
Field Welding

Roles & Responsibilities

Bureau of Structures
Wisconsin Department of
Transportation



BUREAU OF
STRUCTURES

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Section 1 Definitions

⤴ **Quality Control (QC)**

Product oriented procedures that identify and correct flaws in construction technique, documentation handling, and final product quality; accomplished through thorough review of specifications, initial inspection, in-process inspection, final inspection and testing of the finished product.

⤴ **Quality Assurance (QA)**

Process oriented measures that assure there is a quality control plan in place that will result in an acceptable quality product; accomplished through quality audits, certification reviews, written specifications and documentation.

⤴ **Field Welding**

All welding completed outside a facility with an established quality control plan, in an uncontrolled environment (no temperature and humidity control), and/or exposed to the elements (no shielding from wind); including but not limited to: expansion joint field welds, pile splices, bearing plate welds on site, any connection to bridge elements and components on site.

Per CMM 5-20-6.5.4

Field welding at or below 32 F requires review and approval of the welding procedure specification (WPS) by the Structural Metals and Fabrication Quality Assurance Inspection Unit (SFU).

Any welding to primary load carrying members must be approved by Bureau of Structures (BOS)/SFU. The contractor must have an approved DT2337 form on file with BOS before any welding can start. The engineer should confirm that the WPS, welder and inspector qualifications required for the work are listed in the DT2337 on file. If they are not or there is no form on file, request that the contractor update or submit their DT2337 to BOS for review.

A Certified welding inspector (CWI) is required to inspect field welding to primary load carrying members. If the contractor or its sub-contractor does not have a CWI on staff, it is the responsibility of the contractor to enlist a qualified CWI. For Fabricated Bridge Components, a CWI certification is not required for inspection, but the designated inspector must be listed in the Contractor's approved DT2337.

Before all welding is finished for the project, the engineer should verify that the welding parameters noted on form DT2320 conform to the submitted WPS included in the DT2337.

Section 2 Roles and Responsibilities

⤴ **Construction Project Engineer**

Refers to the WisDOT Construction Project Manager. This individual(s) can be a WisDOT engineer or consultant engineer acting as a representative for WisDOT. He or she is the primary contact for the Contractor and Bureau of Structures.

- Enforces WisDOT policy and specifications.
- Verifies that the Contractor has an accepted Field Welding Plan (DT2337) on record with the Bureau of Structures.
- Reviews, signs and submits form DT2320 Field Welding Checklist to the Field Welding Drop-Off Library

⤴ **Contractor**

Refers to the Prime or General Contractor and is responsible for the completion of all tasks required by the contract documents. Subcontractors, including fabricators, erectors, and field painters, may be used by the Contractor, but the Contractor retains responsibility for materials, operations, and the final product. The Contractor is ultimately responsible for the Quality Control of the product by ensuring all sub-contractors follow the approved Field Welding Plan and Owner (WisDOT) specifications and contract plan requirements.

- Completes and submits DT2337 Field Welding Plan to the Field Welding Drop-Off Library.
- Assigns a QC inspector to inspect field welding procedures. Assigned inspector must be listed in the approved DT2337 for that construction year.

⤴ **Quality Control (QC) Inspector**

Contractor representative executing quality control visual inspections for all field welds.

The assigned inspector must be listed in the approved Field Welding Plan for that construction year.

For welds to steel primary members the inspector must be a CWI. If the contractor or its sub-contractor does not have a CWI on staff, it is the responsibility of the contractor to enlist a qualified CWI.

Exceptions to CWI Requirement:

- 1) The welding of shear studs when using a stud gun.
 - 2) Field welding bearing sole plates to the steel girder flange.
 - 3) Welding threaded rods to the top flange of the girder to install new expansion joints.
- Assigned QC inspector must sign form DT2320, acknowledging that welding processes followed the applicable welding procedure specification (WPS), and all field welds have been visually inspected.
 - Assigned QC inspector submits form DT2320 to the Construction Project Engineer.

Field Welding – Roles and Responsibilities

⤴ **Structural Metals and Fabrication QA Inspection Unit (SFU)**

Oversees the structures fabrication and field welding quality assurance program.

SFU Supervisor:	Kristin Revello, PE	608-266-5090	kristin.revello@dot.wi.gov
Fabrication Engineers:	Brandan Burger, PE	608-267-4019	brandan.burger@dot.wi.gov <i>Prestressed Girders/Retaining Walls/Noise Walls</i>
	Carla Principe	608-261-6110	carla.principe@dot.wi.gov <i>Steel Girders/Fabricated Bridge Components/Sign Structures</i>
Quality Assurance Inspector:	Bruce Wulff	608-220-8793	bruce.wulff@dot.wi.gov
	Ryan Janssen		ryan.janssen@dot.wi.gov

- Reviews form DT2337 Contractor's Field Welding Plan.
- Retains records of field welding inspections (forms DT2320).

Section 3 Required Documentation

For structures that require documentation to be uploaded to the Fabrication Library or the Field Welding Drop Off Library, visit this page to request access to the libraries: <http://wisconsindot.gov/Pages/doing-business/eng-consultants/cnslt-rsrcs/strct/fab-sharepoint.aspx>

Fabrication & Quality Assurance SharePoint Document Library

Bureau of Structures
Design & Construction
Maintenance & Inspection
Fabrication & Quality Assurance
Manuals & HSI Quick Links
Research & Outreach

Fabrication & Quality Assurance
Policy Memos | **Fabrication & Field Welding Library** | Fabrication Resources | Training | Additional Resources | Contacts

WisDOT SharePoint Libraries

Fabrication Library
Field Welding Library

Access for New Users
Complete the [Access Request Form](#) and email to DOTDLStructuresFabrication@dot.wi.gov

Manuals & Training Videos

Description	Revision Date
Submission Standards: WisDOT Fabrication & Field Welding Library New!	01/19
User Guide: WisDOT Fabrication Library	
User Guide: WisDOT Field Welding Library	

Contact Kristin Revello for questions about this page.

For trouble uploading documents, comments or questions, please contact:

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Field Welding – Roles and Responsibilities

[Pile Splices](#) | [Expansion Joints](#) | [Shear Studs](#) | [Bearings \(field welded\)](#) | [Other](#)

Document	Submitted by	WisDOT Specification	Note
DT2337 Contractor's Field Welding Plan	Contractor	502.3.6.3.3 506.3.19.1 550.3.4.1.1 CMM 5-20	<ul style="list-style-type: none"> • <u>Required before Start of Welding.</u> • <u>Submit to</u> DOTDLStructuresFabrication@dot.wi.gov • <u>Valid for 1-year. Re-submit yearly.</u>
DT2320 Field Welding Inspection Checklist	Contractor	502.3.6.3.3 506.3.19.1 550.3.4.1.1 CMM 5-20	<ul style="list-style-type: none"> • <u>Submit to the Project</u> <u>Manager/Construction Engineer for</u> <u>review. For each day of welding.</u>
	Project Manager/Construction Engineer		<ul style="list-style-type: none"> • <u>Submit to Field Welding Drop-Off Library.</u> <u>For each day of welding.</u>

Field Welding DT Forms can be downloaded here: <http://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrcs/strct/fab-cnstr.aspx>

Fabrication & Quality Assurance Construction Resources

- Bureau of Structures
- Design & Construction
- Maintenance & Inspection
- Fabrication & Quality Assurance
- Manuals & HSI Quick Links
- Research & Outreach

Fabrication & Quality Assurance

Policy Memos | Fabrication & Field Welding Library | **Fabrication Resources** | Training | Additional Resources | Contacts

Roles & Responsibilities

Description	Date
Fabrication Quality Assurance Process	01/19
Field Welding	TBD

Applications for Approved Fabricator Status

Email form to: DOTDLStructuresFabrication@dot.wi.gov

Description	Date
Approved Products List (APL) Application Form - Steel Bridges	11/18
Approved Products List (APL) Application Form - Sign Bridges & Overhead Sign Supports	11/18
Approved Products List (APL) Application Form - Fabricated Bridge Components	11/18

Fabrication Forms

General

Description	Date
DT2330 Fabrication Storage & Shipping Plan	04/15
DT2332 Weekly QA Shop Inspection Report	04/15
Welding Procedure Specification (Template)	02/15
Procedure Qualification Record (Template)	02/15
Welder & Welding Operator Qualification Record (Template)	02/15

Prestressed Concrete Girders & Retaining Walls

Description	Date
DT2328 Contractor's Certificate of Quality Control for Prestressed Concrete Girders	11/18
DT2329 Contractor's Certificate of Quality Control for Retaining Walls	11/18
DT2336 Fabrication Status Report - Prestressed Girders	11/18

Field Welding Forms

Description	Date
DT2337 Contractor's Field Welding Plan	04/18
DT2320 Field Welding Inspection Checklist	02/18

Contact Kristin Revello for questions about this page.