

PaveX™ Expanda™

Residential Pavements

Technical Data Sheet – Specification

April 2020

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.

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.

Specification Benefits

Councils/Specifiers:

- Complies with the requirements of AS 3727.1:2016 Residential Pavements.
- Corrosion-free design, suitable for coastal or marine environments, chlorinated or salt-water swimming pool surrounds, pavements exposed to diesel fuels or wastewater treatment plants.
- Technical and Installation support tools are available.

Contractors:

- Intuitive design – easy to use.
- Self-supporting design.
- Supplied to site in a simple 3 pack kit.
- Kits include components for 15 lineal metres of PaveX™ joint.
- Pour-through capability.
- Technical and Installation support tools are available.



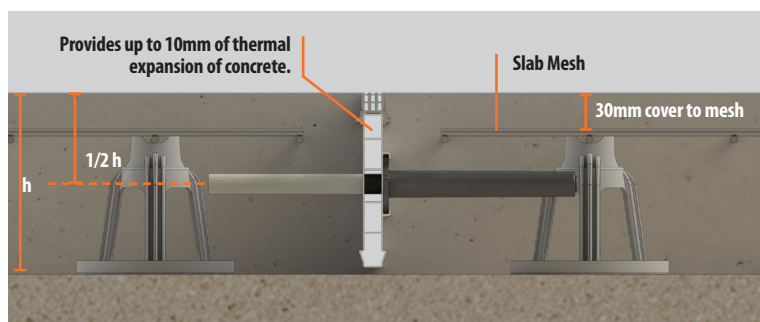
PaveX™ Expanda™ Joint System

Applications & Environments

- Footpaths
- Bicycle Paths
- Driveways
- Urban Streetscapes

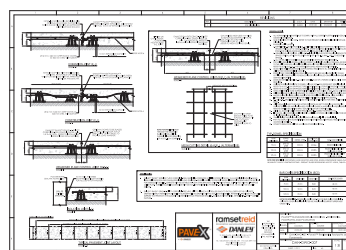
AS 3727.1:2016 Expansion Joint Detail

- Load bearing expansion joint capping prevents concrete spalling.
- Dowel placed centrally. $\frac{1}{2}$ 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.



Specifying PaveX™ Expanda™ For Expansion Joints

DANLEY™ PAVEX™ EXPANDA™ uPVC CORROSION-FREE, SACRIFICIAL FORMWORK JOINTING SYSTEM WITH FULL 10 mm EXPANSION CAPACITY. GLASS FIBRE REINFORCED POLYMER DOWELS PROVIDING LOAD TRANSFER. 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 75 mm, 100 mm AND 125 mm JOINT HEIGHTS.



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



DWG






PDF

Compliance & Technical Data

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
75mm	20MPa	3 tonne light vehicle	GFRP 14mm @ 300mm	2.0	0.4	2.0	5.0 
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)
75mm	20MPa	Not required	N/A	N/A	N/A	2.0
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).
AS 3727.1:2016 does not specify dowels for 75mm pavement however dowels are included in PaveX™ kits as best practice for load transfer, particularly in pavement remedial works.
The load on the critical dowel is calculated using standard default sub-base values.



At ramsetreid, 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?

