

Roadmarkings – A Brighter Future

Delineation and Improved Visibility – NZTA M7 specification



Roadmarkings & safety

Must be effective in all conditions

- Day & Night
- Dry & Wet



Roadmarking specifications

Current situation

Materials

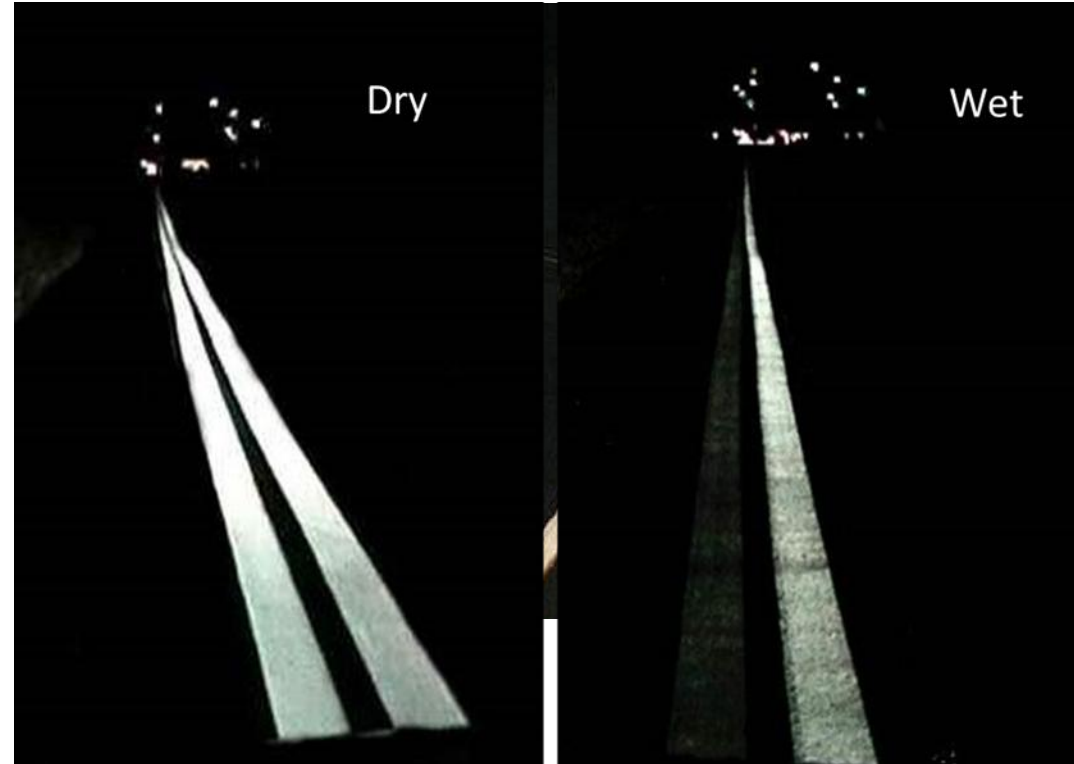
- M7 – Specification for roadmarking paints
- M20 – Long life roadmarking materials

- Retroreflectivity
 - 100 mcd/m²/lux white
 - 80 mcd/m²/lux yellow

Wet night visibility

Benefits of better visibility

- FHWA study
- Crash reduction
- Applied to NZ
 - 5% overall crash reduction
- Benefit/cost ratio
 - 4 to 25



Roadmarking specifications

2017 and beyond

Materials

- M7 –Specification for roadmarking products

- Paints and long life
- Retroreflectivity
 - Dry and wet
 - Standard and high performance

Performance Standards

NZTA - M7 2017

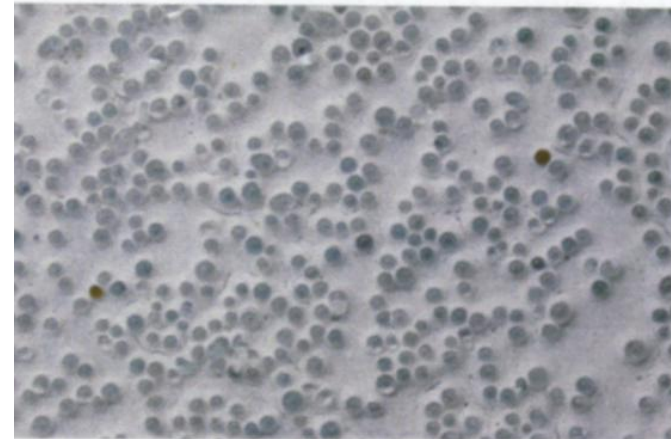
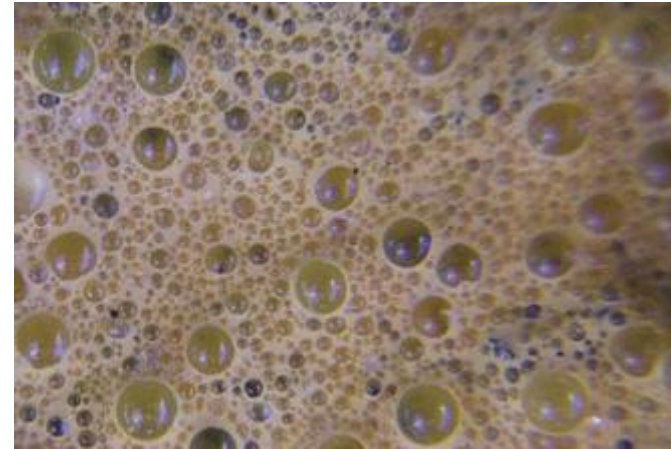
White markings

Classification	Dry R_L	Wet R_L	Dry Q_d	Wet Q_d
“High Visibility”	150	50	120	120
“Standard Visibility”	100	35	80	80

Wet night visibility

How to achieve better visibility

- Values achievable through
 - Larger beads
 - Thicker paint films
- Will affect drying times
 - Protect lines for longer
 - Additional traffic control



Selection

NZTA - M7 2009

Average dry paint film thickness	Minimum number of vehicle passes withstood		
	1.000.000	1.500.000	2.000.000
180 µm	A180	B180	C180
220 µm	A220	B220	C220
300 µm	A300	B300	C300

Selection

What to use where

Surface type		Asphalt			Chip seal		
Product durability		Normal	Extended	Long	Normal	Extended	Long
Visibility	High	AN1	AE1	AL1	CN1	CE1	CL1
	Standard	AN0	AE0	AL0	CN0	CE0	CL0



SPECIFICATION FOR ROADMARKING PAINTS

1. SCOPE

1.1 Application

This Specification sets out the requirements for paints which are intended to be used as roadmarkings on road surfaces. This Specification is applicable to paints intended for use by spray application and intended to be incorporated with beads which give roadmarkings their retroreflective properties.

NZTA/NZRF T8 specifies the requirements of the applicators with which the paints of this Specification must be applied. AS/NZS 2009 describes the beads that are to be normally used with the paints of this Specification. There is provision for alternative bead types.

This Specification does not apply to "long-life" marking materials where "long-life" has the meaning implied by the descriptions contained within TNZ M/20.

1.2 Format

The format of this Specification is based around four main test areas. These are:

~ **Section 8 On-Road Performance Tests**

All paints shall undergo an assessment of on-road performance by means of a field trial. Paints shall undergo one of the two types of field trial either the:

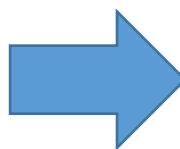
- (a) Transverse field trial, or,
- (b) In-situ trial.

~ **Section 9 Laboratory Performance Tests**

This group of tests is seen as a measure of properties which are relevant to the markings' in situ performance but which can be assessed in the laboratory. Performance under these tests can then be used to screen paints prior to the field trial. These laboratory tests may also be applied from time to time to ensure that current production of the paint is achieving the required performance criteria.

~ **Section 10 Application Properties**

This group of tests is to assess the properties of the paint which will affect their application properties.



NZTA M7: 2017

PILOT SPECIFICATION FOR APPROVED ROADMARKING PRODUCTS

1 INTRODUCTION

This Specification is applicable to products which are intended for use as roadmarkings on asphaltic or chip seal road surfaces. Roadmarking are defined in this document as white or yellow markings as described in the NZTA Manual of Traffic Signs and Markings (MOTSAM) Part 2 Sections 2 and 3.

The Transport Agency maintains a list of products approved as fulfilling the properties and performance requirements of this specification. Unless specified otherwise, Roadmarkings applied on the State Highway must use only products on the List of M7 Approved Products as at the time of application. This Specification outlines the process for obtaining entry to the List of M7 Approved Products and maintenance of that list.

A product may be an individual material such as a self-adhesive tape or may be a system comprising more than one material such as paint with drop-on glass beads. This Specification outlines the performance of materials to be determined via laboratory tests and the performance of products to be demonstrated via field trials.

Use of an approved product does not guarantee roadmarking performance as appropriate product selection and application are required. Specifiers and applicators are encouraged to understand products in direct consultation with manufacturers/suppliers.

1.1 Quality Systems

Manufacturers/Suppliers must have a certified Quality Assurance system in place that complies with AS/NZS ISO 9001.

Throughout implementation of the Specification, all equipment used for testing shall be in current calibration and operated by personnel who are deemed competent. Laboratory testing needs to be undertaken by an IANZ to ISO17025 accredited laboratory or equivalent (e.g. NATA).

Suppliers/Manufacturers making a statement of compliance with this Specification (including statements on labelling, other packaging, or in promotional material) shall ensure that such statements are true and accurate and supported by appropriate documentation.

Implementation

- Seek contract areas to try high visibility markings
- Mix of
 - Maintenance suppliers
 - Materials suppliers
 - Roadmarkers



Approval List ?

NZTA M7 2017

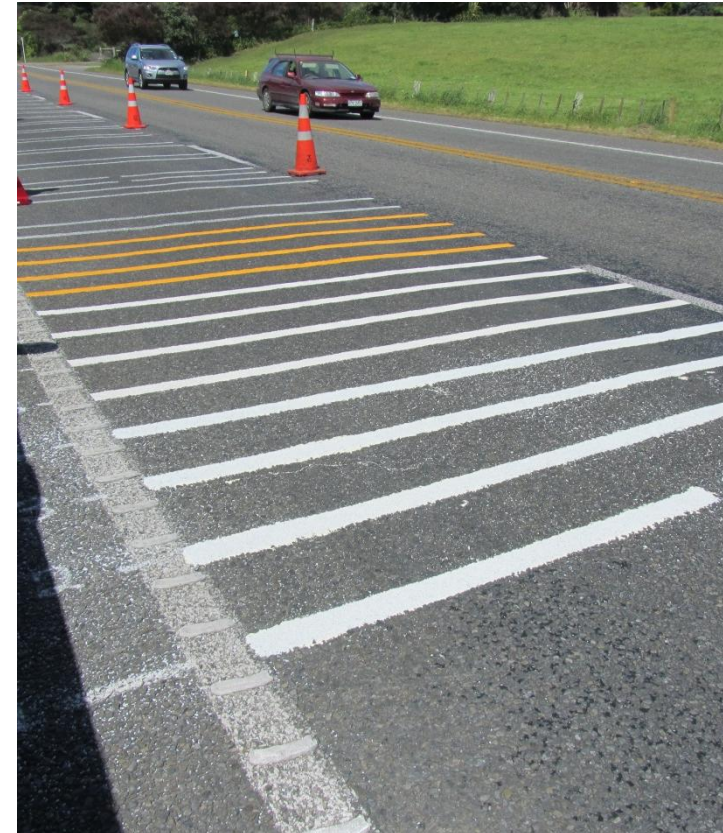
Transverse trials

Laid Nov 2013

Two site - Chipseal and asphalt

Assessed against

- Wear, skid resistance, colour
- Dry R_L , Wet R_L , Wet & Dry Q_d



Approval List ?

LIST OF M7 APPROVED PRODUCTS

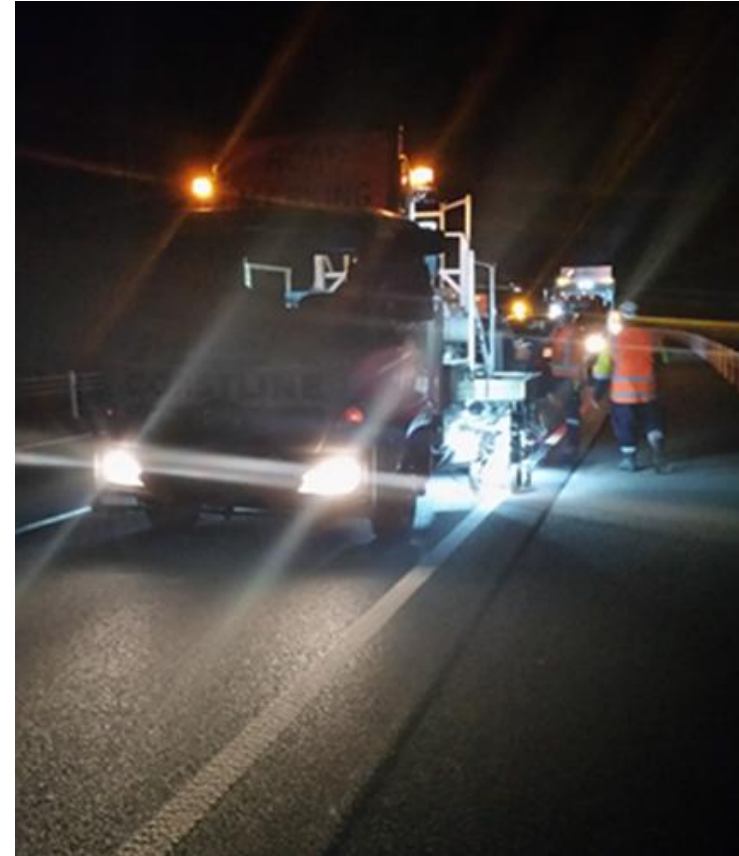
Application rate is significant to achieving expected product performance.
Products, including application rate, should be selected and specified with reference to the
Notes to NZTA M7: 2016 and consultation with the manufacturer/supplier is encouraged.

WHITE PRODUCTS APPROVED FOR USE ON CHIPSEAL						
	Product	Normal life Classification	Extended life Classification	Long-life Classification	Date of approval issue	Expiry of approval
01	Britesite Thermoplastic (structured pattern)	CN1	CE1	CL0	1/07/2017	1/07/2022
02	Dulux Roadmaster Waterborne WB2 White	CN0			1/07/2017	1/07/2022

WHITE PRODUCTS APPROVED FOR USE ON ASPHALT						
	Product	Normal life Classification	Extended life Classification	Long-life Classification	Date of approval issue	Expiry of approval
01	Britesite Thermoplastic (structured pattern)	AN1	AE1	AL1	1/07/2017	1/07/2022
02	Dulux Roadmaster Waterborne WB2 White	AN0	AE0		1/07/2017	1/07/2022

Timeline

- Complete approval list – July 2017
- Release pilot M7 – August 2017
- Seek NOC's to pilot the high visibility standard
- Monitor performance & document construction issues over 12 month period
- Release final M7 specification – Late 2018



Conclusion

- New specification aims to raise standards for markings on NZ roads
- Recognition of safety benefits of high visibility road markings
- M7-2017 Pilot to confirm performance of high visibility markings



Thank you

