

TRANSPORT FOR NSW (TfNSW)

QA SPECIFICATION 3368

SKID RESISTANT FRICTION COATING FOR TEMPORARY STEEL ROAD PLATES

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REVISION REGISTER

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SKID RESISTANT FRICTION COATING FOR TEMPORARY STEEL ROAD PLATES

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FOREWORD

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

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REVISIONS TO PREVIOUS VERSION

This document has been revised from Specification TfNSW 3368 Edition 2 Revision 2.

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 are 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~~.

TFNSW QA SPECIFICATION 3368

SKID RESISTANT FRICTION COATING FOR TEMPORARY STEEL ROAD PLATES

1 SCOPE

This Specification sets out the requirements for coatings applied to temporary steel road plates (e.g. over road openings) in order to improve the skid resistant frictional properties of the road plates.

The requirements for field measurement of the frictional properties of existing coated road plates prior to installation and in service are included.

2 STRUCTURE OF THE SPECIFICATION

This Specification includes a series of annexures that detail additional requirements.

2.1 (NOT USED)

2.2 SCHEDULE OF IDENTIFIED RECORDS

The records listed in Annexure 3368/C are **Identified Records** for the purposes of Specification TfNSW Q Annexure Q/E.

2.3 (NOT USED)

2.4 REFERENCED DOCUMENTS

Unless specified otherwise or is specifically supplied by the Principal, the applicable issue of a referenced document, is the issue current at the date one week before the closing date for tenders, or where no issue is current at that date, the most recent issue.

Standards, specifications and test methods are referred to in abbreviated form (e.g. AS2439.1). For convenience, the full titles are given in Annexure 3368/M.

3 DEFINITIONS

British Pendulum Number (BPN): A quantitative estimate of the adherence of a rubber slider to a wet surface determined by measuring the energy lost in friction of the rubber slider against the wet surface.

Friction Coating: A coating designed to be applied to temporary steel road plates which will result in surface skid resistance properties fit for the purpose of vehicular trafficking. Skid resistance is assessed by the coating achieving a specified minimum British Pendulum Number (BPN), both as applied and after a specified regime of simulated trafficking and polishing.

The term “the Supplier” means the supplier of the product covered by the scope of this Specification.

4 SUPPLIER’S QUALITY MANAGEMENT SYSTEM

The Supplier must establish and maintain a Quality Management System complying with AS/NZS ISO 9001 as a means of ensuring that the product conforms to this Specification.

Provide evidence verifying compliance with this Clause.

Provide a certificate of compliance verifying that the frictional coating complies with Clause 4 of this Specification.

4 MATERIAL REQUIREMENTS

4.1 COMPOSITION

The friction coating must be composed of resinous binder and inert mineral matter.

4.2 GENERAL

When applied to a smooth steel road plate according to the manufacturer’s recommendations, the friction coating must demonstrate the specified performance when subject to the following tests in Clauses 4.3 to 4.6.

4.3 COLOUR

When examined visually in accordance with AS/NZS 1580.601.1, the friction coating must be an approximate match to any grey colour in the range N32 to N65, or to the red colour R62 of AS 2700S. The luminance factor must be no greater than 0.14.

4.4 PULL-OFF ADHESION TEST

When tested in accordance with AS/NZS 1580.408.5, the friction coating must show no sign of cohesion and/or adhesion failure at a load of 3.0 MPa.

4.5 RESISTANCE TO WATER IMMERSION

When tested in accordance with AS/NZS 1580.455.1, after immersion in water at $23 \pm 2^\circ\text{C}$ for 1,000 hours, the friction coating must show:

- (a) no softening, swelling or delamination;
- (b) no difference in the scratch resistance of the immersed and the unimmersed coating;
- (c) no material removed by rubbing with cotton wool.

4.6 FRICTION VALUE

When tested in accordance with the procedures of AS 1141.41 and AS 1141.42, the initial and final British Pendulum Number (BPN) must be not less than 55.

5 MEASUREMENT OF SKID RESISTANCE OF EXISTING COATED STEEL ROAD PLATES

5.1 MEASUREMENT FREQUENCY

Measure the BPN of the friction coating of each existing coated steel road plate at the storage stockpile or on the road:

- (a) prior to its initial installation in the roadway at Site;
- (b) for road plates in continuous use under traffic, after every 12 months of service.

In addition, for road plates in continuous use at one site, measure the BPN where, by visual assessment:

- (c) more than 10% of the total area of the coating is polished, damaged or missing;
- (d) more than 20% of the coating is polished, damaged or missing in a clearly defined wheel path.

In cases (c) and (d), measure the BPN after completion of necessary remedial work to the polished, damaged or missing areas of the friction coating.

5.2 TEST METHOD FOR MEASUREMENT

Measure the frictional resistance of existing coated steel road plates using a portable skid resistance tester in accordance with Test Method TfNSW T231.

Take the measurements in and between the positions of the wheel paths at the rate of one measurement per linear metre in the direction of traffic.

5.3 FRICTION VALUE

When tested in accordance with TfNSW T231, the Skid Resistance Value (SRV) measured in units of British Pendulum Number (BPN) must be not less than 55.

ANNEXURES 3368/A TO 3368/B – (NOT USED)

ANNEXURE 3368/C – SCHEDULE OF IDENTIFIED RECORDS

Refer to Clause 2.2.

The records listed below are Identified Records for the purposes of TfNSW Q Annexure Q/E.

Clause	Description of Identified Record
2	Certificate of compliance

ANNEXURES 3368/D TO 3368/L – (NOT USED)

ANNEXURE 3368/M – REFERENCED DOCUMENTS

Refer to Clause 2.4.

TfNSW Specification

TfNSW Q Quality Management System

TfNSW Test Method

TfNSW T231 Frictional Resistance by Pendulum Tester

Australian Standards

AS 1141 Methods for sampling and testing aggregates

 AS 1141.41 Polished Aggregate Friction Value – Horizontal bed machine

 AS 1141.42 Pendulum Friction test

AS/NZS 1580 Paints and related materials – Methods of test

 AS/NZS 1580.408.5 Adhesion – Pull-off test

 AS/NZS 1580.455.1 Resistance to water at room temperature

 AS/NZS 1580.601.1 Colour – Visual comparison

AS 2700S Colour Standards for general purposes

AS/NZS ISO 9001 Quality management systems – Requirements