

**Approved products and suppliers: Traffic engineering, traffic management and road safety**

## **Retro-Reflective Sheeting (RRS) Application requirements**

**October 2019**

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## 1. Enquiries

If you have any questions regarding this document, suggestions for improvement or would like to submit a product for approval for use in Queensland, please contact

Transport and Main Roads (DTMR) - Traffic Engineering Practice

Email: [Trafficengineering.support@tmr.qld.gov.au](mailto:Trafficengineering.support@tmr.qld.gov.au)

## 2. Introduction

This document is relevant to Retro-reflective Sheeting products as defined by AS/NZS 1906.1:2017. Sheeting class 100, 400, 1100 are approved for use on Queensland roads, see MRTS14 Annexure for specified application requirements.

This document specifies conditions in relation to:

- Requirements for submitting new retro-reflective sheeting products for approval as compliant to standards (or resubmitting those previously approved and lapsed);
- Requirements for extending currently approved retro-reflective sheeting products prior to the 3 year approval period concluding; and
- Submission requirements, standards and required inclusions;

## 3. Governing manuals and associated specifications and guidelines

- *AS/NZS 1906.1:2017 Retroreflective materials and devices for road traffic control purposes - Retroreflective sheeting*
- *Manual of Uniform Traffic Control Devices (MUTCD)* as published to the department's website
- *Traffic and Road Use Management (TRUM) Manual* as published to the department's website
- *MRS14 Road Furniture Specification—Measurement*
- *MRTS14 Road Furniture Technical— Specification*
- *Compliant Retro-Reflective Sheeting (RRS)*

## 4. Approval of new products as suitable for use in Queensland

For retro-reflective sheeting products to be approved as compliant for use in Queensland, the manufacture/distributor need to complete the checklist provided in **Attachment 1**.

The completed checklist should be accompanied by documents to support the requirements of the checklist, the documents are to be submitted to the nominated contact in Section 1.

Additional documents and information as listed below should also be provided with the completed checklist to support the application process:

1. Photometric Properties (A6 report as per Appendix A AS/AZS 1906.1:2017)
2. Colour (C6 report as per Appendix C and D AS/AZS 1906.1:2017);
3. Rainfall Performance (E6 report as per Appendix E AS/AZS 1906.1:2017);

4. Physical Properties (F6 and G5 reports as per Appendix F and G AS/AZS 1906.1:2017);
  - Tensile Strength and elongation
  - Impact
  - Scratch Resistance
  - Solvent Resistance
  - Maintenance Requirements
5. Adhesive Properties (H5 report as per Appendix H AS/AZS 1906.1:2017).
6. Durability tests (I3 report as per Appendix I AS/AZS 1906.1:2017).
7. Packaging.
8. Retroreflective sheeting identification.

A sample must also be provided to allow assessment of marking, standard and packaging to the nominated contact in Section 1.

## 5. Approval Conditions

All products are approved on the condition that the manufacture, design and installation are in accordance with the manufacturer's instructions.

A product's approval will remain valid for three years from the date nominated on the letter of approval. If during this three-year period the product is redesigned in any way (i.e. changes are made to the product that may adversely affect its performance, durability or maintenance requirements), there is a change to any governing specifications, the manufacturing process changes, or the location of manufacturing changes the approval will cease and a reapplication for approval will be required.

Within two months of any three-year approval period expiring, the manufacturer/distributor is to notify the contact officer, nominated in Section 1, of intention to extend for a further three years and nominate either of the following:

- There has been no redesign of the product – further approval period granted
- The product has been redesigned – further approval period granted based on submission of relevant test results (either full suite or those relevant to the nominated changes)

Products may only be submitted for renewal once, with the maximum approval period for any product being six years, upon the lapsing of this six-year period, a reapplication for approval must be sought in line with Section 4. Additionally, if the approval period is allowed to expire, the product will need to be reassessed as per Section 4.

**Attachment 1 – Raised Retroreflective Pavement Markers – Acceptance Checklist**

# **Retroreflective Sheeting Products – Acceptance Checklist**

**October 2019**

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**SECTION 1. APPLICANT INFORMATION**

Applicant Name: \_\_\_\_\_ Date: \_\_\_\_\_

Applicant Company: \_\_\_\_\_

Product name: \_\_\_\_\_

Class 1100

Sheeting Class (AS/NZS1906.1:2017):  Class 400

Class 400T

White

Fluorescent Yellow / Green

Yellow

Fluorescent Yellow

Available colours (select applicable):

Red

Fluorescent Orange

Blue

Brown

Standard Green

Product distributor: \_\_\_\_\_

Product manufacturer: \_\_\_\_\_

Location of manufacturing: \_\_\_\_\_

Date of letter of acceptance: \_\_\_\_\_

Applicant contact details – name: \_\_\_\_\_

Corporate address: \_\_\_\_\_

Corporate email: \_\_\_\_\_

Phone number: \_\_\_\_\_

*Note: Please ensure that all relevant fields are filled in with all supporting information and that **SECTION 3 APPLICANT DECLARATION** is completed.*

*Completed form to be submitted to [trafficengineering.support@tmr.qld.gov.au](mailto:trafficengineering.support@tmr.qld.gov.au)*

*Product sample required for each product/product colour. Sample(s) to be sent to:*

**Attention: Traffic Engineering Practice**

**Level 6, 313 Adelaide Street**

**Brisbane City, Qld, 4001**

## SECTION 2. RETROREFLECTIVE SHEETING CHECKLIST

Applicant to complete **shaded** boxes only.

### 2.1 Photometric Properties

A5 Report Submitted	Y/N	Pass (Y/N)

Test and results in accordance with Appendix A AS/NZS 1906.1:2017.

### 2.2 COLOUR

C6 Report Submitted	Y/N	Pass (Y/N)

Test and results in accordance with Appendix C and D AS/NZS 1906.1:2017.

### 2.3 RAINFALL PERFORMANCE

E6 Report Submitted	Y/N	Pass (Y/N)

Test and results in accordance with Appendix E AS/NZS 1906.1:2017.

### 2.4 PHYSICAL PERFORMANCE

F6 Report Submitted	Y/N	Pass (Y/N)
G5 Report Submitted	Y/N	Pass (Y/N)

#### 2.4.1 Tensile Strength and elongation

Australian Standard Requirement	Y/N	Pass (Y/N)
Breaking Strength of the sheeting not less than 20N per 25mm width		
Maximum elongation at break point does not exceed 45%		

Test and results in accordance with Appendix F AS/NZS 1906.1:2017.

#### 2.4.2 Impact

Australian Standard Requirement	Y/N	Pass (Y/N)
Domed area formed by impact shoes no evidence of cracking, crazing, or lifting of the sheeting from the test panel		

Test and results in accordance with Appendix F AS/NZS 1906.1:2017.

### 2.4.3 Scratch Resistance

Australian Standard Requirement	Y/N	Pass (Y/N)
Scratch resistance is greater than 1.5kg		

Test and results in accordance with Appendix F AS/NZS 1906.1:2017.

### 2.4.4 Solvent Resistance

Test and results in accordance with Appendix E AS/NZS 1906.1:2017.

### 2.4.5 Maintenance Requirements

Australian Standard Requirement	Y/N	Pass (Y/N)
Road dirt and grime can be readily removed using a cloth		

## 2.5 ADHESION PROPERTIES

H5 Report Submitted	Y/N	Pass (Y/N)

Australian Standard Requirement (Dry Adhesion)	Y/N	Pass (Y/N)
> 6N per 25mm width *		

\* If the sheeting breaks before peeling but has passed Section 2.4.1 of this application then this shall be considered satisfactory.

Test and results in accordance with Appendix H AS/NZS 1906.1:2017.

**2.6 DURABILITY TEST**

<b>I3 Report Submitted</b>	<b>Y/N</b>	<b>Pass (Y/N)</b>

Note: Moving rack method shall not be used for Class 400T material.

<b>Australian Standard Requirement (Wet Adhesion)</b>	<b>Y/N</b>	<b>Pass (Y/N)</b>
Was not removable from the test panel without damage		
Does not show evidence of cracking, crazing, peeling, blistering or delamination		
Does not show more than 1mm applied shrinkage or edge lifting of any edge		
No edge damage or corrosion extending more than on average of 1mm (or 4mm in one point)		
Continues to meet requirements for colourfastness in Section 2.2 of this checklist.		

Test and results in accordance with Appendix I AS/NZS 1906.1:2017.

**2.7 PACKAGING AND SHELF LIFE**

<b>Product and Packaging Sample Submitted</b>	<b>Y/N</b>

<b>Australian Standard Requirement</b>	<b>Y/N</b>	<b>Pass (Y/N)</b>
Retro reflective sheeting is packaged to ensure adequate protection against physical damage in storage and transit before delivery		
A roll or length of sheeting does not contain on average more than one splice per 11m and the minimum length between splices and the end of a roll, and between successive splices is 3m		
Sheeting is capable of withstanding storage for at least 12 months at normal storage temperatures, without loss of specified properties (including adhesion and flexibility)		

Packages are marked with: <ul style="list-style-type: none"> <li>• Manufacturers Name or Trademark</li> <li>• Product Designation (size, type, colour)</li> <li>• Production Batch Number</li> </ul>		
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**2.8 MARKING**

Australian Standard Requirement	Y/N	Pass (Y/N)
Sheeting shall be marked with the following: <ul style="list-style-type: none"> <li>- Manufacturers identification logo or symbol; and</li> <li>- Product identification code.</li> </ul> These marks will last for the expected lifetime of the product.		
All information shall be consistently repeated at least once within each are of 400mm x 400mm		

**SECTION 3. APPLICANT DECLARATION**

I ....., as a representative of .....,  
(name of applicant) (name of company)

acknowledge and verify that all information provided above is true and agree to the following:

- That I will inform DTMR should any of the information provided above change;
- If the information provided above is found to be incorrect, whether knowingly or unknowingly, DTMR may at their own volition remove the product from the accepted products register; and
- DTMR may at any time request additional information regarding any aspect of the product, sourcing, and manufacturing process.

.....  
(Signature)

...../...../.....  
(Date)

**For DTMR Completion Only:**

Reviewer Name: ..... Date: .....

- Accepted for use:  Yes, product is accepted for use in Queensland  
 No, product is not accepted for use in Queensland.

Reviewer Signature: .....