

Superseded

Specification (Measurement)

**Transport and Main Roads Specifications
MRS104 Asphalt Geosynthetics for Delaying Pavement
Reflective Cracking**

July 2024



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1 Introduction

This Specification applies to the material and construction requirements for asphalt geosynthetics used to delay reflective cracking in road pavement applications. The asphalt geosynthetic is installed to delay reflective cracking in the overlying asphalt layer(s), thereby reducing future maintenance issues.

This Specification shall be read in conjunction with MRS01 *Introduction to Specifications* and other Specifications as appropriate.

This Specification forms part of the Transport and Main Roads Specifications Manual.

2 Measurement of work

2.1 Standard Work Items

In accordance with the provisions of Clause 2 of MRS01 *Introduction to Specifications*, the Standard Work Items covered by this Specification are listed in Table 2.1.

Table 2.1 – Standard Work Items

Standard Item No.	Description	Unit of Measurement
Asphalt Geosynthetics for Delaying Pavement Reflective Cracking		
43904	Supply and placement of asphalt geosynthetic [<i>Geogrid without geotextile backing</i> <i>Geogrid with geotextile backing</i>]	m ²

2.2 Work Operations

Item 43904 Supply and placement of asphalt geosynthetic [*Geogrid without geotextile backing* | *Geogrid with geotextile backing*]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) technical prestart meeting
- c) asphalt geosynthetic placement trial
- d) supply of asphalt geosynthetic [*Geogrid without geotextile backing* | *Geogrid with geotextile backing*] including allowances for overlaps, joints and wastage
- e) loading, hauling, delivery and storage of the asphalt geosynthetic in a manner that prevents exposure to sunlight and moisture
- f) any additional pavement surface preparation Works which are prescribed in the Contract, Drawings and/or *Supplier's Installation Guidelines*
- g) dispensing and placement of geosynthetic material including all lapping and jointing requirements
- h) where applicable, pinning and nailing of the asphalt geosynthetic
- i) rolling of the asphalt geosynthetic
- j) removal and replacement of any damaged, folded and/or wrinkled asphalt geosynthetic

- k) removal and disposal of excess asphalt geosynthetic from the Site, and
- l) all associated material and construction compliance testing.

Supply and application of bitumen bond coats, bituminous primes and surfacings (including all pavement surface preparation) shall be in accordance with the relevant Measurement and Technical Specifications (refer to Clause 3).

Supply and placement of asphalt (including all pavement surface preparation and emulsion tack coats) shall be in accordance with the relevant Measurement and Technical Specifications (refer to Clause 4).

2.3 Calculation of quantities

The calculated quantity shall be the pavement surface area installed (in m²) excluding all overlaps, joints, and wastage.

3 Bitumen bond coats, bituminous primes and surfacings

Sprayed bitumen bond coats, bituminous primes and surfacings shall be measured and specified (that is, Work Items) using MRS11 *Sprayed Bituminous Treatments (Excluding Emulsions)*, MRS12 *Sprayed Bituminous Emulsion Surfacing*, MRS22 *Supply of Cover Aggregate* and any other relevant Specifications.

Sprayed bitumen bond coats, bituminous primes and surfacings shall comply with the requirements of MRTS11 *Sprayed Bituminous Treatments (Excluding Emulsions)*, MRTS12 *Sprayed Bituminous Emulsion Surfacing*, MRTS22 *Supply of Cover Aggregate* and any other relevant Technical Specifications.

Notwithstanding the above, sprayed bitumen bond coats, bituminous primes and surfacings shall also comply with this Specification.

4 Asphalt

Supply and placement of asphalt shall be measured and specified (that is, Work Items) using MRS30 *Asphalt Pavements*, MRS32 *High Modulus Asphalt (EME2)* and any other relevant Specifications.

Supply and placement of asphalt shall comply with the requirements of MRTS30 *Asphalt Pavements*, MRTS32 *High Modulus Asphalt (EME2)* and any other relevant Technical Specification.

Notwithstanding the above, the supply and placement of asphalt shall also comply with this Specification.

When quantifying the materials used, an asphalt geosynthetic treatment will need to be scheduled using a number of Work Items.

Table 3(a) – Example of scheduling Work Items for an 'Asphalt Overlay with Asphalt Geosynthetic on an Existing Cracked Pavement'

Activity	Specification	Work Item	Description	Unit
Pavement surface preparation	MRS30	41701.01	Preparation of the existing surface	m ²
Crack filling of the existing pavement	MRS30	41702.01P	Crack filling (Provisional Quantity)	m
Supply and placement of AC10 corrector course	MRS30	41801.01	Heavy duty dense graded asphalt in corrector course, AC [10] H mix.	tonne
Supply and application of emulsion tack coat	MRS30	41710.01P	Tack coat, residual bitumen (Provisional Quantity)	L
Supply and placement of asphalt geosynthetic.	MRS104	43904.01	Supply and placement of asphalt geosynthetic [<i>Geogrid without geotextile backing</i>]	m ²
Supply and placement of AC14 surfacing	MRS30	41804.01	Heavy duty dense graded asphalt in surfacing course, AC [14] H mix	tonne

Table 3(b) – Example of scheduling Work Items for an 'Asphalt Inlay with Asphalt Geosynthetic on an Existing Cracked Cement Treated Base (nominal 50 mm mill and fill resurfacing)'

Activity	Specification	Work Item	Description	Unit
Relevant excavation work item(s) for milling existing road surface a nominal 50 mm				m ³
Crack filling	MRS30	41702.01P	Crack filling (Provisional Quantity)	m
Supply and application of binder – 10 mm S/S seal (which includes surface preparation prior to spraying)	MRS11	40721.01	Spraying bituminous material, treatment type [<i>Initial Single / Single Seal</i>], binder [C170], spray rate [1.0L/m ²], [<i>Pavement A</i>]	L
Supply and spreading of cover aggregate – 10 mm S/S seal	MRS11	40723.01	Spreading cover aggregate [10 mm], [140 m ² /m ³], [<i>including</i>] supply of cover aggregate, [<i>Pavement A</i>]	m ³
Adhesion agent	MRS11	40725.01P	Supply and addition of adhesion agent (Provisional Quantity)	L

Supply and application of binder – bitumen bond coat (which includes surface preparation prior to spraying)	MRS11	40721.02	Spraying bituminous material, treatment type [<i>Bond Coat</i>], binder [<i>C170</i>], spray rate [<i>0.7L/m²</i>], [<i>Pavement A</i>]	L
Supply and placement of asphalt geosynthetic	MRS104	43904.01	Supply and placement of asphalt geosynthetic [<i>Geogrid with geotextile backing</i>]	m ²
Supply and placement of AC14 surfacing	MRS30	41804.01	Heavy duty dense graded asphalt in surfacing course, AC [<i>14</i>] H mix	tonne

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