

Manual

**Registration Scheme
Suppliers and Products for Bridges and Other Structures**

April 2018

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1 Overview

This scheme details the requirements and processes by which the Department of Transport and Main Roads (TMR) registers suppliers and products for the purpose of supply to TMR contracts. The scheme is employed to provide additional confidence to Contract Administrators that the suppliers and products nominated by Contractors can and will conform to the relevant specifications.

Registration is a prerequisite prior to supply to departmental projects; it does not replace approval or acceptance by the Administrator in accordance with the contract, or the stipulated Hold Points, Milestones and Witness Points determined by the specifications.

Registration is not a substitute for compliance to the specifications, nor a guarantee of compliance. The Contractor is responsible for ensuring, with evidence, that any product delivered to departmental projects is conforming.

This registration scheme is based on the framework contained within the TMR document titled *Transport Infrastructure Project Delivery System (TIPDS)*, Volume 3B.

This scheme addresses the following materials and products:

- fabricated steelwork, including aluminium and stainless steel
- precast concrete
- reinforcing steel
- cementitious materials
- prestressing strand
- chemical admixtures
- curing compounds, and
- stainless steel reinforcement.

The process for assessment of other products not listed above related to bridges and other structures can be found within the *Product Index for Bridges and Other Structures* (on the departmental website).

1.1 **Communication and responsibilities**

The Deputy Chief Engineer (Structures) or delegated authority is responsible for this Registration Scheme. The scheme is administered by Structures Construction Materials (SCM).

Enquiries and applications should be directed to:

TMRStructuralMaterials@tmr.qld.gov.au

Postal submissions can be made to:

Director (Structures Construction Materials)
Structures Executive Directorate
Department of Transport and Main Roads
GPO Box 1412
BRISBANE QLD 4001

1.1.1 Complaints and appeals process

Suppliers who are dissatisfied with the running of this Scheme, or decisions made regarding registration statuses may appeal to the Deputy Chief Engineer (Structures). All complaints and appeals shall be made in writing and will be addressed in accordance with the Transport Infrastructure Project Delivery System (TIPDS) Volume 3B, Appendix B. This document is available on the departmental website.

2 Scope of registration

2.1 Introduction

This section summarises the forms of registration, applicable categories and the primary TMR specifications that apply. Specific requirements for particular classes of product are listed in the relevant appendices.

The following documents apply to registered products and suppliers:

- departmental Technical Specifications (MRTS) including MRTS50 *Specific Quality System Requirements*
- departmental Test Methods
- this Registration Scheme
- third-party registration requirements (for example, Australian Technical Infrastructure Committee (ATIC), Australasian Certification Authority for Reinforcing and Structural Steels (ACRS))
- Australian Standards

Suppliers and products shall comply with the relevant specifications and standards at all times.

2.2 Registered suppliers

The following categories of product require the supplier itself to be registered. Registration is based on a specified individual site. Registration covers the supply of broad categories of products (see appendices).

Table 2.2 – Registered suppliers

Category	Primary Specification(s)	Appendix
Fabricated steelwork	MRTS14, MRTS78, MRTS78A, MRTS79	A
Precast and prestressed concrete	MRTS24–26, MRTS72, MRTS73	B
Reinforcing steel	MRTS71	C
Stainless steel reinforcement	MRTS71A	H

The scope of the registration scheme does not include individual design approvals or individual certification of products required by a Contract.

2.3 Registered products

The following categories of products are subject to registration of a specific individual product supplied from a nominated source.

Table 2.3 – Registered products

Category	Primary Specification(s)	Appendix
Cementitious materials	MRTS70	D
Prestressing strand	MRTS73	E
Chemical admixtures	MRTS70	F
Curing Compounds	MRTS70	G

2.4 Levels of registration

Registration of suppliers is designated at a certain level, for particular products. This level reflects the past performance of the supplier.

Suppliers may also be listed as inactive for some categories or products.

Applicants and deregistered suppliers are not granted a registration status and will not appear on any published list.

Table 2.4 – Levels of registration

Level	Description	Registration period
1	New or satisfactory supplier	6 months – 3 years ¹
2	High quality supplier	3 years
S	Suspended supplier	N/A
*	Inactive supplier	As per substantive level

1. Actual period will depend on supplier category and individual circumstances. The default period for Level 1 is 12 months.

2.4.1 Level 1

Suppliers who have satisfied the basic requirements of registration (this Scheme) shall be granted Level 1.

2.4.2 Level 2

Suppliers who have satisfied the requirements of registration (this Scheme), and exhibit a continued level of high performance on departmental projects with limited non-conformances shall be granted Level 2.

2.4.3 Inactive

Suppliers who have not recently supplied products to the department are described as 'inactive'.

2.4.4 Suspension

Suspended suppliers may continue to fulfil current contracts, subject to additional conditions and considerations, but must not sign / tender for further contracts.

3 Registration process

This section outlines the process of registration.

3.1 Initial Applications

Application forms are on the departmental website. A separate form exists for each category of supplier / product to reflect individual requirements. The application must be supported by appropriate documentation. The application must be concise, comprehensive and relevant to the criteria for suitability of applicants defined in this document. Failure to supply correct and full information may result in delays in or rejection of applications.

Lodgement during a tender process or after a contract has been awarded is at the Applicant's risk. In this case registration may not be awarded in time to satisfy the supply provisions of the Contract. The department may not accept materials or products produced prior to finalisation of registration.

Applications should be submitted allowing for adequate time to assess that the Applicant fulfils all registration requirements.

Applicants may be charged a fee to meet costs involved in conducting site audits. This fee is dependent on travel costs and whether third parties are engaged (for example, for overseas suppliers). The applicant will be advised of this fee when applications progress to the audit stage. Multiple audits may be required to finalise the registration assessment.

3.1.1 Assessment

Assessment of applications will take the form of system and technical reviews as described in Section 3.3.

After review of the application and any required audits are completed, the Director (Structures Construction Materials) shall decide whether registration will be granted. Should registration not be granted, a letter stating the reasons why this is the case will be sent to the applicant with a list of improvements required before re-application can be made. Reasons for rejecting application may include failure to demonstrate capacity or capability to comply with the specifications.

New registrations shall be granted at Level 1 for a period of up to one year.

3.2 Changes to Registration Status

Registration status and level are regularly assessed and may change during the life of the registration period.

3.2.1 Promotion to Level 2

Suppliers seeking to upgrade their registration from Level 1 to Level 2 shall supply evidence of high quality performance on a significant body of work for departmental projects. This shall include a summary of product manufactured to TMR specifications over a twelve-month period, and the full list of non-conformances relating to departmental work. Department performance reviews may also be considered.

The supplier will be notified when this submission, complemented by TMR records, has been evaluated and whether upgrading of registration has been granted. Submissions shall be made on the appropriate application form.

3.2.2 Demotion to Level 1

Registration may be downgraded from Level 2 to Level 1 where continued unsatisfactory performance is observed and issues (see Section 3.3.6) are not satisfactorily closed out within a suitable timeframe.

3.2.3 Supplier Inactivity

When a supplier has not manufactured products for departmental projects for 12 months or longer, they will be classified as 'inactive'. Inactive suppliers may continue to tender for projects, and maintain their substantive registration level. Inactive suppliers are not required to submit test results or participate in surveillance audits until a departmental project is awarded.

When such a project is awarded, an audit is mandatory before or within a week of production commencing. Once supply commences, the inactive status will be removed.

Some categories of supplier/product do not use these 'inactive' provisions; refer to appendices for applicability.

3.2.4 Suspension and De-registration

Suppliers may be suspended or deregistered and removed from the register. Suspended or deregistered suppliers may continue to fulfil current contracts, subject to additional conditions and considerations, but must not sign / tender for further contracts.

In certain circumstances – for example, safety concerns or serious breaches of this registration scheme – production may be suspended immediately.

Reasons for de-registration and suspension include, but are not limited to:

- failure to maintain a functioning, third-party certified Quality Management System in accordance with AS/NZS ISO 9001, when this is a requirement
- failure to abide by conditions of registration and this document
- repeated, or continuing, significant non-conformances of product or process
- fraudulent operation of systems, including:
 - systematic submission of non-representative test results (for example, incorrect sampling processes)
 - falsifying test results
 - failing to inform Transport and Main Roads, or its representatives, of non-conforming tests or products and
 - delivery of a product in the knowledge that it does not comply with departmental Technical Specifications, other departmental specifications or the relevant drawings
- failure to address environmental or workplace health and safety issues
- failure to maintain financial viability.

The supplier shall be notified of its de-registration or suspension in writing by the Deputy Chief Engineer (Structures) or delegated authority, together with the reasons for the decision and actions to be taken for lifting of conditions or suspension.

Deregistered suppliers shall not reapply for registration until a period of twelve months has elapsed from completion of any current contract.

3.3 Monitoring of Registered Suppliers and Products

This section outlines initial and continuing registration activities.

3.3.1 System review

System reviews will occur at the time of initial application and at intervals throughout the registration period.

System reviews may include:

- a review of the supplier's implementation of its quality management systems (QMS), that it is being followed and this results in compliant products
- collection of information such as:
 - details of insurance policies
 - company information
 - previous experience
 - history in manufacture of product
 - standing with third-party certification bodies.

The supplier's implementation of its QMS shall be measured against AS/NZS ISO 9001 *Quality Management Systems*. This review is not a replacement for independent certification of the QMS, when this is a requirement.

3.3.2 Technical review

Technical review will occur at the time of application and at intervals throughout the registration period.

As part of the technical review, production will be examined based upon:

- suppliers' manufacturing processes, procedures and materials
- compliance of supplied products to the relevant specifications
- testing of samples of the products, if required, by Transport and Main Roads.

A full technical review may require a site visit by SCM staff.

3.3.3 Inspections

Inspections may be conducted as part of either ongoing registration activities or departmental contracts as per MRTS50 Clause 10.2.

3.3.4 Audits

Audits of system and/or technical conformance may be undertaken at any of the following times:

- following identified systemic or major quality issues
- for registered fabricators and registered precasters:
 - periodically (typically biennially – every two years) during supply of product to departmental projects
 - upon re-activation of registration before manufacture for departmental projects.

3.3.4.1 Audit reports

Following an audit a report will be sent to the supplier providing a summary of the findings and will include any causes of concerns. Actions required to address these concerns will be outlined and must be undertaken, to the satisfaction of the auditors, for the audit to be closed out.

Failure to close out audits may result in a downgrading of registration as described in Section 3.3.

3.3.5 Submission of test results

Some categories of products / suppliers require ongoing submission of test results. These results are to be submitted at the frequencies described in individual appendices.

3.3.6 Non-conformances

Non-conformances may be raised during inspections or audits and are classed as Detected Non-conformances (DNC), where a breach of specifications or this Scheme are identified or Opportunities for Improvement (OFI) where action is required to prevent Detected Non-conformances or improve performance. Both of these types of issues need to be resolved in a timely manner, as nominated by the department.

The department may refer a breach of ISO 9001 (or ISO 3834) in relation to the Supplier's Quality Management System (QMS) to the body responsible for certifying the QMS where:

- the supplier does not address the breach in a timely manner for supply to the department, and
- the breach is likely to have a significant negative impact on transport infrastructure,

The department's advice to the body responsible for certifying the QMS may contain:

- details of the suspected breach, including the original non-conformance notice, and
- details of the supplier's response to the department's action with the Supplier on the matter.

3.4 Renewal of Registration

Registration is granted for a defined period depending on supplier / product category and registration level (see Table 2.4). Upon reaching the end of this registration period, the supplier shall seek a renewal of registration. Such renewal will be granted provided:

- Compliance to this scheme and the specifications are maintained
- Pre-requisites of registration are current (e.g. ISO 9001 certification)
- There are no significant non-conformances outstanding

An audit is not mandatory prior to renewal of registration, but may be required to close out any issues of concern.

Registrations that expire without renewal are concluded and the supplier / product will be removed from the relevant list. Suppliers may continue to fulfil current contracts, but must not sign / tender for further contracts. Suppliers removed from the list due to an expired registration may reapply for registration, without waiting the twelve month period deregistration incurs (see Section 3.2.4).

4 Expectations of suppliers

Individual product / supplier categories may include additional expectations of suppliers.

4.1 Non-conformances

Where non-conformances are detected that may affect the quality of products supplied to the department, the Supplier shall immediately advise the Contract Administrator in accordance with MRTS50 *Specific Quality system Requirements* Clause 10.2.

These records shall be made available at time of audit and registration review.

4.2 Supply chain

Applicants and suppliers must endorse and demonstrate to the department that that the supplier's Quality Management Systems addresses the entire supply chain that relates to the supply of the product.

It is the responsibility of the supplier to ensure that all companies in the supply chain are providing goods produced in accordance with the requirements of departmental specifications and relevant Australian Standards.

4.3 Notification of Supply

Suppliers in the following categories are required to notify SCM when they have been awarded a contract to supply to a TMR project:

- a) Fabricated Steelwork
- b) Precast and Prestressed Concrete

Notification shall be made within 1 week of award of contract and shall include the following information:

- a) Project name
- b) Products to be supplied/manufactured
- c) Estimate start date of manufacture (or supply of stock items)

5 The registers

The lists of registered products / suppliers, are updated regularly and detail:

- Contact details for registered suppliers and suppliers of registered products,
- the date of registration expiry, and
- the scope and level of registration.

These lists are publicly available documents on the department's website.

Suppliers shall advise Structures Construction Materials (SCM) of any changes:

- to contact details
- to management details as supplied as part of the application process
- that adversely affect the performance of the company, or
- that affect the suitability of their products to meet the specification or contract requirements

Failure to update Transport and Main Roads may result in delay or suspension of registration.

Appendix A: Fabricated steelwork

A.1 Registered suppliers

Registered suppliers are required to hold current certification of their quality system to AS/NZS ISO 9001 (by a JAS/ANZ-accredited provider) or ISO 3834 (by the International Institute of Welding, IIW).

Demonstrating compliance to these requirements will involve supplying quality system (QMS), production and testing documentation to Transport and Main Roads as required.

In addition to ensuring that products delivered are compliant, suppliers are responsible for ensuring that any third parties involved in manufacturing, processing or transporting product also comply with the requirements of specifications.

Machining of components is not considered fabrication for the purposes of this registration scheme.

A.1.1 Inspection and test plans

Inspection and test plans (ITPs), and quality systems in general, are the responsibility of the supplier. Existence of, and adherence to, ITPs do not guarantee manufacture of conforming products. Acceptance by TMR of an ITP does not indicate the department's responsibility for ensuring its complete alignment to the specifications.

An acceptable ITP includes the following:

- references to relevant specifications
- Hold and Witness Points as per the specifications and any additional manufacturer requirements
- compliance and acceptance requirements
- material supply, production and release phases.

Suppliers are required to manage their quality systems to ensure that satisfactory products are produced. Adherence to AS/NZS ISO 9001, ISO 3834 or work procedures (the QMS) is not sufficient for registration. The QMS must deliver products and manufacturing processes that comply with the relevant specifications.

A.2 Scope of registration

The scope of registration is divided by product type.

Table A.2 – Product types under this Scheme

Product type	Specification	Notes
Shop welding of girders	MRTS78	Level 2 suppliers only
Fabricated steel girders	MRTS78	
Truss bridges	MRTS78	
Roller steel girders	MRTS78	
Overhead fabricated gantries	MRTS78	
Bridge traffic and balustrade rail	MRTS78	
Bridge throw screens	MRTS78	

Product type	Specification	Notes
Roadside mounted fabricated sign gantries	MRTS78	
Steel replacement components	MRTS78	
Steel pile liners	MRTS78	
Steel piles	MRTS78	
Bridge restraint angles	MRTS78	
Bus station structures	MRTS78	
Slip base poles	MRTS78	
Road lighting components	MRTS78, MRTS94	
Traffic mast arms, post	MRTS78	
Grids (RHS section)	MRTS78	
Noise barrier post	MRTS78	
Noise barriers on parapets	MRTS78	
Anchor bars/bolts cages/guardrail terminal bolts	MRTS78	
Galvanised steel cover plates	MRTS78	
Pit covers to MRTS91	MRTS78, MRTS91	
Grates	MRTS78	
Miscellaneous fabrication	MRTS78	
Bridge traffic rail (aluminium)	MRTS79	
Balustrade rail (aluminium)	MRTS79	
Stainless steel welding	MRTS78A	
Stainless steel expansion joint cover plates	MRTS78A	
Public domain guardrail manufacturer	MRTS14	
Public domain guardrail supplier	MRTS14	
Public domain guardrail slip base posts	MRTS14	

A.3 Levels of registration

The 'inactive supplier' and 'suspended supplier' apply to these products.

A Level 1 supplier is excluded from undertaking fabrication of product which spans over a road reserve.

In order to gain Level 2 approval, a fabricator shall undertake a number of projects to demonstrate conformance with the MRTS78 Specification.

A.4 Registration process

The relevant application form for fabricators' registration is SCM-F-011.

System and technical reviews are necessary and will involve a site visit by SCM staff.

A.4.1 Welding capability

All new fabricators are required to provide Welding Procedure Specifications (WPS) and corresponding Procedure Qualification Records (PQR) for the welding to be undertaken on Transport and Main Roads projects. Any site audit will include witnessing of welding to the nominated WPS.

A.5 Expectations of suppliers

This section outlines further detail regarding what is expected of registered suppliers.

A.5.1 General

A registered supplier must comply with Transport and Main Roads specifications and manufacture product in such a way that the process and the product comply with departmental specifications.

Suppliers are required to demonstrate that the following are in place and maintained:

- appropriately skilled, experienced and qualified staff
 - supervised second- and third-year apprentices may undertake only fillet welds
 - all other welds shall be undertaken by trade-qualified welders or supervised fourth-year apprentices
- equipment which is capable of performing the work in a safe, efficient and effective manner, including
 - welding machines with 100% duty cycle capacity exceeding the amperage required by the weld procedure specification
 - lifting equipment appropriate to product size and mass
- a suitable third-party-certified (to AS/NZS ISO 9001 or ISO 3834) Quality Management System to control, document and ensure traceability of the products manufactured or distributed
- a suitable inspection and test plan (which includes references to Transport and Main Roads specifications) for the products supplied and relevant work method statements
- compliant weld procedures for use in all Transport and Main Roads products
- adequate records and testing data from actual products produced
- a system to identify and isolate non-conforming products (including notification to clients) and
- a system to identify, isolate and correct non-conforming processes.

A.5.3 Product design

All product designs (including lifting designs) are to be undertaken by competent people considering the intended use of the product and the product specifications, and must be certified by an appropriate Registered Professional Engineer of Queensland (RPEQ).

Design approvals are not covered by supplier registration.

A.5.4 Technical capability

In order for a fabricator to supply a particular product to Transport and Main Roads, the fabricator shall have the technical capability and workshop resources to manufacture the product as outlined here.

Table A.5.4 – Equipment requirements

Product type	Capabilities
Shop welding of girders	Submerged arc welding process
Fabricated steel girders	Minimum 100% duty cycle of 400 Amp welder
Truss bridges	Minimum of a 10 tonne overhead crane gantry
Roller steel girders	Welding staff have the capability of welding in the overhead position
Overhead fabricated gantries	Minimum 100% duty cycle of 400 Amp welder Minimum of a 5 tonne overhead crane gantry Welding staff have the capability of welding in the vertical up position.
Steel traffic rail	
Steel balustrade rail	
Road side mounted fabricated sign gantries	Minimum 100% duty cycle of 350 Amp welder
Steel replacement components	Minimum 2 tonne fork lift
Steel pile liners	Roll 50 mm thick plate to a diameter of 1200 mm Submerged arc welding process Lifting equipment for safe handling of the liners
Steel piles	Minimum 100% duty cycle of 350 Amp welder Minimum 4 tonne fork lift
Bridge restraint angles	Minimum 100% duty cycle of 350 Amp welder Minimum 2 tonne fork lift
Bus station structures	Minimum 100% duty cycle of 350 Amp welder Minimum of a 10 tonne overhead crane gantry Welding staff have the capability of welding in the overhead position
Slip base poles	Minimum 100% duty cycle of 350 Amp welder Manual metal arc welder Minimum 2 tonne fork lift
Traffic mast arms, posts	
Road lighting components	Minimum 100% duty cycle of 300 Amp welder
Traffic mast arms, posts	Minimum 2 tonne fork lift
Grids (RHS section)	Minimum 100% duty cycle of 350 Amp welder Minimum 2 tonne fork lift
Noise barrier posts	Minimum 100% duty cycle of 300 Amp welder
Noise barriers on parapets	Minimum 2 tonne fork lift
Anchors bar/bolt cages/guardrail terminal bolts	Minimum 100% duty cycle of 300 Amp welder
Galvanised steel cover plates	Ability to press 10 mm plate into the shape of a parapet
Pit covers to MRTS91	
Grates	Minimum 100% duty cycle of 300 Amp welder
Miscellaneous fabrication	Minimum 2 tonne fork lift

Product type	Capabilities
Bridge traffic rail (aluminium)	Separate workshop with separate tools to mild steel workshop Minimum 2 tonne fork lift
Balustrade rail (aluminium)	
Stainless steel welding	Separate workshop with separate tools to mild steel workshop Minimum 2 tonne fork lift
Stainless steel expansion joint cover plates	Ability to press 10 mm plate into the shape of a parapet
Public domain guardrail manufacturer	Demonstrate public domain guardrail can be manufactured in accordance with the dimensional requirements of the Transport and Main Roads Standard Drawings Demonstrate that materials used in the manufacture of the guardrail components comply with the requirements of MRTS14 and the Transport and Main Roads Standard Drawings
Public domain guardrail supplier	Demonstrate that the guardrail supply documentation complies with the requirements of Transport and Main Roads Technical Specification MRTS14
Public domain guardrail slip base posts	Minimum 100% duty cycle of 300 Amp welder

A.6 Overseas suppliers

In MRTS78 *Fabrication of Structural Steelwork* there is a requirement for all overseas suppliers of fabricated steelwork to have a functioning quality system, third-party certified to AS/NZS ISO 9001 and AS/NZS ISO 3834.

If product is sourced through an agent in Australia, then the agent will be required to have quality management systems certified to the requirements of AS/NZS ISO 9001. The reason for this requirement is related to the number of documents which will need to be supplied and controlled during the supply of product from the overseas supplier.

A.6.1 Welding

Registered suppliers shall nominate a welding supervisor, qualified in accordance with AS 1554.1 Clause 4.12.1, who shall be responsible for the quality of welds.

Welding staff shall have a trade qualification equivalent to an Australian Trade Qualification. The Queensland Government Training Recognition Council will need to issue a statement that the staff have qualifications equivalent to a trade qualification.

All welding staff shall undertake macro-testing for each individual welding procedure and the macro-testing shall be undertaken on a 12-monthly basis.

A.6.2 External supervision of product

MRTS78 requires all steelwork fabricated overseas shall be supervised by a person nominated by the Administrator. Fabrication work cannot commence until this person is located within the fabrication site.

A.6.3 Inspection of product

MRTS78 requires all products to be inspected in Australia at the importer's expense.

MRTS78 requires the inspection of product be carried out before the application of the protective coating. Therefore all products shall be supplied in an unprotected state. Once the products have been inspected and the Hold Point released, the product can be sent away for protective coating in Australia (normally hot dip galvanising).

There will also be a final acceptance of the product which is carried out after the application of the protective coating.

A.6.4 Referees

Referees for overseas fabricators shall be English-speaking and readily available for consultation.

Appendix B: Precast and prestressed concrete

B.1 Registered suppliers

Registered suppliers are required to hold current certification of their quality system to AS/NZS ISO 9001 (by a JAS/ANZ-accredited provider).

Demonstrating compliance to this requirements will involve supplying quality system, production and testing documentation to Transport and Main Roads as required.

In addition to ensuring that products delivered are compliant, suppliers are responsible for ensuring that any third parties involved in manufacturing, processing or transporting product also comply with the requirements of the specification(s).

B.1.1 Inspection and test plans

Inspection and test plans (ITPs), and quality systems in general, are the responsibility of the supplier. Existence of, and adherence to, ITPs do not guarantee manufacture of conforming products. Acceptance by TMR of an ITP does not indicate the department's responsibility for ensuring its complete alignment to the specifications.

An acceptable ITP includes the following:

- references to relevant specifications
- Hold and Witness Points as per the specifications and any additional manufacturer requirements
- compliance and acceptance requirements
- material supply, production and release phases.

Suppliers are required to manage their quality system to ensure that satisfactory products are produced. Adherence to ISO 9001 or work procedures (the QMS) is not sufficient for registration. The QMS must deliver products and manufacturing processes that comply with the relevant specifications.

B.2 Scope of registration

The scope of registrations is divided by product type.

Table B.2 – Product types under this Scheme

Product type	Specification
Small box culverts	MRTS24
Large box culverts	MRTS24
Steel-reinforced concrete pipes	MRTS25
Fibre-reinforced concrete pipes	MRTS26
General precast elements	MRTS72
Boat ramp planks	MRTS72 (MRTS300)
Prestressed concrete noise barriers	MRTS72, MRTS73
Prestressed concrete piles	MRTS73
Prestressed concrete deck units	MRTS73
Prestressed concrete girders	MRTS73

B.3 Levels of registration

The 'inactive supplier' and 'suspended supplier' apply to these products.

B.4 Supplementary scope

Registered suppliers may apply to SCM for generic approval for the items listed below. Submissions to the Contract Administrator for the relevant Hold Points will consist of the appropriate certificate or letter, issued by SCM. These submissions are mandatory in accordance with the contract specifications and project-specific approval from the Administrator is required before the Hold Point is released.

Table B.4 – Supplementary scope

Item	Required when	Reference
Mix designs	Prior to production	MRTS70 (July 2017) Clause 11 MRTS25 (July 2017) Clause 6.1.1
New / innovative procedures	Optional	MRTS24 (July 2017) Clause 9.4 MRTS72 (July 2017) Clause 5.5
Stressing beds	Prior to use (prestress only)	MRTS73 (July 2017) Clause 5.5
Void restraint systems	Prior to use (prestress only)	MRTS73 (July 2017) Clause 8.2.1
Reinforcement processing	Straightening coils Manufacturing mesh	MRTS71 (July 2017) Clause 6.1 Appendix C of this Scheme
Reduced testing frequency	Optional	MRTS70 (July 2017) Clause 13.3.3

B.5 Registration process

The relevant application form for precast / prestressed registration is SCM-F-016.

System and technical reviews are necessary and will involve a site visit by SCM staff.

B.6 Expectations of suppliers

This section outlines further detail regarding what is expected of registered suppliers. This list does not replace other Transport and Main Roads documents.

B.6.1 General

A registered supplier must comply with Transport and Main Roads specifications and manufacture product in such a way that the process and the product comply with Transport and Main Roads specifications.

Suppliers are required to demonstrate that the following are in place and maintained:

- appropriately skilled, experienced and qualified staff
- equipment which is capable of performing the work in a safe, efficient and effective manner
- a suitable third-party-certified (to AS/NZS ISO 9001) Quality Management System to control, document and ensure traceability of the products manufactured or distributed
- a suitable inspection and test plan (which includes references to Transport and Main Roads specifications) for the products supplied and relevant work method statements
- compliant mix designs for use in all Transport and Main Roads products and products supplied in accordance with Transport and Main Roads specifications
- adequate records and testing data from actual products produced
- a system to identify and isolate non-conforming products (including notification to clients) and
- a system to identify, isolate and correct non-conforming processes.

B.6.3 Product design

All product designs (including lifting designs) are to be undertaken by competent people, considering the intended use of the product and the product specifications, and must be certified by an appropriate Registered Professional Engineer of Queensland (RPEQ).

Design approvals are not covered by supplier registration.

B.6.4 Prestressing operations

As per MRTS73, each stressing bed is required to be independently certified by the RPEQ. These certifications should be presented with the application, and the registration certificate will note which beds are included.

B.6.5 Reinforcement processing

MRTS71 (July 2017) states that any company processing reinforcing steel (including de-coiling and straightening) shall be a registered supplier for reinforcing steel. Registration shall be by certification from ACRS or by submission of test results to demonstrate conformance in accordance with AS/NZS 4671. Any precaster complying with MRTS71 by submission of test results will have this noted on its registration.

B.6.6 Boat ramp planks

Prior to registration for supply of precast boat ramp planks, the supplier shall provide evidence of the capability to provide an acceptable surface finish. A sample element of at least 400 x 400 x 150 mm, incorporating full depth non-slip chevrons shall be manufactured for review.

Appendix C: Reinforcing steel

C.1 Registered suppliers

Registered suppliers are required to hold current certification with a Transport and Main Roads-approved third party certification body or, in certain cases only (see C.1.2 following), submit test results directly to Transport and Main Roads. At the time of writing, the only approved certification body is the Australasian Certification Authority for Reinforcing and Structural Steels (ACRS). References to certification by ACRS in this registration scheme therefore do not exclude the future use of another Transport and Main Roads-approved certification body.

Registration is not required for companies who distribute reinforcing steel but do not process it, as defined by MRTS71. The requirements of MRTS71 and AS/NZS 4671 with regard to traceability shall be complied with regardless.

C.1.1 Nominated agents

Applications can be made on behalf of overseas steel producers / processors by nominated agents. These agents will be held responsible for the quality of the reinforcing steel and will act as the point of contact for communication and test results. For the purpose of the application form, the agent takes the role of applicant.

Agents must have an exclusive distribution agreement with the manufacturer, a copy of which is required with the application.

C.1.2 Registered suppliers – if not certified by ACRS

Where certification of reinforcement processing is not covered by the scope of ACRS activities (this must be confirmed by the applicant prior to approaching TMR), suppliers may be registered on the basis of submission of test results directly to Transport and Main Roads.

Such suppliers are required to:

- be certified to AS/NZS ISO 9001 by a JAS/ANZ-accredited provider
- source unprocessed reinforcing steel from a TMR-registered supplier
- submit test results, from processed reinforcement, in accordance with Section C.5.

Precast concrete suppliers will not appear on the published list of registered suppliers of reinforcing steel but must comply with this appendix if reinforcing steel is processed on their sites. Approval to process reinforcement will be noted as part of their registration under Section B.6.5.

C.1.3 Registered suppliers – regional site

For the purposes of this procedure a supplier is registered at a specific site or as certified by ACRS. Regional sites as identified and certified by ACRS are included in registration as noted on certificates and the relevant list of registered suppliers.

C.2 Scope of registration

The scope of registrations is divided by product type.

Table C.2 – Product types under this Scheme

Product Type
Reinforcing bar manufactured to AS/NZS 4671
Reinforcing wire manufactured to AS/NZS 4671
Reinforcing mesh manufactured to AS/NZS 4671
Processing and distribution of carbon steel bars and welded mesh to AS/NZS 4671, AS 3600 and AS 5100.5 – 3 rd party (ACRS) certified
Processing and distribution of carbon steel bars and welded mesh to AS/NZS 4671, AS 3600 and AS 5100.5 – 2 nd party (Transport and Main Roads) certified

C.3 Levels of registration

The 'inactive supplier' and 'suspended supplier' categories do not apply to this category of supplier.

C.4 Registration process

The relevant application form is SCM-F-014.

C.5 Technical requirements

For suppliers registered under Section C.1.2 of this procedure, technical review will include examination of test results as follows.

Testing shall be in accordance with AS/NZS 4671 (2001) Clause 8. Results are to be submitted every three months. A summary of testing frequency as required by AS/NZS 4671 is as follows:

Table C.5 – Technical requirements

For decoiled products:	
Mechanical and bending properties:	1 test per diameter per machine per week
Deformation height or depth of deformed products:	1 test per day per machine
For mesh:	
Mechanical properties:	4 tests (2 long / 2 trans) per batch ¹
Weld-shear test:	2 tests (intersections) per batch
Form and dimension:	1 test per batch
Surface geometry:	2 tests (1 long / 1 trans) per batch

¹According to AS/NZS 4671 (Clause B1.3.1) a batch is 1000 sheets of the same grade / diameter of steel mesh .

Appendix D: Cementitious materials

D.1 Suppliers

Registered products are registered as supplied by a specific supplier. This supplier is responsible for the manufacture and performance of that product.

D.2 Registered products

Registered products are required to be certified by the Australian Technical Infrastructure Committee (ATIC) under specification SP43.

The scope of registrations is divided by product type.

Table D.2 – Product types under this Scheme

Product type	Specification	Australian Standard
Cement (GP, HE, SL)	MRTS70	AS 3972
Blended cements (GB)	MRTS70	AS 3972
Fly ash	MRTS70	AS/NZS 3582.1
Ground blast furnace slag	MRTS70	AS 3582.2
Amorphous silica	MRTS70	AS/NZS 3582.3

D.3 Levels of registration

The 'inactive supplier' and 'suspended supplier' labels do not apply to this category of product.

D.4 Registration process

The relevant application form is SCM-F-012.

Appendix E: Prestressing Strand

E.1 Suppliers

Registered products are registered as supplied by a specific supplier. This supplier is responsible for the manufacture and performance of that product.

Suppliers are required to hold current certification with a Transport and Main Roads-approved third-party certification body. At the time of writing, the only approved certification body is the Australasian Certification Authority for Reinforcing and Structural Steels (ACRS). References to certification by ACRS therefore do not exclude the future use of another Transport and Main Roads-approved certification body.

E.1.1 Nominated agents

Applications can be made on behalf of steel mills by nominated agents. These agents will be held responsible for the quality of the stressing materials and will act as conduits for communication and test results. For the purpose of the application form, the agent takes the role of applicant.

Agents must have an exclusive distribution agreement with the manufacturer for supply in Queensland, a copy of which is required with the application.

E.2 Registered products

The scope of registrations is divided by product type.

Table E.2 – Product types under this Scheme

Product type (Prestressing strand to AS/NZ 4672.1)
7 wire ordinary – 12.7 – 1870 – Relax 2
7 wire ordinary – 15.2 – 1750 – Relax 2
7 wire ordinary – 15.2 – 1830 – Relax 2

E.3 Levels of registration

The 'inactive supplier' and 'suspended supplier' labels do not apply to this category of products.

E.4 Registration process

The relevant application form for registration is SCM-F-013.

E.5 Technical requirements

Technical review will include examination of test results described here.

E.5.1 Test methods and schedule – Mechanical

Tests shall be conducted on coils in accordance with the methods listed in AS/NZS 4672.1 and AS/NZS 4672.2.

Test results from three coils are to be submitted per manufacturing line, per size, per year. Coil results chosen for submittal shall be manufactured at least two weeks apart.

The following properties are to be reported:

- breaking force
- proof force (0.1%)
- elongation at maximum force (%)
- elastic modulus
- mass per unit length.

Every six months a summary of test results shall be submitted in the form of a determination of long-term quality in line with AS/NZS 4672.2 Clause 10.

E.5.2 Test methods and schedule – Relaxation

Relaxation tests shall be conducted and reported according to Transport and Main Roads Test Method Q480 with relaxation at 1000 hours (actual or extrapolated) and 10 000 days (extrapolated) reported.

Test results from three coils are to be submitted per manufacturing line, per size, per year. Coils chosen for submittal shall be manufactured at least two weeks apart. At least one coil shall be tested to the full 1 000 hours. One of the three coils shall be tested in parallel for relaxation in a Transport and Main Roads-approved independent laboratory to either 330 or 1 000 hours.

Note that Q480 requires any test, which at 330 h has a correlation co-efficient of less than 0.98, to be run to 1000 h. If the co-efficient has not improved no 10 000 day result can be extrapolated. The test must still be reported if that coil has been selected for result submission to Transport and Main Roads.

Table E.5.2 – Example test summary

Coil	Size	Laboratory	Length (h)	R ²	Comment
A	12.7	Mill	330	0.98	Extrapolate to 1 000 h and 10 000 days
B	12.7	Mill	1 000	0.97	Result rejected but still reported (low R2)
B	12.7	Mill	330	0.99	Extrapolate to 1 000 h and 10 000 days
C	12.7	Mill	1 000	0.99	Extrapolate to 10 000 days
C	12.7	Independent	1 000	0.98	Parallel test Extrapolate to 10 000 days
E	15.2	Mill	330	0.98	Extrapolate to 1 000 h and 10 000 days
F	15.2	Mill	330	0.98	Extrapolate to 1 000 h and 10 000 days
G	15.2	Mill	1 000	0.99	Extrapolate to 10 000 days
G	15.2	Independent	330	1	Parallel test Extrapolate to 1 000 h and 10 000 days

E.5.3 Test certificates

Test results are to be provided to Transport and Main Roads in the form of test certificates compliant with the test methods used.

Test reports shall clearly indicate:

- coil identification
- date of manufacture
- line of manufacture
- relaxation values
- correlation co-efficient.

Relaxation results are to include raw data to allow confirmation of extrapolation.

Appendix F: Chemical Admixtures

F.1 Suppliers

Registered products are registered as supplied by a specific supplier. This supplier is responsible for the manufacture and performance of that product.

F.2 Registered products

Admixtures are registered as a type in accordance with AS 1478.1 (2000) Clause 1.5 with a maximum permissible dosage. This dosage is as listed on the technical data sheet and represents the dosage at which the admixture has been assessed.

F.3 Levels of registration

Levels of registration, including expiry dates, do not apply to these products.

An admixture is given the status of *Caution* when it exceeds one third of the upper limit on any of the chemical components listed in Clause F.4.

F.4 Registration process

The relevant application form is SCM-F-018. The accompanying documentation must include:

- Technical Data Sheet, which includes details outlined in AS 1478.1 Clause 1.7
- General acceptance testing report (to AS 1478.1)
- Chemical analysis report including results for sulphate, chloride and alkali contents

F.5 Technical requirements

The chemical content of admixtures shall be assessed against the following criteria. Assessments are made at a cementitious content of 450 kg/m³ and the maximum recommended dose. A caution flag is raised if any component exceeds one third of the upper limit.

These limits are enforced to ensure that the final concrete mix can be compliant with the specifications. Caution flags are used to indicate that further assessment may be required when combinations of admixtures are used.

Table F.5 – Chemical composition limits

Component	Upper Limit	Reference
Na ₂ O (equivalent)	0.2 kg/m ³ of concrete	MRTS70 (July 2017) Clause 9
SO ₃	50 g/kg of cementitious material	AS 1379 (2007) Clause 2.7.2
Cl ⁻	0.8 kg/m ³ of concrete ¹	AS 1379 (2007) Clause 2.7.3

¹Admixtures with a caution due to chlorine content are not suitable for aggressive environments.

Appendix G: Curing compounds

G.1 Suppliers

Registered products are registered as supplied by a specific supplier. This supplier is responsible for the manufacture and performance of that product.

G.2 Registered products

Curing compounds are registered as conforming to certain types and classes to AS 3799.

Table G.2 – Products under this Scheme

Compound Classes	Compound Types
A, B, D, Z	1-D, 2

Type 1 compounds must be converted to Type 1-D prior to supply.

G.3 Levels of registration

Levels of registration do not apply to these products. Expiry dates are based on compliance testing.

G.4 Registration process

The relevant application form is SCM-F-018. The accompanying documentation must include:

- Technical Data Sheet
- Safety Data Sheet
- Acceptance testing report (to AS 3799)

G.5 Technical requirements

Technical review will include examination of test results described here.

G.5.1 Test methods and schedule

Tests shall be conducted on curing compounds in accordance with the methods listed in AS 3799.

Uniformity test results (AS 3799 Clause 3.2) shall be submitted to SCM yearly to support the certificates of uniformity provided to the Administrator in accordance with MRTS70.

Acceptance testing results (AS 3799 Clause 3.1) are to be submitted per product, every third year from date of testing. This will mean acceptance tests will be submitted for different products each year.

Appendix H: Stainless steel reinforcing

H.1 Registered suppliers

Registration is required for the manufacturer and processor of stainless steel reinforcement. Registration is not required for companies who distribute stainless steel reinforcement but do not process it, as defined by MRTS71A. Traceability of the steel and accompanying documents is required as per MRTS71A.

Registered suppliers are required to be certified to AS/NZS ISO 9001 by a JAS/ANZ-accredited provider.

H.1.1 Nominated agents

Applications can be made on behalf of overseas steel producers / processors by nominated agents. These agents will be held responsible for the quality of the reinforcing stainless steel and will act as the point of contact for communication. For the purpose of the application form, the agent takes the role of applicant.

Agents must have an exclusive distribution agreement with the manufacturer for supply in Queensland, a copy of which is required with the application.

H.2 Scope of registration

The scope of registrations is divided by product type.

Table C.2 – Product types under this Scheme

Product Type
Reinforcing bar manufactured to BS 6744
Reinforcing mesh manufacture to BS 6744
Processing and distribution of stainless steel bars and weld mesh

H.3 Levels of registration

The 'inactive supplier' and 'suspended supplier' labels do not apply to this category of supplier.

H.4 Registration process

The relevant application form is SCM-F-015.

