

TRANSPORT FOR NSW (TfNSW)

QA SPECIFICATION TfNSW M214

REPAIR OF JOINT SEALS IN CONCRETE PAVEMENT

NOTICE

This document is a Transport for NSW QA Specification. It has been developed for use with roadworks and bridgeworks contracts let by Transport for NSW or by local councils in NSW. It is not suitable for any other purpose and must not be used for any other purpose or in any other context.

Copyright in this document belongs to Transport for NSW.

REVISION REGISTER

Ed / Rev Number	Clause Number	Description of Revision	Authorised By	Date
M220				
Ed 1 / Rev 0		First edition	GM, IC	30.08.07
Ed 1 / Rev 1	Most	Format corrected	GM, IC	24.10.07
M214				
Ed 2 / Rev 0	All	To match new Maintenance Activities: <ul style="list-style-type: none">• Changed specification's number• Changed Pay Items• Changed references to other similarly changed specifications Removed Deduction mechanisms Changed internal referencing format	GM, IC	05.08.08
	Clause 5.3	Added clause re Accomplishment reporting		
Ed 3 / Rev 0	All	General technical review, and revision of some technical requirements. Format revised.	GM, IAM	17.04.13
Ed 3/Rev 1	Global	References to "Roads and Maritime Services" or "RMS" changed to "Transport for NSW" or "TfNSW" respectively.	DCS	22.06.20

GUIDE NOTES

(Not Part of Contract Document)

THESE NOTES ARE NOT PART OF THE SPECIFICATION, CONTRACT OR AGREEMENT.

The following notes are intended to provide guidance to TfNSW personnel on the application of the Specification. They do not form part of the Specification, Contract or Agreement.

USING TfNSW M214

This specification has been specifically developed for TfNSW maintenance works. It must not be used without a review of its suitability for the application and in the contractual environment.

It is a QA specification. The use of QA specifications requires the implementation of a quality system by the service provider which meets the quality system requirements specified in TfNSW Q.

TECHNICAL REFERENCE NOTES

Technical information on maintenance of concrete pavements is available in the TfNSW Rigid Pavement Standard Details – Maintenance drawings. The TfNSW Contract Manager and Verification / Surveillance Officer should be familiar with the specific requirements of, and underlying reasons for, maintaining concrete pavements.

The technical treatment details should be examined in detail before issuing the Specification. Any changes considered should be dealt with by checking with TfNSW Pavement Structures Section, seeking the concurrence of Contracts Quality Manager and then amending the Specification.

OUTLINE

This Specification is for the repair of joints in existing concrete pavement (including transverse and longitudinal). It includes the repair of the joint between concrete pavement and a bituminous pavement. It includes sawcutting to achieve a reservoir with a rectangular cross section. It does not include installing new joints in repaired pavements (refer to M258), the repair of joint spalling (M215), or crack sealing (M212).

The TfNSW Contract Manager is responsible for preparing and issuing drawings of each joint treatment required in Annexure A. In particular, sawcutting to reinstate a suitable edge and face for joints must be specified and not left up to the Contractor.

SECTION 2 PLANNING - WORK TRIAL

The Work Trial is an option that can be selected in Annexure A.1 and provides for each combination of treatment and sealant specified.

The Work Trial should be specified where a new type of treatment or a new Contractor is to be used.

The Work Trial may not be necessary where a Contractor has implemented QA and consistently meets the Specification. However, there is provision to request a Work Trial if the quality of Work is not consistently meeting the Specification.

SECTION 3 RESOURCES

The type of sealant should be nominated by the Principal. Generally, the replacement sealant should match the type of existing sealant. In-situ sealant will need to be replaced by an extruded or hot-melt sealant. However, where distillate may accumulate a polyurethane sealant is preferred. This Specification can be used for replacing neoprene seals with another type of sealant, as neoprene is no longer used.

SECTION 5 CONFORMITY

If there are concerns about the sealant bonding to the concrete, a test can be done to ascertain whether the sealant will be effective. Further information about carrying out a test for bond strength can be obtained from the TfNSW Pavements Section.

A warranty period of 6 months is specified. The TfNSW Contract Manager may extend this. Note that the warranty assumes that the pavement slabs are stable. However, pavement slabs that have not been stabilised may move and be the cause of sealant failure. This may be outside the warranty.



REPAIR OF JOINT SEALS IN CONCRETE PAVEMENT

Copyright – Transport for NSW
IC-QA-M214

VERSION FOR: DATE:

CONTENTS

CLAUSE	PAGE
FOREWORD.....	ii
TfNSW Copyright and Use of this Document.....	ii
Revisions to Previous Version.....	ii
Project Specific Changes	ii
1 GENERAL	1
2 PLANNING	2
2.1 Project Quality Plan Requirements	2
2.2 Joint Seal Design	2
2.3 Work Trial	3
2.4 Other Plans	4
3 RESOURCES.....	5
3.1 Materials.....	5
3.2 Equipment	6
4 EXECUTION	6
4.1 General	6
4.2 Sawcutting Joint	7
4.3 Preparation	7
4.4 Sealing Joints in Concrete	7
4.5 Wide Joints	8
4.6 Joints Between Concrete and Bituminous Pavement	8
4.7 Opening to Traffic	9
5 CONFORMITY	9
5.1 Certification of Conformity.....	9
5.2 Warranty Period	10
5.3 Accomplishment Reporting.....	10
ANNEXURE M214/A – DETAILS OF WORK	11
A1 Work Summary.....	11
ANNEXURE M214/B – MEASUREMENT AND PAYMENT	12
B1 General	12
B2 Schedule of Pay Items	13
ANNEXURE M214/C – SCHEDULES OF HOLD POINTS, WITNESS POINTS AND IDENTIFIED RECORDS.....	14
C1 Schedule of Hold Points and Witness Points	14
C2 Schedule of Identified Records	14
ANNEXURE M214/D – PLANNING DOCUMENTS	15
D1 Typical Construction Processes to be Addressed in PQP	15
ANNEXURE M214/E – DAILY WORK RECORD.....	16
ANNEXURES M214/F TO M214/L – (NOT USED).....	17
ANNEXURE M214/M – REFERENCED DOCUMENTS & DEFINITIONS	17
M1 Referenced Documents.....	17
M2 Definitions.....	17
LAST PAGE	17

FOREWORD

TfNSW COPYRIGHT AND USE OF THIS DOCUMENT

Copyright in this document belongs to the Transport for NSW.

When this document forms part of a contract

This document should be read with all the documents forming the Contract.

When this document does not form part of a contract

This copy is not a controlled document. Observe the Notice that appears on the first page of the copy controlled by TfNSW. A full copy of the latest version of the document is available on the TfNSW Internet website: <http://www.rms.nsw.gov.au/business-industry/partners-suppliers/specifications/index.html>

REVISIONS TO PREVIOUS VERSION

This document has been revised from Specification TfNSW M214 Edition 3 Revision 0.

All revisions to the previous version (other than minor editorial and project specific changes) are indicated by a vertical line in the margin as shown here, except when it is a new edition and the text has been extensively rewritten.

PROJECT SPECIFIC CHANGES

Any project specific changes have been indicated in the following manner:

- (a) Text which is additional to the base document and which is included in the Specification is shown in bold italics e.g. ***Additional Text***.
- (b) Text which has been deleted from the base document and which is not included in the Specification is shown struck out e.g. ~~Deleted Text~~.

QA SPECIFICATION TfNSW M214

REPAIR OF JOINT SEALS IN CONCRETE PAVEMENT

1 GENERAL

- | | | |
|-----|---|--------------------------------|
| 1.1 | This Specification has been developed specifically for TfNSW maintenance works. It must not be used in any type of contract without consideration of its suitability in the prevailing circumstances. | Intended use |
| 1.2 | The work to be executed under this Specification is the installation or repair of joint seals in concrete pavement. The work may include sealing joints between concrete pavement and kerb and gutter or bituminous pavement. | Scope |
| 1.3 | Details of work to be carried out under this Specification are described in Annexure M214/A. Where requested, the PRINCIPAL will identify the work on site. | Details of work |
| 1.4 | Some words or abbreviations have a special meaning in this Specification and they are explained in Annexure M214/M. | Definitions |
| 1.5 | The standards, specifications and test methods referred to by this Specification are referenced using an abbreviated form (eg TfNSW 3263). The titles are given in Annexure M214/M. | Referenced documents |
| 1.6 | Unless otherwise specified, the issue of an Australian Standard or TfNSW Test Method to be used is the issue current one week before closing date for tenders. The TfNSW Specification to be used is the issue contained in the contract documentation. | Applicable issue |
| 1.7 | YOU must provide all responsibilities, such as actions, works, supply of materials, unless specifically stated otherwise. Accordingly, this Specification does not generally use wording such as "YOU shall ..." or "YOU must ..." because this is the underlying requirement. However, it is used where actions in a clause involve both YOU and the PRINCIPAL and the roles need to be unambiguous. | Interpretation |
| 1.8 | Payment for the activities associated with completing the work detailed under this Specification must be made using the Pay Item(s) referred to in Annexure M214/B. | Measurement and payment |
| 1.9 | Provide the identified records specified in the TfNSW Quality System Specification included in the Contract Documents (TfNSW Q) and summarised in Annexure M214/C2. | Records |

2 PLANNING**2.1 PROJECT QUALITY PLAN REQUIREMENTS**

- | | | |
|-------|---|---------------------------------------|
| 2.1.1 | The requirements of the PROJECT QUALITY PLAN are defined in TfNSW Q. In addition, the PROJECT QUALITY PLAN must: | General |
| .1 | Address the HOLD POINTS and WITNESS POINTS required by this Specification and summarised in Annexure M214/C1. The PRINCIPAL will consider the submitted documents before authorising the release of any HOLD POINT. | Hold Points and Witness Points |
| .2 | Address each of the construction process requirements in this Specification and summarised in Annexure M214/D1. | Construction Process |
| .3 | Include the manufacturers' requirements for the storage, handling, application and installation of all materials proposed for use. | Manufacturers' requirements |
| .4 | Include Safety Data Sheets and manufacturers' material specifications. | Material |
| .5 | Include a requirement for the routine submission of data which will certify conformity of all work and materials to the requirements of this Specification and include supporting documentation. | Conformity Data |

- | | | |
|-------|---|-------------------|
| 2.1.2 | Process Held: Commencement of Work. | HOLD POINT |
| | Submission: Submit the PROJECT QUALITY PLAN at least 5 BUSINESS DAYS before proposed commencement of work. | |
| | Release of Hold Point: The PRINCIPAL will consider the submitted documents before authorising the release of the HOLD POINT. | |

2.2 JOINT SEAL DESIGN

- | | | |
|-------|--|----------------------|
| 2.2.1 | Unless specified otherwise in Annexure M214/A.1 or directed, select the sealant that best corresponds with the situation: | Sealant types |
| .1 | Silicone sealants for joints where $W \leq 18$ mm. | |
| .2 | Polyurethane sealant for joints where $18 < W \leq 40$ mm. | |
| .3 | Polyurethane sealant for any joint ≤ 40 mm where distillate fuel is evident. | |
| .4 | Hot poured elastomeric sealant for joints where $18 < W \leq 40$ mm. | |
| 2.2.2 | For silicone sealants, the width to depth ratio must be in accordance with the Series MP Drawings referenced in Annexure M214/M. | Dimensions |
| | For polyurethane and hot poured elastomeric sealants, the width to depth ratio W/Ds and depth Ds of sealant shown in Figure 1 must be in accordance with the sealant manufacturer's recommendation and included in the PROJECT QUALITY PLAN. | |

- 2.2.3 Any newly sawcut joint must meet the following requirements: **Depth of cut**
- .1 Straight and generally parallel to the existing joint.
 - .2 Sides vertical to the pavement surface.
 - .3 Provide sufficient depth for the sealant and any backer rod (D_c in Figure 1).
 - .4 Not intersecting any steel dowels or reinforcement in the slab.

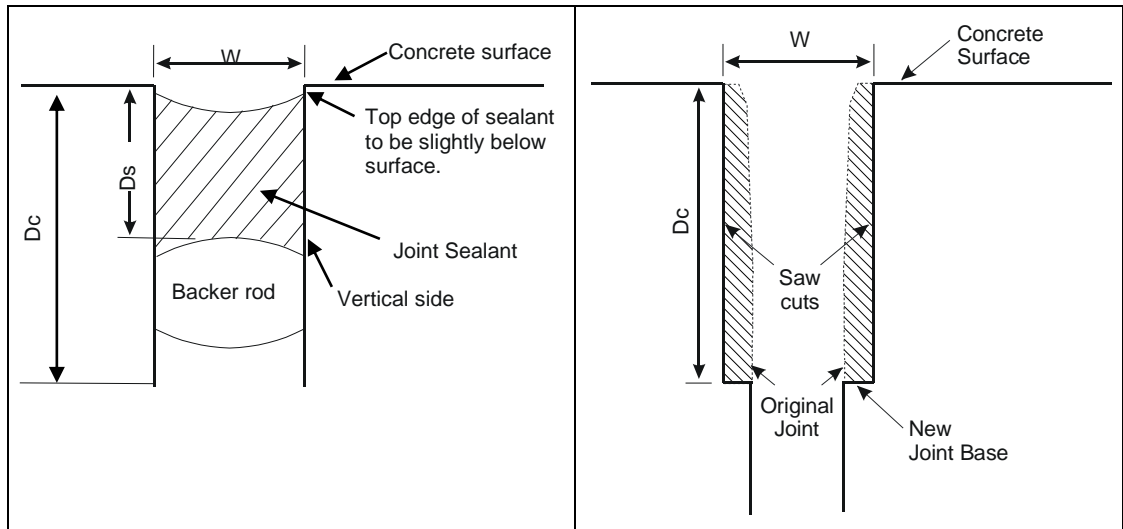


Figure 1 Joint dimensions

- 2.2.5 Where required, a backer rod must be: **Backer rod**
- .1 Located at a depth D_s to keep the sealant at the planned location.
 - .2 A tight fit to prevent sealant leakage.

2.3 WORK TRIAL

- 2.3.1 Where specified in Annexure M214/A, perform a WORK TRIAL for each type of material proposed to seal joints in concrete pavement. **WORK TRIAL**
The location of each trial must be within the specified work and agreed by the PRINCIPAL.

The PRINCIPAL may direct additional WORK TRIALS when materials or procedures change, or conformity is not being achieved.

- 2.3.2 The WORK TRIAL must be at least 20 m of total joint length. **Extent**

- 2.3.3 Inspect the work on completion of the WORK TRIAL to ensure that the work complies with the requirements of this Specification. **Part of the Work**

Every successful WORK TRIAL forms part of the permanent Work.

2.3.4	Process Witnessed: WORK TRIAL.	WITNESS POINT
Submission: Notification of the WORK TRIAL at least 3 BUSINESS DAYS before the WORK TRIAL starting. The PROJECT QUALITY PLAN must have already been submitted as provided in Clause 2.1.2.		
2.3.5	The PRINCIPAL may direct additional WORK TRIALS when materials or procedures change, or conformity is not achieved.	Additional WORK TRIALS
2.4 OTHER PLANS		
2.4.1	Your Environmental Management Plan (CEMP) must address all aspects of the work in accordance with TfNSW G36, including the following: .1 Removal of debris. .2 Control of slurry. .3 Disposal of chemicals and surplus or waste material.	Waste management
2.4.2	The Work Health & Safety requirements of the Work must be addressed in accordance with TfNSW G22. Heated materials, such as hot poured sealants, must be addressed.	Work Health & Safety

3 RESOURCES**3.1 MATERIALS**

- 3.1.1 The type of sealant for each joint type is specified in Clause 2.2. **Type of sealant**
- 3.1.2 The sealant must be UV stable, form a permanent bond to concrete consistent with the service life of the sealant, be of a colour which matches the surrounding wearing surface and comply with the following requirements: **Sealant requirements**
- 3.1.3 A silicone joint sealant must be a one-part, cold-applied, designated as highway grade by the manufacturer. **Silicone sealant**
- Silicone sealant must comply with Table 1.

Table 1

Test Method	Attribute	Requirements
ASTM-D792 (Method A)	Specific gravity	1.1 – 1.55
ASTM-D2240 (Standard Curing)	Durometer hardness	10 – 25
ASTM-C603	Extrusion rate	90 – 250 g/min
ASTM-C679	Tack free time	30 – 70 mins
ASTM-C793	Accelerated weathering	No chalking, cracking, or bond loss at 5000 hours.
ASTM-C794	Adhesion to concrete	Minimum 35N average peel strength.
TfNSW T1193	Accelerated ageing	Conditioning of specimen.
TfNSW T1192	Adhesion to concrete	Conditioning as per TfNSW T1193. Extension to 70%, compression to 50%. Not more than 10% failure over the cross-sectional area.

- 3.1.4 A polyurethane sealant must be a non-sag, heavy duty, one component, smooth, thixotropic paste, designated as highway grade by the manufacturer. **Polyurethane sealant**
- 3.1.5 A hot poured elastomeric joint sealant must be in accordance with TfNSW 3263. **Hot poured sealant**
- 3.1.6 Preformed joint fillers must be in accordance with TfNSW 3204. **Preformed joint fillers**
- 3.1.7 The backer rod must be continuous closed-cell polyethylene. **Backer rod**
- 3.1.8 Materials used in conjunction with the sealant (for example, primer, backer rod, or filler) must be compatible with the sealant and this must be confirmed in writing by the sealant manufacturer. **Compatible with the sealant**
- 3.1.9 The sealant shape must not be damaged when reopened to traffic. It must have a tack-free time of less than 60 minutes at 23°C. **Curing time**

- 3.1.10 All blinding materials to be used must be acceptable to the sealant manufacturer for emergency surface blinding of the sealant when it is tacky and the travel lane is to be re-opened because of traffic volumes or delays. Where used, blinding material must have no detrimental effect on the sealed joint. Describe the procedures, materials and application rates for blinding in the PROJECT QUALITY PLAN. **Blinding**
- 3.1.11 Provide certification from the material manufacturer that demonstrates that the material complies with this Specification. **Manufacturer certification**
- 3.1.12 Include details in the PROJECT QUALITY PLAN that demonstrate the suitability of the sealant and other materials by providing evidence of their previous successful use. **Demonstrate suitability of materials**
- The previous use must be for repairing concrete pavement and being subjected to dynamic wheel loads from vehicular traffic.
- 3.2 EQUIPMENT**
- 3.2.1 Hot poured sealant must be indirectly heated in a kettle that allows appropriate regulation of sealant temperatures and at least up to 220°C. The sealant must be continually agitated and recirculated back into the vat during idle periods. **Agitator type kettles**
- All hoses and wands used for hot poured sealant must be insulated for heat.
- 3.2.2 Include the equipment, the method of operation and application in the PROJECT QUALITY PLAN. **Include in PROJECT QUALITY PLAN**
- 4 EXECUTION**
- 4.1 GENERAL**
- 4.1.1 Clauses in this Specification include requirements that are either: **Relevant clauses**
- .1 Common to all joint repairs, or
- .2 Relate to specific types of joints.
- Table 2 is a guide to the relevant clauses in this section that deal with the different types of joints.

Table 2 Clauses relevant to different types of joints

Type of Joint	Clauses	
	Common	Specific
Wide joints in concrete (40 mm or more over more than 50% of their length)	Clause 4.1 and 4.3	Clause 4.5
All other joints in concrete	Clause 4.1 and 4.3	Clause 4.4
Joints between concrete slabs and bituminous pavement	Clause 4.1 and 4.3	Clause 4.6

4.1.2 **Process Held:** Commencement of work other than a WORK TRIAL. **HOLD POINT**

Submission: Documentation demonstrating conformity of the WORK TRIAL with the Specification. Where the PROJECT QUALITY PLAN needed to be revised, submit the revised PROJECT QUALITY PLAN.

Release of Hold Point: The PRINCIPAL will consider the submitted documents and may inspect the WORK TRIAL before authorising the release of the HOLD POINT.

4.1.3 Use the Daily Work Record in Annexure M214/E to record the details of work accomplished in each shift. **Daily Work Record**

4.2 SAWCUTTING JOINT

4.2.1 Where required to achieve clean joint faces, sawcut the pavement to form a sealant reservoir to the width W and depth Dc as specified in Clause 2.2 or the Series MP Drawings, as applicable to the sealant type. **Depth of cut**

4.2.2 Prevent soiling the new joint from pick-up of old sealant by the saw blade. **Prevent soiling**

4.2.3 Remove debris from the joint and clean slurry from joint faces within 10 minutes of sawcutting. **Clean slurry and debris**

4.3 PREPARATION

4.3.1 Ensure the joints have clean faces. **Clean faces**

Remove debris from the joint and clean the joint faces without damaging the joint edges or leaving any residue that may inhibit the bond. Do not use grit blasting.

4.4 SEALING JOINTS IN CONCRETE

4.4.1 Install the seal to comply with Clause 2.2 and the Drawings, as applicable to the sealant type, within 5 WORKING DAYS of preparation. Use the sealant as specified in Clause 3.1. **Installation**

4.4.2	The joint must be clean and dry prior to installing the backer rod and/or joint sealant.	Joint clean and dry
4.4.4	At the time of installing the joint sealant, the concrete surface temperature near the joint must be at least 5°C.	Concrete surface temperature
4.4.3	Where required, install backer rod as provided in Clause 2.2. Replace any damaged backer rod.	Backer rod
4.4.5	The sealant must form a permanent bond to the BASE CONCRETE along both vertical sides of the joint consistent with the service life of the sealant. Apply a primer where required and tool the silicone and polyurethane sealants (as applicable) while the sealant is workable and before a surface skin forms.	Bond with concrete
4.4.6	Introduce a silicone sealant into the reservoir by extrusion.	Silicone sealant
4.4.7	Ensure that polyurethane sealant has not started to gel before being placed in the reservoir.	Polyurethane sealant
4.4.8	Hot poured elastomeric joint sealant must be applied using equipment as provided in Clause 3.2.	Hot poured sealant
4.4.9	Trim and remove any excess sealant.	Excess sealant
4.5	WIDE JOINTS	
4.5.1	Clause 4.5 applies to any joint which is 40 mm or more in width over 50% of its length.	Relevance
4.5.2	Wide joints are not to be sealed but backfilled to provide an even pavement surface.	Fill to restore surface
4.5.3	Use a permanent bituminous patching mix with maximum particle size of 5 mm to backfill the joint.	Bituminous patching mix
4.5.4	Prepare a long patch with sides over the length of the wide joint at least 40 mm deep. Clean out all loose debris and compressible material.	Preparation
4.5.5	Apply a primer or tack coat where required to achieve a permanent bond with the BASE CONCRETE consistent with the service life of the bituminous patching mix. Backfill the patch with the mix and mechanically compact the mix to finish flush with the adjoining pavement levels.	Patch
4.6	JOINTS BETWEEN CONCRETE AND BITUMINOUS PAVEMENT	
4.6.1	Seal joints that are less than 40 mm in width between a concrete slab and adjoining bituminous pavement. Treat joints 40 mm or more as a wide joint according to Clause 4.5.	Seal the joint

Repair of Joint Seals in Concrete Pavement

M214

- | | | |
|-------|--|-----------------------------------|
| 4.6.2 | Prepare the joint according to Clause 4.3. | Prepare joint |
| 4.6.3 | Clean and dry the surfaces just before installing the joint sealant. | Clean and dry joint |
| 4.6.4 | The material used to seal the joint must be compatible with the pavement to be treated. Install one of the following sealants: | Material to seal the joint |
| | .1 A hot poured elastomeric joint sealant as provided in Clause 3.1 and applied using equipment as provided in Clause 3.2, or | |
| | .2 An alternative material proposed by YOU in the PROJECT QUALITY PLAN. | |

4.7 OPENING TO TRAFFIC

- | | | |
|-------|--|---------------------------------|
| 4.7.1 | Inspect the work on completion to ensure that the work complies with the requirements of this Specification. | Final inspection of work |
| 4.7.2 | Prior to opening the work to traffic, ensure that the sealant or patch has cured so that it will not be damaged by traffic. | Sufficient curing |
| 4.7.3 | Where required to avoid the sealant being damaged by traffic, sparingly apply blinding material. Do not create excessive dust. | Blinding |
| 4.7.4 | Remove and dispose of all waste according to TfNSW G36. | Waste |

5 CONFORMITY

5.1 CERTIFICATION OF CONFORMITY

- | | | |
|-------|---|---------------------------|
| 5.1.1 | Submit a conformity summary report for all work done and provide any necessary supporting documentation. This report will certify conformity of all work and materials to the requirements of this Specification. | Conformity Summary |
|-------|---|---------------------------|

The details in Table 3 must be included in the summary.

Table 3 – Actions to be included in the Conformity Summary

Actions	Reference	Requirements
1. Material Conformity	Clause 3.1	Manufacturer's Certificate of Conformity for each material used
2. Record of work detail and joints treated	Clause 4.1	Daily work record
3. Saw cutting (where required)	Clause 4.2	Certification of Conformity
4. Preparation	Clause 4.3	Certification of Conformity
5. Joint sealing in Concrete	Clause 4.4	Certification of Conformity
6. Wide joints	Clause 4.5	Certification of Conformity
7. Joints between concrete and bituminous pavement	Clause 4.6	Certification of conformity
8. Opening to traffic	Clause 4.7	Certification of conformity
9. Conformities and Non-conformities	Clause 5.1 and TfNSW Q	List of NCRs issued and dispositions

5.2 WARRANTY PERIOD

- 5.2.1 YOU must warrant the work for the period set out in Annexure M214/A.

Warranty period

Any failure of the sealant or loss of bond of the sealant with the BASE CONCRETE must be repaired to meet the requirements of this Specification.

- 5.2.2 If YOU need to fix something during the warranty period because it does not comply with the warranty, the warranty applies again from the time when the thing is fixed – but only with respect to the thing fixed.

Warranty applies

5.3 ACCOMPLISHMENT REPORTING

The accomplishment of conforming work must be reported as specified in Table 4.

Table 4

Code	Description	Unit of Measure	Accomplishment Reporting
214	Repair of Joint Seals in Concrete Pavement	m	Report length of joint repaired.

ANNEXURE M214/B – MEASUREMENT AND PAYMENT

B1 GENERAL

- | | | |
|------|--|-------------------------------------|
| B1.1 | Pay items are identified in Annexure M214/B2. | Pay Items |
| B1.2 | The price(s) of pay items with a quantity of work in the schedule must be costed and due allowance made for the cost of the activity.

Any pay item with a quantity of work that is not priced is understood to be included in other priced pay items. | Prices |
| B1.3 | Pay items with a quantity of work specified must not be tendered as a lump sum price. | No Lump Sum |
| B1.4 | Measurement will include a WORK TRIAL (refer Clause 2.3) which forms part of the work detailed in Annexure M214/A and conforms to the Specification. | Trial pavement |
| B1.5 | Payment will only be made for work covered by:
.1 Complete, signed and submitted Daily Work Records, and
.2 YOUR certification of conformity with the Specification. | Quantity
Agreement Sheet |
| B1.6 | You are not paid for events that include:
.1 Rework required to achieve conformity.
.2 Warranty repairs. | No payment |

Repair of Joint Seals in Concrete Pavement**M214****B2 SCHEDULE OF PAY ITEMS**

Pay Item *	Item Name and Description	Units **
	Note: The work includes the preparing, sawing and sealing of joints – no separate payment will be made for these.	
M214P1	Repair joints	lineal m
M214P2	Establishment - Repair joints Note: It is taken that you have included all the following in tendering your establishment rate - no further payment will be made for them: <ul style="list-style-type: none"> • Plant float to/from the site or project; • Set up and removal of site facilities (eg: office, sheds, toilets); Principals facilities (if required, • Initial travel to site or project; • Daily travel to/from site or project; • Accommodation (eg: on site or motel/hotel). 	Item Establishment is paid once per Work Order.
<p>* Pay Items are primarily for guidance in preparing Work Orders (which can be Lump Sum or Schedule of Rates).</p> <p>When preparing a Work Order, any or all of the Pay Items may be incorporated: the aim is to improve the accuracy of the Service Provider's estimation and pricing by:</p> <p style="padding-left: 40px;">a) selecting those Pay Items which denote the activities that are to be undertaken and</p> <p style="padding-left: 40px;">b) requiring the Service Provider to estimate and price each Pay Item individually.</p> <p>When Establishment is a significant cost, the Pay Item specific to it must be incorporated in the Work Order – the cost must not be amortised / absorbed across the other Pay Items.</p> <p>Similarly, when Traffic Control is a significant cost, its Pay Item(s) must be incorporated. See TfNSW G10M for a list of these.</p> <p>** Claim length of complying joint repairs</p>		

ANNEXURE M214/C – SCHEDULES OF HOLD POINTS, WITNESS POINTS AND IDENTIFIED RECORDS

C1 SCHEDULE OF HOLD POINTS AND WITNESS POINTS

Reference	Type	Process Held	Submission Details
Clause 2.1.2	HOLD	Commencement of Work	At least 5 BUSINESS DAYS prior to commencing work submit the PROJECT QUALITY PLAN.
Clause 2.3.4	WITNESS	WORK TRIAL	Notification of the WORK TRIAL at least 3 BUSINESS DAYS prior to the WORK TRIAL starting. YOUR PROJECT QUALITY PLAN must have already been submitted as provided in Clause 2.1.
Clause 4.1.2	HOLD	Commencement of work other than a WORK TRIAL	Documentation demonstrating conformity of the WORK TRIAL. Where any aspect of the PROJECT QUALITY PLAN needed to be revised, submit the revised PROJECT QUALITY PLAN.

C2 SCHEDULE OF IDENTIFIED RECORDS

Reference	Description of Identified Record
Clause 2.1	PROJECT QUALITY PLAN
Clause 3.1	Certificate of compliance verifying conformity of joint sealing materials
Clause 4.1	Daily Work Records
Clause 5.1	Conformity certification

ANNEXURE M214/D – PLANNING DOCUMENTS**D1 TYPICAL CONSTRUCTION PROCESSES TO BE ADDRESSED IN PQP**

Reference	Process	Details
Clause 3.1	Materials	Manufacturer's requirements for the storage, handling, and use of all materials Safety Data Sheets Procedures, materials, and application rates for blinding Demonstrate suitability of the materials by providing evidence of their previous successful use
Clause 3.2	Equipment	Describe the equipment and the method of operation and application
Clause 4.3	Preparation	Preparing the joint reservoir including sawcutting or routing of the joint Preparation and cleaning of the joint Dealing with joints greater than or equal to 40 mm
Clause 4.4	Sealing	Insertion of backer rods as required Installation of sealant Method of tooling of sealant
Clause 5	Process conformity	Inspection and test plan

ANNEXURES M214/F TO M214/L – (NOT USED)

ANNEXURE M214/M – REFERENCED DOCUMENTS & DEFINITIONS

M1 REFERENCED DOCUMENTS

M1.1 TfNSW Documents

TfNSW G10M	Traffic Management (Maintenance Works)
TfNSW G22	Work Health and Safety (Construction Work)
TfNSW G36	Environmental Protection
TfNSW Q	Quality Management System
TfNSW 3204	Preformed Joint Fillers for Concrete Road Pavements and Structures
TfNSW 3263	Hot Poured Elastomeric Joint Sealant for Roads
Series MP	Rigid Pavement Standard Details – Maintenance, Plain Concrete Pavement

M2 DEFINITIONS

BACKER ROD	Material that is used to create the width to depth ratio 'W/Ds and prevent bond with underlying material (or with itself) - refer to Clause 2.2
BASE CONCRETE	The upper (structural) layer of concrete with varying insitu strengths, typically 25 to 50 MPa. The concrete contains various forms of steel reinforcement, dowels and tie bars. In some instances the concrete may contain steel fibre reinforcement.
JOINT	<p>A planned Joint in concrete pavement which runs either parallel (in the case of longitudinal joints) or transverse to the direction of traffic flow. They are either formed or induced.</p> <ul style="list-style-type: none">• Longitudinal joints are typically tied mid-depth by tiebars.• Transverse joints: typically either contain no steel, or contain mid-depth dowels. <p>In older pavements, joint details may be different, and fixtures such as tiebars and dowels may have deteriorated (e.g. corrosion).</p>
PROJECT QUALITY PLAN	The requirements of the Project Quality Plan are defined in TfNSW Q.
WORK TRIAL	A trial section of repair of joint seals that includes the nominated materials, equipment, and construction methods to be used in executing the works under this Specification..

LAST PAGE