

SUPERSEDED

Specification (Measurement)

**Transport and Main Roads Specifications
MRS45 Road Surface Delineation**

March 2020

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1 Introduction

This Specification applies to the supply and installation of pavement markings, raised pavement markers and audio tactile line marking (ATLM).

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 2.1.3 of MRS01 *Introduction to Specifications*, the Standard Work Items incorporated in this Specification are listed below in Table 2.1.

Table 2.1 – Standard Work Items

Standard Item No.	Description	Unit of Measurement
Line marking		
52101	Spotting only for longitudinal lines	m
52102	Dividing line, broken 100 mm wide, [<i>line length</i>] mm line length, [<i>gap length</i>] mm gap length, colour [<i>colour</i>], material [<i>material</i>]	m
52103	Dividing line, continuous 100 mm wide, [<i>line length</i>] mm line length, [<i>gap length</i>] mm gap length, colour [<i>colour</i>], material [<i>material</i>]	m
52104	Barrier line, single, 100 mm wide	m
52105	Barrier line, one direction, 80 mm wide each line, 80 mm lateral gap between lines, 3000 mm line length and 9000 mm gap length on broken side, colour [<i>colour</i>], material [<i>material</i>]	m
52106	Barrier line, both directions, 80 mm wide each line, 80 mm lateral gap between lines, colour [<i>colour</i>], material [<i>material</i>]	m
52107	Lane line, broken, 100 mm wide, [<i>line length</i>] mm line length, [<i>gap length</i>] mm gap length, colour [<i>colour</i>], material [<i>material</i>]	m
52108	Freeway lane line, broken, 150 mm wide, [<i>line length</i>] mm line length, [<i>gap length</i>] mm gap length, colour [<i>colour</i>], material [<i>material</i>]	m
52109	Lane line, continuous, 100 mm wide, colour [<i>colour</i>], material [<i>material</i>]	m
52110	Edge line, 150 mm wide, colour [<i>colour</i>], material [<i>material</i>]	m
52111	Continuity line, 200 mm wide, colour [<i>colour</i>], material [<i>material</i>]	m
52112	Turn line, 100 mm wide, colour [<i>colour</i>], material [<i>material</i>]	m
52113	Outline, 150 mm wide, colour [<i>colour</i>], material [<i>material</i>]	m
52114	Audio tactile line marking – Edge line, 150 mm wide, 50 mm rib length, 250 mm centre to centre spacing, 8 mm rib height, [<i>with 1.5 m gap every 20 m for cyclists with no gaps for cyclists</i>], material [<i>material</i>]	m

Standard Item No.	Description	Unit of Measurement
52115	Audio tactile line marking – Double barrier line, consisting of two barrier lines each 80 mm wide, 50 mm rib length, 250 mm centre to centre spacing, 8 mm rib height (applied to both lines), material [<i>material</i>]	m
52116	Transverse lines (stop lines, holding lines, markings at Stop and Give Way signs, pedestrian crosswalk lines, arrows, shapes, symbols and numerals), colour [<i>colour</i>], material [<i>material</i>]	m ²
52117	Transverse lines (diagonal and chevron markings, parking areas and kerb markings), colour [<i>colour</i>], material [<i>material</i>]	m ²
52118	Removal of existing longitudinal line, [<i>width</i>] mm wide, by [<i>method of removal</i>]	m
52119	Removal of existing transverse lines or shapes, by [<i>method of removal</i>]	m ²
52120	Audio tactile line marking – barrier line, one direction, consisting of one continuous line and one broken line 3000 mm line length and 9000 mm gap length each 80 mm wide, 50 mm rib length, 250 mm centre to centre spacing, 8 mm rib height (applied to both lines), material [<i>material</i>]	m
52121	Audio tactile line marking – broken dividing line, consisting of one broken line 3000 mm line length and 9000 mm gap length 100 mm wide, 50 mm rib length, 250 mm centre to centre spacing, 8 mm rib height (applied to both lines), material [<i>material</i>]	m
52122	Audio tactile line marking – wide centreline, barrier line, both directions each 100 mm wide, 50 mm rib length, 250 mm centre to centre spacing, 8 mm rib height (applied to both lines), material [<i>material</i>]	m
52123	Audio tactile line marking – wide centreline, barrier line, one direction, consisting of one continuous line and one broken line 3000 mm line length and 9000 mm gap length each 100 mm wide, 50 mm rib length, 250 mm centre to centre spacing, 8 mm rib height (applied to both lines), material [<i>material</i>]	m
52124	Audio tactile line marking – wide centreline, broken dividing lines, consisting of two broken lines 3000 mm line length and 9000 mm gap length each 100 mm wide, 50 mm rib length, 250 mm centre to centre spacing, 8 mm rib height (applied to both lines), material [<i>material</i>]	m
52125	Wide centreline, barrier line, both directions, 100 mm wide each line, [<i>gap width</i>] gap between lines, colour [<i>colour</i>], material [<i>material</i>]	m
52126	Wide centreline, barrier line, one direction, consisting of one continuous line and one broken line 3000 mm line length and 9000 mm gap length, 100 mm wide each, [<i>gap width</i>] gap between lines, colour [<i>colour</i>], material [<i>material</i>]	m
52127	Wide centreline, broken dividing lines, consisting of two broken lines 3000 mm line length and 9000 mm gap length, 100 mm wide each line, [<i>gap width</i>] gap between lines, colour [<i>colour</i>], material [<i>material</i>]	m

Standard Item No.	Description	Unit of Measurement
Raised pavement markers		
52201	Retroreflective raised pavement markers	each
52202	Non-retroreflective raised pavement markers	each
52203	Temporary raised pavement markers	each
52204	Pavement bars	each
52205	Removal of existing raised pavement markers, by <i>[method of removal]</i>	each

2.2 Work Operations

Item 52101 Spotting only for longitudinal lines

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply of all materials
- c) setting out for line spotting
- d) provision of traffic management, and
- e) installation of line spotting.

- Item 52102** Dividing line, broken 100 mm wide, *[line length]* mm line length, *[gap length]* mm gap length, colour *[colour]*, material *[material]*
- Item 52103** Dividing line, continuous 100 mm wide, *[line length]* mm line length, *[gap length]* mm gap length, colour *[colour]*, material *[material]*
- Item 52104** Barrier line, single, 100 mm wide
- Item 52105** Barrier line, one direction, 80 mm wide each line, 80 mm lateral gap between lines, 3000 mm line length and 9000 mm gap length on broken side, colour *[colour]*, material *[material]*
- Item 52106** Barrier line, both directions, 80 mm wide each line, 80 mm lateral gap between lines, colour *[colour]*, material *[material]*
- Item 52107** Lane line, broken, 100 mm wide, *[line length]* mm line length, *[gap length]* mm gap length, colour *[colour]*, material *[material]*
- Item 52108** Freeway lane line, broken, 150 mm wide, *[line length]* mm line length, *[gap length]* mm gap length, colour *[colour]*, material *[material]*
- Item 52109** Lane line, continuous, 100 mm wide, colour *[colour]*, material *[material]*
- Item 52110** Edge line, 150 mm wide, colour *[colour]*, material *[material]*
- Item 52111** Continuity line, 200 mm wide, colour *[colour]*, material *[material]*
- Item 52112** Turn line, 100 mm wide, colour *[colour]*, material *[material]*
- Item 52113** Outline, 150 mm wide, colour *[colour]*, material *[material]*

Work Operations incorporated in the above items include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply of all materials
- c) setting out for line gap configuration
- d) provision of traffic management
- e) installation of pavement markings, and
- f) installation of reflective glass beads.

Item 52114 Audio tactile line marking – Edge line, 150 mm wide, 50 mm rib length, 250 mm centre to centre spacing, 8 mm rib height, [with 1.50 m gap every 20 m for cyclists / with no gaps for cyclists], material [material]

Item 52115 Audio tactile line marking – Double barrier line, consisting of two barrier lines each 80 mm wide, 50 mm rib length, 250 mm centre to centre spacing, 8 mm rib height (applied to both lines), material [material]

Work Operations incorporated in the above items include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply of all materials
- c) provision of traffic management, and
- d) installation of audio tactile profile.

Work Operations not included in the above items:

- a) installation of pavement markings.

Item 52116 Transverse lines (stop lines, holding lines, markings at Stop and Give Way signs, pedestrian crosswalk lines, arrows, shapes, symbols and numerals), colour [colour], material [material]

Item 52117 Transverse lines (diagonal and chevron markings, parking areas and kerb markings), colour [colour], material [material]

Work Operations incorporated in the above items include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply of all materials
- c) setting out for pavement markings
- d) provision of traffic management
- e) spotting of all markings
- f) installation of pavement markings, and
- g) Installation of reflective glass beads.

Item 52118 Removal of existing longitudinal line, [width] mm wide, by [method of removal]

Item 52119 Removal of existing transverse lines or shapes, by [method of removal]

Work Operations incorporated in the above items include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 Introduction to Specifications
- b) provision of traffic management, and
- c) all work necessary to remove or hide the existing pavement markings by the method stated.

- Item 52120** Audio tactile line marking – barrier line, one direction, consisting of one continuous line and one broken line 3000 mm line length and 9000 mm gap length each 80 mm wide, 50 mm rib length, 250 mm centre to centre spacing, 8 mm rib height (applied to both lines), material [*material*]
- Item 52121** Audio tactile line marking – broken dividing line, consisting of one broken line 3000 mm line length and 9000 mm gap length 100 mm wide, 50 mm rib length, 250 mm centre to centre spacing, 8 mm rib height (applied to both lines), material [*material*]
- Item 52122** Audio tactile line marking – wide centreline, barrier line, both directions each 100 mm wide, 50 mm rib length, 250 mm centre to centre spacing, 8 mm rib height (applied to both lines), material [*material*]
- Item 52123** Audio tactile line marking – wide centreline, barrier line, one direction, consisting of one continuous line and one broken line 3000 mm line length and 9000 mm gap length each 100 mm wide, 50 mm rib length, 250 mm centre to centre spacing, 8 mm rib height (applied to both lines), material [*material*]
- Item 52124** Audio tactile line marking – wide centreline, broken dividing lines, consisting of two broken lines 3000 mm line length and 9000 mm gap length each 100 mm wide, 50 mm rib length, 250 mm centre to centre spacing, 8 mm rib height (applied to both lines), material [*material*]

Work Operations incorporated in the above items include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply of all materials
- c) provision of traffic management, and
- d) installation of audio tactile profile.

Work Operations not included in the above items include:

- a) installation of pavement markings.

- Item 52125** Wide centreline, barrier line, both directions, 100 mm wide each line, [*gap width*] gap between lines, colour [*colour*], material [*material*]
- Item 52126** Wide centreline, barrier line, one direction, consisting of one continuous line and one broken line 3000 mm line length and 9000 mm gap length, 100 mm wide each, [*gap width*] gap between lines, colour [*colour*], material [*material*]
- Item 52127** Wide centreline, broken dividing lines, consisting of two broken lines 3000 mm line length and 9000 mm gap length, 100 mm wide each line, [*gap width*] gap between lines, colour [*colour*], material [*material*]

Work Operations incorporated in the above items include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply of all materials
- c) setting out for line gap configuration
- d) provision of traffic management
- e) installation of pavement markings, and
- f) installation of reflective glass beads.

Item 52201 Retroreflective raised pavement markers

Item 52202 Non-retroreflective raised pavement markers

Item 52203 Temporary raised pavement markers

Item 52204 Pavement bars

Work Operations incorporated in the above items include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply of all materials
- c) provision of traffic management, and
- d) installation of pavement markers and pavement bars.

Item 52205 Removal of existing raised pavement markers, by [method of removal]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) provision of traffic management, and
- c) all work necessary to remove the existing raised pavement markers by the method stated.

2.3 Calculation of quantities

The length of longitudinal lines and spotting shall be calculated as the overall length of pavement surface subject to application of longitudinal line or spotting, inclusive of gaps for broken lines and spotting.

The area of transverse lines shall be calculated as the overall surface area of pavement actually covered by marking material, exclusive of gaps.

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