



EMBELTON

SPANDEX

Self-Expanding
Joint Sealing System for Concrete

The SPANDEX Jointing System is specified to meet the critical standards demanded in major civil engineering works – including power stations and airports in many parts of the world.

SPANDEX is a proven system which provides a cost-effective method for long-term filling and sealing of concrete joints. SPANDEX has been used for more than thirty years in Airports, Highways, Dams and Spillways, Power Stations and Bridges throughout Australia, South East Asia and the West Pacific Region.

Description

SPANDEX is a cork-based, polyurethane-reinforced material which self-expands on exposure to weather or green concrete. This self-expansion creates an interference pressure within the concrete joint sufficient to seal the joint. No additional sealers are required. Once installed, SPANDEX follows structural movement of the slab, expanding and compressing to maintain a positive seal against joint faces. It does not extrude from the joint.

The material is supplied in pre-formed strips to match the joint, either in standard dimensions or custom made for particular projects.

SPANDEX meets Australian Department of Housing and Construction Specifications RA SS 106 for self-expanding joint sealers. (Note that RA SS 106 easily exceeds the requirements of ASTM D 1752 Type 3, a specification for self-expanding cork joint fillers which are required only to fill but not seal the joint. Embelton Type 3 meets ASTM D 1752 – Type 3).

Application

SPANDEX offers a simple, straightforward method for installing expansion, contraction and construction joints in concrete. It may be used in new work or for repair of existing joints in old concrete.



SPANDEX used as construction joint between individual hand-placed slabs.

Installation

SPANDEX is a jointing system fully compatible with both manual and machine placement of concrete. Whether pavements are constructed manually by alternate casting of slabs, or by placement of continuous lanes, SPANDEX is ideally suited for expansion, contraction and construction joints. Used with fixed or slip form paving equipment, SPANDEX allows completed joints to be formed as an integral part of the paving operation. Speed of installation is more than enough to match the fastest paving machinery.



Image above shows pre-formed strip adhered to adjacent slab to form the longitudinal construction joint.

No need for subsequent sawing, forming or finishing, SPANDEX provides a true single stage jointing system, unlike other self-expanding cork products which require additional sealer.



Slip formed continuous concrete pavement uses the SPANDEX System as an integral part of the paving operation for both construction and contraction joints.

For sawn joints, SPANDEX is fitted directly into the sawn groove, which must be cut truly rectangular to a minimum depth of 40mm. The pre-formed strip is inserted using contact adhesive to ensure firm location until expansion begins.

Cost

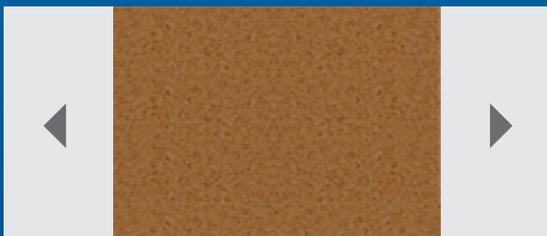
Ease of installation ensures that the cost of the finished joint is minimised. With formed joints, SPANDEX enables joints to be formed, filled and sealed in a single operation. Expensive sawing, joint preparation and messy on-site mixing of primers and sealers are avoided. And where sawn joints are preferred, or for joint repairs, SPANDEX is bonded directly into the joint opening for a fast, low-cost jointing system. Combine this competitive installed cost and long life with the durability of SPANDEX for a truly cost-effective jointing system.

How it works



Thickness as supplied

SPANDEX is supplied as a pre-formed strip, fabricated to joint depth and design width necessary to accommodate predicted movement. Strips are cut to length to suit actual pavement dimensions or supplied for easy on-site joining as required.



Expands to 140% of its original thickness

Exposure to moisture, weather and/or green concrete releases built-in stresses to initiate expansion. Although SPANDEX will accommodate an opening of the joint to 140% of its initial width, pavements should be designed for a maximum of 125% to ensure an effective interference pressure seal. Easy on-site joining as required.



Compresses to a fraction of its original thickness without extrusion

SPANDEX follows subsequent movement in either direction to maintain a positive seal.

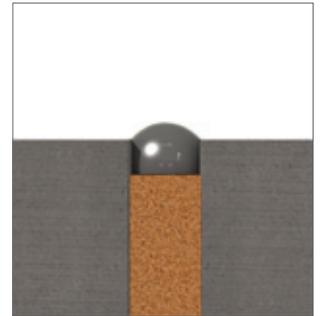
Acts as a water stop

Throughout its entire range of expansion and compression, SPANDEX remains water-resistant. No leakage. It provides a long-term, watertight seal when used to manufacturer's specifications.



No need for sealers

SPANDEX is completely independent of other materials. Installed to surface level, it saves time, labour and materials.



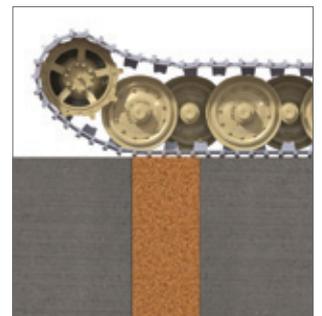
Installs flush with mating surfaces

SPANDEX withstands the heaviest traffic. Because of its resilience it repels grit and gravel. In actual application SPANDEX will endure years of constant traffic and show little deterioration.



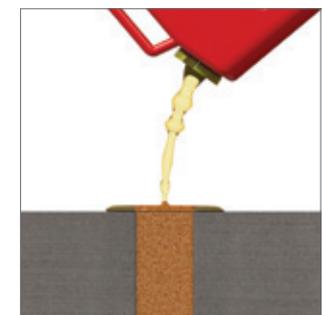
Minimum maintenance

Because of its resistance to wear and its non-extrusion properties, expensive repairs and re-jointing costs are saved with SPANDEX.



Incredibly durable

SPANDEX is amongst the most rugged jointing materials available. It resists extremes of pressure, weather, water immersion, traffic and jet fuel.



SPANDEX

Forms, fills and seals joints in concrete like no other

Description and Specification	SPANDEX Sealants	Type 3	Type 2	Pourable
	Self-expanding cork to spec RA SS 106	Cork to spec ASTM D1752-Type 3	Cork to spec ASTM D1752-Type 2	Various
Self-expanding capability	✓	✓	X	X
Forms joints	✓	✓	✓	X
Fills joints	✓	✓	✓	X
Seals joints	✓	X	X	✓
Specified high density	✓	X	X	N/A
Resistance to weather	✓	✓	✓	?
Resistance to jet fuel	✓	N/A	N/A	?
No mixing required on site	✓	✓	✓	?

Proven performance

In the past 30 years, many millions of metres of SPANDEX jointing have been used in civil engineering projects around Australia, the Pacific and South East Asian regions. Amongst these are:

Airports – civil and military

- Pavements and hardstanding
- Runways and taxiways
- Footpaths and roadways
- Maintenance areas.

Architectural features

- Landscaped and ceremonial areas.

Community

- Schools – playgrounds
- Hospitals
- Bus stations, maintenance areas.

Dams, water channels

- Dam walls and spillways
- Main drains
- Stream rehabilitation.

Fuel facilities

- Bund walls
- Petrol retailing forecourts.

Highways, local government

- Roads and pavements
- Bridge abutments
- Car parks
- Rail and light rail beds.

Industry and commerce

- Freight and container terminals
- Bus stations, vehicle maintenance areas
- Car parks and driveways
- Grain silos
- Bulk raw material storage
- Paper mills
- Livestock yards and processing facilities.

Military

- Army bases
- Tracked vehicle test areas
- Airfields.

Power stations – hydro and thermal

- Cooling water channels
- Cooling tower bases
- Dams and spillways
- Roads and pavements.

Wharves and docks

- Decks
- Freight and container storage and handling areas
- Roads and pavements.

Technical Assistance

All Embelton offices can provide detailed technical assistance on use of the SPANDEX jointing system in specific applications.

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