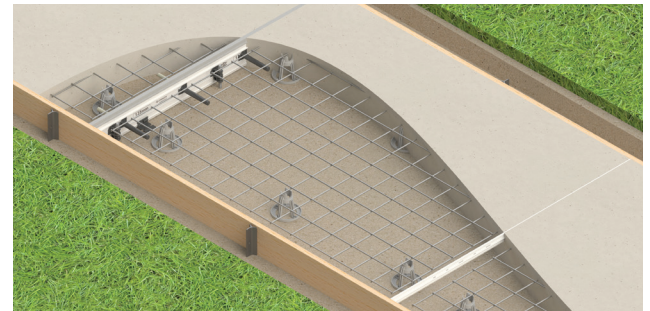
## Product Description

**PaveX™ Expanda™ is a core component of the broader PaveX™ Residential Pavement eco-system. Designed and developed in conjunction with councils and concrete contractors alike, PaveX™ Expanda™ is a lightweight, corrosion-free and modular expansion joint system that is quick & easy to install.**

Available in 100mm and 125mm profiles, PaveX™ Expanda™ complies with the requirements of Australian Standard AS 3727.1:2016 Residential Pavements. Innovative 14mm diameter Glass Fibre Reinforced Polymer dowels and sleeves provide load transfer between pavement sections. The unique design of the uPVC extruded PaveX™ Expanda™ sacrificial formwork profiles provide up to 10mm of thermal expansion of concrete and are job site tough.

Proudly designed and developed in Australia, PaveX™ Expanda™ is supported by best-in-class specification detail and installation guidelines. PaveX™ Expanda™ can be easily added to Council Master Specifications and is intuitive to use on site.

## Applications & Environments



Footpaths



Bicycle Paths



Driveways

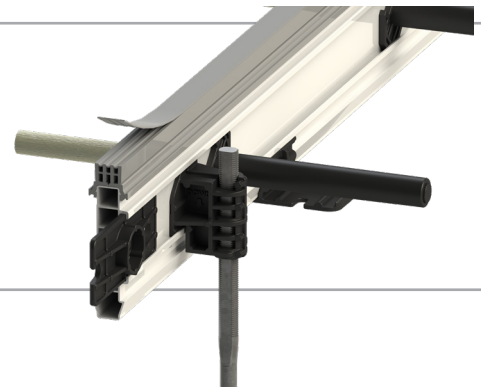


Urban Streetscapes



**Complies with the requirements of AS 3727.1:2016 Residential Pavements.**

**PAVE X™**  
Expanda™



## Features & Benefits

- Complies with the requirements of AS 3727.1:2016 Residential Pavements.
- Corrosion-free design, uPVC formwork profiles extruded to 3 metres in length.
- Fitted with Rip-A-Strip™ Capping for clean, laitance-free joint lines.
- Supplied in kits - 15 lineal metres of joint, complete with all PaveX™ components.
- 14mm diameter GFRP dowels and sleeves provide load transfer.
- PaveX™ Expanda™ joint formwork provides for 10mm thermal expansion of concrete.

- Innovative formwork channel engages the stake bracket, dowel sleeves and joiner.
- Drive-n-Twist stake and stake bracket for levelling of formwork. Joiner doubles as a stake tool.
- Clip-on feet help position and support the formwork during installation & pour.
- Formwork supplied with pre-fitted, stay-in-place capping.
- PaveX™ Expanda™ load supporting capping features a removable strip, if joint fillers are specified.
- Supplied to site in a simple 3 pack kit.

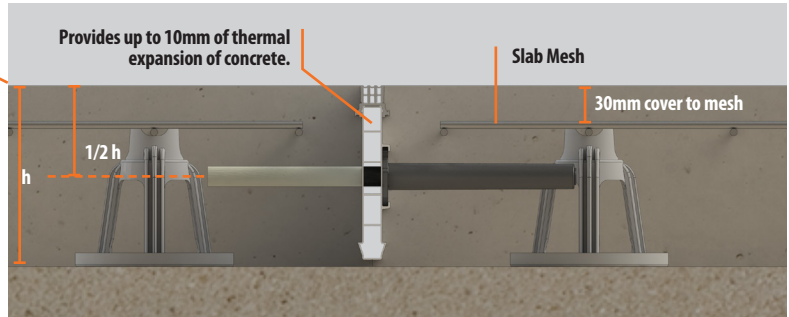
**EPD**



# Compliance & Technical Data

## AS 3727.1:2016 Expansion Joint Detail

- Load bearing expansion joint capping prevents concrete spalling.
- Dowel placed centrally. 1/2 the slab thickness (h). Dowel limits differential deflection, provides for load transfer and thermal expansion of concrete.
- Mesh to terminate at a minimum of 40mm from the Construction Joint.
- Compressible PaveX™ Expanda™ profiles provide up to 10mm of thermal expansion of concrete.



PaveX™ Expanda™ complies with the load requirements of AS 3727.1:2016 Residential Pavements

## PaveX™ Expanda™ GFRP Dowel Performance Data

Pavement Thickness	Concrete Strength AS 3727.1:2016	Vehicle Load AS 3727.1:2016	PaveX™ Dowel and Spacing	Estimated Wheel Load (kN)	Load on Critical Dowel (kN)	PaveX™ Dowel Design Capacity (kN)	Load Safety Factor
100mm	25MPa	3 tonne light vehicle	GFRP 14mm @ 300mm	9.0	2.7	4.3	1.6
125mm	*25MPa	*5 tonne vehicle (estimated)	GFRP 14mm @ 300mm	15.0	4.1	6.5	1.6

## PaveX™ Expanda™ GFRP Dowel Performance vs Round Steel Dowels

Pavement Thickness	Concrete Strength AS 3727.1:2016	Round Dowel AS 3727.1:2016	Load on Critical Dowel (kN)	Round Steel Dowel Design Capacity (kN)	Load Safety Factor	PaveX™ Dowel Design Capacity (kN)
100mm	25MPa	R12 at 400mm spacing	3.1	4.0	1.3	4.3
125mm	*25MPa	R16 at 300mm spacing	4.1	6.5	1.6	6.5

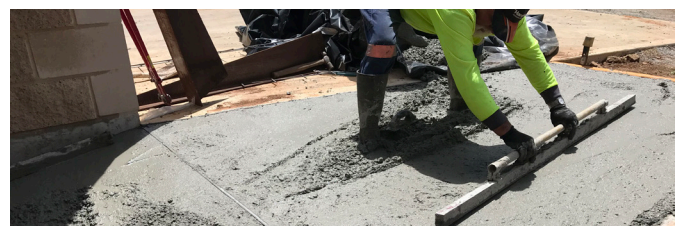
\* AS 3727.1:2016 does not specify concrete strength or vehicle loads for 125mm pavements. R16 dowel capacity is based on the weight of a city delivery truck (5 tonnes). The load on the critical dowel is calculated using standard default sub-base values.



At Reid Construction Systems, we set-up, pour and destroy hundreds of panels every year in the pursuit of developing high performance systems for the concrete construction industry. **Fig A:** The innovative PaveX™ GFR Polymer dowels shear cone test. **Fig B:** Comparative shear testing of R16 Steel dowels. In both cases a concrete shear cone has developed during testing to failure, so the dowel itself is not the limiting factor and both systems give similar results.

## Product Trials & Validation:

PaveX™ Expanda™ joint system was developed with the support of leading councils and concrete contractors across Australia and New Zealand. So when it came to validating the functionality of the system, whom better to put PaveX™ to the test in the real world, than the experts that pour pavements everyday?



# Installation Guidelines

PaveX™ Expanda™

PaveX™ Expanda™ complies with the requirements of AS 3727.1:2016 Residential Pavements 

## Step 1



### Set up of PaveX™ Expanda™ Profiles.

Ensure the subgrade is prepared and timber formwork is in place. For pavements less than 3 metres wide, cut PaveX™ Expanda™ profile to the required length with a saw. For pavements greater than 3 metres wide, use the supplied Multi Purpose Joiner to connect profiles together.

## Step 2



### Attaching PaveX™ Expanda™ Clip-on Feet.

Locate the PaveX™ Clip-on feet in carton labelled PXSET. Use 1 foot per metre (4 Clip-on feet per 3 metre length). Place the braced side of the foot to the on-channel side of the PaveX™ profile.

**Note: Avoid clipping feet at pre-cut dowel holes.**

## Step 3



### Install the Stake Brackets in the Expanda™ profile's utility channel.

Take note of the directional arrow on the Stake Bracket indicating the "down" direction. Hold the Stake bracket at 45° to the utility channel, twist ¼ turn to engage and lock in place.

Recommended spacings for Stake Brackets are 600mm centres (maximum) and 100mm in from the ends.

## Step 4



### Placing PaveX™ Expanda™ at the prescribed expansion joint locations.

We recommend the use of a string line for a straightness & levelling guide. Place PaveX™ Expanda™ at the prescribed joint locations, perpendicular to the timber formwork. Before hammering, ensure the threaded end of the stakes are at the top & that the flat sides of the stakes are parallel to the profile. Hammer the provided stakes through the stake brackets until the top of thread is approx. 25mm below the top of the profile.

## Step 5



### Locking PaveX™ Expanda™ into position.

Lift the Expanda™ profile until flush with the top of the timber formwork. Using either the Multi Purpose Joiner or a wrench, twist the stake 90° to lock the profile in place.

**Suggestion: Twist and lock in the stake brackets at both ends first.**

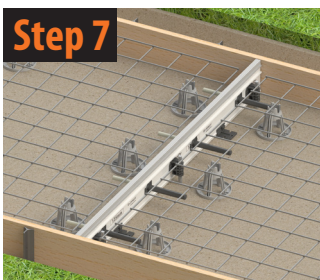
## Step 6



### Load Transfer: Installing the GFRP Dowels & Sleeves.

PaveX™ dowels and sleeves are provided in the carton labelled PXD14. First, insert GFRP dowels into the sleeves. From the channel side of the profile, align the exposed end of the dowel with the pre-cut dowel holes. Insert the dowel until the flange of the dowel sleeve mates with the profile. Twist until the sleeve locks in to the profile's utility channel.

## Step 7



### Place mesh either side of the joint in accordance to AS 3727.1:2016.

Mesh must be supported by bar chairs that comply with AS/NZS 2425:2015 and are positioned at a maximum of 600mm centres.

## Step 8



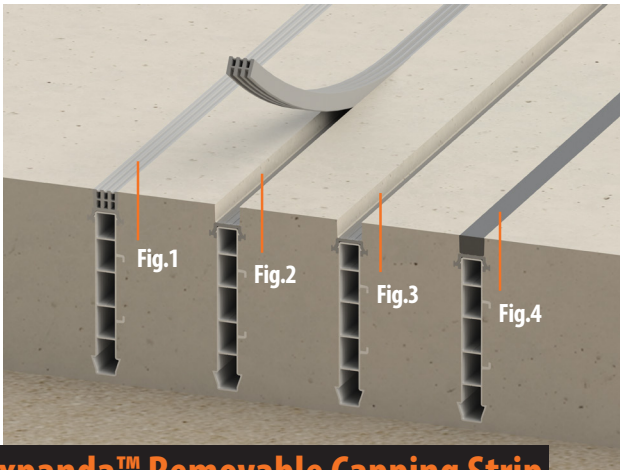
### Pour through concrete either side of the Expanda™ profile.

Ensure that concrete is adequately compacted around the profile and dowels. Finish concrete to project requirements. Remove the Expanda™ Rip-A-Strip™ portion of the capping within 2-6 hours to produce a clean, laitance-free joint line.

# Additional Features

PaveX™ Expanda™

PaveX™ Expanda™ complies with the requirements of AS 3727.1:2016 Residential Pavements



## Expanda™ Removable Capping Strip

PaveX™ Expanda™ profile is supplied pre-fitted with a durable, stay-in-place, Rip-A-Strip™ capping (Fig. 1).

If specialty sealants are specified for the project, Expanda™ capping can be scored on an exposed end and ripped along the full length of the joint (Fig. 2).

The resultant removal of capping provides a 12mm deep void to meet surface sealant requirements (Fig. 3).

Fill void with sealant or filler to the manufacturer's specification (Fig. 4).



## PaveX™ Multi-Functional Joiner

For pavements that are greater than 3 metres wide, PaveX™ Expanda™ can be butted end-to-end, using the provided PaveX™ Multi Purpose Joiner.

Slide the joiner in the utility channel until it is flush with the end of the profile. Align with the adjoining profile, then slide the joiner back to equally bridge across both profiles.

**Handy Hint:** For added stability at the connection of the profiles, install a Clip-on foot directly below the joiner



## PaveX™ Joiner - Stake Puller Function

**Optional:** If required, the PaveX™ Expanda™ joiner can also be used as a tool for removing the stake.

Stakes may need re-positioning due to impediments in the subgrade including rocks, rubble or tree roots.



## PaveX™ Expanda™ End Caps

**Recommended:** The use of PaveX™ Expanda™ end caps can mitigate the ingress of debris into the internal expansion voids of the profile. End caps are sold separately.

Place an end cap on either end of the PaveX™ Expanda™ profile prior to positioning between the timber formwork. End caps are cast into the concrete, covering the exposed ends of the Expanda™ profile.

End Caps are available for the 100mm and 125mm Expanda™ profiles.



# PaveX™ Expanda™ HD

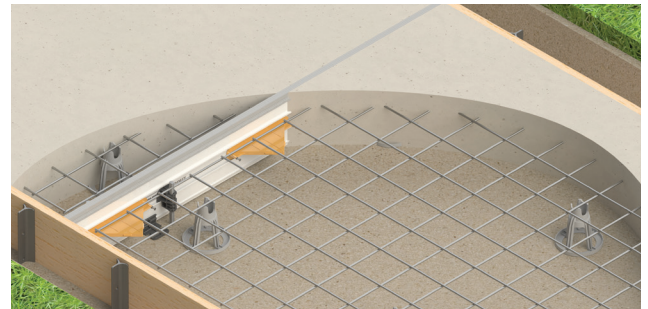
## Product Description

**PaveX™ Expanda™ HD is a core component of the broader PaveX™ Residential Pavement eco-system. Designed specifically for use in heavy duty residential pavement applications including service vehicle cross-overs, driveways, shared bikeways and urban streetscapes. PaveX™ Expanda™ HD is a lightweight, modular expansion joint system that is quick & easy to install.**

Designed for use with 6mm Danley™ Diamond™ Galvanised Dowels & Sleeves at 450mm centres, PaveX™ Expanda™ HD provides high capacity load transfer between pavement sections, to the requirements of AS 3727.1:2016 Residential Pavements.

The unique design of the uPVC extruded PaveX™ Expanda™ HD 150mm sacrificial formwork profile provides up to 10mm of thermal expansion of concrete and is job site tough.

## Applications & Environments



Footpaths



Driveways



Bicycle Paths

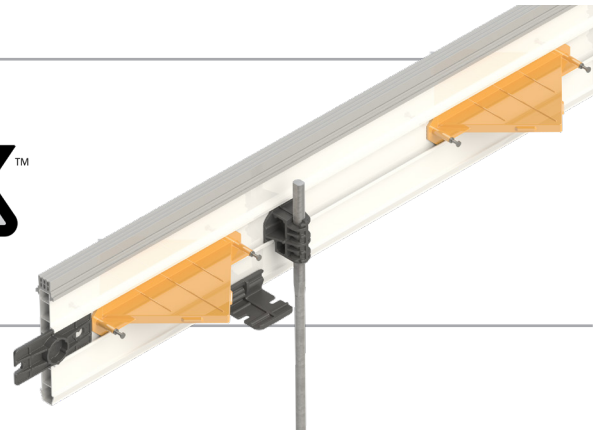


Urban Streetscapes



**Complies with the requirements of AS 3727.1:2016 Residential Pavements.**

**PAVE X™**  
Expanda™ HD



## Features & Benefits

- Complies with the requirements of AS 3727.1:2016 Residential Pavements.
- Technical and installation support tools are available.
- PaveX™ Expanda™ joint formwork provides for 10mm thermal expansion of concrete.
- Available in a profile height of 150mm with pre-cut slots designed for 6mm Diamond™ Dowels.
- Intuitive design – easy to use. Self-supporting design.
- PX150HDSET supplied to site in a 2 pack configuration. Danley™ 6mm Diamond™ Dowel Trade Packs ordered separately.
- 6mm Diamond™ Dowels & Sleeves are supplied in Trade Packs of 25 pcs.
- PX150HDSET includes components for 15 lineal metres of PaveX™ joint.

- Pour-through capability.
- Innovative formwork channel engages the stake bracket, dowel sleeves and joiner.
- Drive-n-Twist stake and stake bracket for levelling of formwork. Joiner doubles as a stake tool.
- PaveX™ Expanda™ HD profiles are pre-fitted with Rip-A-Strip™ capping that produces clean, laitance-free joint lines.
- Clip-on feet help position and support the formwork during installation & pour.
- PaveX™ Expanda™ HD load supporting capping features a removable section, if joint fillers are specified.

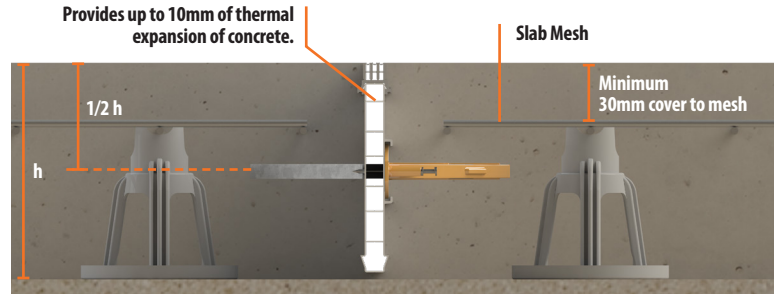
**EPD**



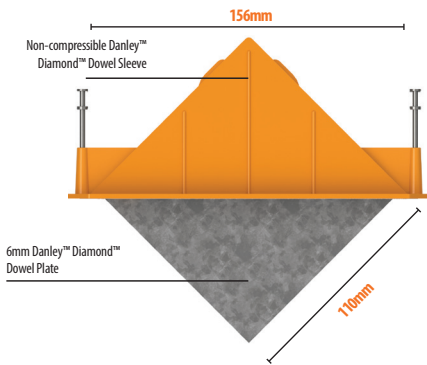
# Compliance & Technical Data

## AS 3727.1:2016 Expansion Joint Detail

- Load bearing expansion joint capping prevents concrete spalling.
- Dowel placed centrally. 1/2 the slab thickness (h). Dowel limits differential deflection, provides for load transfer and thermal expansion of concrete.
- Mesh to terminate at a minimum of 40mm from the Construction Joint.
- Compressible PaveX™ Expanda™ profiles provide up to 10mm of thermal expansion of concrete.



PaveX™ Expanda HD™ complies with the load requirements of AS 3727.1:2016 Residential Pavements



### Product:

- 6mm Diamond™ Dowel Sleeves are colour coded Orange.
- 6mm Diamond™ Dowel plates available in Galvanised and Grade 316 Stainless Steel.

### Packaging:

#### Diamond™ Dowel Trade Pack:

Designed for the rigours of onsite construction, the Danley™ Diamond™ Dowel Trade Pack is a sturdy, durable and easy to carry carton that is work site tough. The 6mm Diamond™ Dowel Trade Pack (pictured) contains 25 units of Danley™ Diamond™ Dowels and Sleeves. Each sleeve is fitted with two doubled-headed steel nails.



## Material Technical Data Diamond™ Dowel Plates

Component	Dimension (mm)	Material Type	Material Standard		Yield Stress (Mpa)	Tensile Strength (Mpa)
			Black	Galv		
6mm Plate	6 x 100 x 100	Steel	AS/NZS 3679.1:2016	AS/NZS 3679.1:2016 AS/NZS 4680:2006	325	450
		Stainless Steel	ASTM A240 Grade 316		205	515

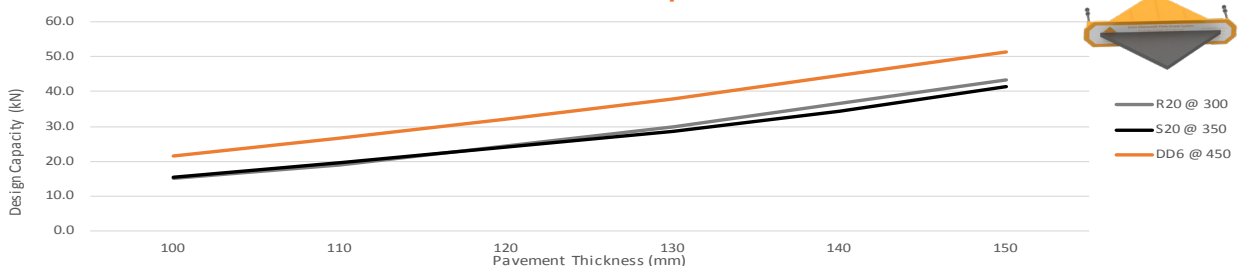
## Design Capacities Diamond™ Dowel

Pavement Thickness	Concrete Strength AS 3727.1:2016	Vehicle Load From AS 3727.1:2016	PaveX™ Dowel & Spacing	Estimated Wheel Load kN	Load On Critical Dowel kN	PaveX™ Dowel Design Capacity kN	Load Safety Factor
150mm	32MPa	10 Tonne Commercial	Diamond™ 6mm @ 450mm	30	9.5	16.3	1.7

Pavement Thickness	Concrete Strength AS 3727.1:2016	Round Dowel as AS 3727.1:2016	Load On Critical Dowel kN	Round Steel Dowel Design Capacity kN	Load Safety Factor	PaveX™ Dowel Design Capacity kN
150mm	32MPa	R20 at 300mm Spacing	7.6	10.6	1.4	16.3

## Dowel Performance 6mm Diamond™ Dowel vs Round and Square Dowels



Note: Dowel capacities are based on edge of slab design.

# Installation Guidelines

## PaveX™ Expanda™ HD

PaveX™ Expanda™ HD complies with the requirements of AS 3727.1:2016 Residential Pavements 

### Step 1

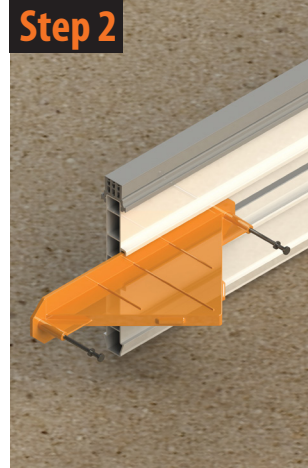


#### Set up of PaveX™ Expanda™ HD Profiles.

Ensure the subgrade is prepared and timber formwork is in place. For pavements less than 3 metres wide, cut PaveX™ Expanda™ HD profile to the required length with a saw.

For pavements greater than 3 metres wide, use the supplied Multi Purpose Joiner to connect profiles together.

### Step 2



#### Install the Diamond™ Dowel Sleeves into Expanda™ HD profile.

Install 6mm Diamond™ Dowel Sleeves prior to installing stake brackets and placing PaveX™ Expanda™ expansion joint into position.

Slide one sleeve along the channel for each of the pre-cut slots on the PaveX™ profile

### Step 3



#### Align the Diamond™ Dowel Sleeves with the Expanda™ HD prescribed joint locations.

Align the 6mm Diamond™ Dowel sleeve with the pre-cut slots of the Expanda™ HD Profile.

**HINT:** Partially insert a loose Diamond™ Dowel in the slot to assist with sleeve alignment.

### Step 4



#### Locking the Diamond™ Dowel sleeves into position.

Hammer the sleeve into position using the supplied nails.



**USE CAUTION:**  
Nails will protrude through the opposing face of the profile.

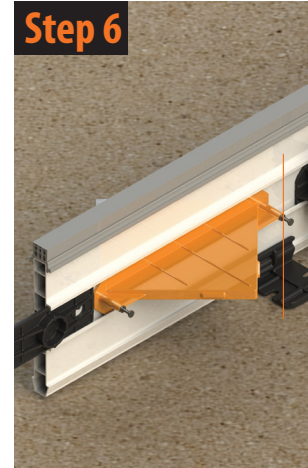
### Step 5



#### Insert the Diamond™ Dowels into the Expanda™ HD slots and Sleeves.

6mm Diamond™ Dowels to be placed into the slots with the tips of the dowel just touching the face of the PaveX™ profile.

### Step 6



#### Completing the Expanda™ HD set up.

Follow the remaining installation steps as outlined in the PaveX™ Expanda™ Installation Guideline\* (refer to page 7).

\*Note: Excluding Step 7, as 14mm GFRP Dowels are superseded by Danley™ Diamond™ Dowels.

# Articulating Control Joint

- **PaveX™ Geared™**



Mitigates tripping hazards caused by tree root ingress.

## PaveX™ Geared™

### Product Description

**PaveX™ Geared™ is designed specifically for concrete footpaths and shared bikeways impacted by soil heave or tree root ingress. An innovative articulating formed control joint system, PaveX™ Geared™ allows for concrete pavement sections to rise and/or fall whilst limiting differential deflection and mitigating tripping hazards.**

PaveX™ Geared™ is available in 100mm, 125mm and 150mm profile heights. Extruded in corrosion-free, UV stabilised uPVC to standard 3 metre lengths, PaveX™ Geared™ profiles are co-extruded with Rip-A-Strip™ Capping in either Black or Grey which provide clean, laitance-free joint lines. PaveX™ Geared™ is sold in kits which includes Galvanised Stakes and Brackets for fast and easy on-site installation. Clip-on Joiners are sold separately.

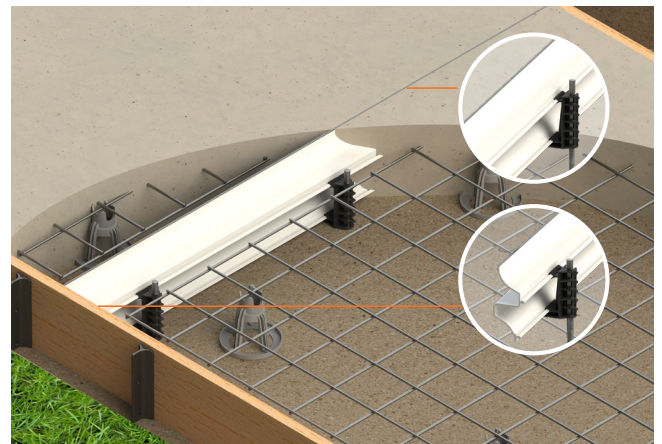
 Footpaths

 Driveways

 Bicycle Paths

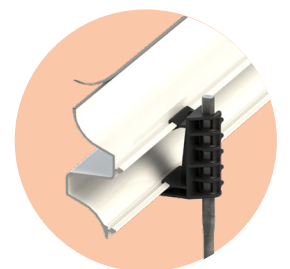
 Urban Streetscapes

### Applications & Environments



**Complies with the requirements of AS 3727.1:2016 Residential Pavements.**

**PAVEX™**  
Geared™



### Features and Benefits

- Safety: The innovative key-shaped profile allows for the articulation of concrete slabs that mitigate differential deflection that can cause trip hazards.
- Designed for environments susceptible to soil heave or tree root ingress.
- Complies with the requirements of AS 3727.1:2016 Residential Pavements.
- Innovative keyed profile provides load transfer without the need for dowels.
- Available in standard profile heights of 100mm, 125mm and 150mm.
- Profiles are available in standard 3 metre lengths.
- Corrosion-Free: PaveX™ Geared™ is extruded from UV stabilised uPVC.
- PaveX™ Geared™ is co-extruded with Flexible PVC Rip-A-Strip™ Capping to provide a clean and laitance-free joint finish.
- No joint filler required.
- PaveX™ Geared™ will butt up to any given edge, including columns.
- Supplied in Kits, complete with brackets and stakes for fast and efficient installation.
- Lightweight and easy to carry around the job site.
- Reduces the risk of early shrinkage cracking, producing architecturally aesthetic pavements.
- Optional: PaveX™ Geared™ Joiners are sold separately.

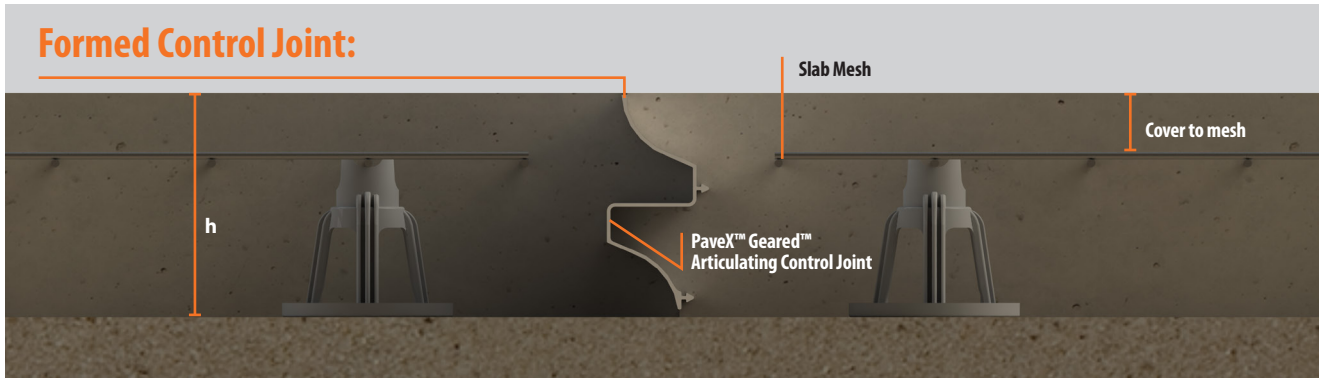
**EPD**



# Compliance & Technical Data

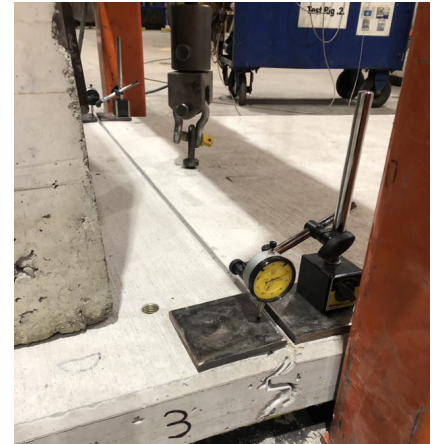
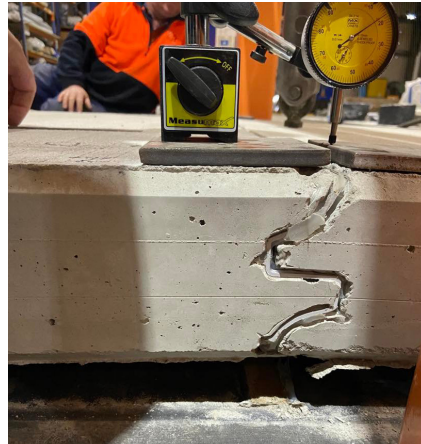
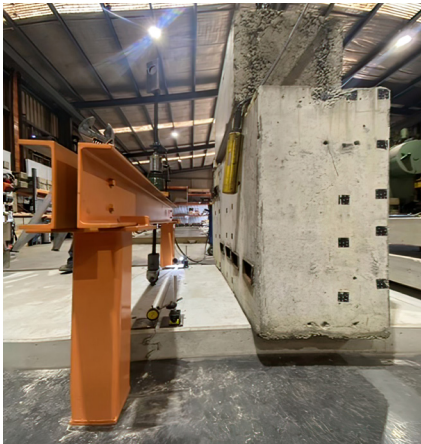
PaveX™ Geared™ complies with the requirements of AS 3727.1:2016 Residential Pavements

## AS 3727.1:2016 - Compliance Information



- Full slab depth (h) Articulating Formed Control Joint with interlocking shear keys providing load transfer.
- Spacing of Geared™ to be no greater than prescribed in Table 5.2 of AS 3727.1:2016.
- The steel reinforcing mesh shall be placed as per the requirements of AS 3727.1:2016
- Flexible PVC Rip-A-Strip™ Capping
- No sealant required at top of formed control joint.

## Testing & Validation



### Extensive, in-concrete validation & testing of PaveX™ Geared™ was conducted at our inhouse Product Test Centre.

The assessment was set up to demonstrate functionality and compliance to AS 3727.1:2016 load requirements. 100mm and 125mm slabs were tested in 25MPa concrete to standard with load carrying capacities of 3 tonne and 5 tonne respectively to suit light vehicle loads.

150mm slabs were tested in 32MPa concrete to standard with load carrying capacity to suit a max. 10 tonne commercial vehicle load.

Validation of joint articulation to handle tree root mitigation and reactive soils was conducted. Slabs were lifted on one side of the joint to achieve a minimum of 50mm unsupported lift off the subbase. Central or edge point loads and a dead load were applied to the lifted connecting slab. Load transfer and deflection control ( $\leq 5\text{mm}$  or less as per AS3727.1:2016) through the joint was maintained at the point of lift and neighbouring joints.

Load transfer testing to meet AS2727.1:2016 formed control joints was also conducted on each size showing equal or better load transfer across the joint than traditional roll formed Danley Keyjoint (without dowels) of the same size.

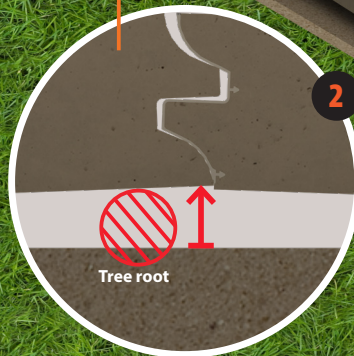
# PaveX™ Geared™

## How it Works



**Neighbouring Joints: (Images 1 and 3)**

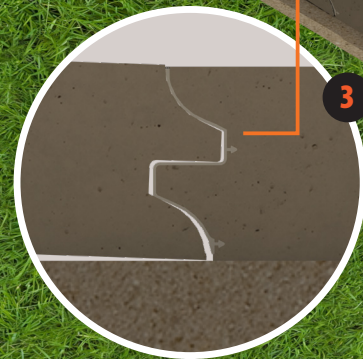
PaveX™ Geared™ mitigates spalling on adjoining panels impacted by soil heave or tree roots, enabling articulation and providing for the smooth transition across multiple joint lines of adjoining concrete pavement sections.



**Articulated Joint (Image 2)**

Tree roots and reactive soils can result in soil heave, that cause differential deflection between concrete sections up to 50mm or greater, creating trip hazards and public liability exposure for councils.

PaveX™ Geared™ mitigates the differential deflection by articulating and provides a smoother and safer transition over the affected joint.

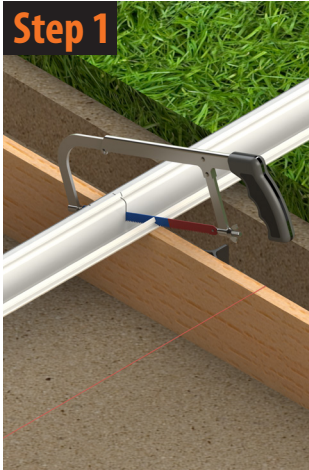


# Installation Guidelines

PaveX™ Geared™

PaveX™ Geared™ complies with the requirements of AS 3727.1:2016 Residential Pavements

## Step 1



### Preparing PaveX™ Geared™ for use.

For pavements less than 3 metres wide, pre-cut PaveX™ Geared™ profile to the required length with a saw. For paths greater than 3 metres wide, use the Geared™ Clip-on joiner (sold separately) to connect profiles together.

## Step 2



### Install the Stake Brackets on the Geared™ profile's utility rails.

Take note of the orientation of the Stake Bracket clips. Hold and press the stake bracket to engage the clips onto the rear rail of the profile.

Recommended spacings for Stake Brackets are 600mm centres (maximum) and 100mm in from the ends.

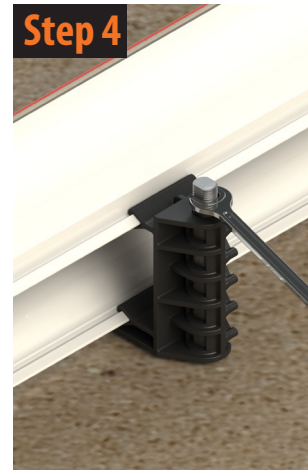
## Step 3



### Placing PaveX™ Geared™ at the prescribed joint locations.

We recommend the use of a string line. Place PaveX™ Geared™ at the prescribed joint locations, perpendicular to the timber formwork. Before hammering, ensure the threaded end of the stakes are at the top & that the flat sides of the stakes are parallel to the profile. Hammer the provided stakes through the stake brackets until the top of thread is approx. 25mm below the top of the Geared™ profile.

## Step 4

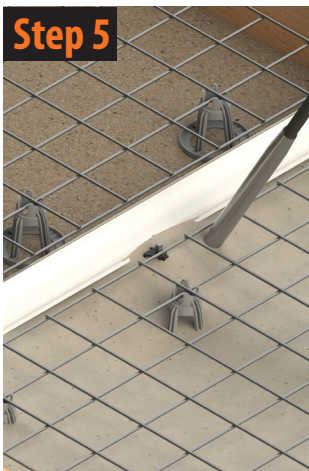


### Locking PaveX™ Geared™ into position.

Lift the Geared™ profile until flush with the top of the timber formwork. Using a wrench, twist the stake 90° to lock the profile in place.

Suggestion: Twist and lock in the stake brackets at both ends first.

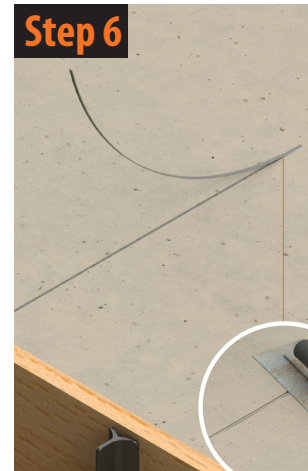
## Step 5



### Place mesh either side of the joint in accordance to AS 3727.1:2016.

Cut and lay the mesh. Mesh must be supported by bar chairs that comply with AS/NZS 2425:2015 and are positioned at a maximum of 600mm centres. Pour the concrete across the profile, ensuring to vibrate at regular intervals on both sides of the joint.

## Step 6



### Concrete finishing: Removing the Rip-A-Strip™ Capping.

Screw the wet concrete. Lightly trowel with a hand-float, ensuring all voids are closed. Remove the Geared™ Rip-A-Strip™ portion of the capping within 2-6 hours to produce a clean, laitance-free joint line.



# The Revolution of Residential Pavements starts with **PAVE<sup>X</sup>**



**Corrosion-Free Joint System**



**Environmental Sustainability**

**Expansion & Construction Joint**

**PaveX<sup>™</sup> Expanda<sup>™</sup>**

**Articulating Control Joint**

**PaveX<sup>™</sup> Geared<sup>™</sup>**

**Weakened Plane Joint**

**PaveX<sup>™</sup> Crack-A-Joint<sup>™</sup>**



**Complies with the requirements of AS 3727.1:2016**

**PAVE<sup>X</sup>** is designed specifically for:



**Footpaths & Bikeways**



**Driveways & Cross Overs**



**Promenades and Urban Streetscapes**



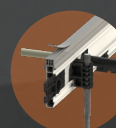
**Council Specified**



**Contractor Preferred**



**Smart, simple Pick-n-Pack Kits.**



**PaveX<sup>™</sup> Expanda<sup>™</sup> and Expanda<sup>™</sup> HD for Expansion Joints**



**PaveX<sup>™</sup> Geared<sup>™</sup> for Formed Control Joints**



**PaveX<sup>™</sup> Crack-A-Joint<sup>™</sup> for Weakened Plane Joints**

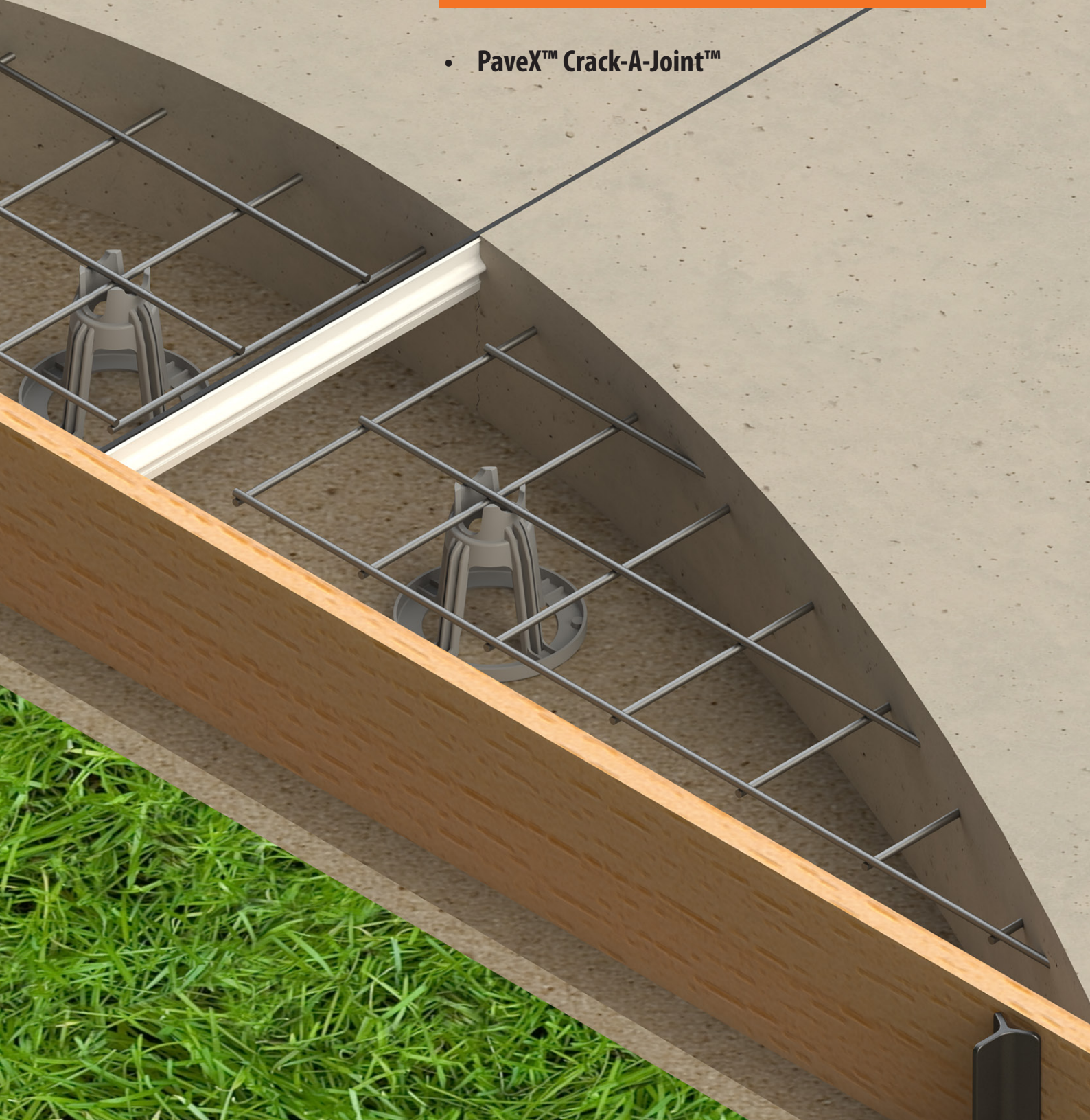
**Residential Pavements. Evolved.**

[danley.com.au](http://danley.com.au)



# Weakened Plane Joint

- **PaveX™ Crack-A-Joint™**



# PaveX™ Crack-A-Joint™

## Product Description

**As an alternative to traditional saw cutting and tooled joints, PaveX™ Crack-A-Joint™ with co-extruded Rip-A-Strip™ Capping induces a controlled crack to the full depth of the concrete.**

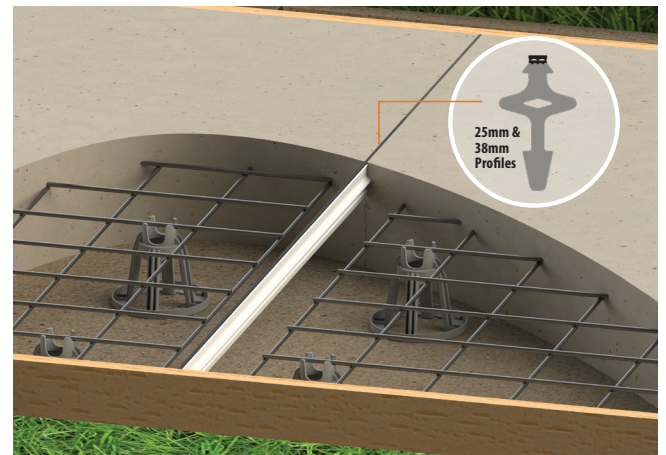
PaveX™ Crack-A-Joint™ is available in 3 metre lengths, with profile heights of 25mm and 38mm which initiate a control joint in slabs between 75mm and 150mm in depth.

Extruded in UV stabilised uPVC, PaveX™ Crack-A-Joint™ is also suitable for use in pavements in chemically corrosive environments including chlorinated or salt-water swimming pool surrounds and coastal environments.

PaveX™ Crack-A-Joint™ complies with the requirements of **AS 3727.1:2016 Residential Pavements**.

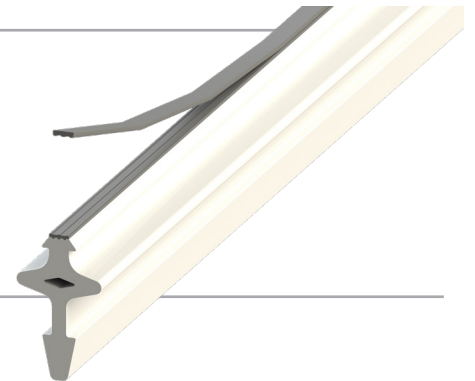
- |   |  |
|---|--|
|  Footpaths     |  Driveways          |
|  Bicycle Paths |  Urban Streetscapes |

## Applications & Environments



**Complies with the requirements of AS 3727.1:2016 Residential Pavements.**

**PAVE X™**  
Crack-A-Joint™



## Features & Benefits

- **Safety:** Reduces the risk of cuts and abrasions caused by sharp edges on traditional steel profiles. Eliminates the need for saw-cutting, reducing exposure to silica dust.
- Complies with the requirements of AS 3727.1:2016 Residential Pavements.
- Immediately initiates a weakened plane joint in the slab when placed in freshly poured wet concrete.
- Unique profile compliments aggregate interlock which facilitates load transfer.
- Profile heights of 25mm and 38mm initiate controlled cracks in slabs between 75mm and 150mm in depth.
- Corrosion-Free: PaveX™ Crack-A-Joint™ is extruded from UV stabilised uPVC.
- Finish the slab the same day. There is no need to return the next day for saw-cutting.
- PaveX™ Crack-A-Joint™ is co-extruded with flexible PVC Rip-A-Strip™ Capping Rip-A-Strip Capping to provide a clean and laitance-free joint finish.
- PaveX™ Crack-A-Joint™ will butt up to any given edge, including columns.
- PaveX™ Crack-A-Joint™ can be placed quickly, with precision.
- Lightweight and easy to carry around the job site.
- Reduces the risk of early shrinkage cracking, producing architecturally aesthetic pavements.
- No joint filler required: The edge of the PaveX™ Crack-A-Joint™ profile acts as a support for the edge of the concrete and stops unsightly fraying and spalling.
- Available in 30m packs (10 lengths per pack).
- Extruded to 3 metre standard lengths. Optional: PaveX™ Crack-A-Joint™ Clip-on Joiners are sold separately.

**EPD**

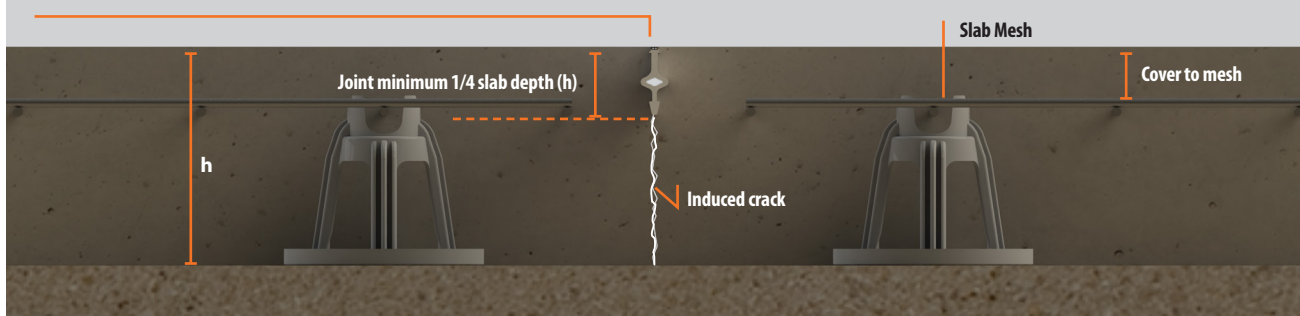


# Compliance & Technical Data

PaveX™ Crack-A-Joint™ complies with the requirements of AS 3727.1:2016 Residential Pavements

## AS 3727.1:2016 - Compliance Information

### Weakened Plane Joint:



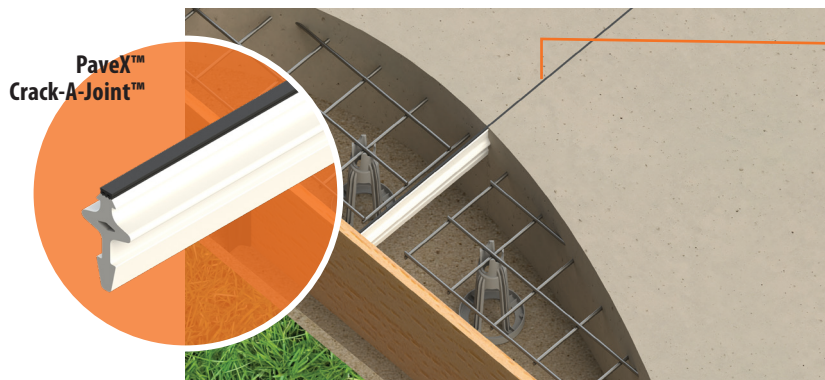
- Constructed by creating a plane of weakness to a depth of 1/4 the pavement thickness (h) from the surface.
- Spacing of Crack-A-Joint™ to be no greater than prescribed in Table 5.2 of AS 3727.1:2016.
- The steel reinforcing mesh shall be placed as per the requirements of AS 3727.1:2016
- Flexible PVC Rip-A-Strip™ Capping
- No sealant required at top of weekend plane joint.

**PAVE X**

**A smoother ride:** provides a low-noise transition over weakened plane joints.

**Saw-cut** timing is critical. Late saw-cutting may lead to unsightly, uncontrolled cracks that are susceptible to spalling.

**Tooled joints** may not initiate a crack to the full depth of the slab and **do not** support small hard wheels such as skateboards, rollerblades, skates and scooters.



**As an alternative to traditional saw cutting and tooled joints, PaveX™ Crack-A-Joint™ induces an immediate controlled crack to the full depth of the concrete. PaveX™ Crack-A-Joint™ with Rip-A-Strip™ Capping eliminates the need to return the next day for saw-cutting.**

- Safer!** Crack-A-Joint™ eliminates the need for saw-cutting and reduces exposure to carcinogenic silica dust.

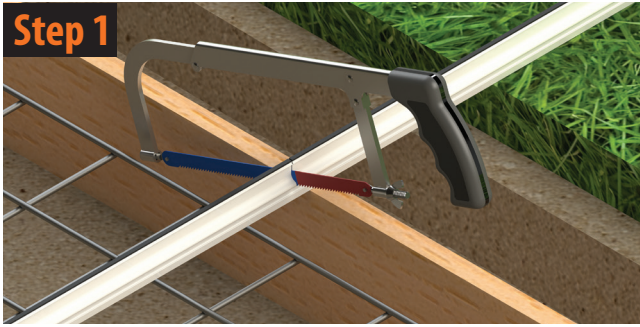


# Installation Guidelines

PaveX™ Crack-A-Joint™

PaveX™ Crack-A-Joint™ complies with the requirements of AS 3727.1:2016 Residential Pavements 

## Step 1

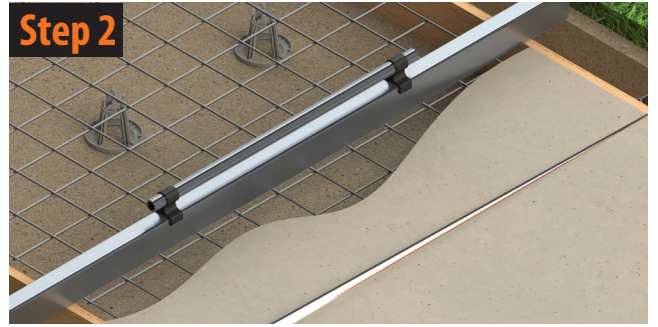


### Preparing PaveX™ Crack A-Joint™ for use.

For pavements less than 3 metres wide, pre-cut PaveX™ Crack A-Joint™ profile to the required length with a saw. For paths greater than 3 metres wide, use the Crack-A-Joint™ Clip-on joiner (sold separately) to connect profiles together.

**Hint:** When using a bull-nose finishing edger, it is recommended to reduce the Crack-A-Joint™ profile lengths by x2 the radius of the edging tool. This eliminates the protrusion of visible edges of the profile at the finished edge of the concrete pavement.

## Step 2



### Placing PaveX™ Crack A-Joint™

Mark the concrete with a string line or a straight edge along the line of the joint. PaveX™ Crack-A-Joint™ can be installed using a variety of methods.

**Recommended Installation:** Whilst screeding wet concrete, work Crack-A-Joint™ into the concrete until the top edge of the profile is flush with the concrete.

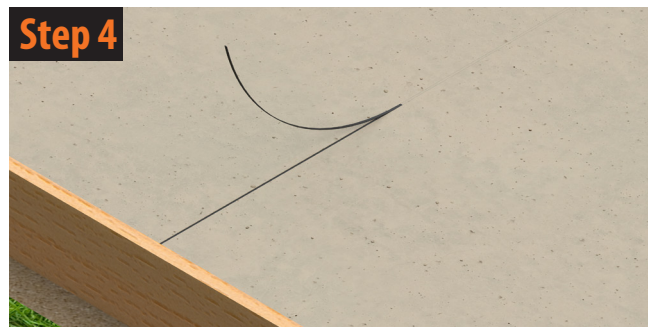
## Step 3



### Troweling the concrete.

Lightly trowel with hand-float, ensuring all voids are closed, then continue with screeding.

## Step 4

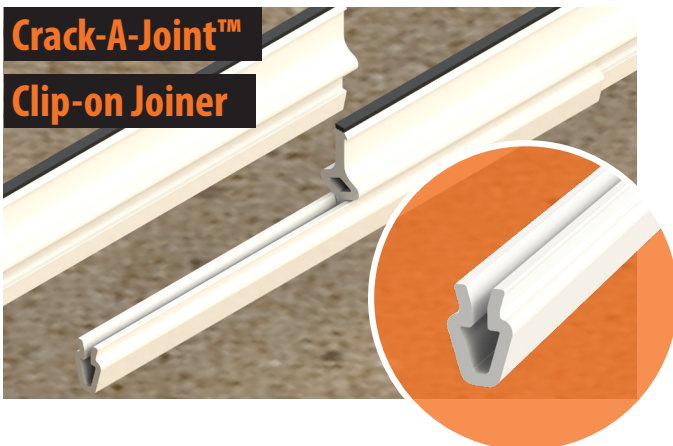


### Remove the Rip-A-Strip™ portion of the capping.

Provides a clean and laitance-free joint line. Recommended within the first 6 hours.

## Crack-A-Joint™

### Clip-on Joiner



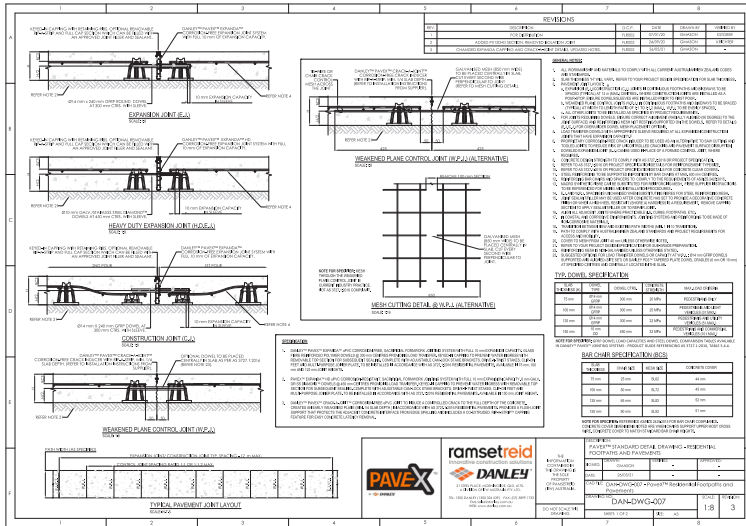
**For pavements that are greater than 3 metres wide, PaveX™ Crack-A-Joint™ can be butted end-to-end, using the provided clip-on joiner.**

**Handy Hint:** The use of the the Crack-A-Joint™ Joiner can help reduce wastage by making use of off-cut sections.

Prior to placing it into concrete, align the connecting Crack-A-Joint™ profiles, then clip the joiner over the arrowed base of the profiles. PaveX™ Crack-A-Joint™ Clip-on joiner is compatible with both the 25mm and 38mm profiles.

# How to Specify

## PaveX™ Specification Details



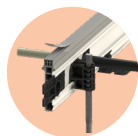
Scan the QR Codes to download a copy of the PaveX™ Specification Details in either DWG or PDF format.



DWG



PDF



### Specifying PaveX™ Expanda™ and HD Expanda™ For Expansion Joints

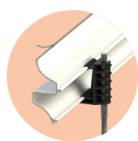
DANLEY™ PAVEX™ EXPANDA™ WITH KEYED-IN RIP-A-STRIP™ CAPPING CORROSION-FREE uPVC CORROSION-FREE, SACRIFICIAL FORMWORK JOINTING SYSTEM WITH FULL 10 mm EXPANSION CAPACITY. GLASS FIBRE REINFORCED POLYMER DOWELS PROVIDING LOAD TRANSFER. RIP-A-STRIP™ KEYED-IN CAPPING TO PREVENT WATER INGRESS WITH REMOVABLE TOP SECTION FOR SUBSEQUENT SEALING. COMPLETE WITH ADJUSTABLE CAM-LOCK STAKE BRACKETS, DRIVE-N-TWIST STAKES, CLIP-ON FEET AND MULTI-PURPOSE JOINER PLATE. TO BE INSTALLED IN ACCORDANCE WITH AS 3727.1:2016 RESIDENTIAL PAVEMENTS. AVAILABLE IN 100 mm, 125 mm AND 150 mm JOINT HEIGHTS.



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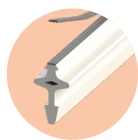
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### Specifying PaveX™ Geared™ for Formed Control Joints

DANLEY™ PAVEX™ GEARED™ uPVC CORROSION-FREE, MODULAR SACRIFICIAL FORMWORK JOINTING SYSTEM WITH ARTICULATION FUNCTIONALITY. OVERLAPPING DOUBLE SHEAR KEYS PROVIDING LOAD TRANSFER. RIP-A-STRIP™ CAPPING FEATURE FOR EASY CONCRETE LATENCY REMOVAL. COMPLETE WITH ADJUSTABLE STAKE BRACKETS, DRIVE-N-TWIST STAKES AND JOINERS. TO BE INSTALLED IN ACCORDANCE WITH AS 3727.1 :2016 RESIDENTIAL PAVEMENTS. AVAILABLE IN 100 mm 125 mm AND 150 mm JOINT HEIGHTS.



### Specifying PaveX™ Crack-A-Joint™ for Weakened Plane Joints

DANLEY™ PAVEX™ CRACK-A-JOINT™ CORROSION-FREE uPVC JOINT TO INDUCE A CONTROLLED CRACK TO THE FULL DEPTH OF THE CONCRETE. CREATES AN EARLY WEAKENED PLANE (MIN. 1/4 SLAB DEPTH) IN ACCORDANCE WITH AS 3727.1 :2016 RESIDENTIAL PAVEMENTS. PROVIDES A FLUSH JOINT SUPPORT THAT PROTECTS THE ADJACENT CONCRETE INTERFACE FROM EDGE SPALLING AND INCLUDES A CO-EXTRUDED RIP-A-STRIP™ CAPPING FEATURE FOR EASY CONCRETE LATENCY REMOVAL.



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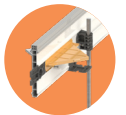


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# How to Order

## PaveX™ Item Codes & Descriptions

PaveX™ Expanda™ Kits	
PX100KIT	PaveX Expanda 100mm 5x3m Lengths with Forms, Dowels & Accessories Kit
PX125KIT	PaveX Expanda 125mm 5x3m Lengths with Forms, Dowels & Accessories Kit
PaveX™ Expanda™ HD Set	
PX150HSET	PaveX 150mm 3m x 5pcs with Capping & Accessories (Dowels sold seperately)
DDSLPL06X110G	Diamond Dowel 6mm - Galv (Trade Pack of 25)
DDSLPL06X110S	Diamond Dowel 6mm - 316g Stainless Steel (Inc Sleeve)
PaveX™ End Caps	
PX100C	PaveX Expanda End Cap 100mm 50pc Pack
PX125C	PaveX Expanda End Cap 125mm 50pc Pack
PaveX™ Geared™ Kits	
PXG100BKIT	PaveX Geared 100mm 5x3m Lengths with Black Capping Kit
PXG100GKIT	PaveX Geared 100mm 5x3m Lengths with Grey Capping Kit
PXG125BKIT	PaveX Geared 125mm 5x3m Lengths with Black Capping Kit
PXG125GKIT	PaveX Geared 125mm 5x3m Lengths with Grey Capping Kit
PXG150BKIT	PaveX Geared 150mm 5x3m Lengths with Black Capping Kit
PXG150GKIT	PaveX Geared 150mm 5x3m Lengths with Grey Capping Kit
PXGCJ	PaveX Geared Clip-on Joiners 50pc Pack
Danley™ PaveX™ Crack-A-Joint™	
PXCAJ25B	PaveX Crack-A-Joint 25mm 10x3m Lengths with Black capping
PXCAJ25G	PaveX Crack-A-Joint 25mm 10x3m Lengths with Grey capping
PXCAJ38B	PaveX Crack-A-Joint 38mm 10x3m Lengths with Black capping
PXCAJ38G	PaveX Crack-A-Joint 38mm 10x3m Lengths with Grey capping
PXCAJ CJ	PaveX Crack-A-Joint Clip-on Joiners 50pc Pack



## PaveX™ Pack Weights & Dimensions

Joint Type	Component	Pack Size (L x W x H)	Weight
PaveX™ Expanda™	PX100	3010mm x 91mm x 101mm	6.4lg
	PX125	3010mm x 121mm x 101mm	7.6kg
	PXSET	363mm x 208mm x 150mm	8.1kg
	PXD14	283mm x 228mm x 191mm	4.5kg
Joint Type	Component	Pack Size (L x W x H)	Weight
PaveX™ Expanda HD™	PX150HD	3010mm x 148mm x 101mm	9.5kg
	DDSLPL06X110G	375mm x 340mm x 115mm	15.6kg
	DDSLPL06X110S	110mm x 100mm x 6mm	0.7kg
Joint Type	Component	Pack Size (L x W x H)	Weight
PaveX™ Geared™	PXG100	3010mm x 95mm x 92mm	6.2kg
	PXG125	3010mm x 101mm x 92mm	8.3kg
	PXG150	3010mm x 121mm x 101mm	10.7kg
	PXG100SET	363mm x 234mm x 150mm	8.1kg
	PXG125SET	363mm x 234mm x 150mm	8.2kg
	PXG150SET	363mm x 234mm x 150mm	8.3kg
	PXGCJ	250mm x 120mm x 80mm	0.8kg
Joint Type	Component	Pack Size (L x W x H)	Weight
PaveX™ Crack-A-Joint™	PXCAJ25B	3010mm x 60mm x 55mm	5.1kg
	PXCAJ25G	3010mm x 60mm x 55mm	5.1kg
	PXCAJ38B	3010mm x 80mm x 90mm	7.3kg
	PXCAJ38G	3010mm x 80mm x 90mm	7.3kg
	PXCAJ CJ	250mm x 70mm x 70mm	0.8 kg

# Product Compliance

## Compliance statement

Danley™ PaveX™ eco-system complies with the New Zealand Building Code clauses identified below.

## Compliance details: NZBC

NZBC Clause	Criteria	Compliance Status
<b>B1 Structure</b>		
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	
<b>B2 Durability</b>		
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	
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.	





**Paving Tomorrow,  
Sustainably Today**

**Elevate your projects with Danley™ PaveX™, now certified with an EPD. Our range ensures superior load transfer, joint edge protection, and crack control. Embrace sustainability without compromising on performance. Join us in paving a greener, socially harmonious, and economically prosperous future.**



## What is an EPD?

An Environmental Product Declaration (EPD) is a verified document that communicates transparent and comparable information about the environmental impact of our products. This comprehensive report includes details on raw material extraction, manufacturing processes, energy consumption, and emissions. The EPD adheres to strict international standards, serving as a reliable source of information to assess the sustainability of our products.

## Why does it matter?

An EPD matters because it demonstrates Danley's commitment to sustainable practices. It goes beyond claims, offering customers valuable insights into the environmental impact of our products. Transparently showcasing the lifecycle analysis of our offerings empowers stakeholders to make informed choices aligned with their sustainability goals.

## What Danley™ Products have an EPD?

The complete PaveX™ Product Range proudly carries the distinction of EPD certification. This includes: PaveX™ Crack-A-Joint, PaveX™ Geared, PaveX™ Expanda, PaveX™ Expanda HD

Learn more  
about PaveX™



## Further understanding of our PaveX™ Range:

Navigate through our PaveX™ Range page for an in-depth exploration of each product's features, applications, and sustainability attributes. Understand how our EPD-certified products contribute to elevated standards in durability, load transfer, and crack control, setting a new benchmark in sustainable construction.

**If you have any further questions regarding Danley™ PaveX EPDs, please discuss them with our customer services team by using the contact details on back of this booklet.**

Reid™ Construction Systems (RCS) AUS: 1 Ramset Drive, Chirnside Park, Victoria, Australia, 3116, NZ: 23-29 Poland Road, Glenfield, Auckland 0632  
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## Customer Service

### Danley™ Australia

Tel: 1300 780 250

Email: [sales@itwcsanz.com](mailto:sales@itwcsanz.com)

Web: [www.danley.com.au](http://www.danley.com.au)

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### Danley™ New Zealand

Tel: 0800 88 22 12

Email: [sales@ramsetreid.co.nz](mailto:sales@ramsetreid.co.nz)

Web: [www.danley.co.nz](http://www.danley.co.nz)

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#### Reid™ Construction Systems (RCS)

AUS: 1 Ramset Drive, Chirnside Park, Victoria, Australia, 3116

NZ: 23-29 Poland Road, Glenfield, Auckland 0632

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