



SQS Supplement BB

MnDOT Supplier Qualification Standard

Blasters



Standard supports the Department's Approved Supplier Program for Structural Metals Suppliers as described in the current Standard Specification for Construction

Supplier Qualification Standard for Suppliers of Fabricated Structural Metal Products



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MnDOT Supplier Qualification Standard

Documentation Requirements



Supplier Quality Management System

Supplement BB

Suppliers of Blasting Services for Complex Coatings

Supplement BB
Blasting Services



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1 General Information

The purpose of this Supplement to the Supplier Qualification Standard is to outline the criteria for qualification to the Minnesota Department of Transportation (MnDOT) Metals Supplier Qualification Program for Blasting Suppliers and for Shop Painting/Coating Suppliers and Field Painting/Coating Suppliers who provide blasting

Several sections of MnDOT SQS address requirements for aspects of supplier Quality Management Systems that differ greatly amid the listed Supplier Category Processes. These sections have been omitted from the main Supplier Qualification Standard and included in this supplier-specific Supplement. The omitted sections include:

- Section 6: Contract Review
- Section 7: Communicating Project Requirements to Production
- Section 11: Material Identification
- Section 12: Manufacturing Process Control

3 References/Library

Keep reference documents, standards, codes, and other applicable documents readily accessible to the individuals who need them to perform their work. Keep revisions required by existing contracts available.

The list of required references may increase to cover the products, materials, and services that the Supplier provides.

Required references:

- MnDOT Standard Specification for Construction
- MnDOT Special Provisions
- ASTM Standards for materials used by the company

SSPC: The Society for Protective Coatings

- SSPC PA1 Shop, Field, and Maintenance Painting of Steel
- SSPC SP1 Solvent Cleaning
- SSPC SP6/NACE No. 3 Commercial Blast Cleaning
- SSPC SP10/NACE No. 2 Near-White Metal Blast Cleaning
- SSPC SP16 Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals
- SSPC Vis 1 Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning
- SSPC AB2 Cleanliness of Recycled Ferrous Metallic Abrasives

American Society for Testing and Materials (ASTM)

- ASTM D4285 Standard Test Method for Indicating Oil or Water in Compressed Air

Suggested References:

American Society for Testing and Materials (ASTM)

- ASTM D 6386: Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Painting

SSPC: The Society for Protective Coatings

- SSPC-SP COM, Surface Preparation and Abrasives Commentary, SSPC Painting Manual, Volume 2, “Systems and Specifications”

6 Blasting Order Review and Project Management

6.1 Contract documents

Maintain a current copy of the contract documents at the Supplier’s facility and jobsite. Describe a method to track the current status of contract drawings, specifications, addendums, and other documents that affect the supply of this service.

6.2 Order Review

Describe and document how orders are reviewed to assure that the requirements of both the customer and the owner are planned for and satisfied. Consider any issue that affects the Supplier’s capability to perform the work.

Describe the responsibility for conducting and organizing the review. Show how reviewers have access to the related and applicable specifications and special provisions related to blasting, how they are familiar with blast requirements in owner specific documents, and that they are cognizant of unique or special requirements affecting the project.

6.3 Order Review Record

Identify any new documented quality procedures that must be created for the work. Create records showing consideration of the requirements of this clause at a minimum.

6.4 Notification to the Owner

Describe the plans for transmitting information and project documentation to the Engineer or the QAI as appropriate, including recording the transmittal of purchasing data (purchase orders, and other documentation) to assure that the information is furnished completely and on time.

Identify the personnel positions responsible for assembling and transmitting these records and establishing appropriate time targets.





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Describe how the Supplier assures that the owner's Engineer is provided with a start date at least 5 working days in advance.

Describe the methods to prevent improper materials and schedule delays from affecting the project.

6.4.1 Order Review Record

Verify that your quality management system does address all contract requirements in the order. Record the deficiencies where the contract criteria are unclear or where the contract requirements cannot be met by the Supplier's current standard practice. At a minimum assure that these points are reviewed and documented for each order for transportation projects:

- a. Blast condition required
- b. Cleanliness
- c. Timing and shipping requirements (for independent blasting only suppliers)

6.4.2 Inspection

Minimum requirements: Unique inspection requirements, changes in frequency or documentation and reporting from standard practices, procedures and methods are also noted. Note any independent testing or witness services necessary.

7 Communication of Project Requirements

7.1 Project Communication

Determine the means of communication with the Owner and Contractor representatives as part of the Contract review and before work begins. Record contact information for the Owner and Contractor Representatives, and any specific communication requirements mandated by contract documents.

7.2 Communicating Project Requirements

Define distribution of either the Order Review Record or the methods to communicate the review results and order requirements to the responsible individuals in the organization to guide the next steps in the process.

Define scheduling, including priority areas or elements to avoid delaying subsequent coating or affecting its quality.

Assure that project information is accurately communicated in a timely manner to these groups at a minimum:

- Purchasing
- Scheduling
- Blasters
- Inspection personnel
- Owner QA representatives (QAI)

11 Material Identification

11.1 Blast Media

Define the requirements for continuing identification of blast media.

11.2 Identification of Blasted Products

Document how individual blasted products maintain their identity during the blasting process.

For independent blasting only suppliers: define how individual blasted products maintain their identity during the receipt, blasting and storage/shipping process. Address customer requirements for permanent and temporary marking on the final product delivered to the field or shop for coating.

12 Blasting Process Control

Document the process for surface preparation by blasting. Describe how Process Control documentation is made available to appropriate personnel who need it.

12.1 Notification and submittals before work begins

Document a method for Owner notification.

MnDOT specific requirement

For MnDOT projects, verify that methods notify the State Representative at least 5 business days before the blasting operation begins so the State Representative can perform verification inspections if desired. Do not begin work before this notification is received and acknowledged by MnDOT.

12.2 Surface Preparation Process Control

Provide the SSPC surface preparation designation and profile requirements from (in order of precedence) the contract documents, the order from the contractor, or the coating manufacturer's product data sheet to the blasters. Verify that they have documented training, understand the surface preparation and profile requirements, and know how to prepare difficult geometries such as pockets, crevices and other restricted access areas.

12.2.1 Blasting Records

Address the content and frequency of checks documented in application records.

Before Blasting

- Requirements for SSPC SP1 initial cleaning before blasting
- Abrasive Media Recovery; define the test frequency for recycled media, including how it is assessed for fines and contaminants. Test times and results are documented.





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- Compressed Air Checks; for moisture and other contaminants, including frequency and adjustments when humidity changes. Compressed air check times and results shall be documented.
- Resulting Surface condition, including the method and frequency of assessing abrasive blasted surfaces for cleanliness, profile and anomalies (fins, scabs, pits), shall be documented.
- The procedure will indicate how profile is restored if surface anomalies are ground after blasting.
- The procedure will address how the Supplier produces the desired profile depth and angularity while avoiding insufficient profile due to hardened edges.

MnDOT specific requirement

Include in the record how provision is made for the MnDOT Engineer's inspection and approval of the work before coating begins. The owner's acceptance of blast before painting is a hold point.

Note: this may or may not be the responsibility of independent blasting only suppliers.

12.2.2 Handling

Describe methods for handling blasted materials to prevent damage and contamination. Include the requirements for preventive measures that may include nylon straps, edge softeners, padded hooks, slings, or other non-metallic lifting devices to protect products during handling and loading.

12.2.3 Quality Records

- Surface preparation records
- Compressed air and blast media quality tests
- Training records for blasters, and inspectors





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Supplement BB Blasting—Shop and Field



Minnesota Department of Transportation:
Metals Supplier Qualification Program

