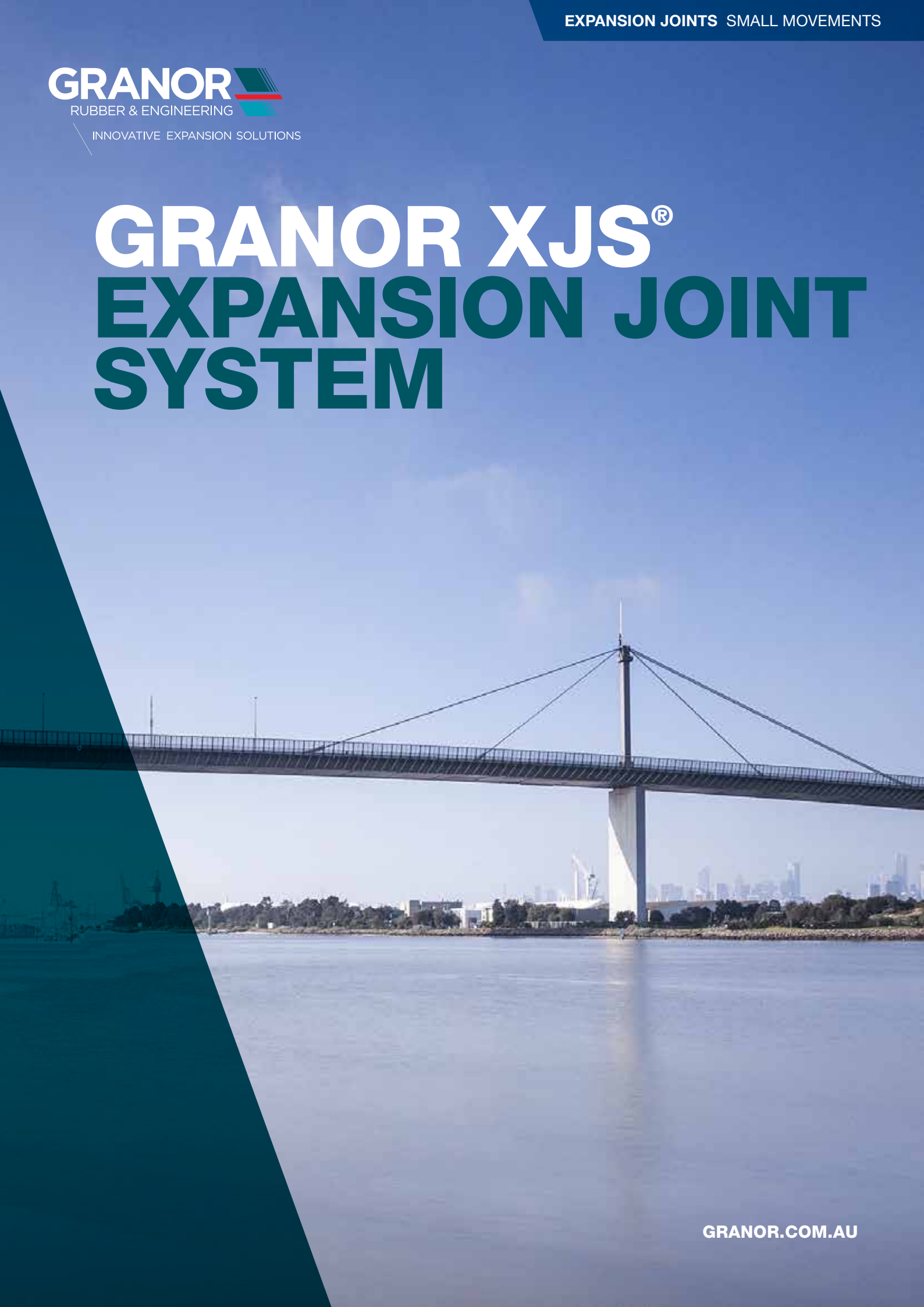
GRANOR
RUBBER & ENGINEERING
INNOVATIVE EXPANSION SOLUTIONS

GRANOR XJS®
EXPANSION JOINT SYSTEM



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THE GRANOR XJS® POLYMER NOSED EXPANSION JOINT SYSTEM

The SSI / GRANOR XJS® Expansion Joint System has revolutionised expansion joint construction for both new works and rehabilitation outcomes. XJS combines a tough, impact resistant wear resistant polymer joint nosing and a rapid two part cure joint sealing system with high movement capacity.

The total expansion joint system, which is cold applied with minimal specialised equipment, is specifically designed to provide a watertight, chemically resistant seal to accommodate high traffic volumes and to remain pliable in cold and warm temperatures. An important feature is that the two component silicone sealant in the system will readily bond to itself. This is ideal for maintenance applications where only one traffic lane can be closed at a time, but particularly where a continuous seal is required between adjacent lanes when they are eventually rehabilitated.

The rapid curing ability of the total XJS® system makes it an excellent choice for highways, bridges, airfields, parking decks and other high volume traffic areas that require short closure times. Installation to completion during non peak hour traffic time is possible, thus helping to avoid frustrating traffic backups and costly overtime.

The XJS® system is cost competitive, easily repairable if needed. It is also highly effective for skew joint applications due to the non-directional strain capacity attributes of the rapid cure seal.

Replacement of failed expansion joint systems at a fraction of the cost of conventional joint repair alternatives is achieved by use of the XJS® Expansion Joint System.

SYSTEM COMPONENTS

SILSPEC® 900 POLYMER NOSING SYSTEM (PNS)

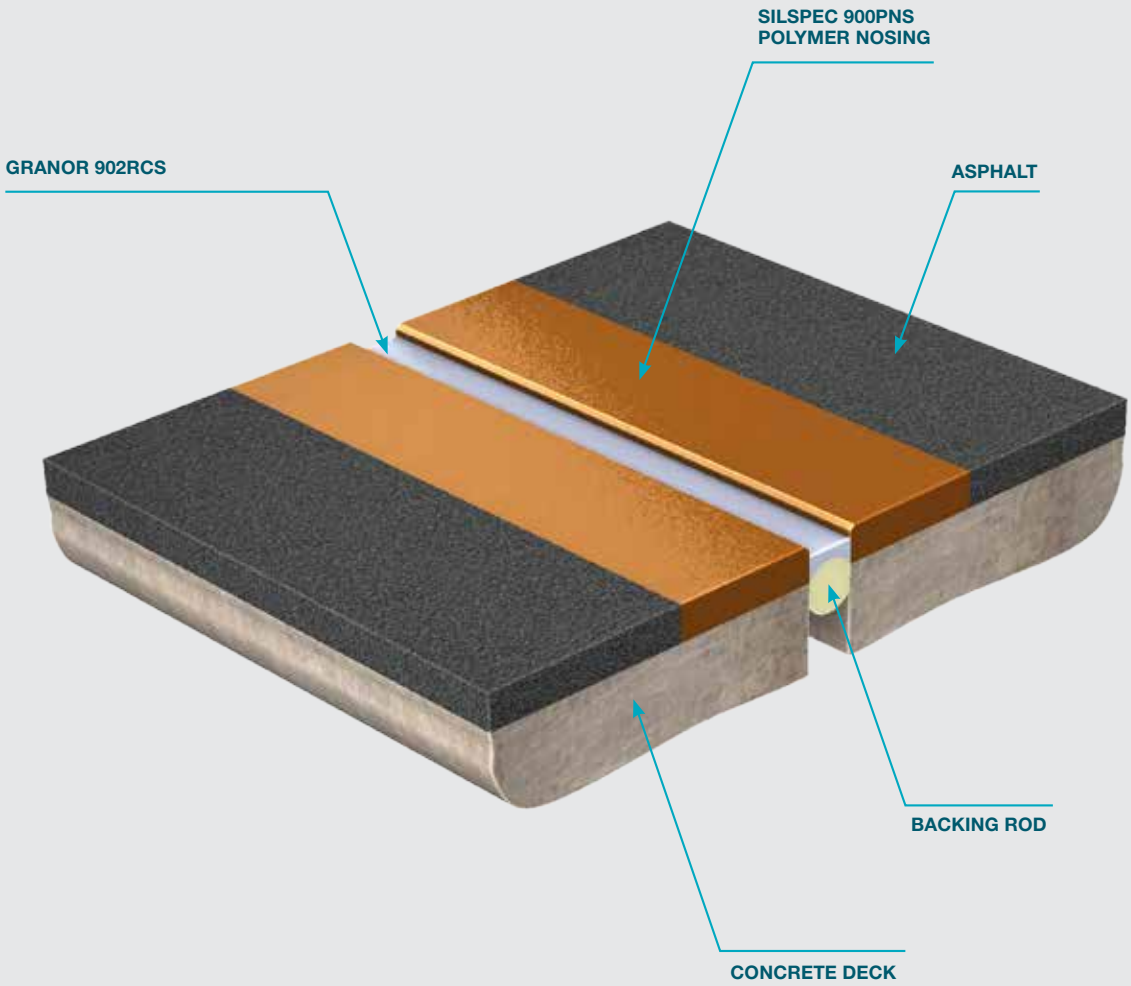
Is a two-component, rapid curing liquid polymer. Due to its relatively low viscosity, Silspec® 900 PNS is easy to mix and place. It cures to a dense, semi-flexible polymer that is resistant to chemicals, weather, abrasion and impact. The polymer is mixed with Silspec® Blended Aggregate. This combination forms a polymer-based mortar for joint repair or joint nosing repairs.

DOW CORNING® 902 RCS JOINT SEALANT

Is a two component, easy to install, 100% percent silicone rubber sealant designed to seal the expansion joint gap. The rapid curing ability of Dow Corning® 902 RCS joint sealant allows it to accommodate typical daily thermal movements and/or differential joint movement caused by traffic. Since it is self-levelling, Dow Corning® 902 RCS Joint Sealant can conform to irregularly shaped joints without tooling.

RAPID INSTALL WITH PROVEN LONGEVITY

PROVIDING OUTSTANDING ASSET MANAGEMENT



DESIGN FEATURES

FAST, USER FRIENDLY INSTALLATION

- XJS joint repairs can be completed between peak hours. The Silspec nosing typically cures to trafficable hardness within 2 – 4 hours (depending on temperature); the 902RCS sealant skins over and is trafficable 15 minutes after application.
- Can be installed within lane closures, lane by lane.
- New joints are completed quickly cutting labour costs. As expansion joints are often one of the last components in a bridge build, this can help to achieve earlier completion dates
- Contractor or road authority maintenance crews can be easily trained to install XJS.
- Required tools and equipment are simple and readily available.
- A comprehensive installation guide and video guide are both available.

DURABLE

- The original XJS joint was installed in Oklahoma in 1991. The original XJS installation in Australia was in Adelaide in 1997.
- Durable in all climates, XJS has been used to repair joints from Alaska to South America and throughout Australia, New Zealand and Papua New Guinea. XJS has been used in every capital city and every major highway in Australia.
- The multiple XJS joints installed between 1998 and 2002 on the Westgate Bridge in Melbourne are still in excellent condition despite over 160,000 vehicles per day.

VERSATILE

- XJS is an excellent choice for new construction in a wide range of climates and engineering configurations.
- XJS can be used to repair or replace a vast range of systems in use today.
- XJS can fully replace Asphaltic Plug Joints suffering from potholes, cracking, rutting or shoving—significantly extending joint life cycle and reducing probability of hazardous defects.
- XJS is the most widely used joint rehabilitation system in Australia. Nothing else comes close in terms of usage or outcomes.

WATCH OUR INSTALLATION VIDEO
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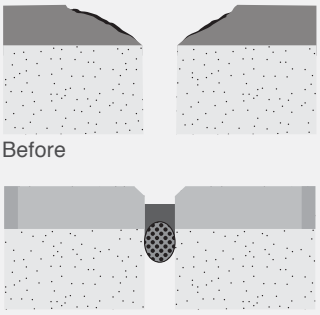
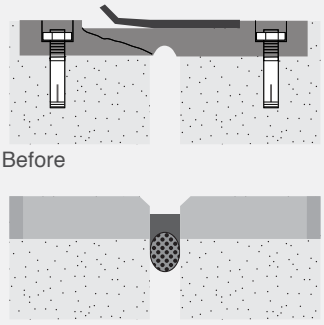
XJS® INSTALLATION —LANE BY LANE

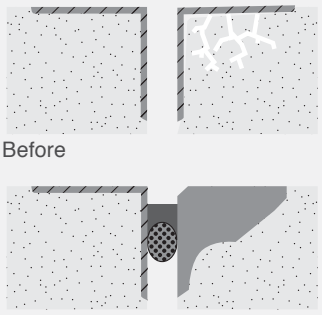
ASPHALT OVERLAY REPAIR



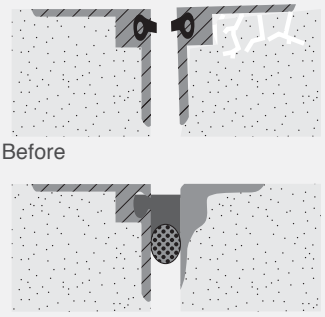
MODULAR JOINT REPAIR



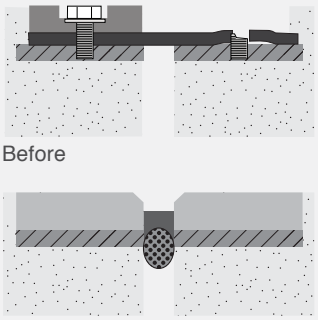
ARMOR JOINT REPAIR



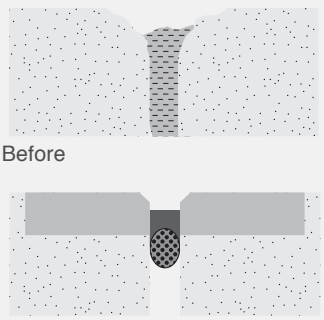
STRIP SEAL JOINT REPAIR



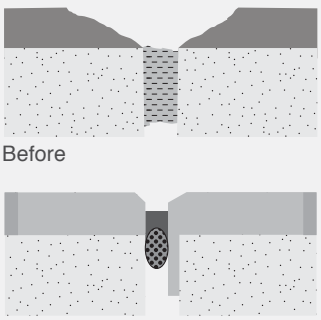
NEOPRENE STRIP JOINT REPAIR



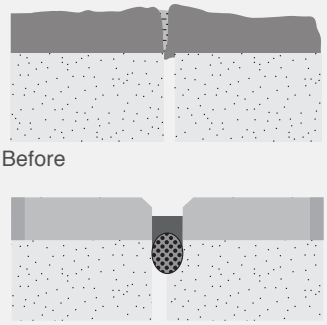
SPALLED JOINT FACE REPAIR



DOWN SIZE JOINTS



CLOSED JOINT RESIZE

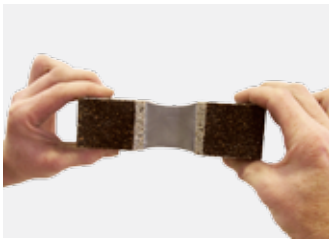


THE MOST WIDELY USED EXPANSION JOINT REHABILITATION SYSTEM IN AUSTRALIA

ULTRA HIGH MOVEMENT CAPACITY

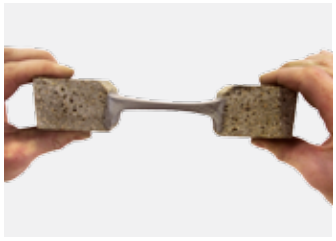
NEUTRAL POSITION

view from side

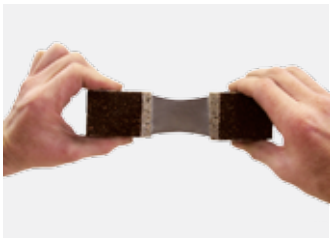


view from top

HORIZONTAL MOVEMENT

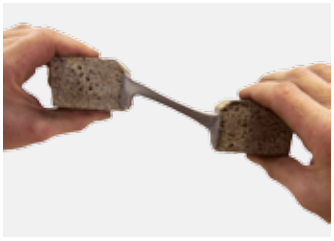


view from side



view from top

SKEWED MOVEMENT



view from side

view from top

ULTRA HIGH MOVEMENT CAPACITY

- Dow Corning® 902RCS has the highest movement capacity of any formed-in-place sealant currently available to market.
- +100% / -50% of installed gap width for joint 25mm – 75mm wide.
- 902RCS is also ideal for skew joints because of its non-directional strain capacity attributes. The joint gap width should be nominated such that the resultant movement vector will be less than 100% of the installed gap width.

HORIZONTAL MOVEMENT CAPACITY

Joint Install Width (mm)	"Joint Min (-50%)" (mm)	"Joint Max (+100%)" (mm)	Linear Yield per 40oz Kit (m)
25	12.5	50	2.74
30	15	60	2.29
35	17.5	70	1.83
40	20	80	1.75
45	22.5	90	1.52
50	25	100	1.37
55	27.5	110	1.22
60	30	120	1.15
65	32.5	130	1.00
70	35	140	0.92
75	37.5	150	0.77

*Maximum seal bead thickness should be 13mm at centre. N.B. AS5100.4 limits gaps to 85mm ULS for stripseal expansion joints at full opening.

902RCS DURING CYCLIC MOVEMENT TEST

A sample of 902RCS being tested 4,250 cycles with the ultimate limit state +100% / -50% design movement range (equivalent to over 11 years with maximum strain acting every single day).

REPAIRABLE

- If an XJS joint is damaged, only the damaged area needs to be replaced, unlike many other systems which require total removal and replacement.
- Both Silspec 900 Polymer Nosing and 902RCS materials will tenaciously bond to themselves (new to old) ensuring high quality patch repairs.
- XJS joint patching can be accomplished quickly and economically with maintenance personnel.

ECONOMICAL

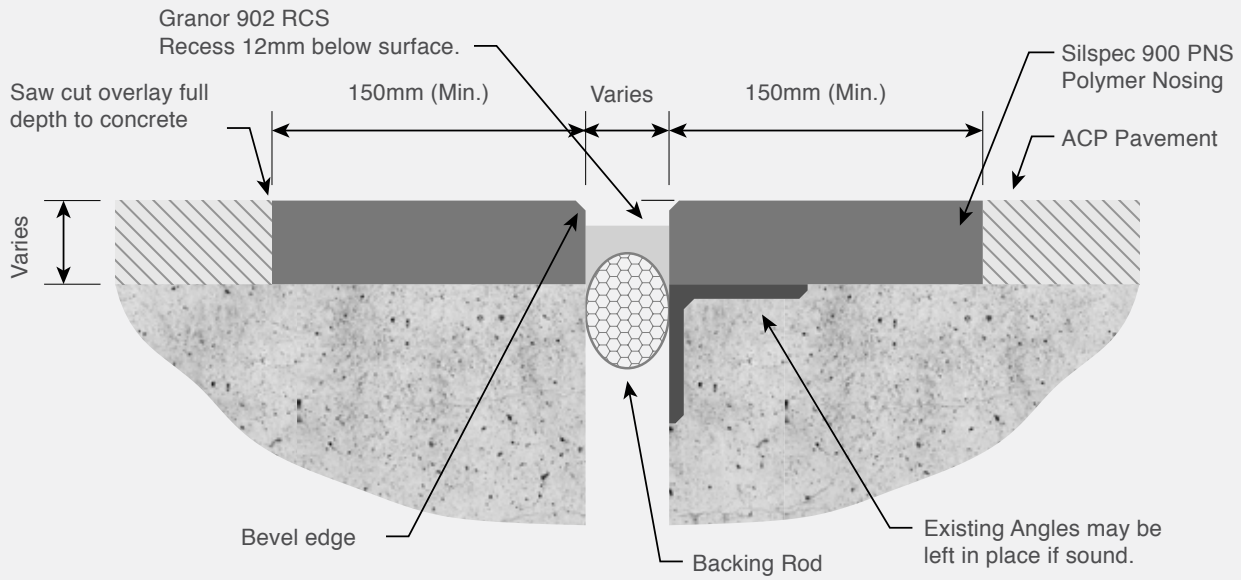
- XJS has very competitive initial installation costs.
- The proven longevity across a vast range of climates and the ease of maintenance combine to give XJS one of the lowest life cycle costs of any joint system available.

AVAILABILITY

- The XJS expansion joint system is available from Granor Rubber and Engineering Pty Ltd. The material is stocked in the Melbourne warehouse and delivered to projects anywhere in Australia, New Zealand, PNG and South East Asia.
- Silspec 900PNS is available in 14 Litre “Bucket” kits, and 28 Litre “Large” bagged kits.
- Granor has available mortar mixers tailored for use with Silspec.
- 902RCS is available in 40oz yield kits.
- Granor has available pneumatic applicator guns for the 902RCS.

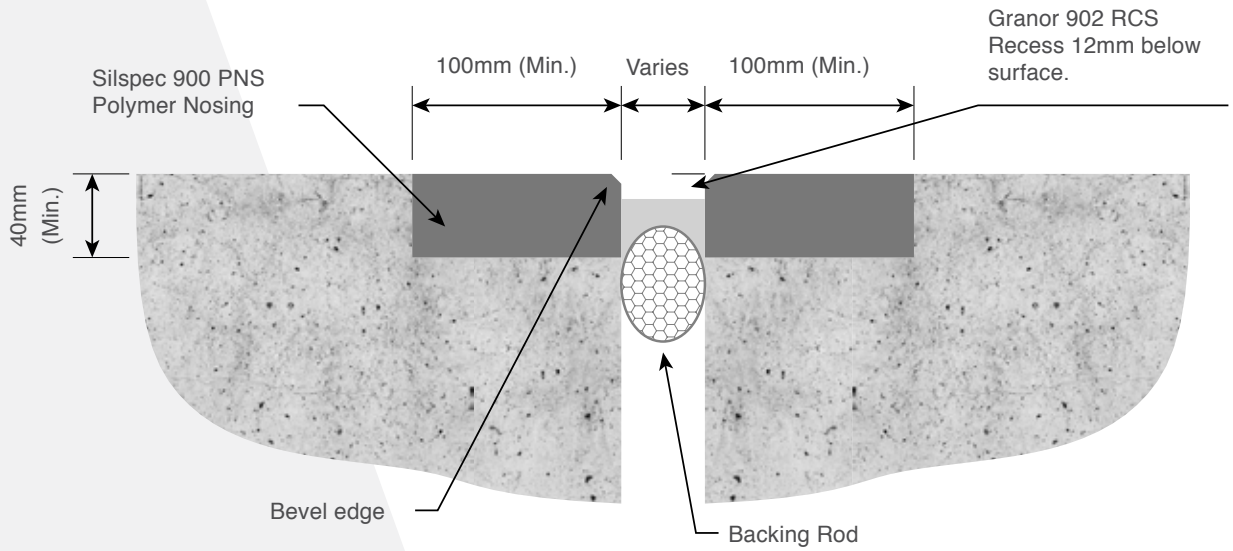
SPECIFICATIONS

XJS STANDARD DRAWING FOR ACP OVERLAYS.



- Minimum 150mm nosing width when asphalt adjacent
- Minimum 40mm depth Silspec 900 Polymer Nosing
- For asphalt depths deeper than 150mm the nosing width should be increased to maintain a minimum 1:1 Width to Depth ratio. (eg. 200mm asphalt depth required minimum 200mm wide nosing)

XJS STANDARD DRAWING FOR NEW WORK INTO CONCRETE DECK.



- Minimum 100mm nosing width when concrete adjacent
- Minimum 40mm depth Silspec 900 Polymer Nosing

FOR A COMPLETE INSTALLATION GUIDE VISIT GRANOR.COM.AU

GRANOR XJS® IS A TOUGH VERSATILE RAPID CURING EXPANSION JOINT SYSTEM

GRANOR.COM.AU

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