

**Manual**

**Supplier Registration Scheme:  
Bridges and Other Structures**

**February 2022**

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## 1 Overview

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

Registration is a mandatory prerequisite prior to supply to departmental projects; it does not replace approval or acceptance by the Administrator in accordance with the contract, nor the stipulated Hold Points, Milestones and Witness Points determined by the specifications. Registration assists this process by replacing repetitive analysis with centralised assessments.

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.

The scheme is structured in two sections: procedures and requirements common to all suppliers and products, and specific requirements for individual categories and sub-categories. These specific requirements are found in the appendices.

The scheme draws upon the Austroads National Prequalification System guidelines.

General guidance and advice to suppliers is provided in commentary boxes formatted like this.

### 1.1 Definitions

The following definitions are used throughout this document.

**Table 1.1– Definitions**

Term	Meaning
Agent	A company acting as the exclusive representative of a supplier for the purposes of registration.
Audit	An intensive assessment of supplier systems and technical performance. Audits typical require on-site visitation.
Category	A broad type of supplier or product for registration. Each category is covered by an individual appendix to this document. For example: precast concrete.
Inactive	A registration status indicating a supplier has not provided material to TMR recently. Surveillance activities (e.g. audits) have been placed on hold, and supply to projects is prohibited. Tendering is permitted.
Product	Individual design/formulation/item subject to registration by name or designation. Where products are listed in a supplier registration scope, the scope of registration is limited to that list.
Principal	The purchaser or owner of the infrastructure. For example: TMR, local government authorities or Queensland Rail.
Third-party certification	Assessment and formal recognition by an independent entity that the supplier and/or their products conforms to a particular standard or specification. Certifying bodies and certification schemes are themselves assessed and approved (by JAS/ANZ).

<b>Term</b>	<b>Meaning</b>
Second-party certification	Assessment and formal recognition by TMR or its representative that the supplier and/or their products conforms to a particular standard or specification.
Stock Item	Product manufactured in batches to be sold off-the-shelf. Manufacture occurs prior to supply contract, where permitted by the specification.
Sub-category	A narrow range of product or process for which a supplier can be registered. For example: steel-reinforced concrete pipes.
Supplier	Financial and legal entity (Australia) registered to manufacture/fabricate/process/supply a range of products.

## **1.2 Reference documents**

This registration scheme should be read in conjunction with the relevant documents as referred to in individual appendices. These documents include:

- a) departmental Technical Specifications (MRTS) including MRTS50 *Specific Quality System Requirements*
- b) departmental Test Methods
- c) second- or third-party certification requirements (for example, Australian Technical Infrastructure Committee (ATIC), Australasian Certification Authority for Reinforcing and Structural Steels (ACRS))
- d) Australian and international (e.g. ISO, EN, ASTM) standards.

Suppliers and products shall comply with the specifications and standards (including version) as listed in contract or procurement documents.

at all times.

## **1.3 Exclusions**

Supplier registration only fulfils contractual requirements that specifically mention registration. As such the following are not included in, and cannot be assumed by, registration:

- a) Assessment or approval of product design, and
- b) Release of contractual requirements (e.g. Hold Points)

Work requiring supplier registration shall only be sub-contracted to another registered supplier.

Registration is held by individual sites. additional sites, either temporary or permanent that are owned or operated by a registered supplier, are not included in the scope of registration unless specifically mentioned.

This scheme does not recognise any mutual recognition agreements of any type as an alternate path to registration as a supplier to the department.

## **1.4 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](mailto: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

#### **1.4.1 Complaints and appeals process**

Suppliers who are dissatisfied with the operation or management of this Scheme, or decisions made regarding registration status may appeal to the Deputy Chief Engineer (Structures). All complaints and appeals shall be made in writing, contain sufficient information to enable a determination and be lodged within 14 days of the decision in question. The Deputy Chief Engineer's decision on the merits of the appeal shall be final.



## **2 Initial Application and assessment process**

This section outlines how to apply for registration and how initial applications will be assessed.

The typical steps in this process are:

1. Supplier reviews technical (e.g. MRTS) and administrative requirements (this scheme)
2. Supplier submits an application
3. TMR performs desktop assessment
4. TMR performs an on-site audit (if required).

Multiple iterations may be required prior to registration, depending on the quality and completeness of the application.

Applications should be submitted allowing for adequate time for the assessment process to be completed and registration certificates issued.

Lodgement during a tender process or after a contract has been awarded is at the Applicant's risk. TMR is under no obligation to award registration, even if a supply contract is in place. If registration is granted, it may not be in time to satisfy the supply provisions of the Contract. The department may not accept materials or products produced prior to finalisation of registration.

Interstate applicants may be requested to meet the costs involved in conducting site audits. Overseas applicants will be requested to meet the costs involved in conducting site audits. This cost is dependent on travel costs and whether third parties are engaged. The applicant will be advised of the likely costs involved when applications are assessed. Multiple audits may be required to finalise the registration assessment.

### **2.1 Applications**

Applications shall be submitted to SCM comprising of relevant application forms and supporting documentation.

Application forms are on the departmental website. A separate form exists for each category of supplier to reflect individual requirements. 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.

Completed applications and supporting documentation shall be submitted to [TMRStructuralMaterials@tmr.qld.gov.au](mailto:TMRStructuralMaterials@tmr.qld.gov.au)

#### **2.1.1 International suppliers**

Applications for registration of overseas-based suppliers shall be made by an Australian-based agent on their behalf. This agent shall take full responsibility for:

- a) Communication with TMR regarding the administration of the registration scheme, and
- b) The quality and performance of the imported product.

Agents shall generally have an exclusive distribution agreement in place with the manufacturer, which is to be submitted with the application. The manufacturing site is “registered to supply [product] as distributed by [agent]”. This partnership constitutes a permanent part of the registration; any change to or transfer of the agreement between the parties shall require a new registration. Individual appendices will note when exclusivity is not required.

Further requirements for agents are listed in Chapter 4.

### **2.1.2 On-sold products**

Except where prohibited by technical specifications or individual appendices in this scheme, registered products may be on-sold by a distributor under the following conditions:

- a) The distributor does not process, assemble, mix, relabel, or change the product in any way
- b) The registered supplier maintains responsibility for the product, its quality and traceability.

If a distributed product is re-branded it requires a separate registration, including testing. The application shall make reference to the original product name and manufacturer.

## **2.2 Assessment of applications**

TMR will assess all applications against the criteria listed in Chapter 3 and the relevant appendix, and will take the form of system and technical reviews, as relevant to the chosen category. Initial desktop assessment usually takes 2 to 4 weeks depending on complexity and resourcing priorities. Site audits come after this and are only scheduled once all desktop issues are resolved. Assessment of applications include both system and technical reviews.

### **2.2.1 System review**

System reviews may include:

- a) a review of the supplier's implementation of its quality management systems (QMS)
- b) collection of information such as:
  - a. company information
  - b. previous experience
  - c. history in manufacture of product
  - d. standing with third-party certification bodies.

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

### **2.2.2 Technical review**

Technical reviews will include an examination of supplier and product performance through:

- a) supplier's manufacturing processes, procedures, equipment and materials
- b) compliance of supplied products to the relevant specifications
- c) testing of samples of the products, if required, and/or
- d) Implementation of Quality System to control the production processes.

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

### **2.3 Notification**

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 applications may include failure to demonstrate capacity or capability to comply with the specifications.

New registrations shall be granted for a period of between a minimum of three months and up to a maximum of one year.

### **2.4 Applying for additional facilities or sub-categories**

A company may apply for prequalification of additional sub-categories at any time. The supplier shall submit an application form with supporting documentation and evidence relating to the new sub-categories. A site audit may be required.

Companies wishing to apply for additional sites (including moving premises) shall submit a full application. A change in site constitutes a new registration, and may require a new site audit, depending on supplier category.

### **3 Ongoing registration processes**

#### **3.1 General**

TMR will monitor and assess the ongoing performance of each supplier and product. Registration is dependant on the company maintaining a satisfactory level of performance when supplying products to any client. This may include receiving performance reports from Contractors, Contract Administrators and Principals. The quality of product supplied to non-TMR customers, while not evaluated directly, is also used as indicative of quality control processes and systems.

The frequency of inspections and audits will be determined on past performance, quantity of production and complexity of production.

#### **3.2 Monitoring of registered suppliers and products**

##### **3.2.1 Inspections**

Inspections may be conducted as part of either ongoing registration activities or departmental contracts as per MRTS50 *Specific Quality System Requirements*. Inspections of the production of any product for TMR projects (including stock items) may be conducted by Structures Construction Material staff without advanced notice at any time within reasonable bounds and normal working hours.

##### **3.2.2 Audits**

Audits of system and/or technical conformance (see Section 2.2) may be undertaken at any of the following times:

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

Suppliers shall make themselves available for audits at the request of TMR and participate willingly and in good faith.

Audits generally include a site visit by SCM staff, but in some circumstances a submission of electronic documentation may be requested instead.

##### **3.2.2.1 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 concern. 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 in a timely manner may result in a suspension of registration as described in Chapter 5.

##### **3.2.3 Submission of test results or samples of product**

Some categories of supplier require ongoing submission of test results (outside the usual contract requirements) to maintain registration. These results are to be submitted at the frequencies described in individual appendices. Failure to submit test results on time will result in delays to registration renewals and may result in deregistration in accordance with Chapter 5.

Where a particular product has not been manufactured over the test period, but is still available to the market, the supplier may request that submission of test results be postponed until manufacture recommences.

On request from the department, suppliers shall submit physical samples and/or permit departmental staff to take samples for testing.

#### **3.2.4 Batch certification**

Where the technical specification requires it, assessments of individual batches of product are governed by this scheme and will be noted in the relevant appendix. This occurs when each batch of a product requires inspection or assessment, but the batch may be supplied to multiple TMR projects.

### **3.3 Change in scope**

Suppliers seeking to change the scope of their registration by adding new sub-categories shall submit a new application form with any documentation required to fill the gaps between the current registration and the requirements of the proposed scope.

Suppliers no longer offering particular products or particular sub-categories of products shall contact Structures Construction Materials to have these removed from the scope of registration.

### **3.4 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. 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 and/or submission of test results is mandatory before production commences. Significant adverse findings from the audit need to be addressed prior to production. Once supply commences, the inactive status will be removed.

Suppliers who have not manufactured products for department projects for 3 years or longer will have their registration cancelled. Without recent surveillance of a company's production and systems, the department cannot assume performance and capability have been maintained. Re-registration of such suppliers will only be considered if genuine attempts have been made to win supply contracts to TMR jobs.

Suppliers classified as inactive who wish to be re-audited prior to the awarding of a departmental project may apply for voluntary assessment. Acceptance of this application is entirely at the discretion of the Director (SCM) taking into account the supplier's history and departmental resources.

Individual products shall be classified as inactive if regular test results are not available due to a temporary cessation of manufacture.

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

### **3.5 Renewal of Registration**

Registration is granted for a defined period (from a minimum of 6 months up to a maximum of three years) depending on supplier category. Upon reaching the end of this registration period, renewal will be granted provided:

- a) Compliance to this scheme and the specifications are maintained (including submission of test reports)

- b) Prerequisites of registration are current (e.g. AS/NZS ISO 9001 certification)
- c) There are no significant non-conformances outstanding from audits or supply of product to a project.
- d) 3 straight years of inactivity have not been recorded.

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

Registrations that are not renewed, due to failing to comply with the above criteria, shall be automatically suspended or cancelled (see Section 5.4.3). Suppliers may continue to fulfil current contracts but must not sign or tender for further contracts.

## **4 Registration requirements (general)**

This section outlines the common responsibilities of registered suppliers and manufacturers. Additional criteria for individual categories are included in the relevant appendices.

### **4.1 Administrative**

#### **4.1.1 Provision of updated information**

Suppliers shall advise SCM of any changes:

- a) to contact details
- b) to management details (including ownership) as supplied as part of the application process
- c) to critical equipment (e.g batch plants, welding machines)
- d) to critical materials or production processes.

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

#### **4.1.2 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: This is applicable for either direct supply to TMR or supply through a third party.

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

If in doubt, assume it is a TMR project when:

- a) The client is a TMR district or RoadTek
- b) TMR specifications are invoked
- c) The project involves major road or rail corridors and projects (even when administered through third parties)

Notification shall be made to [TMRStructuralMaterials@tmr.qld.gov.au](mailto:TMRStructuralMaterials@tmr.qld.gov.au) within 1 week of award of contract and shall include the following information:

- a) Project name, location and TMR job or contract number (these can be found on project drawings or in contract documents)
- b) Products to be supplied/manufactured
- c) Estimated start date of manufacture (or supply of stock items).

### **4.2 Quality Management Systems**

Registered suppliers shall operate and maintain a suitable quality management system (QMS) to ensure products supplied to the department comply with the technical specifications and are fit-for-purpose. Where third-party certification of the QMS to AS/NZS ISO 9001 is a requirement (see appendices), this certification shall be made by a JAS-ANZ accredited assessment body.

Adherence to AS/NZS ISO 9001 and the QMS (e.g. work procedures) is not enough for registration. Products and processes are assessed against the department's technical specifications.

Assessment of quality management systems (including Inspection and Test Plans) for the purposes of registration do not modify or replace the contractual requirements of MRTS50 *Specific Quality System Requirements*.

#### **4.2.1 Inspection and test plans**

Inspection and test plans (ITPs) form a crucial and necessary part of quality management systems to control and confirm performance (see AS/NZS ISO 9001 Clause 9.1.1). Some categories require suppliers to submit their ITP for assessment and acceptance. By accepting an ITP, the department does not take any responsibility for ensuring its complete alignment to the specifications. This responsibility remains solely with the supplier.

Existence of, and adherence to, ITPs do not guarantee manufacture of conforming products.

An acceptable ITP shall include but not limited to the following:

- a) What needs to be monitored and measured
- b) How it will be monitored and measured
- c) When it will be monitored and measured
- d) What it will be measured against (compliance/acceptance criteria)
- e) references to relevant specifications (including version)
- f) Hold and Witness Points as per the specifications and any additional manufacturer requirements
- g) material supply, production and release phases.

Multiple ITPs may be used to cover all necessary steps (e.g. one for project management and one for product management).

#### **4.2.2 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*. See also AS/NZS ISO 9001 Clause 8.7.

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

#### **4.2.3 Supply chain**

Suppliers shall demonstrate to the department that the supplier's Quality Management Systems addresses the entire supply chain that relates to the supply of the product.

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 departmental specifications and relevant Australian or International Standards. This includes suppliers of raw materials and consumables, and testing laboratories.

For example, TMR-registration is a common requirement that must be monitored.



#### **4.2.4 Traceability**

Suppliers shall ensure their QMS is sufficient to maintain traceability of materials and products. This will include sufficient recording of relevant batch identifiers and maintaining physical labelling to identify stockpiles. Suppliers remain responsible for traceability throughout any subcontracted process (e.g. galvanising), see AS/NZS ISO 9001 Clauses 8.4 and 8.5.2.

#### **4.3 Product design**

Suppliers shall ensure that proprietary designs in use comply with the specification and the relevant design criteria or standard drawing, and are TMR-approved when required.

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).

Registration does not negate the need for individual product design approval from the Contract Administrator when this is required by the relevant specification.

#### **4.4 Nominated agents**

Nominated agents of overseas-based suppliers shall have their own third-party quality management system certified (to AS/NZS ISO 9001) separate to that used by the manufacturer. This system shall include direct reference to inspection of product in Australia and the means of maintaining traceability.

Agents shall demonstrate a technical and contractual understanding of the relevant specifications and standards.

Agents shall be an Australian-based legal and financial entity.

## **5 Adverse Findings**

This section applies when SCM becomes aware of a supplier's failure to meet the requirements of TMR technical specifications, this scheme (including specific conditions of registration) or subsidiary requirements, or is at risk of doing so. Non-conformances raised within a project's contractual framework are outside the scope of the registration scheme but will inform decisions made under this section.

When a failure is identified as part of this registration scheme a non-conformance report (NCR) may be issued. Non-conformances are graded as critical non-conformances, major non-conformances or opportunities for improvement.

### **5.1 Critical non-conformances**

The following are strictly prohibited and are considered critical:

- a) failure to abide by conditions of registration, including but not limited to:
  - a. supply of product of a sub-category not listed in the supplier's registration
  - b. supply of product while classified as inactive.
- b) fraudulent operation of systems, including:
  - a. systematic submission of non-representative test results (for example, incorrect sampling processes)
  - b. falsifying test results
  - c. failing to inform Transport and Main Roads, or its representatives, of non-conforming tests or products
  - d. delivery of a product in the knowledge that it does not comply with departmental Technical Specifications, other departmental specifications or the relevant drawings
  - e. false representation of registration status or scope.
- c) failure to address environmental or workplace health and safety issues
- d) failure to address non-conformances in a timely and satisfactory manner, including
  - a. continuing to manufacture in the knowledge that non-conformance is likely, and
  - b. reoccurrence of events leading to non-conformances, notwithstanding any preventative action.

Serious failures (even if inadvertent) of processes and procedures may also be classified as critical.

### **5.2 Major non-conformances**

Major non-conformances (MNC) may be raised against a supplier by SCM where a breach of this scheme, TMR technical specifications, or specific conditions of registration placed on a supplier has been identified. The supplier shall be notified of the MNC, the actions required to resolve the issue and a timeframe in which they must be actioned.

### **5.3 Supplier Improvement Alerts**

Supplier Improvement Alerts (SIA) may be raised where action by the supplier/manufacturer is required to reduce the risk of major non-conformances or to confirm compliance. The supplier shall be notified of the SIAs, the actions required to resolve the issue and a timeframe in which they must be actioned. Actions to resolve SIAs will typically be broader in nature than those to rectify major non-conformances.

### **5.4 Escalation of matters**

Where TMR identifies:

- a) repeated, or continuing, significant non-conformances of product or process,
- b) critical non-conformances,
- c) a failure to maintain financial viability,
- d) significant safety concerns or
- e) significant changes to company details, not communicated to SCM.

a process of escalation will be initiated. Sanctions against registration may include:

- a) an immediate cessation of manufacturing or supply
- b) suspension of registration
- c) cancellation of registration (de-registration).

#### **5.4.1 Show cause notice**

When sanctions are proposed the company will be issued with a formal 'show cause' notice and given the opportunity to respond to the issues raised in the notice.

Should the company fail to respond or to show reasonable cause why TMR should not adjust the registration status by the time specified in the show cause notice, TMR will proceed with the sanction.

#### **5.4.2 Cessation of manufacture and supply**

In critical circumstances, where continued manufacture would accompany unacceptable risks to safety or non-conforming product, an immediate cessation of manufacture and supply may be instructed by SCM. These cessation orders override the option to continue to fulfil current contracts when registration is suspended or cancelled.

#### **5.4.3 Suspension**

A company's registration may be suspended where there is a temporary or short-term issue affecting its ability to satisfy the performance requirements of the relevant technical specifications or this scheme. Any such suspension will be in place until the temporary problem is remedied and the company is able to prove its performance has returned to a satisfactory level.

A suspended supplier may continue to fulfil current contracts, subject to additional conditions and considerations, but must not sign or tender for further contracts.

#### **5.4.4 Cancellation**

A company's registration may be cancelled due to critical non-conformances, including those raised for leaving other issues unresolved. Suppliers may continue to fulfil current contracts, subject to additional conditions and considerations, but must not sign or tender for further contracts.

Applications for re-registration from suppliers with cancelled registration will not be considered until the underlying issues have been resolved.

#### **5.5 Communication of matters**

The registration status of suppliers will be published on the TMR website, but the details of any non-conformances are kept confidential, with the following exceptions.

##### **5.5.1 Contractual concerns**

Observations relating directly to products intended for supply to TMR projects will be forwarded to the Contract Administrator. Product non-conformances are then resolved using the contractual framework. If the non-conformance is traced to a systems deficiency this may be raised as a separate issue to be resolved through the registration scheme.

##### **5.5.2 Third-party certifications**

Where second- or third-party certification or accreditation is a requirement for registration, the department may refer a suspected breach of the relevant Standard (e.g. ISO 9001) to the assessment body if:

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

The department's advice to the body responsible for certifying or accrediting the supplier may contain:

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

## **6 The registers**

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

- a) Contact details for registered suppliers and suppliers of registered products,
- b) the date of registration expiry, and
- c) the scope of registration.

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

## **7 Terms and conditions**

When applying for registration and if awarded registration, a company agrees to comply with, and be bound by this registration scheme.

### **7.1 No Guarantee of work**

Registration is not to be construed as a guarantee of work. Registration only determines a company's eligibility to tender for work, subject to meeting any local legislative/regulatory requirements. The department applies governmental and departmental procurement principles and requirements, including value-for-money, in the assessment and selection of tenders. In the majority of cases the supplier will have a subcontract with a Principal Contractor and will generally not be supplying direct to TMR.

### **7.2 Application requirements**

To become registered, an applicant must nominate the registration sub-categories that it believes to be commensurate with its capabilities and submit an application form with supporting information that addresses all specified criteria.

In submitting its application, the applicant gives permission to the department to carry out such investigations as are considered necessary to evaluate the application and to determine whether the relevant criteria are met.

In undertaking its assessment, the department may take into account other information in its possession, or information provided by other agencies.

### **7.3 Confidentiality**

The department may refer an applicant's documentation to external assessors for assessment. External assessors are required to maintain confidentiality of all information received. However, when lodging an application, applicants agree to provide the necessary agency permission to enable searches and enquiries to be carried out for assessment.

Information and intellectual property submitted in an application for registration will be treated as commercial-in-confidence and will not be disclosed to any party outside the department and its assessors unless legally required to do so, for the purposes of obtaining legal or financial advice, or in relation to appeals regarding registration decisions.

### **7.4 Applicant's undertaking**

In applying for prequalification, including renewal or upgrading, the applicant is deemed to have accepted the terms and conditions of registration, which the applicant acknowledges and accepts may be varied from time to time.

The applicant must ensure that all particulars in the application are true and correct in every detail.

The applicant agrees not to use any information relating to its registration status or contract performance without acknowledging that the registration is for the sole use of the department. The applicant further agrees that it accepts full responsibility for any consequences arising from the use of such information.

This also means the department takes no responsibility for third parties using TMR registration as a procurement criterion. Registered suppliers have only been assessed in the context of supplying to TMR projects, using TMR specifications.

The use of government or departmental branding is not permitted on informational or advertising material.

## Appendix A: Cementitious materials

### A.1 Scope

This category applies to the supply of cementitious materials in accordance with MRTS70 *Concrete*. Individual materials are treated as registered products under this scheme, noted individually as part of supplier registration.

**Table A.1 – Product types under this Scheme**

Product type	Relevant Australian Standard (in addition to MRTS70 and ATIC Spec SP43)
Cement (GP, HE, SL)	AS 3972
Blended cements (GB)	AS 3972
Fly ash	AS/NZS 3582.1
Ground blast furnace slag	AS 3582.2
Amorphous silica	AS/NZS 3582.3

### A.2 Registration system exceptions

The 'inactive' status will apply to products deemed as such by CMRS<sup>1</sup> (Cementitious Materials Registration Scheme). These products shall not be supplied to TMR projects.

If registration is suspended, this suspension affects the entire range of products.

### A.3 Particular registration criteria

#### A.3.1 Application package

The application package shall include:

- a) Application form
- b) Confirmation of third-party certification of the quality management system
- c) Confirmation of product certification in accordance with ATIC Spec SP43 (usually an email from CMRS).

#### A.3.2 General

Registered suppliers 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:

1. 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
2. second or third-party product certification to ATIC SP 43 (e.g. CMRS)

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<sup>1</sup> CMRS is administrated by TfNSW on behalf of ATIC.



### **A.3.3 Conformance responsibility**

Where a product is resold or repackaged, the supplier (reseller) shall seek separate registration with TMR and CMRS.

## Appendix B: Fabricated steelwork

### B.1 Scope

This category applies to the fabrication (welding) of structural steel, stainless steel and aluminium. Contractors nominating to fabricate (as opposed to install/assemble) structures on site or set up project-specific fabrication shops are also required to be registered.

Machining, forming or assembly (erection) of components are generally not considered fabrication for the purposes of this registration scheme, but these activities will be assessed when performed by a registered supplier.

Sub-categories of fabrication are listed in Table B.1; inclusions in descriptions are not exclusive.

**Table B.1 – Product types under this Scheme**

Sub-category	#	Description <sup>1</sup>
Primary superstructure elements	1	Primary load-bearing elements including: <ul style="list-style-type: none"> <li>Girders, trusses, beams and columns.</li> <li>Strengthening components.</li> </ul> Bus station towers and overpasses (see guidance note).
Overhead gantries/signs	2	Gantries and signage extending over the road or railway, or suspended above the roadway in a tunnel structure including: <ul style="list-style-type: none"> <li>portal, cantilever and butterfly (cruciform) gantries.</li> <li>signs mounted from structures.</li> </ul>
Mounted bridge or tunnel elements	3	Steelwork installed on a bridge super structure or in a tunnel structure including: <ul style="list-style-type: none"> <li>bridge traffic barrier and balustrade.</li> <li>anti-throw screens.</li> </ul>
Miscellaneous bridge elements	4	Other steelwork installed on bridges including <ul style="list-style-type: none"> <li>bearing restraints.</li> <li>manufactured bolts or non-proprietary couplers.</li> <li>minor repairs/replacements.</li> </ul>
Bridge substructure	5	Bridge foundations, including: <ul style="list-style-type: none"> <li>Pile liners to MRTS63 and MRTS63A.</li> <li>Pile tubes to MRTS64.</li> <li>Fabricated steel piles to MRTS66.</li> </ul>
Posts and poles	6	Mountings and support for lighting, roadside signage, and traffic lights manufactured for MRTS97.
Miscellaneous structures	7	Roadside structures including: <ul style="list-style-type: none"> <li>bus stations and shelters (excluding bridges, lift wells)</li> <li>pedestrian shelters</li> <li>noise barriers</li> </ul> Marine infrastructure
Motor grids	8	Motor grids (e.g. Standard Drawing 1565)

Sub-category	#	Description <sup>1</sup>
Minor products	9	Discrete individual components for minor works (see Clause B.4.5.4)
Major aluminium elements	10A	As per steelwork sub-categories 1 & 2
Minor aluminium elements	10B	Other aluminium fabrication to MRTS79
Major stainless steel elements	11A	As per steelwork sub-categories 1 & 2
Minor stainless steel elements	11B	Other stainless steel fabrication to MRTS78A

Note 1: MRTS78 applies to all steelwork (Sub-categories 1-9)

Questions about what elements fit in each category should be directed to SCM.

For bus infrastructure, the following should be used as a guide:

- a) Bus shelters (small kerbside bus stop) and cantilevered awnings (e.g. over station platforms) would fall under miscellaneous structures (or aluminium elements)
- b) Pedestrian overpasses and lift/stair towers) would fall under main bridge elements

For marine infrastructure, the following should be used as a guide:

- a) Primary floating elements (e.g. boxes, pontoons, terminals) should be considered superstructure
- b) Piles should be considered substructure
- c) Connections and attachments should be considered 'miscellaneous' or 'minor'

## **B.2 Registration system exceptions**

There are no exceptions to the standard registration details that apply to fabricated steelwork.

## **B.3 Particular registration criteria**

### **B.3.1 Application package**

The application package shall include:

- a) Application form
- b) Certification of Quality Management System to AS/NZS ISO 9001 (and ISO 3834 for international suppliers)
- c) Welding Procedure Specifications (WPS) and corresponding Procedure Qualification Records (PQR) for welding typical for the nominated sub-categories (noted below). Testing of macros is not required at this stage. Any site audit will include witnessing of welding to the nominated WPS.
- d) Qualifications of the nominated welding supervisor
- e) Inspection and test plan to the relevant TMR specification

### **B.3.2 General**

A registered supplier shall 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:

- a) appropriately skilled, experienced and qualified staff
- b) equipment which is capable of performing the work in a safe, efficient and effective manner, including
  - a. welding machines with 100% duty cycle capacity meeting the amperage noted in Table B.4.5. These capacities are chosen to ensure welding procedures can be maintained after extended use of the welding machine.
  - b. lifting equipment appropriate to product size and mass.
- c) 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
- d) a suitable inspection and test plan (which includes references to Transport and Main Roads specifications) for the products supplied and relevant work method statements
- e) compliant WPS for use on all Transport and Main Roads products
- f) adequate records and testing data from actual products produced
- g) shop-floor access to all relevant WPS, and fabrication and material standards
- h) a system to identify and isolate non-conforming products (including notification to clients) and
- i) a system to identify, isolate and correct non-conforming processes.

#### **B.4.3 Welding staff**

The supplier shall nominate a suitably qualified welding supervisor to oversee fabrication. This supervisor shall be on site during welding operations on all TMR projects. The supervisor shall be a member of staff (that is, not a contractor) to ensure adequate authority and familiarity with quality systems (see Clause B.4.5.4 for exception). At a minimum, supervisors shall be trade qualified and have at least 7 years' experience in the fabrication of welded steel/aluminium structures and be able to satisfy TMR of sufficient technical knowledge and suitability for the work (see clause B.4.5.1 for specific sub-category requirements).

Suppliers shall nominate suitably qualified welding staff. Welders shall hold, or be in the process of attaining, a Certificate III in Engineering – Fabrication Trade (MEM30305) or recognised equivalent. Welders having not yet attained this qualification shall not perform final welds on main bridge elements or overhead gantries. Nominated welders, whose credentials have been accepted by SCM, will be noted in the supplier's registration (see MRTS78 Clause 10.4.3)

All welding staff, and automated welders, shall undertake 12-monthly qualification via macro-testing as per MRTS78. A list of welders and the dates they were qualified to each WPS shall be made available to SCM on request.

#### B.4.4 Shop drawings

On departmental projects compliance is assessed against technical specifications and certified (engineering) project drawings. Therefore, any shop drawings (if required) are the sole responsibility of the supplier and will not be approved or accepted by TMR or the contract administrator. They shall be created and maintained by competent staff, with the appropriate understanding of the technical requirements.

On some projects (e.g. those with Design and Construct contracts) shop drawings may be required by the Contractor.

#### B.4.5 Sub-category requirements

The fabricator shall have the technical capability and workshop resources to manufacture products relevant to the applicable sub-categories. Welding machine capacity, minimum lifting capacity and the welding procedure required upon registration are listed in Table B.4.5.

**Table B.4.5 – Equipment and welding requirements**

Sub-category	#	WPS <sup>1</sup>	Welding Machine Capacity <sup>2</sup>	Lifting
Primary superstructure elements	1		400 A	10 t
Overhead gantries/signs	2		400 A	5 t
Mounted bridge elements	3	SD2200	350 A	2 t
Bridge substructure	5	Joint B-C3	300 A	
Miscellaneous bridge elements Roadside posts and poles Miscellaneous structures Motor grids	4,6,7,8	SD1606, SD1607, SD1477	300 A	2 t
Minor products	9	As per relevant Standard Drawing or Approved Design	300 A	2 t
Aluminium elements	10	SD1512 (with 6061 Al)		2 t
Stainless steel elements	11	SD1512 (with 316 SS)		2 t

Note 1: Joints as per AS/NZS 1554.1 App E or as detailed on Standard Drawings

Note 2: At 100% duty cycle

##### B.4.5.1 Primary superstructure elements and overhead gantries/signs (#1, 2, 10A, 11A)

The fabricator's workshop facilities shall contain sufficient space to perform a trial assembly of the structure and be equipped with an overhead gantry crane with sufficient capacity (see table above).

Welding staff shall have the capability of welding in the overhead and vertical up positions.

The welding supervisor shall hold a Welding Supervisor's Certificate in accordance with AS 2214, a AS 1796 Certificate 10 or another option listed under AS 1554.1 Clause 4.12.1.

The supplier shall demonstrate the ability to manufacture in accordance with MRTS78 by completing projects as a registered supplier in other sub-categories for a minimum 12 months prior to applying for

these sub-categories. This paragraph does not apply to sub-categories 10A (aluminium) and 11A (stainless).

#### **B.4.5.3 Bridge substructure (#5)**

The fabricator shall have the capacity to perform submerged arc welding, and roll 50 mm plate.

#### **B.4.5.4 Minor Products (#9)**

Minor products include those items fabricated as discrete products, usually to be incorporated into a larger element. Examples are listed in Table B.4.5.4. Products shall be fabricated to a Standard Drawing or approved design. Fabricators registered to this category will be registered for individually nominated products only.

**Table B.4.5.4 – Examples of minor products**

<b>Product</b>	<b>Standard Drawing(s)</b>	<b>Notes</b>
Noise Barrier Posts	1606, 1607, 1608	
Pit Covers	1417, 1632, 1633, 1634	MRTS91 and TN63 also apply

Fabricators registered for this sub-category, and no other sub-category, may contract-in a welding supervisor for times when they are producing the nominated products. This provision is granted to allow fabrication on an as-needs basis or for short runs by workshops where manufacture to MRTS78 is not core business. The welding supervisor shall still be nominated in the application as per clause B.3.1.

#### **B.4.5.5 Stainless steel and aluminium fabrication (#10, 11)**

Where a fabricator works in more than one of mild steel, stainless steel or aluminium, a designated and isolated workshop space and tooling shall be maintained for each metal to avoid cross-contamination.

Welding screens are not adequate isolation.

### **B.5 Overseas suppliers**

Fabrication workshops located overseas shall be represented by a nominated Australian agent. This agent shall act as the conduit for all documentation submissions (for registration and production to departmental specifications) and be separately certified to AS/NZS ISO 9001.

The registered workshop shall be third-party certified to ISO 3834.2 (in addition to ISO 9001 certification).

#### **B.5.1 Welding**

Welding staff shall have a trade qualification equivalent to an Australian Trade Qualification. The supplier shall submit a statement from the Queensland Government Training Recognition Council confirming equivalence.

### **B.5.2 External supervision of product**

MRTS78 *Fabrication of Structural Steelwork* requires all steelwork fabrication overseas to be witnessed by a person nominated by the Administrator. Fabrication work cannot commence until this person is located within the fabrication site.

### **B.5.3 Inspection of product**

MRTS78 *Fabrication of Structural Steelwork* requires all products to be inspected in Australia at the importer's expense, prior to the application of any protective coating.

The supplier shall nominate a suitable location for inspection and methodology for managing any rework required.

### **B.5.4 Referees**

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

## Appendix C: Precast and prestressed concrete

### C.1 Scope

This category applies to the manufacture of all precast and prestressed concrete. Contractors nominating to create precast concrete on site or set up project-specific precast yards are also required to be registered.

Sub-categories of fabrication are listed in Table C.1

**Table C.1 – Product types under this Scheme**

Sub-category	Description
Small box culverts	Culvert crown units and link slabs up to 1200 mm x 1200 mm to MRTS24
Large box culverts	Culvert crown units and link slabs over 1200 mm x 1200 mm, and all base slabs, to MRTS24
Steel-reinforced concrete pipes (SRCP)	Pipes manufactured to MRTS25
Fibre-reinforced concrete pipes (FRCP)	Pipes manufactured to MRTS26
Structural precast elements	Precast elements for bridges, retaining walls, or other applications (including wet cast pipes) using special class concrete. Manufactured to MRTS72.
Non-structural precast elements	Precast elements manufactured using normal-class concrete to MRTS72.
Boat ramp planks	Precast elements for boat ramps, manufactured to MRTS72 and MRTS300.
Prestressed concrete noise barriers	Prestressed noise barriers manufactured to MRTS72 with stressing to MRTS73.
Prestressed concrete piles	Octagonal prestressed concrete piles, manufactured to MRTS73 and supplied to MRTS65
Prestressed concrete deck units	Prestressed concrete deck and kerb units, manufactured to MRTS73 and supplied to MRTS74.
Prestressed concrete winged planks	Prestressed winged planks, manufactured to MRTS73 and supplied to MRTS74 or MRTS75
Prestressed concrete girders	Prestressed girders, (e.g. Super-T and I girders), manufactured to MRTS73 and supplied to MRTS75

#### C.1.2 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 C.1.2 – Supplementary scope**

Item	Specification
Concrete Mix Designs	MRTS70 MRTS25
New / innovative procedures	MRTS24 MRTS72
Stressing beds	MRTS73
Void restraint systems	MRTS73
Reinforcement processing (See C.3.4 below)	MRTS71
Tack welding of reinforcement (WPS)	MRTS71

**C.2 Registration system exceptions**

There are no exceptions to the standard registration details that apply to precast and prestressed concrete.

**C.3 Particular registration criteria****C.3.1 Application package**

The application package shall include:

- a) Application form
- b) Certification of Quality Management System to AS/NZS ISO 9001
- c) Inspection and Test Plan.
- d) Details of equipment including moulds and stressing beds.
- e) Work method statements (production)
- f) Extra documentation as required by sub-category requirements

**C.3.2 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:

- a) appropriately skilled, experienced and qualified staff
- b) equipment which is capable of performing the work in a safe, efficient and effective manner
- c) 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
- d) a suitable inspection and test plan (which includes references to Transport and Main Roads specifications) for the products supplied and relevant work method statements and check sheets
- e) compliant mix designs for use in all Transport and Main Roads products and products supplied in accordance with Transport and Main Roads specifications

- f) adequate records and testing data from actual products produced
- g) a system to identify and isolate non-conforming products (including notification to clients)
- h) a system to identify, isolate and correct non-conforming processes
- i) a system to insulate and differentiate between work (including processes and materials) to departmental specifications, and work to other standards.
- j) work method statements and procedures to cover all critical production related activities.

### **C.3.2 Shop drawings**

On departmental projects compliance is assessed against technical specifications and certified (engineering) project drawings. Therefore, any shop drawings (if required) are the sole responsibility of the supplier and will not be approved or accepted by TMR or the contract administrator. They shall be created and maintained by competent staff, with the appropriate understanding of the technical requirements.

### **C.3.3 Sub-category requirements**

The precaster shall have the technical capability and resources to manufacture products relevant to the applicable sub-categories.

#### **C.3.3.1 Small-box culverts and concrete pipes**

The supplier shall have adequate capability or have a subcontractor with adequate capability acceptable to TMR for load-testing of product. All equipment used shall be calibrated and have a calibration certificate issued by a laboratory or provider accredited by NATA for the appropriate calibration

The supplier shall maintain certified element designs (either by type-testing or calculation), and submit evidence of this with any application.

Overseas-based suppliers of small box culverts and pipes shall be represented by an exclusive agent in Australia. The agent shall nominate a domestic testing facility acceptable to TMR where 1 unit of each size and type supplied during that period shall be dimension- and cover-checked and load tested (to both proof an ultimate load) every three months. For pipes, 2 cores shall be taken from this sample for water absorption testing. This testing shall be at the supplier's cost and in addition to regular inspection and testing performed by the manufacturer. Results shall be submitted to SCM.

### **C.3.3.2 Large box culverts**

The supplier shall submit two proposed certified element designs with any application.

### **C.3.3.3 Boat ramp planks**

The supplier shall demonstrate 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.

### **C.3.3.3 Prestressed elements**

The supplier shall submit RPEQ certification of the stressing bed with any application.

For deck units, and winged planks and closed top girders, the supplier shall submit the proposed void restraint system.

The supplier shall demonstrate that supervisory staff have adequate experience with prestressed concrete operations.

### **C.3.4 Reinforcement processing**

In lieu of registration as a supplier of reinforcing steel, precast suppliers may have reinforcement processing added to their scope of registration. This processing shall be constrained to in-house operations of:

- a) Decoiling and straightening of reinforcement for pipes and small box culverts,
- b) Manufacture of reinforcing mesh for small box culverts,
- c) Cutting and bending of straight bar or mesh reinforcement,
- d) Locational tack welding for fabrication of cages.

Cutting and bending shall be limited to simple shapes (e.g. B, D, E, F, G to SD 1043). Shapes with cranks (e.g. N), curves (e.g. P), enclosures (e.g. S) or reversals (e.g. J) are not permitted.

Welding of loadbearing splices is not included in this supplementary scope and requires project-specific approval in accordance with MRTS71.

Testing of processed reinforcement shall be in accordance of MRTS71 and AS/NZS 4671 as "material not covered by LTQ [long term quality] level", with test results subject to audit by SCM.

"Material not covered by LTQ level" is subject to testing of a certain number of samples per batch.

## Appendix D: Reinforcing steel

### D.1 Scope

This category applies to the supply and processing of reinforcing steel, supplied to department in accordance with MRTS71. Third party certification for manufacture, processing or traceability is required for most sub-categories.

References to certification by the Australasian Certification Authority for Reinforcing and Structural Steels (ACRS) in this registration scheme do not exclude the future use of another approved third party JAS/ANZ Accredited certification scheme to AS/NZS 4671 approved by the Director (Structures Construction Materials) or delegated authority in Transport and Main Roads.

**Table D.1 – Supplier/Product types under this Scheme**

Sub-category	Description
Reinforcing bar	Supply of straight reinforcing bar manufactured or coiled reinforcing bar to AS/NZS 4671 by a steel producer.
Reinforcing wire	Supply of coiled reinforcing wire manufactured to AS/NZS 4671.
Reinforcing mesh	Supply of machine welded reinforcing mesh to AS/NZS 4671.
Stainless steel reinforcement	Supply stainless steel reinforcement to BS 6744.
Processed reinforcement	Reinforcement processed by cold-rolling, cold-drawing, or decoiling and straightening.
Distribution of reinforcement	Distribution of reinforcement without bending, cutting, or processing.
Fabrication of cages	Off-site prefabrication of cages by welding.
Geotechnical bar	Threaded bar for soil nails, dowels and rock bolts to MRTS03.

### D.2 Registration system exceptions

The 'inactive' supplier status applies only to the fabrication of cages sub-category.

### D.3 Particular registration criteria

#### D.3.1 Application package

The application package shall include:

- a) Application form
- b) Certification of Quality Management System to AS/NZS ISO 9001, if required
- c) Third-party product certification, if required
- d) Extra documentation as required by sub-category requirements, such as welding procedure specifications

#### D.3.2 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:

- a) appropriately skilled, experienced and qualified staff

- b) equipment which is capable of performing the work in a safe, efficient and effective manner,
- c) a suitable Quality Management System to control, document and ensure traceability of the products manufactured or distributed
- d) a suitable inspection and test plan for the products supplied and relevant work method statements
- e) a system to maintain traceability of the reinforcing steel back to its original mill
- f) a system to identify and isolate non-conforming products (including notification to clients) and
- g) a system to identify, isolate and correct non-conforming processes.

### **D.4.3 Traceability**

The supplier shall document a system to identify batches of reinforcement and allow traceability from steel delivered to site back to the appropriate test certificates. The responsibility for this traceability remains with the supplier, including when the steel is specified to be galvanised.

### **D.4.4 Sub-category requirements**

#### **D.4.4.1 Reinforcing bar, wire and mesh**

Third-party certification for manufacture is mandatory. Suppliers will be automatically registered for distribution.

#### **D.4.4.2 Processing of reinforcement**

Third-party certification for processing and distribution is mandatory.

#### **D.4.4.3 Stainless steel reinforcement**

Suppliers of stainless steel reinforcement shall either:

- a) maintain third-party product certification for supply and/or processing of stainless steel reinforcement, or
- b) submit material test certificates annually to Structures Construction Materials and maintain a third-party certified quality management system.

One suite of test results shall be submitted each year prior to registration renewal and include:

- a) chemical composition
- b) geometric profile, and
- c) mechanical performance

#### **D.4.4.4 Distribution of reinforcement**

Third-party certification for traceability is mandatory. Adequate procedures shall be in place to ensure batches of reinforcement from different suppliers are not intermixed.

#### **D.4.4.5 Fabrication of reinforcing cages**

The supplier shall maintain and demonstrate:

- a) for welded cages, in accordance with AS/NZS 1554.3
  - a. adequate welding procedure specifications

- b. adequate welding supervision
- b) for large cages, adequate certified lifting designs
- c) for cages with threaded elements, adequate records of assembly testing to MRTS278
- d) a certified Quality Management System to AS/NZS ISO 9001
- e) adequate processes for traceability and inspection for sub-contracted processes (e.g. galvanising)

Third-party certification for traceability is mandatory.

Third-party certification for processing is mandatory if reinforcement is processed off-coil.

#### ***D.5 Regional sites***

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. Regional sites are only applicable to processed reinforcement.

#### ***D.6 Overseas suppliers***

Overseas suppliers of reinforcing steel do not require TMR registration, as the distributing agent in Australia must be registered separately in accordance with this scheme. ACRS-certification is required for all upstream suppliers including overseas steel mills.

## **Appendix E: Prestressing strand**

### **E.1 Scope**

This category applies to the supply of prestressing strand, supplied in accordance with MRTS73 and manufactured in accordance with AS 4672.1 and AS/NZS 4672.2.

References to certification by the Australasian Certification Authority for Reinforcing and Structural Steels (ACRS) in this registration scheme do not exclude the future use of another Transport and Main Roads approved certification scheme.

The following products (designated as per AS 4672.1) may be included in the scope of registration:

- a) 7 wire ordinary – 12.7 – 1870 – Relax 2
- b) 7 wire ordinary – 15.2 – 1750 – Relax 2
- c) 7 wire ordinary – 15.2 – 1830 – Relax 2
- d) 7 wire ordinary – 15.2 – 1860 – Relax 2.

The preferred grade of 15.2 mm strand is 1830 MPa and is the most likely to be nominated on the Drawings.

Products are registered as manufactured on a specific manufacturing line at a specific factory.

### **E.2 Registration system exceptions**

The 'inactive' status applies to individual products. A date of last manufacture shall be submitted, allowing stockpiled strand to be used. Strand manufactured after that date shall not be used until test results are submitted in accordance with this appendix.

### **E.3 Particular registration criteria**

#### **E.3.1 Application package**

The application package shall include:

- a) Application form
- b) 3<sup>rd</sup> party (e.g. ACRS) product certification by a JAS-ANZ accredited product certification body to AS4672.1 and AS/NZS4672.2
- c) Test reports

#### **E.3.2 General**

Registered suppliers 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:

- a) 3<sup>rd</sup> party product certification
- b) A suitable inspection and test plan

#### **E.3.3 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:

- a) breaking force
- b) proof force (0.1%)
- c) elongation at maximum force (%)
- d) elastic modulus
- e) 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.3.4 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.3.4 – Example test summary**

<b>Coil</b>	<b>Size</b>	<b>Laboratory</b>	<b>Length (h)</b>	<b>R<sup>2</sup></b>	<b>Comment</b>
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 R <sup>2</sup> )
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.3.5 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:

- a) coil identification
- b) date of manufacture
- c) date of testing
- d) line of manufacture
- e) relaxation values
- f) correlation co-efficient.

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

***E.4 Overseas suppliers***

Applications can be made on behalf of overseas suppliers by nominated agents. Agents shall hold third-party certification for traceability.

## **Appendix F: Chemical admixtures**

### ***F.1 Scope***

This category applies to chemical admixtures supplied in accordance with MRTS70. Individual admixtures are treated as registered products under this scheme, noted individually as part of supplier registration.

Admixtures are registered as a type in accordance with AS 1478.1 (2000) 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.

The following admixture types (as defined by AS 1478.1) may be included in the scope of registration:

- a) Air-entraining (AEA)
- b) Water-reducing (WR, MWR, HWR)
- c) Set-retarding (Re)
- d) Set-accelerating (Ac)
- e) Special purpose (certain applications only)

Admixtures for special applications requiring Director (SCM) approval in accordance with MRTS70 shall be supplied by a registered supplier but the product itself will not be listed within the scope of registration.

### ***F.2 Registration system exceptions***

If registration is suspended, this suspension affects the entire range of products.

### ***F.3 Particular registration criteria***

#### **F.3.1 Application package**

The application package shall include:

- a) Application form
- b) Technical data sheet (including details outlined in AS 1478.1 Clause 1.7)
- c) Compliance test report (AS 1478.1 Clause 4.4)
- d) Certificate of analysis (chemical composition)

#### **F.3.2 General**

Registered suppliers shall 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:

3. A suitable inspection and test plan including acceptance and uniformity testing.

#### **F.3.3 Chemical composition**

The chemical content of admixtures shall be assessed against the following criteria. Assessments are made at a cementitious content of 450 kg/m<sup>3</sup> 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**

<b>Component</b>	<b>Upper Limit</b>	<b>Reference</b>
Na <sub>2</sub> O (equivalent)	0.2 kg/m <sup>3</sup> of concrete	MRTS70 (Nov 2018) Clause 7.4
SO <sub>3</sub>	50 g/kg of cementitious material	AS 1379 (2007) Clause 2.7.2
Cl <sup>-</sup>	0.8 kg/m <sup>3</sup> of concrete <sup>1</sup>	AS 1379 (2007) Clause 2.7.3

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

#### **F.3.4 Uniformity testing**

Uniformity test results (AS 1478.1 Clause 2.1.3) shall be submitted to SCM yearly, prior to renewal of registration.

## **Appendix G: Curing compounds**

### **G.1 Scope**

This category applies to curing compounds supplied in accordance with MRTS70. Individual compounds are treated as registered products under this scheme, noted individually as part of supplier registration.

The following curing compound types (as defined by AS 3799) may be included in the scope of registration:

- a) Classes A, B, D, and Z
- b) Types 1 (including 1-D) and 2

### **G.2 Registration system exceptions**

If registration is suspended, this suspension affects the entire range of products.

### **G.3 Particular registration criteria**

#### **G.3.1 Application package**

The application package shall include:

- a) Application form
- b) Technical data sheet
- c) Acceptance test report to AS 3799

#### **G.3.2 General**

Registered suppliers 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:

- 4. A suitable inspection and test plan including acceptance and uniformity testing.

#### **G.3.3 Test 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 each year prior to re-registration.

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.

