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Britflex NJ Expansion Joints

Nosing with preformed compression seal

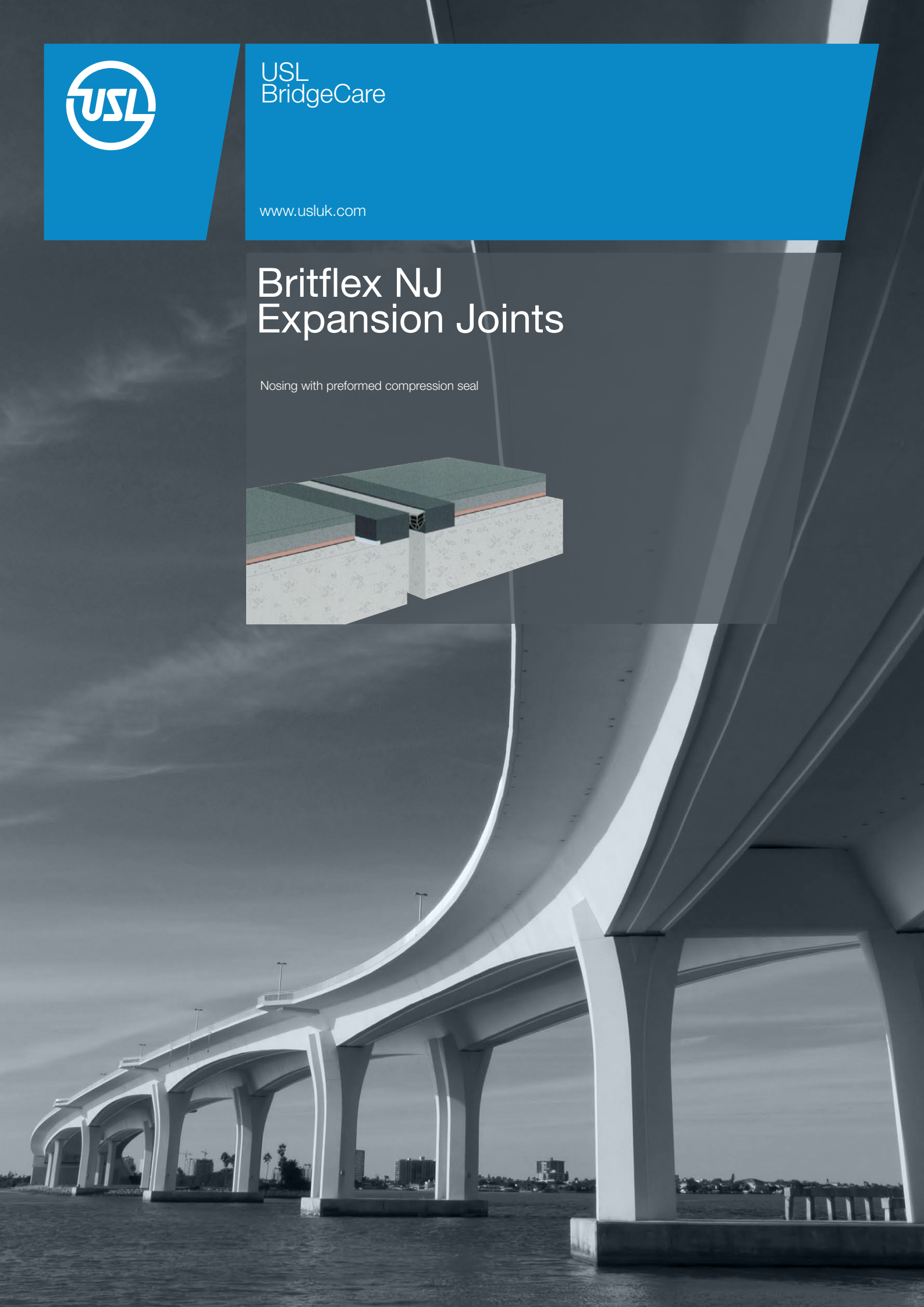
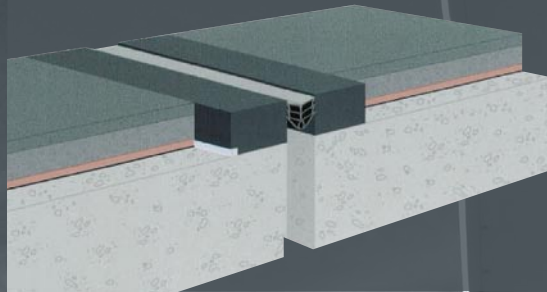
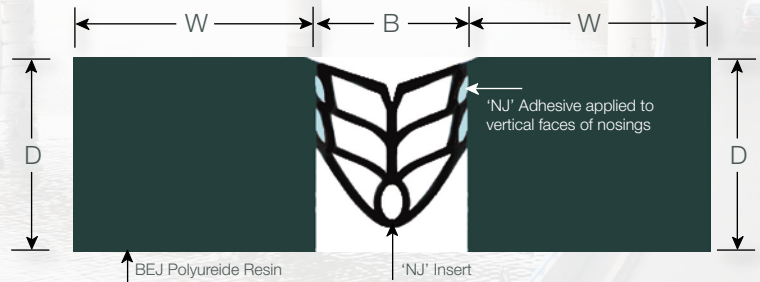


Table 1 - Design detail

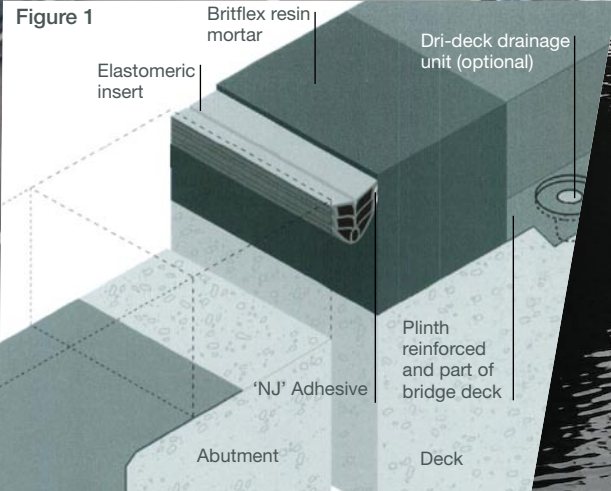


	Total Movement Capacity		Minimum Nosing Size		Optimum Nosing Gap 'B'	Nosing Gap 'B'	
	Horizontal	Vertical	W	D		Min	Max
NJ 1	15	±3	100	60	30	20	35
NJ 2	20	±5	100	60	30	20	40
NJ 4	40	±10	100	60	50	30	70

All dimensions in mm

Notes

The 'W' and 'D' dimensions are the minimum for new works contracts. For refurbishment contracts, nosing width and depth can be varied, however the 'W' and 'D' dimensions should always be based upon a minimum aspect ratio of 1.25:1, width to depth.



The Product In Brief

The 'NJ' Expansion Joint is a surface mounted Nosing Joint with an elastomeric insert bonded to the patented rapid curing elastomeric compound known as Britflex Resin Mortar.

The 'NJ' system is registered with the Highways Agency, the Scottish Office and the Welsh Office. The Highways Agency BD 33/94 Joint Type 4 refers.

The Britflex polyureide nosing system is included in the Highways Agency list of approved and registered products SA1/98. Unlike the 'BEJ' system, the 'NJ' system can only be used in the situation where the open gap at carriageway level does not exceed 65mm, (N.B. for U.K. only).

Applications

The 'NJ' joint For Maintenance
The 'NJ' joint is ideally suited for maintenance schemes and has been developed to provide a whole life economic solution for applications where previously asphaltic plug joints have always been considered and can be installed to the full depth of the surfacing as per Figure 2.

The system has the benefits of the tried and tested 'BEJ' system, along with the advantages of minimum installation periods and future maintenance cost when compared to asphaltic plug joints which must now be taken into account when reviewing whole life costings. The system has the ability to accommodate increased vertical movement without distress.

Specification

Materials

- (i) **Polyureide Resin**
The patented Britflex Polyureide Resin is a two part liquid system comprising one clear component (Base) and one black (Hardener), packed in colour coded drums.
- (ii) **Elastomeric Insert**
The extruded EPDM insert is capable of accommodating a range of movement. The insert is supplied in coils of 30 - 60 metres in length.
- (iii) **Aggregate**
The aggregate is a graded mix supplied in 20 kg sealed plastic bags.

Other Information

Technical & Advisory Service
Further technical information may be obtained on request and consultation is encouraged to ensure choice of materials selected and detailing are optimised to suit inservice performance requirements and economic solutions. A recommended inspection and maintenance statement is available and will also be issued at the time of installation.

Health & Safety
Universal Sealants (U.K.) Ltd. operate a strict policy on health and safety and details are available on request.

Note:
The colours used in the illustrations may not be indicative of the finished product. Universal Sealants (U.K.) Ltd. reserve the right to update and improve the 'NJ' Expansion Joint and its specification without notice and Engineers and Contractor should satisfy themselves that they have full and up to date information.

Figure 2

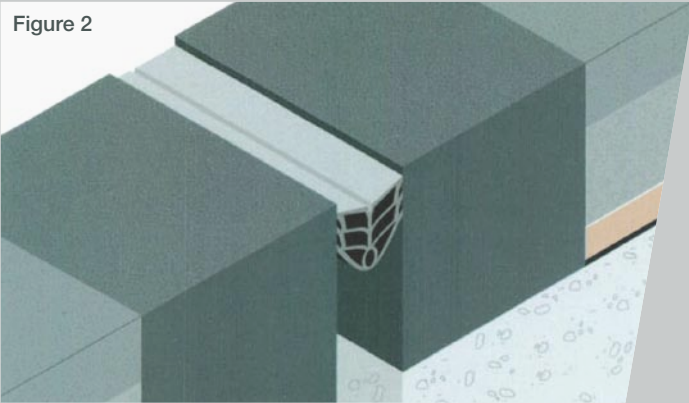


Figure 3

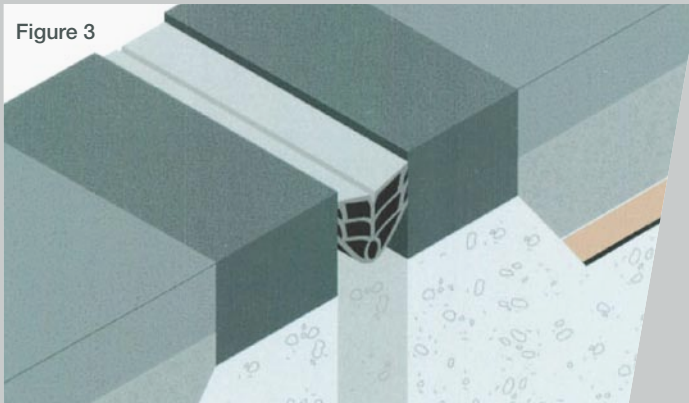
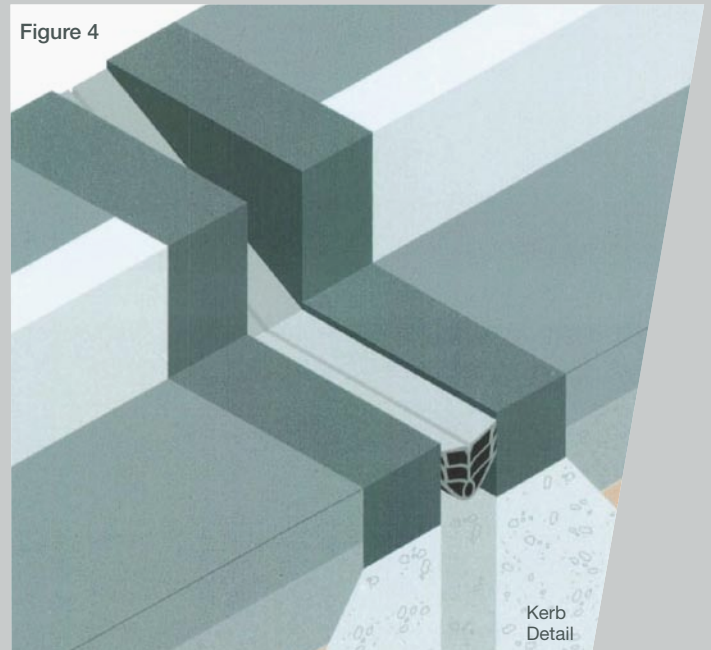


Figure 4



Installation

(a) General steps in the installation of the 'NJ' Expansion Joint.

- (i) The two resin components are warmed in oil jacketed gas fired heaters and maintained at 65°-85°C.
- (ii) The joint width is marked out on the asphalt surfacing and saw cut to provide a trench in the carriageway. The trench width will depend on the selected nosing width, type of joint and the required gap setting.
- (iii) The surfacing or the existing failed joint is broken out.
- (iv) The concrete deck and any previously formed recess in the verge/central reserve is lightly scabbled and/or wire brushed and substandard asphalt/concrete removed.
- (v) All loose arisings and any standing water are removed with compressed air.
- (vi) All exposed surfaces should be dried before priming, by using compressed air and/or hot air depending upon the weather conditions.

(vii) The polystyrene shutter is cut to size and placed in the expansion gap between the nosing formers. The complete trench is then primed with the resin mix.

(viii) The nosing formers are suspended on the spacer plates of the selected size movement gap and set for line and level.

(ix) The resin mortar is mixed and then placed into the prepared trench in the carriageway and trowelled flush with the surfacing.

(x) Once a suitable length of joint has been poured curing hoods may be erected over the joint and hot air applied.

(xi) The resin mortar will cure after two to three hours at approximately 70°C. It is then allowed to cool before the spacer plates and nosing formers are removed.

(xii) Bonding adhesive is applied to the nosings either side of the expansion gap.

(xiii) The elastomeric insert is installed using compression tongs.

(b) Weather and Temperature Criteria

The polyureide resin may be installed in ambient air temperatures of up to 50°C. It is not affected by freezing, but care must be taken to ensure the substrate is frost free and sufficiently dry before the priming stage.

Britflex Polyureide Resin does not emulsify in water and is also more dense than water. Consequently the resin mortar may be placed with care in periods of light rain, provided the resin is placed in such a way as to prevent water from being trapped in the trench. The preliminary operations of sawcutting and breaking out can be undertaken during inclement weather.

(c) Time lag after completion and before opening to traffic

Shortly after the resin mortar has cured the elastomeric element can be inserted and the joint opened to traffic.

During phased working the joint can be opened to traffic shortly after the cure with or without the elastomeric element in place to suit the sequence of installation and minimise traffic disruption.

(d) Other Notes

When the 'NJ' system is bonded to steel, this should be prepared by gritblasting or other suitable means just prior to priming. The 'NJ' insert should be protected from white-lining materials e.g. sand.



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