

WI Department of Safety and Professional Service  
Safety & Buildings Division

# Structural Steel Welding Program

**4th Annual**

**Weld Test Conductor Meeting**

**October 20, 2011**

**Hosted by**

**Brain Strebe, Weld Conductor**

**Lakeshore Technical College**

**1290 North Ave.**

**Cleveland, WI 53015**





# Safety & Buildings Staff



- **Rick Merkle, Bureau Section Chief**
- **Mike Verhagen, Welding Consultant**
- **Terry Waldbillig, District Inspector**

# Adam Burkhalter

- Supervisor of the Credentialing Unit and the Manufactured Homes Unit.

- Contact Info

[Adam.Burkhalter@wisconsin.gov](mailto:Adam.Burkhalter@wisconsin.gov)

- Phone: 608-261-8503
- Fax: 608-267-0592



# Credentialing Staff

- The Credentialing Unit is made up of staff that cover all 67 licenses issued by Safety and Buildings.
- Contact the Madison Credential Office:  
[DspsSbCredentialing@wi.gov](mailto:DspsSbCredentialing@wi.gov)
  - Phone: 608-261-8467
  - Fax: 608-267-0592
  - Or by stopping by the office 1400 E. Washington, Madison, WI
  - Monday – Friday 7:45 am to 4:30 pm

## Rick Merkle

- Section Chief for Boilers, Pressure Vessels, Mechanical Refrigeration, Gas Systems (Including Anhydrous Ammonia) ASME Welding and the Structural Welding Programs and Waukesha Office Mgr.
- Employed with Safety and Buildings since June 1998.
- Contact Info [Rick.Merkle@Wisconsin.gov](mailto:Rick.Merkle@Wisconsin.gov)
  - Phone: 262-521-5065
  - Fax: 608-283-7415



# Structural Welding Program History

- Enforced rules since 1927 via the building codes and appendix. (“Good Engineering Practices”)
- In 1956 , moved appendix items into the actual code language and added Structural Welding Requirements. (Welder requirements)
- January 1, 1975, adopted AWS D1.1 and 1.3 and started capturing data (Weld Test Conductors and Welders)
- **STATISTICS** Currently 102 certified Weld Test Conductors, Increase 5 from last year
- Currently 4359 registered Welders, Decrease of 240 from last year
- Statistics indicate a need for welding requirements and training

# Reference Code - History

- Comm 5.004 and IBC Chapter 62.2204

Comm 5.004(1)

**D1.1-06**, AWS Welding Code - Steel.

Comm 5.004(2)

**D1.3-98**, AWS Welding Code - Sheet Steel.



# Code History

1. Adoption of AWS D1.1 2006 Steel (July 1, 2008)  
- AWS D1.3 1998 (No Change)
2. Department has reviewed all of the state welding exam questions and have updated them to reflect the AWS D1.1-2006 edition with some additional questions in regards to other WI Admin. Codes.
3. The WTC exam has 100 questions with a 3-hour duration for completion



# WTC EXAM Change

1. Department has combined the two exams “Physical and Radiographic into one “Weld Test Conductor Exam”
2. Exam includes NDE questions.
3. Questions?





# BUILDING AND COMM 5 CODES



# HOW DO WE GET TO AWS D 1.1 & D1.3 VIA THE BUILDING CODE?

**CHS. COMM 60 TO 66, WISCONSIN  
COMMERCIAL BUILDING CODE**



- Adopted standard 2009 IBC, Chapter 22, Steel

**Note: Prior to adoption of the 2000 International Building Code (IBC) in July of 2002 this was referenced in section COMM 53.53**

# HOW DO WE GET TO AWS D 1.1 & D1.3 ?



## **Comm 62.2204 Connections. (1) WELDING**

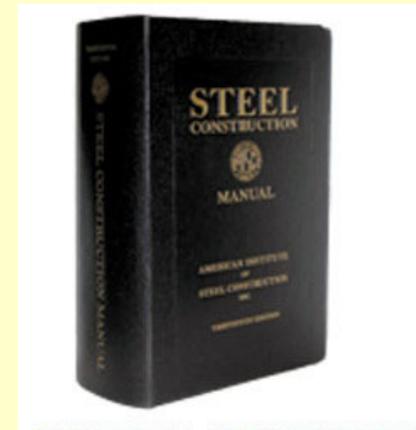
**Substitute the following wording and informational note for the requirements in IBC section 2204.1:  
The details of design, workmanship and technique for welding, inspection of welding, and qualifications of welding operators shall conform to the requirements of the specifications listed in IBC sections 2205, 2206, 2207, 2209 and 2210.**

**Note: The rules pertaining to registration of structural welders are specified in ch. Comm 5.**

# IBC Chapter 22, Steel

- **Structural Steel Construction  
(IBC Section 2205)**

**AISC – 360 -05**



# IBC Chapter 22, Steel (cont'd)

- **Steel Joists (IBC 2206)**

**SJI-05 specifications**

**Steel Cable Structures (IBC 2207)**

**ASCE 19-96**



# IBC Chapter 22, Steel (cont'd)

- **Cold-Formed Steel (IBC 2209)**
  - AISI-NAS-01**
  - ASCE 8-02 for stainless**
  - IBC 2210 for light framed construction**
  - ASCE 3-91 for composite slabs on steel decks**
- **Cold-Formed Steel Light-Framed Construction(IBC 2210)**
  - AISI-General-04 and AISI-NAS-01**
  - AISI-Header-04 for headers**
  - AISI-Truss-04 for trusses**
  - AISI-WSD-04 for wall studs**
  - AISI-Lateral-04 for lateral design**

# Special Inspections

## 2009 IBC chapter 17

- **Comm 62.1700 Structural tests and special inspections.**

**The requirements in IBC chapter 17, except for the requirements in IBC sections 1711 to 1716, are not included as part of this code.**

# Who inspects for conformance ?

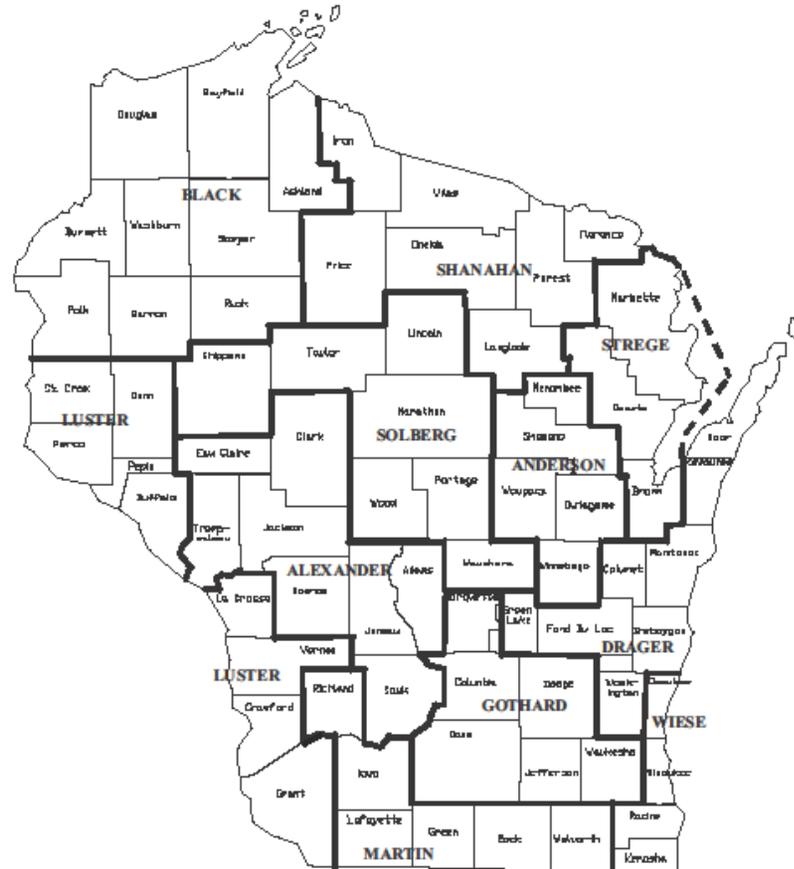
- State Commercial Building Inspectors





# Wisconsin Building Inspectors Map

## Commercial Building Inspectors Safety and Buildings Division, Wisconsin Department of Commerce



See reverse side for addresses, phone numbers, etc.

The Department of Commerce is an equal opportunity service provider and employer. If you need assistance to access services or need material in an alternate format, please contact the department at 608-266-3151 or TTY 608-264-8777.

SBD-8879-P (R1/11)

## Department of Commerce Safety and Buildings Division Commercial Building Inspectors

Commercial Buildings Program on the Internet: <http://www.commerce.state.wi.us/SB/SB-CommercialBuildingsProgram.html>

Sample email Address: Len Alexander = [lalexander@commerce.state.wi.us](mailto:lalexander@commerce.state.wi.us)

<u>Name</u>	<u>Mailing Address</u>	<u>Telephone</u>	<u>FAX#</u>	<u>Day</u>
Len Alexander	S3011 Ault Rd Reedsburg 53959	608-235-0582	608-524-9659	Fri
John R. Anderson	2331 San Luis Pl Gren Bay 54304	715-584-2006	608-283-7470	Mon
Teresa Black	10541N Ranch Rd, Hayward 54843	715-634-8114	715-634-5150	Fri
Jane Drager	PO Box 64, Combined Locks 54113	920-366-2961	608-283-7469	Fri
Steve Gothard	PO Box 338, Sun Prairie 53590	608-235-0568	608-283-7474	Mon
Chris Luster	PO Box 2 Prairie du Chien 53821	608-235-0581	608-283-7479	Thurs
Char Martin	PO Box 318, Edgerton 53534	608-235-0579	608-283-7478	Mon
Dan Shanahan	PO 1137, Lac du Flambeau 54538	715-367-0158	608-283-7438	Fri
Sam Solberg	2715 Post Rd, Stevens Point 54481	715-345-5226	608-283-7484	?
Roger Strege	2331 San Luis Pl Green Bay 54304	920-366-2857	920-492-5604	?
Betty Wiese	PO 276 Thiensville 53092	414-852-3694	608-283-7467	Tues

Supervisors of the inspectors are Steve Dobratz (Anderson, Drager, Shanahan, Solberg, Strege) 920-492-5611; Brian Ferris (Black, Alexander, Luster ) 608-785-9335; Dan Meneguain (Wiese, Gothard, Weise) 608-266-0056.

SBD-8879-P (R7/11)



# Who inspects for conformance?

- Municipal Building Inspectors



- Agents
- Local

# AWS STANDARDS ADOPTION

## **Comm 5.004 Incorporation of standards by reference.**

The following standards of the American Welding Society are hereby incorporated by reference into this chapter:

- (1)** D1.1–06, Structural Welding – Steel.
- (2)** D1.3–98, Structural Welding – Sheet Steel.

# WELD TEST CONDUCTORS

## **Comm 5.35 Weld test conductors. (1) GENERAL.**

No person may conduct welding tests for the purpose of qualifying structural steel welders under s. Comm 5.34 unless the person holds a certification issued by the department as a certified weld test conductor.



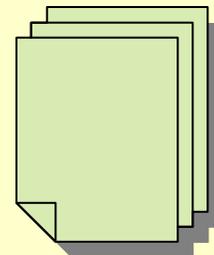
# WELD TEST CONDUCTOR RESPONSIBILITIES

- Ensure that the welding tests, the testing facilities and testing equipment conform with the following appropriate standard or standards:
  1. American Welding Society D 1.1, section 4, part C.
  2. American Welding Society D 1.3, section 4, part C.



# WELD TEST CONDUCTOR RESPONSIBILITIES

- Provide to each individual who passes a qualifying welding test, documentation in a format specified by the department, indicating the welding procedures for which the individual qualified.
  - Evidence of Completion for Structural Weld Tests
  - Structural Steel Weld Form or Applicable AWS Forms



# WELD TEST CONDUCTOR RESPONSIBILITIES



- Maintain a record of those individuals who passed a structural welding qualifying test, including the procedures for which the individuals qualified, for at least 5 years after the date of the test.
- And, Present upon request to the department or its representative the certified WTC card.

# WELDERS



## **Comm 5.34 Welders. (1) GENERAL.**

No person may perform structural steel welding under chs. Comm 34, Amusement Rides and Attractions code, and Comm 60 to 66, Wisconsin Commercial Building Code, unless the person holds a registration issued by the department as a registered welder.

# WELDER QUALIFICATIONS FOR REGISTRATIONS

- The person applying for a welder registration shall have taken and passed, not more than one year before the date the application is received by the department, one or more welding tests in accordance with the following standards:

**1. American Welding Society D 1.1, section 4, part C.**

**2. American Welding Society D 1.3, section 4, part C.**

# WELDER QUALIFICATIONS (cont'd)

- **The test shall have been conducted by a person who is a certified weld test conductor in accordance with s. Comm 5.35 or is under the general supervision of a certified weld test conductor.**



# WELDER RESPONSIBILITIES

- **Perform only those structural welding procedures for which the person has qualified by test within the last 4 years.**
- **Carry proof as to which welding procedures the person has qualified by test.**



# WELDER RESPONSIBILITIES (cont'd)

- **Present upon request to the department or its representative proof of the qualified welding procedures.**
- **Identify the welding on each structurally significant member with a distinguishing mark stamped on the member by the person doing the welding.**

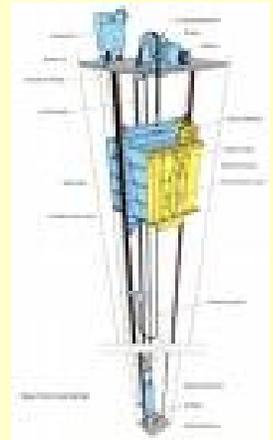


# MISC. .... ELEVATORS

- **SECTION 8.8, OF 2000 ASME A17.1, SAFETY CODE FOR ELEVATORS AND ESCALATORS, WELDING**  
**8.8.1 Qualification of Welders**

**Where required elsewhere in this Code, welding of parts, except for tack welds later incorporated into finished welds, shall be undertaken**

**(a) by welders qualified in accordance with the requirements of Section 5 of ANSI/AWS D1.1, whereby the welders shall be qualified by the manufacturer or contractor; a professional consulting engineer; or a recognized testing laboratory.**





What is in The Future?

Looking ahead

# Future .....



- Use Existing Forms w/ transition to AWS forms
- Adoption of AWS D1.1-2010 Steel
- Adoption of AWS D1.2-2008 Aluminum
- Adoption of AWS D1.3-2008 Sheet Steel
- Adoption of AWS D1.6-2007 Stainless
- The adoption will take place approximately December 1st



**Questions ????**

# Structural Welding Program

- Mike Verhagen, Structural Weld Consultant

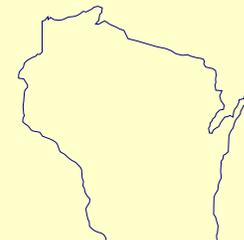
Department of Safety and  
Professional Services, S & B Division  
Welding Program  
141 NW Barstow St. 4th Floor  
Waukesha WI 53188



**262-548-8617**

**Fax-548-8614**

**[mike.verhagen@wi.gov](mailto:mike.verhagen@wi.gov)**





# Agenda Overview Today



- Connect to Welding Info - Website Review
- WTC Examination ...remains same + D1.2 & 1.6
- Comm 5, Fees & Applications
- Structural Welding forms (D1.1/ D1.2 / D1.3 / D1.6)
  - New Draft “Evidence of Completion” form
  - Newly adopted AWS Standard form documents
    - D1.1 and 1.3 (No change, use State form or N-1, N-3, N-4, N-9 form)
    - AWS D1.2 Aluminum ( Fa , Fb, Fc, Fd and Fe form)
    - AWS D1.6 Stainless Steel (M-1, M-2, M-3 forms)
- Welding Issues .. Q & A
- Obtain 2012 Sponsor for **5<sup>th</sup> Annual** WTC Meeting

# Quick Website Review ...

See  
Brochure

- Cover the following:
  - Weld Brochure – for Inspectors & Public
  - Dept of Commerce = DSPS Site
  - Safety & Buildings Division Site
  - Commercial Buildings Site
  - Credentials Site .... Status checks
    - Welders or Conductors
  - Welding Program Site ... forms



# Structural Steel Welding

## Brochure

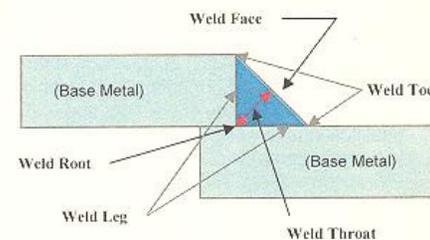
SBD-10823

Available on  
website!



### STRUCTURAL STEEL WELDING

Safety & Buildings Division  
201 W Washington Avenue 4<sup>th</sup> Floor  
Madison WI 53703

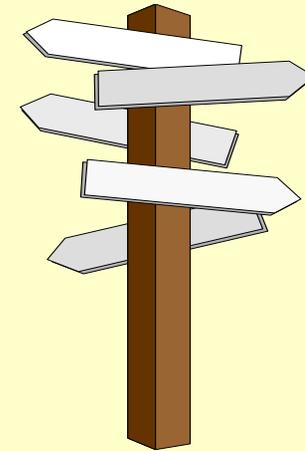


Details of a Fillet Weld

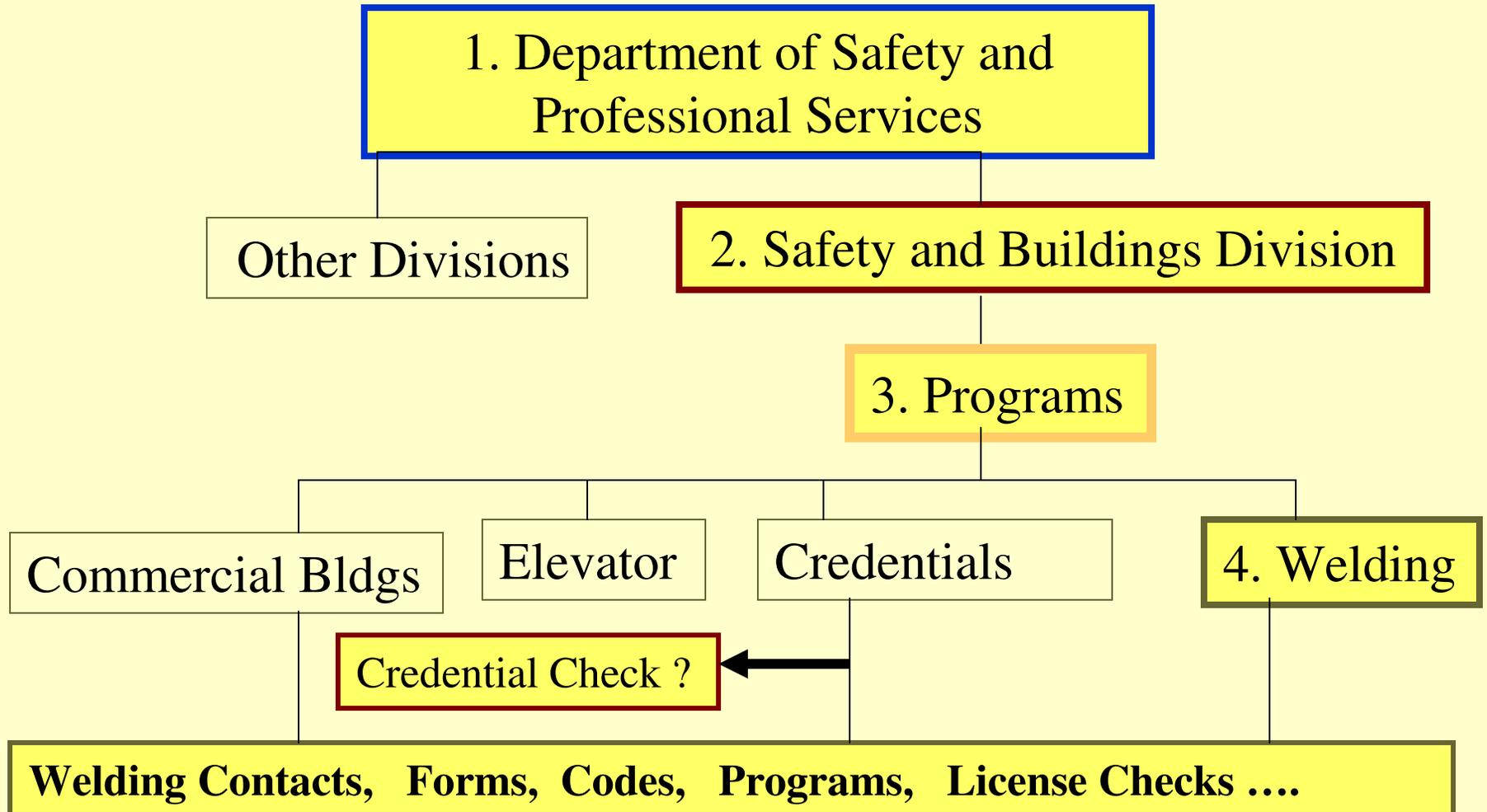
# Website .....

Numerous ways to Navigate !  
but a flow chart provides

**“4 easy steps to Welding”**



# Navigation ... Website Flow Chart



# Department of Safety and Professional Services

<http://dsps.wi.gov/sb/SB-HomePage.html>

## DSPS Home Page



The screenshot shows a Windows Internet Explorer browser window displaying the official website of the Wisconsin Department of Safety and Professional Services. The browser's address bar shows the URL <http://dsps.wi.gov/sb/SB-HomePage.html>. The website header includes the department's name and a search bar. A navigation menu on the left lists various resources such as 'Contact S&B Staff', 'Online Services', and 'Forms'. The main content area features a 'Safety and Buildings Division Home Page' with several news items and a grid of links for services like 'Online Renewal Payment', 'Daily News Updates', and 'Search S&B Records'. The browser's taskbar at the bottom shows the Start button and various application icons, with the system clock indicating 11:07 AM on 11/07/2011.

Wisconsin Department of Safety and Professional Services: Safety and Buildings Division Home Pa - Windows Internet Explorer pro

http://dsps.wi.gov/sb/SB-HomePage.html

File Edit View Favorites Tools Help

Google Search Sign In

Wisconsin Department of Safety and Professional Ser... Home Feeds (1) Read Mail Print Page Safety Tools Help

Official Website of the Wisconsin Department of Safety and Professional Services

Change text size A A A A A A A

Select a search option search text (alt+) Search

[Announcement of Creation of DSPS by Secretary Dave Ross](#)

SHARE Home > Safety & Buildings

### Safety and Buildings Division Home Page

Free **insert pages** that allow the September 1, 2011, Wisconsin Commercial Building Code language to be put into 3-ring binder format of International Code Council codes, are [here](#).

**Most contractors in Wisconsin need a license of some sort.** [See info on various types of contractors' licenses.](#) See [Building Contractor Registration Program](#).

New Madison office location for S&B **license and manufactured home services** - [Info](#)

Dwellings in Wisconsin need [smoke alarms and carbon monoxide alarms](#).

Online Renewal <a href="#">Payment</a>	Daily News <a href="#">Updates</a>	<a href="#">Search</a> S&B Records	<a href="#">Choose Program</a>
<a href="#">Address Change</a>	License <a href="#">Check</a>	Education <a href="#">Classes</a>	Codes <a href="#">Online</a>

Error on page.

Start M. I. E. 2. R. s. R. M. U. H. 2.. W. Internet 100% 11:07 AM

# Department of Safety and Professional Services

<http://dsps.wi.gov/sb/SB-HomePage.html>

S & B Div.



The screenshot shows the website interface in a Windows Internet Explorer browser window. The address bar displays the URL <http://dsps.wi.gov/sb/SB-HomePage.html>. The page title is "Wisconsin Department of Safety and Professional Services: Safety and Buildings Division Home Pa". The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. The address bar contains a search box with "Google" and a "Sign In" button. The Favorites bar shows several links, including "http--extraneti-intranet-", "Free Hotmail", "Upgrade Your Browser", and "Suggested Sites". The main content area is titled "Safety and Buildings Division Home Page". It features a left sidebar with "Online Services" (Forms, Codes, Programs, Plan Review, Licenses, Calendar, Home Page) and contact information for the Safety and Buildings Division. The main content area includes a notice about insert pages, a table of links for various services (Online Renewal, Daily News, Search S&B Records, Choose Program, Address Change, License Check, Education Classes, Codes Online, Sign-up for Email Messages, License Forms, Lists of Credential Holders, Code Changes, Email Technical Questions, Send S&B a Message, Contacts, Office Locations), and a section for "S&B program Web pages" (Amusement Rides / Ski Lifts, Boilers and Pressure Vessels, Fire Prevention, Fire Protection Systems, Fire Safe Cigarettes, Private Onsite Wastewater, Products and Materials-Buildings and Plumbing). A red arrow points to the "Page" menu item in the browser's menu bar. The status bar at the bottom shows "Error on page.", "Internet", "100%", and the time "11:14 AM".

# S & B Programs Site

S & B Div.



Wisconsin Department of Safety and Professional Services: Safety and Buildings Division Home Page - Windows Internet Explorer pro

http://dps.wi.gov/sb/SB-HomePage.html

File Edit View Favorites Tools Help

Google Search Sign In

Wisconsin Department of Safety and Professional Services

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New Madison office location for S&B license and manufactured home services - [Info](#)

Dwellings in Wisconsin need [smoke alarms and carbon monoxide alarms](#).

Online Renewal <a href="#">Payment</a>	Daily News <a href="#">Updates</a>	<a href="#">Search</a> S&B Records	<a href="#">Choose Program</a>
<a href="#">Address Change</a>	License <a href="#">Check</a>	Education <a href="#">Classes</a>	Codes <a href="#">Online</a>
Sign-up for <a href="#">Email</a> Messages	License <a href="#">Forms</a>	<a href="#">Lists</a> of Credential Holders	Code <a href="#">Changes</a>
Email <a href="#">Technical Questions</a>	<a href="#">Send</a> S&B a Message	Contacts: <a href="#">Topic</a> / <a href="#">Code</a> / <a href="#">Program</a>	Office <a href="#">Locations</a>

**S&B program Web pages**

- [Amusement Rides / Ski Lifts](#)
- [Boilers and Pressure Vessels](#)
- [Fire Prevention](#)
- [Fire Protection Systems](#)
- [Fire Safe Cigarettes](#)
- [Private Onsite Wastewater](#)
- [Products and Materials-Buildings and Plumbing](#)

**Online Services**

- Forms
- Codes
- Programs**
- Plan Review
- Licenses
- Calendar
- Home Page

**Safety and Buildings Division**  
Credential and Manufactured Home Walk-in Services  
1400 East Washington Avenue  
Madison, WI 53703  
Mailing Address: Varies, see [forms](#).  
[View Map/ get directions](#)

Plan Review, Inspection and Other Services:  
201 W. Washington Ave.  
Madison, WI 53703  
Mailing Address: Varies, see [forms](#).  
[View Map/ get directions](#)

**Media, Please Contact**  
John Murray  
(608) 266-8608  
John.Murray@wisconsin.gov

Office of Governor  
Scott Walker

Error on page.

Start M. I. E. 2. R. s. R. M. U. H. 2. w. Internet 100% 11:14 AM

# S & B Division Programs Site

## S & B Division



The screenshot shows a Microsoft Internet Explorer browser window displaying the website <http://www.commerce.wi.gov/SB/SB-DivProgramsListed.html>. The page title is "Wisconsin Department of Commerce: Safety and Buildings Division Programs Listed".

The main heading is "Safety and Buildings Division Programs Listed". Below the heading, there is a link for "Sign-up" for email messages and a prompt to "Select the program name to go to the program's Web page.".

The page features a left-hand navigation menu with the following items: RESOURCES, Contact S&B Staff, Forms, Codes, Programs, Plan Review, Licenses, Calendar, Home Page, and COMMERCE RESOURCES.

The main content area displays a grid of program links:

- Amusement Rides / Ski Lifts
- Boilers and Pressure Vessels
- Building Contractor Registration
- Commercial Buildings
- Electrical and Lighting
- Elevators
- Explosives
- Fire Dept Health
- Fire Prevention
- Fire Safe Cigarettes
- Gas Systems
- HVAC
- Licenses / Credentials
- Manufactured/ Mobile Homes
- Mine Safety
- One- and Two-Family (UDC)
- Plumbing
- Products and Materials
- Buildings and Facilities
- Public Sector Employment Safety
- Refrigeration
- Rental Weatherstripping
- Soil Erosion Control
- Swimming Pools
- Welding
- Wisconsin Building Code

Three black arrows point to the links "Building Contractor Registration", "Gas Systems", and "Licenses / Credentials". A red arrow points to the "Welding" link.

The Windows taskbar at the bottom shows the Start button, several open applications (Inbox - Microsoft..., Welding PPTs, QuickCopy, 2009Oct22 Weld...), and the system tray with the date and time (3:10 PM).

# Safety and Buildings Division Site

<http://dsps.wi.gov/sb/SB-DivProgramsListed.html>

Programs



The screenshot shows a Microsoft Internet Explorer browser window displaying the website for the Wisconsin Department of Commerce, Safety and Buildings Division. The page title is "Safety and Buildings Division Programs Listed". The address bar shows the URL: <http://www.commerce.wi.gov/SB/SB-DivProgramsListed.html>. The page content includes a "Sign-up" link for email messages and a list of programs. Two red arrows point to the "Programs" link in the left sidebar and the "Licenses / Credentials" link in the main content area.

**RESOURCES**

- Contact S&B Staff
- Forms
- Codes
- Programs**
- Plan Review
- Licenses
- Calendar
- Home Page

**COMMERCE RESOURCES**

[Sign-up](#) for email messages about specific S&B programs.  
Select the program name to go to the program's Web page.

<a href="#">Amusement Rides / Ski Lifts</a>	<a href="#">Gas Systems</a>	<a href="#">Public Sector Employee Safety</a>
<a href="#">Boilers and Pressure Vessels</a>	<a href="#">HVAC</a>	<a href="#">Refrigeration</a>
<a href="#">Commercial Buildings</a>	<a href="#">Licenses / Credentials</a>	<a href="#">Rental Weatherization</a>
<a href="#">Electrical</a>	<a href="#">Manufactured/ Mobile Homes</a>	<a href="#">Soil Erosion / Stormwater</a>
<a href="#">Elevators</a>	<a href="#">Mine Safety</a>	<a href="#">Swimming Pools</a>
<a href="#">Explosives</a>	<a href="#">One- and Two-Family (UDC)</a>	<a href="#">Welding</a>
<a href="#">Fire Dept Health</a>	<a href="#">Plumbing</a>	<a href="#">Wisconsin Fund</a>
<a href="#">Fire Prevention</a>	<a href="#">Private Onsite Wastewater</a>	
<a href="#">Fire Protection Systems</a>		

Start | Inbox - Microsoft Outlook | Microsoft PowerPoint - [2... | Wisconsin Departme... | 1:26 PM

# Credentials Site

<http://dsps.wi.gov/sb/SB-CredentialProgram.html>

The screenshot shows a Windows Internet Explorer browser window displaying the official website of the Wisconsin Department of Safety and Professional Services (DPS). The browser's address bar shows the URL <http://dsps.wi.gov/sb/SB-CredentialProgram.html>. The website header includes the department's logo, the text "Official Website of the Wisconsin Department of Safety and Professional Services", and a search bar. A red arrow points to the "Check Credentials" link in the navigation menu. The main content area features a section titled "S&B Credentials Program (Certifications, Licenses, Registrations)" and a "NEWS" section with a link to "New Madison office location for S&B license and manufactured home services - Info". The browser's taskbar at the bottom shows the Start button and various application icons, with the system clock displaying 11:22 AM.

Credentials



# Credentials Site

[http://apps2.commerce.wi.gov/SB\\_Credential/](http://apps2.commerce.wi.gov/SB_Credential/)

Check  
Credentials



# Credentials Site

[http://apps2.commerce.wi.gov/SB\\_Credential/SB\\_CredentialApp/SearchByMultipleCriteria](http://apps2.commerce.wi.gov/SB_Credential/SB_CredentialApp/SearchByMultipleCriteria)

Wisconsin Department of Safety and Professional Services: Homepage - Windows Internet Explorer provided by Department of Commerce

http://apps2.commerce.wi.gov/SB\_Credential/SB\_CredentialApp/SearchByMultipleCriteria

File Edit View Favorites Tools Help

Google Search Sign In

Wisconsin Department of Safety and Professional Services

Home Feeds (3) Read Mail Print Page Safety Tools Help

### CREDENTIAL SEARCH MENU

Find Company OR Individual

Search by Credential ID

Advanced Search

Find Tank Contractor

Search by Tank Specialty

**Search for Individual or Company by Category here:**

Credential Type (required)

Credential Status (required)

Zip (or first three digits)

Last or Business Name

Search

**Please select a Credential Type.**

Start M. I. E. Z. R. s. R. M. U. H. 2. W. Internet 100% 11:46 AM

# Credentials Site

[http://apps2.commerce.wi.gov/SB\\_Credential/SB\\_CredentialApp/SearchByMultipleCriteria?cred\\_type=WTC++++&cred\\_status=Any&zip=&cust\\_name=joh&cmd=Search](http://apps2.commerce.wi.gov/SB_Credential/SB_CredentialApp/SearchByMultipleCriteria?cred_type=WTC++++&cred_status=Any&zip=&cust_name=joh&cmd=Search)

Check  
Credentials



Wisconsin Department of Safety and Professional Services: Homepage - Windows Internet Explorer provided by Department of Commer

http://apps2.commerce.wi.gov/SB\_Credential/SB\_CredentialApp/SearchByMultipleCriteria?cred\_type=WTC

File Edit View Favorites Tools Help

Google Search Sign In

Wisconsin Department of Safety and Professional Ser... Home Feeds (0) Read Mail Print Page Safety Tools Help

### CREDENTIAL SEARCH MENU

Find Company OR Individual

Search by Credential ID

Advanced Search

Find Tank Contractor

Search by Tank Specialty

**Search for Individual or Company by Category here:**

Credential Type (required)

Credential Status (required)

Zip (or first three digits)

Last or Business Name

Search

1 record(s) were returned by your search.

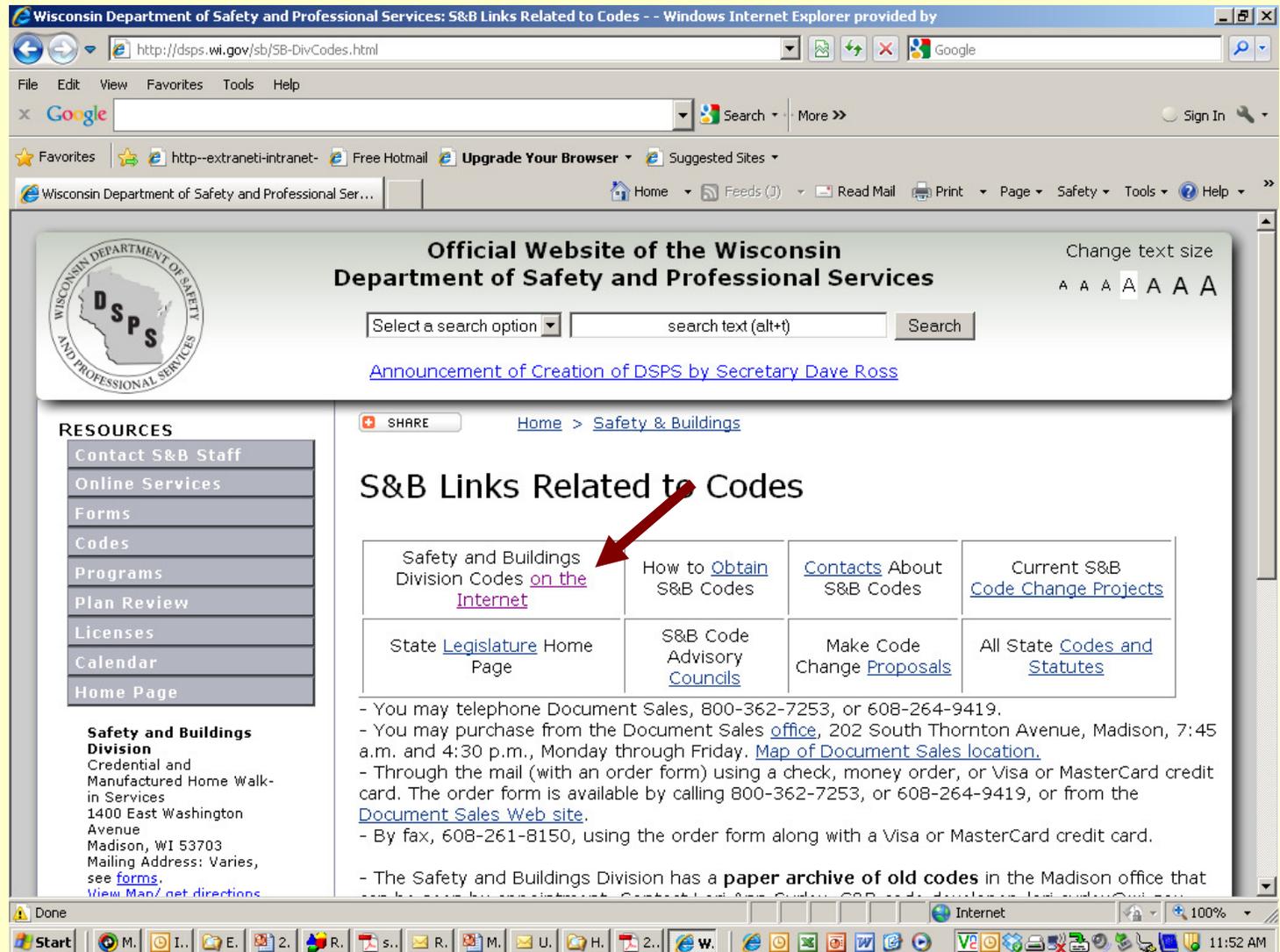
ID	Name	City, State, Zip	Credential Type	Expiration
1134421	<a href="#">JOHNSON, JEREMIAH C</a>	COTTAGE GROVE WI 53527	Weld Test Conductor	05/19/14

Start M. I.. E. 2. R. s.. R. M. U. H. 2.. W. Internet 100% 11:47 AM

# Codes Site

<http://dps.wi.gov/sb/SB-DivCodes.html>

Codes



The screenshot shows a Windows Internet Explorer browser window displaying the website <http://dps.wi.gov/sb/SB-DivCodes.html>. The page header includes the Wisconsin Department of Safety and Professional Services logo and the text "Official Website of the Wisconsin Department of Safety and Professional Services". A search bar is present with the text "Select a search option" and "search text (alt+t)". Below the header, there is a navigation menu with "Home" and "Safety & Buildings" selected. The main content area is titled "S&B Links Related to Codes" and features a grid of links. A red arrow points to the link "Safety and Buildings Division Codes on the Internet".

**RESOURCES**

- Contact S&B Staff
- Online Services
- Forms
- Codes
- Programs
- Plan Review
- Licenses
- Calendar
- Home Page

**Safety and Buildings Division**  
Credential and Manufactured Home Walk-in Services  
1400 East Washington Avenue  
Madison, WI 53703  
Mailing Address: Varies, see [forms](#).  
[View Map/get directions](#)

**S&B Links Related to Codes**

Safety and Buildings Division Codes <a href="#">on the Internet</a>	How to <a href="#">Obtain</a> S&B Codes	<a href="#">Contacts</a> About S&B Codes	Current S&B <a href="#">Code Change Projects</a>
State <a href="#">Legislature</a> Home Page	S&B Code Advisory <a href="#">Councils</a>	Make Code Change <a href="#">Proposals</a>	All State <a href="#">Codes and Statutes</a>

- You may telephone Document Sales, 800-362-7253, or 608-264-9419.  
- You may purchase from the Document Sales [office](#), 202 South Thornton Avenue, Madison, 7:45 a.m. and 4:30 p.m., Monday through Friday. [Map of Document Sales location](#).  
- Through the mail (with an order form) using a check, money order, or Visa or MasterCard credit card. The order form is available by calling 800-362-7253, or 608-264-9419, or from the [Document Sales Web site](#).  
- By fax, 608-261-8150, using the order form along with a Visa or MasterCard credit card.

- The Safety and Buildings Division has a **paper archive of old codes** in the Madison office that can be seen by appointment. Contact Lisa Anne Gaudin, CSP, code developer, [lgaudin@wisconsin.gov](#)

# Code Site

<http://dsps.wi.gov/sb/SB-DivCodesListing.html>

The screenshot shows a Windows Internet Explorer browser window displaying the website <http://dsps.wi.gov/sb/SB-DivCodesListing.html>. The page header includes the Wisconsin Department of Safety and Professional Services logo and the text "Official Website of the Wisconsin Department of Safety and Professional Services". A search bar is present with the text "Select a search option" and "search text (alt+t)". Below the header, there is a navigation menu with links for Home, Feeds, Read Mail, Print, Page, Safety, Tools, and Help. The main content area is titled "S&B List of Administrative Codes" and features a table of links for various code categories. A red arrow points to the link for "Comm 4 Grants for Construction Career Academies".

**Official Website of the Wisconsin Department of Safety and Professional Services**

Change text size: A A A A A A A

Select a search option search text (alt+t) Search

[Announcement of Creation of DSPS by Secretary Dave Ross](#)

**RESOURCES**

- Contact S&B Staff
- Online Services
- Forms
- Codes
- Programs
- Plan Review
- Licenses
- Calendar
- Home Page

**Safety and Buildings Division**  
Credentialed and Manufactured Home Walk-in Services  
1400 East Washington Avenue  
Madison, WI 53703  
Mailing Address: Varies, see [forms](#).  
[View Map/net directions](#)

**S&B List of Administrative Codes**

Select code below to follow link to online copy	How to <a href="#">Obtain</a> S&B Codes	<a href="#">Contacts</a> About S&B Codes	S&B <a href="#">Code Change Projects</a>
Wisconsin <a href="#">Legislature</a> Home Page	S&B Code Advisory <a href="#">Councils</a>	Make Code Change <a href="#">Proposals</a>	Wisconsin <a href="#">Codes and Statutes</a>

**Division of Safety and Buildings Administrative Codes**  
(The links below go to the Revisor of Statute's versions of the code. There is a link to a PDF format version on each "form" format page. Paper copies of codes are available from state [Document Sales](#), 1-800-362-7253.)

- [Comm 1](#) Environmental Analysis and Review Procedures
- [Comm 2](#) Fee Schedule
- [Comm 3](#) Petition for Variance Procedures
- [Comm 4](#) Grants for Construction Career Academies
- [Comm 5](#) Licenses, Certifications, and Registrations
- [Comm 7](#) Explosive Materials
- [Comm 8](#) Mines, Pits and Quarries

Code list



# Safety and Buildings Division Site

<http://dsps.wi.gov/sb/SB-DivProgramsListed.html>

Programs



The screenshot shows a Microsoft Internet Explorer browser window displaying the website "Wisconsin Department of Commerce: Safety and Buildings Division Programs Listed". The address bar shows the URL <http://www.commerce.wi.gov/SB/SB-DivProgramsListed.html>. The page title is "Safety and Buildings Division Programs Listed".

On the left side, there is a "RESOURCES" menu with the following items: Contact S&B Staff, Forms, Codes, Programs, Plan Review, Licenses, Calendar, and Home Page. A black arrow points from the "Programs" link in this menu to the "Programs Listed" section of the page.

The main content area is titled "Safety and Buildings Division Programs Listed". It includes a "Sign-up" link for email messages and instructions to "Select the program name to go to the program's Web page." Below this, there is a grid of program links:

- Amusement Rides / Ski Lifts
- Boilers and Pressure Vessels
- Commercial Buildings
- Electrical
- Elevators
- Explosives
- Fire Dept Health
- Fire Prevention
- Fire Protection Systems
- Gas Systems
- HVAC
- Licenses / Credentials
- Manufactured/ Mobile Homes
- Mine Safety
- One- and Two-Family (UDC)
- Plumbing
- Private Onsite Wastewater
- Public Sector Employee Safety
- Refrigeration
- Rental Weatherization
- Soil Erosion / Stormwater
- Swimming Pools
- Welding
- Wisconsin Fund

A yellow box with the text "Click Welding" and a red arrow pointing to the "Welding" link is overlaid on the right side of the program list.

The browser's taskbar at the bottom shows the Start button, several open applications (Inbox - Microsoft Outlook, Microsoft PowerPoint - [2...], Wisconsin Departme...), and the system clock showing 1:26 PM.

# Structural Welding

<http://dsps.wi.gov/sb/SB-StructuralWeldingProgram.html>

Welding



Wisconsin Department of Safety and Professional Services: - - Windows Internet Explorer provided by Department of Commerce

http://dsps.wi.gov/sb/SB-StructuralWeldingProgram.html

File Edit View Favorites Tools Help

Google Search Sign In

Wisconsin Department of Safety and Professional Ser... Home Feeds (1) Read Mail Print Page Safety Tools Help

**Official Website of the Wisconsin Department of Safety and Professional Services**

Change text size A A A A A A A

Select a search option search text (alt+) Search

[Announcement of Creation of DSPS by Secretary Dave Ross](#)

SHARE Home > [Safety & Buildings](#)

[Contacts](#) [Forms](#) [Email Group](#) [Resources](#)

**S&B Structural Welding Program**

The Safety and Buildings Division administers welder and weld test conductor credentials. On-site and shop inspection services are division staff responsibilities, as are education and consultation concerning welding.

**NEWS**

**New Madison office location for S&B license and manufactured home services - [Info](#)**

**NEW fillable forms for weld test conductors:** The credential application for weld test conductors and the two welding test qualifying forms are available as fillable PDF forms. [See welding forms.](#)

**Safety and Buildings Division**  
Credential and Manufactured Home Walk-in Services  
1400 East Washington Avenue  
Madison, WI 53703  
Mailing Address: Varies, see [forms](#).  
[View Map/net directions](#)

Done Internet 100%

Start M. I.. E. 2. R. s.. R. M. U. H. 2.. w. 11:59 AM

# Structural Welding

Has Structural Steel Welding form copy

<http://dsps.wi.gov/sb/SB-DivForms.html#weld>

Forms



Has list of WTCs

Wisconsin Department of Safety and Professional Services: Safety and Buildings Division Forms - - Windows Internet Explorer pro

http://dsps.wi.gov/sb/SB-DivForms.html#weld

File Edit View Favorites Tools Help

Google Search More >> Sign In

Wisconsin Department of Safety and Professional Services

### Welding Program Forms

- \*\* Welder, SBD-10220 (R.11/10) [PDF Fillable Application](#)
- \*\* Weld Test Conductor, SBD-10220 (R.11/10) [PDF Fillable Application](#)

The following two forms are used by Weld Test Conductors for qualifying structural welders. Both are fillable forms and may be downloaded, completed on and saved to the Weld Test Conductor's computer.

- \*\* Evidence of Completion of Structural Steel Welding Tests, SBD-10899 (R.11/10) [PDF Fillable Form](#)
- \*\* Structural Steel Welding, SBD-10900 (R.11/10) [PDF Fillable Form](#)

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### Wisconsin Fund Program Forms

See [brochure](#) explaining the Wisconsin Fund. These forms (used only by government agencies) are separate pages in the two formats: [PDF](#) file, [Word](#) file

- Eligible Applicant List, SBD-9166 (R07/2011);
- Government Unit Application, SBD-9161 (R07/2011);
- Grant Worksheet, SBD-9167 (R07/2011);
- Payment Claim Worksheet, SBD-9165 (R07/2011);
- Request for Payment, SBD-9164 (R07/2011)
- Forms Request, SBD-10521 (R07/2011)

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[County Web sites](#) || [City/Town/Village Web sites](#) || [State Portal](#) || [Build Your Business](#)

Email this page's manager, Todd Taylor, [ttaylor@commerce.state.wi.us](mailto:ttaylor@commerce.state.wi.us) or 608-267-3606

The Department of Commerce Safety and Buildings Division is an equal opportunity service provider and employer. If you need assistance to access services or need material in an alternate format, please contact us, 608-266-3151, TDD Relay dial 711 in Wisconsin or 800-947-3529, or [ttaylor@commerce.state.wi.us](mailto:ttaylor@commerce.state.wi.us)

Error on page. Internet 100%

Start M. I. E. 2. R. s. R. M. U. H. 2.. W. 12:03 PM

# How does one Obtain the Forms ?

...           **“Structural Steel Welding”**  
                                  **and “Evidence of Completion”**

Answer: from “Welding Program” website

Click “Form”

Click - Print the WTC application

# Structural Welding

<http://dsps.wi.gov/sb/SB-DivForms.html#weld>

Has Structural Steel Welding form copy

Forms



Has list of WTC

Wisconsin Department of Commerce: Safety and Buildings Division Forms - - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Refresh Print Mail W Sign In Links

Address <http://www.commerce.wi.gov/SB/SB-DivForms.html#weld> Go

Google Search

Fav X: >>

Welding Program Forms

- Welder (PDF) [Application](#)
- Weld Test Conductor-Physical, SBD-10220 (R.12/08) PDF [Application](#)
- Weld Test Conductor-Radiographic, SBD-10220 (R.12/08) PDF [Application](#)

Wisconsin Fund Program Forms See [brochure](#) explaining the Wisconsin Fund. These forms (used only by government agencies) are separate pages in the two formats: [PDF file](#), [Word file](#)

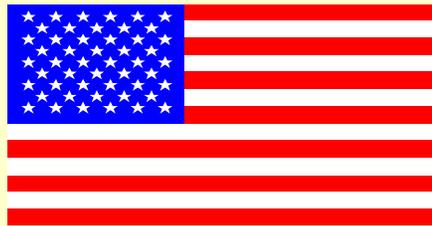
- Eligible Applicant List, SBD-9166 (R.2/05);
- Government Unit Application, SBD-9161 (R.2/05);
- Grant Worksheet, SBD-9167 (R.10/08);
- Payment Claim Worksheet, SBD-9165 (R.2/05);
- Request for Payment, SBD-9164 (R.2/05)

[County Web sites](#) || [City/Town/Village Web sites](#) || [State Portal](#) || [Licensing and Permitting](#) || [Build Your Business](#)

Email this page's manager, Todd Taylor, [ttaylor@commerce.state.wi.us](mailto:ttaylor@commerce.state.wi.us) or 608-267-3606

Start | Inbox - Microsoft ... | Welding PPTs | QuickCopy | 20090ct22 Weld... | Wisconsin De... | 3:51 PM

# Website Questions ?



All WTCs should sign up for updates in “Email Group”!

# Quick Welding Code Update

## Welding Program - WTC Examination

- Process remains same / Credentials office moved
- Exam Reference Changes to include:
  - D1.1 Steel
  - D1.2 Aluminum ... added
  - D1.3 Sheet Steel
  - D1.6 Stainless .... added
- No change with WTC exam fees
- Exam site availability .... Reduced
  - Credential Assist Adam Burkhalter @ 608-261-8503

# Quick Welding Code Update

## Welding Program, Comm 5.02 Fees & 5.06 Terms

- Welder application \$15 (+ Late Renew)
- Welder Registration \$35
- **Term 4 years**
  
- WTC Examination Fee \$ 20
- Weld Test Conductor Application \$ 15 (+ Late Renew)
- WTC Certification \$ 80
- **Term 4 Years**

# Quick Welding Code Update

## Welding Program - Applications

- WTC Application
- Welder Application

Note: My apology for fillable form situation in past. Fillable Forms cannot be saved unless Dept pays applicable fees.

# WTC Application



## Weld Test Conductor Certification

**Your application will not be processed or will be delayed unless you:**

- 1. Complete the application including signing and dating the first page.
- 2. Write in your social security number.
- 3. Attach the specified documents listed on this application.
- 4. Attach the specified fee listed on this application.
- 5. Make a photocopy of the completed application for your records.

By signing below, the applicant swears that all information provided on this application is true, accurate and that the credential requirements are met. **Notice: Information collected may be used for participation surveys, eligibility for approvals, law enforcement (including child support and tax delinquency enforcement) purposes and other secondary purposes. The Department may also provide this information to requesters pursuant to Wisconsin's open records law, ss. 19.31-19.39 stats. Social security numbers are required when applying for a license according to Wisconsin Stats, but they may not be disclosed to anyone except other State of Wisconsin governmental agencies.**

Applicant Information	
Applicant's Social Security No:	
Applicant's Name (First, Middle and Last):	
Address No. & Street, or P.O. Box:	
City, Town or Village, State, Zip + 4 Code:	
Country, If Other Than United States:	
Telephone No. (include area code):	
If Available, Fax No. (include area code):	
If Available, E-mail Address:	

\_\_\_\_\_  
Applicant's Signature

\_\_\_\_\_  
Date (mo/day/yr)

**Send application and payment to:** State of Wisconsin, Department of Safety & Professional Services- Trades Credentialing, P.O. Box 78780, Milwaukee, WI 53293-0780

**Overnight mail delivery and Office location:** State of Wisconsin, Department of Safety & Professional Services, Trades Credentialing, 1400 East Washington Ave., Madison, WI 53703

**All other correspondence:** Wisconsin Department of Safety & Professional Services, Trades Credentialing, P.O. Box 7082, Madison, WI 53707 Phone: 608-261-8467, TTY: *Contact Through Relay* or by email at: [DspSbCredentialing@wi.gov](mailto:DspSbCredentialing@wi.gov)

**Exam Fee (nonrefundable): \$35.00 class code 8258**

Make checks payable to: State of WI – DSPS. The fee consists of a \$15 application fee and an exam fee of \$20. When the exam is passed, the applicant will be asked to pay a \$80 credential fee. The credential, which will be issued after the exam is passed and the prorated credential fee paid, will be effective for 4 years from the date of issuance.

**Reason for Credential:** No person may conduct welding tests for the purpose of qualifying structural welders under s. Comm 5.34 unless the person holds a credential issued by the department as a certified weld test conductor.



# **With adoption of new Welding standards**

## **Quick Question ?**

**Situation June 2010: Designer came to you for AWS Qualification per D1.2 for Aluminum. At that time, what might a Wisconsin WTC do ?**

1. Review AWS - D1.2, Qualification requirements.
2. Complete applicable tests per standard.
3. Use AWS forms .... AWS D1.2 sample forms.
4. Provide AWS docs to manufacturer and welder

# Quick Welding Code Update

## Welding Program - Forms

- Structural Steel Welding Form
- Evidence of completion .... **See Draft handout**
- AWS forms:
  - N-forms ... D1.1 and D1.3 / Steel
  - F-forms .... D1.2 / Aluminum
  - M-forms ... D1.6 / Stainless



# Evidence of Completion Form

Provide  
copy to  
welder  
upon  
testing

## EVIDENCE OF COMPLETION OF STRUCTURAL WELDING TESTS



ATTACH THIS DOCUMENT TO ONE OF THE FOLLOWING:

1. Application for Welder Registration; or DRAFT 9-12-11 MJV
2. Renewal application for Welder Registration

If this document is sent to the department, without attaching it to a Welder Registration application or a renewal application for Welder Registration, the department will not process the application. Because this document will not be returned to the applicant, it is a good idea to photocopy it before sending.

The Division of Safety and Buildings require Welder Registration only for structural welding done under ss. Comm 5.34 and Comm 60 to 66. Initial applications for Welder Registration may be obtained by calling the Customer Service Center @ (608) 261-8500 or may be downloaded from the division's website at <http://dps.wi.gov/sb/SB-DivForms.html#weld>. Renewal applications for Welder Registration are sent out approximately 30 days before the expiration date of the existing credential. To qualify for the welder registration credential, the department must receive the application or renewal application within one year of passing the test.

The rest of this document is to be filled out by the Wisconsin –DSPS Certified Weld Test Conductor.

### CERTIFIED WELD TEST CONDUCTOR INFORMATION

Weld Test Conductor's Signature	Weld Test Conductor Name	Customer ID # of Weld Test Conductor	Expiration Date (mm-dd-yr)

### INFORMATION ON PERSON TAKING THE TEST (please print or type):

Name of Person Taking the Test [First, Middle, Last]	Birth Date:

Welding "Process" utilized for Qualification Test: ( Example SMAW, GMAW, FCAW etc.)

Test Standards per Comm 5.004	Date Test Passed (mm-dd-yr)	Physical Bend Tests or Radiographic Test (Check box to indicate type of test)
AWS D 1.1, section 4, part C Structural Welding - Steel		Physical /Bend <input type="checkbox"/> Radiographic <input type="checkbox"/>
AWS D 1.2, section 3, part D Structural Welding Aluminum		Physical /Bend <input type="checkbox"/> Radiographic <input type="checkbox"/>
AWS D 1.3, section 4, part C Structural Welding – Sheet Steel		Physical /Bend <input type="checkbox"/> Radiographic <input type="checkbox"/>
AWS D 1.6, section 4, part B Structural Steel - Stainless Steel		Physical /Bend <input type="checkbox"/> Radiographic <input type="checkbox"/>

**Recommendation to Contractor / Welder** - In compliance with Comm 5.34(4) b, a welder shall carry proof of qualification. Upon request of an authorized agent of the department, each welder can make available a copy of this form in addition to the department issued Certification, License or registration wallet card or other applicable welder documentation such as the WPS, PQR, PQR or continuity records to verify qualification at a field site.

SBD-10899 (Rev 09-12-11) DRAFT MJV

# AWS Forms D1.1 & D1.3 ..... N-1

## Steel form N-1, N-3, N-4, N-9

ANNEX N AWS D1.1/D1.1M:2008

**WELDING PROCEDURE SPECIFICATION (WPS) Yes**   
**PREQUALIFIED QUALIFIED BY TESTING**  
**or PROCEDURE QUALIFICATION RECORDS (PQR) Yes**

Company Name \_\_\_\_\_  
 Welding Process(es) \_\_\_\_\_  
 Supporting PQR No.(s) \_\_\_\_\_

Identification # \_\_\_\_\_  
 Revision \_\_\_\_\_ Date \_\_\_\_\_ By \_\_\_\_\_  
 Authorized by \_\_\_\_\_ Date \_\_\_\_\_  
 Type—Manual  Semiautomatic   
 Machine  Automatic

**JOINT DESIGN USED**  
 Type: \_\_\_\_\_  
 Single  Double Weld   
 Backing: Yes  No   
 Backing Material: \_\_\_\_\_  
 Root Opening \_\_\_\_\_ Root Face Dimension \_\_\_\_\_  
 Groove Angle: \_\_\_\_\_ Radius (J-U) \_\_\_\_\_  
 Back Gouging: Yes  No  Method \_\_\_\_\_

**POSITION**  
 Position of Groove: \_\_\_\_\_ Fillet: \_\_\_\_\_  
 Vertical Progression: Up  Down

**ELECTRICAL CHARACTERISTICS**  
 Transfer Mode (GMAW) Short-Circuiting   
 Globular  Spray   
 Current: AC  DCEP  DCEN  Pulsed   
 Power Source: CC  CV   
 Other \_\_\_\_\_  
 Tungsten Electrode (GTAW)  
 Size: \_\_\_\_\_  
 Type: \_\_\_\_\_

**BASE METALS**  
 Material Spec. \_\_\_\_\_  
 Type or Grade \_\_\_\_\_  
 Thickness: Groove \_\_\_\_\_ Fillet \_\_\_\_\_  
 Diameter (Pipe) \_\_\_\_\_

**FILLER METALS**  
 AWS Specification \_\_\_\_\_  
 AWS Classification \_\_\_\_\_

**SHIELDING**  
 Flux \_\_\_\_\_ Gas \_\_\_\_\_  
 Composition \_\_\_\_\_  
 Electrode-Flux (Class) \_\_\_\_\_ Flow Rate \_\_\_\_\_  
 Gas Cup Size \_\_\_\_\_

**PREHEAT**  
 Preheat Temp., Min. \_\_\_\_\_  
 Interpass Temp., Min. \_\_\_\_\_ Max. \_\_\_\_\_

**POSTWELD HEAT TREATMENT**  
 Temp. \_\_\_\_\_  
 Time \_\_\_\_\_

WELDING PROCEDURE								
Pass or Weld Layer(s)	Process	Filler Metals		Current		Volts	Travel Speed	Joint Details
		Class	Diam.	Type & Polarity	Amps or Wire Feed Speed			

Form N-1 (Front) 348

ANNEX N AWS D1.1/D1.1M:2008

**Procedure Qualification Record (PQR) # \_\_\_\_\_**  
**Test Results**

**TENSILE TEST**

Specimen No.	Width	Thickness	Area	Ultimate Tensile Load, lb	Ultimate Unit Stress, psi	Character of Failure and Location

**GUIDED BEND TEST**

Specimen No.	Type of Bend	Result	Remarks

**VISUAL INSPECTION**  
 Appearance \_\_\_\_\_  
 Undercut \_\_\_\_\_  
 Piping porosity \_\_\_\_\_  
 Convexity \_\_\_\_\_  
 Test date \_\_\_\_\_  
 Witnessed by \_\_\_\_\_

**Radiographic-ultrasonic examination**  
 RT report no.: \_\_\_\_\_ Result \_\_\_\_\_  
 UT report no.: \_\_\_\_\_ Result \_\_\_\_\_

**FILLET WELD TEST RESULTS**

Minimum size multiple pass Maximum size single pass  
 Macroetch Macroetch  
 1. \_\_\_\_\_ 3. \_\_\_\_\_ 1. \_\_\_\_\_ 3. \_\_\_\_\_  
 2. \_\_\_\_\_ 2. \_\_\_\_\_

**Other Tests**  
 All-weld-metal tension test  
 Tensile strength, psi \_\_\_\_\_  
 Yield point/strength, psi \_\_\_\_\_  
 Elongation in 2 in, % \_\_\_\_\_  
 Laboratory test no. \_\_\_\_\_

Welder's name \_\_\_\_\_ Clock no. \_\_\_\_\_ Stamp no. \_\_\_\_\_  
 Tests conducted by \_\_\_\_\_ Laboratory \_\_\_\_\_

Test number \_\_\_\_\_  
 Per \_\_\_\_\_

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in conformance with the requirements of Clause 4 of AWS D1.1/D1.1M, (\_\_\_\_\_) *Structural Welding Code—Steel*, (year)

Signed \_\_\_\_\_  
 Manufacturer or Contractor  
 By \_\_\_\_\_  
 Title \_\_\_\_\_  
 Date \_\_\_\_\_

Form N-1 (Back) 352

WPS  
or  
PQR

# AWS Forms D1.1 & D1.3 ..... N-3

## Steel form N-1, N-3, N-4, N-9

ANNEX N AWS D1.1/D1.1M:2008

**WPS QUALIFICATION TEST RECORD FOR  
ELECTROSLAG AND ELECTROGAS WELDING**

<p style="text-align: center;"><b>PROCEDURE SPECIFICATION</b></p> <p>Material specification _____          Welding process _____          Position of welding _____          Filler metal specification _____          Filler metal classification _____          Filler metal _____          Flux _____          Shielding gas _____ Flow rate _____          Gas dew point _____          Thickness range this test qualifies _____          Single or multiple pass _____          Single or multiple arc _____          Welding current _____          Preheat temperature _____          Postheat temperature _____          Welder's name _____</p> <p><b>VISUAL INSPECTION (Table 6.1, Cyclically loaded limitations)</b></p> <p>Appearance _____          Undercut _____          Piping porosity _____          Test date _____          Witnessed by _____</p>	<p style="text-align: center;"><b>TEST RESULTS</b></p> <p><b>Reduced-section tensile test</b>          Tensile strength, psi          1. _____          2. _____</p> <p><b>All-weld-metal tension test</b>          Tensile strength, psi _____          Yield point/strength, psi _____          Elongation in 2 in, % _____</p> <p><b>Side-bend tests</b>          1. _____ 3. _____          2. _____ 4. _____</p> <p><b>Radiographic-ultrasonic examination</b> _____          RT report no. _____          UT report no. _____</p> <p><b>Impact tests</b>          Size of specimen _____ Test temp _____          Ft: 1. _____ 2. _____ 3. _____ 4. _____          5. _____ 6. _____ Avg. _____          High _____ Low _____          Laboratory test no. _____</p>
--	--

**WELDING PROCEDURE**

Pass No.	Electrode Size	Welding Current		Joint Detail
		Amperes	Volts	
Guide tube flux _____	Guide tube composition _____			
Guide tube diameter _____	Vertical rise speed _____			
Traverse length _____	Traverse speed _____			
Dwell _____	Type of molding shoe _____			

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in conformance with the requirements of Clause 4 of AWS D1.1/D1.1M, (\_\_\_\_\_) *Structural Welding Code—Steel*.  
 (year)

Procedure no. \_\_\_\_\_ Manufacturer or Contractor \_\_\_\_\_  
 Revision no. \_\_\_\_\_ Authorized by \_\_\_\_\_  
 Form N-3 \_\_\_\_\_ Date \_\_\_\_\_

354

# WPS Qualification Test Record for Electroslag or Electrogas Welding

# AWS Forms D1.1 & D1.3 ..... N-4

## Steel form N-1, N-3, N-4, N-9

AWS D1.1/D1.1M:2008 ANNEX N

**WELDER, WELDING OPERATOR, OR TACK WELDER QUALIFICATION TEST RECORD**

Type of Welder \_\_\_\_\_  
 Name \_\_\_\_\_ Identification No. \_\_\_\_\_  
 Welding Procedure Specification No. \_\_\_\_\_ Rev \_\_\_\_\_ Date \_\_\_\_\_

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.12, Item (1)]	_____	_____
Electrode (single or multiple) [Table 4.12, Item (7)]	_____	_____
Current/Polarity	_____	_____
Position [Table 4.12, Item (4)]	_____	_____
Weld Progression [Table 4.12, Item (5)]	_____	_____
Backing (YES or NO) [Table 4.12, Item (6)]	_____	_____
Material/Spec.	to	_____
Base Metal	_____	_____
Thickness: (Plate)	_____	_____
Groove	_____	_____
Fillet	_____	_____
Thickness: (Pipe/tube)	_____	_____
Groove	_____	_____
Fillet	_____	_____
Diameter: (Pipe)	_____	_____
Groove	_____	_____
Fillet	_____	_____
Filler Metal (Table 4.12)	_____	_____
Spec. No.	_____	_____
Class	_____	_____
F-No. [Table 4.12, Item (2)]	_____	_____
Gas/Flux Type (Table 4.12)	_____	_____
Other	_____	_____

**VISUAL INSPECTION (4.8.1)**  
 Acceptable YES or NO \_\_\_\_\_

**Guided Bend Test Results (4.30.5)**

Type	Result	Type	Result

**Fillet Test Results (4.30.2.3 and 4.30.4.1)**

Appearance \_\_\_\_\_ Fillet Size \_\_\_\_\_  
 Fracture Test Root Penetration \_\_\_\_\_ Macroetch \_\_\_\_\_  
 (Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by \_\_\_\_\_ Test Number \_\_\_\_\_  
 Organization \_\_\_\_\_ Date \_\_\_\_\_

**RADIOGRAPHIC TEST RESULTS (4.30.3.2)**

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks

Interpreted by \_\_\_\_\_ Test Number \_\_\_\_\_  
 Organization \_\_\_\_\_ Date \_\_\_\_\_

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in conformance with the requirements of Clause 4 of AWS D1.1/D1.1M, (\_\_\_\_\_) *Structural Welding Code—Steel*.  
 (year)

Manufacturer or Contractor \_\_\_\_\_ Authorized By \_\_\_\_\_  
 Form N-4 \_\_\_\_\_ Date \_\_\_\_\_

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## Welder, Welding Operator, or Tack Welder Test Record

# AWS Forms D1.1 & D1.3 ..... N-9

## Steel form N-1, N-3, N-4, N-9

ANNEX N AWS D1.1/D1.1M:2008

**STUD WELDING PROCEDURE SPECIFICATION (WPS) Yes**   
**OR PROCEDURE QUALIFICATION RECORD (PQR) Yes**   
**OR WELDER QUALIFICATION RECORD (WQR) Yes**

Company name \_\_\_\_\_  
 Supporting PQR no.(s) \_\_\_\_\_  
 Operator name \_\_\_\_\_  
 Stud material \_\_\_\_\_  
 Material specifications \_\_\_\_\_  
 Weld base diameter \_\_\_\_\_

Test no. \_\_\_\_\_  
 Revision no. \_\_\_\_\_ Date \_\_\_\_\_  
 By \_\_\_\_\_  
 Authorized by \_\_\_\_\_ Date \_\_\_\_\_

**Base material**  
 Specification \_\_\_\_\_  
 Alloy and temper \_\_\_\_\_  
 Group no. \_\_\_\_\_ Surface condition HR  CR   
 Coating \_\_\_\_\_  
 Cleaning method \_\_\_\_\_  
 Decking gage \_\_\_\_\_

**Shape**  
 Flat  Round  Tube  Angle   
 Thickness \_\_\_\_\_

**Ferrule**  
 Part no. \_\_\_\_\_  
 Ferrule description \_\_\_\_\_

**Position**  
 Overhead \_\_\_\_\_ Downhand \_\_\_\_\_ Sidehand \_\_\_\_\_  
 Angular \_\_\_\_\_ degrees from normal  
 Angle iron \_\_\_\_\_ Inside radius \_\_\_\_\_ Heel of angle \_\_\_\_\_

**Shielding gas**  
 Shielding gas(es) \_\_\_\_\_  
 Composition \_\_\_\_\_  
 Flow rate \_\_\_\_\_

**Stud Base Sketch/Application Detail**

**Machine data**  
 Power supply \_\_\_\_\_  
 Make \_\_\_\_\_ Model \_\_\_\_\_  
 Stud gun model \_\_\_\_\_  
 Weld time Secs. \_\_\_\_\_ Cycles \_\_\_\_\_  
 Current \_\_\_\_\_ ± 5% OCV \_\_\_\_\_  
 Polarity \_\_\_\_\_ Lift \_\_\_\_\_  
 Plunge (protrusion) \_\_\_\_\_  
 Weld cable size \_\_\_\_\_ Length \_\_\_\_\_  
 Number of grounds (workpiece leads) \_\_\_\_\_

**WELD TEST RESULTS**

Stud No.	Visual Acceptance	Option #1 Bend Test	Option #2 Tension Test	Option #3 Torque Test*
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

\*Note: Torque test optional for threaded fasteners only.

Mechanical tests conducted by \_\_\_\_\_ Date \_\_\_\_\_  
(Company)

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in conformance with the requirements of Clause 7 of AWS D1.1/D1.1M, (\_\_\_\_\_) *Structural Welding Code—Steel*.  
(year)

Signed by \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_  
(Contractor/Applicator)

Form N-9

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Stud welding

# AWS Forms D1.2 ... Form F<sub>a</sub>

## Aluminum Forms - Fa, Fb, Fc, Fd, and Fe

ANNEX F AWS D1.2/D1.2M:2008

**WELDING PROCEDURE SPECIFICATION (WPS)**

Welding Procedure Specification No. \_\_\_\_\_ Date \_\_\_\_\_ Approved \_\_\_\_\_  
 Revisions \_\_\_\_\_ Date \_\_\_\_\_ Approved \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Supporting PQR Numbers \_\_\_\_\_  
 \_\_\_\_\_

**Joints**

**Groove Design Sketch**

**Filler Metal**  
 F-No. \_\_\_\_\_ AWS No. \_\_\_\_\_ Class \_\_\_\_\_  
 Size of electrode \_\_\_\_\_  
 Type of electrode \_\_\_\_\_  
 Other \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Shielding Gas**  
 Shielding gas(es) \_\_\_\_\_  
 Percent composition \_\_\_\_\_  
 Flow rate \_\_\_\_\_  
 Other \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Backing**  
 Type \_\_\_\_\_  
 Permanent \_\_\_\_\_  
 Removed \_\_\_\_\_  
 Other \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Position**  
 Position of groove \_\_\_\_\_  
 Welding progression \_\_\_\_\_  
 Other \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Base Metals**  
 M No. \_\_\_\_\_ Thickness \_\_\_\_\_ to \_\_\_\_\_  
 Alloy and Temper \_\_\_\_\_

**Preheat**  
 Preheat temperature \_\_\_\_\_  
 Interpass temperature \_\_\_\_\_

Form E(a)

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AWS D1.2/D1.2M:2008 ANNEX F

**WELDING PROCEDURE SPECIFICATION (WPS)**

**Cleaning**  
 Initial cleaning oxide \_\_\_\_\_  
 Initial cleaning oil and dirt \_\_\_\_\_  
 Interpass cleaning \_\_\_\_\_  
 \_\_\_\_\_

Pass No.	Welding Process	Amps	Volts	Travel Speed

**Postweld Heat Treatment**  
 Original temper \_\_\_\_\_  
 Final temper \_\_\_\_\_  
 Temperature \_\_\_\_\_  
 Time \_\_\_\_\_  
 Quench \_\_\_\_\_  
 \_\_\_\_\_

**Process(es)**  
 Process \_\_\_\_\_ Type\* \_\_\_\_\_  
 Process \_\_\_\_\_ Type\* \_\_\_\_\_  
 Electrode (GTAW) \_\_\_\_\_  
 \_\_\_\_\_

**Technique**  
 Stringer or weave bead \_\_\_\_\_  
 Orifice or gas cup size \_\_\_\_\_  
 Oscillation \_\_\_\_\_  
 Contact tube to work distance \_\_\_\_\_  
 Single pass or multipass \_\_\_\_\_ per side  
 Tungsten extension \_\_\_\_\_  
 Method of backgouging \_\_\_\_\_  
 Other \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\*Manual, automatic, polarity, pulse, etc.

Form E(a) (Continued)

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**WPS**

# AWS Forms D1.2 ... Form F<sub>b</sub>

## Aluminum Forms - Fa, Fb, Fc, Fd, and Fe

ANNEX F AWS D1.2/D1.2M:2008

**PROCEDURE QUALIFICATION RECORD (PQR)**

Procedure Qualification Record no. \_\_\_\_\_ Date \_\_\_\_\_  
 WPS no. \_\_\_\_\_ Process(es) 1. \_\_\_\_\_ 2. \_\_\_\_\_  
 1. \_\_\_\_\_ 2. \_\_\_\_\_

Design Sketch Welding Sequence Sketch

**Base metals**

Group no. \_\_\_\_\_ To \_\_\_\_\_  
 Alloy and Temper \_\_\_\_\_ To \_\_\_\_\_  
 Thickness \_\_\_\_\_ To \_\_\_\_\_

**Filler metals**

F-number \_\_\_\_\_  
 AWS class \_\_\_\_\_  
 Diameter \_\_\_\_\_  
 Shielding gas(es) \_\_\_\_\_  
 Percent composition \_\_\_\_\_  
 Flow rate \_\_\_\_\_  
 Tungsten electrode (GTAW) \_\_\_\_\_  
 Size \_\_\_\_\_  
 Type \_\_\_\_\_  
 Backup type \_\_\_\_\_  
 Alloy \_\_\_\_\_  
 Backgouging \_\_\_\_\_

**Cleaning procedure initial**

Oxide removal method \_\_\_\_\_  
 Degreasing agent \_\_\_\_\_  
**Cleaning procedure interpass** \_\_\_\_\_  
 Smut removal \_\_\_\_\_  
 Dye penetrant removal \_\_\_\_\_

Form F(b)

Pass No.	Process No.	Amps	Volts	Travel Speed

Type of welding power source \_\_\_\_\_  
 Single or multiple electrode \_\_\_\_\_  
 Stringer or weave bead \_\_\_\_\_  
 Welding current \_\_\_\_\_  
 Polarity \_\_\_\_\_ ac or dc  
 Position of groove \_\_\_\_\_

**Preheat**

Preheat temperature \_\_\_\_\_  
 Interpass temperature \_\_\_\_\_

**Postweld heat treatment**

Original temper \_\_\_\_\_  
 Final temper \_\_\_\_\_  
 Temperature \_\_\_\_\_  
 Time \_\_\_\_\_  
 Quench \_\_\_\_\_

AWS D1.2/D1.2M:2008 ANNEX F

**PROCEDURE QUALIFICATION RECORD (PQR)**

**GROOVE WELD TEST**

Specimen No.	Width	Thickness	Area	Ultimate Tensile Load, lb	Ultimate Unit Stress, psi	Character of Failure and Location

**GUIDED BEND TEST**

Type of Bend	Bend Jig Fig. No.	Result	Type of Bend	Bend Jig Fig. No.	Results

Visual examination \_\_\_\_\_ Pass \_\_\_\_\_ Fail \_\_\_\_\_  
 Type and character of failure \_\_\_\_\_

**FILLET WELD TEST**

Fracture test \_\_\_\_\_ Pass or fail \_\_\_\_\_ Root fusion \_\_\_\_\_ Yes or no \_\_\_\_\_  
 Macro test: Weld size and contour \_\_\_\_\_ Sat. or Unsat. \_\_\_\_\_ Penetration \_\_\_\_\_ Sat. or Unsat. \_\_\_\_\_  
 Welder's name \_\_\_\_\_ Clock no. \_\_\_\_\_ Stamp no. \_\_\_\_\_  
 Tests conducted by: \_\_\_\_\_ Laboratory \_\_\_\_\_  
 Test number \_\_\_\_\_ Per: \_\_\_\_\_

We certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of Clause 4, AWS D1.2/D1.2M, *Structural Welding Code—Aluminum*.

Signed \_\_\_\_\_  
 Manufacturer

Date \_\_\_\_\_ By \_\_\_\_\_  
 Title \_\_\_\_\_

Form F(b) (Continued) 155

**PQR**

# AWS Forms D1.2 ... Form F<sub>c</sub>

## Aluminum Forms - Fa, Fb, Fc, Fd, and Fe

ANNEX F AWS D1.2/D1.2M:2008

**MANUFACTURER'S RECORD QUALIFICATION TESTS  
OF WELDER OR WELDING OPERATOR OR TACK WELDER**

Name \_\_\_\_\_ Clock No. \_\_\_\_\_ Stamp No. \_\_\_\_\_ Retest \_\_\_\_\_  
Welding Process \_\_\_\_\_ Type \_\_\_\_\_  
In accordance with welding procedure specification WPS No. \_\_\_\_\_ and PQR No. \_\_\_\_\_  
Material Group \_\_\_\_\_ To Group \_\_\_\_\_ Alloy \_\_\_\_\_ To \_\_\_\_\_  
Thickness of Test Material \_\_\_\_\_  
Filler Metal F No. \_\_\_\_\_ AWS Class \_\_\_\_\_ Diameter \_\_\_\_\_  
Other \_\_\_\_\_  
Position \_\_\_\_\_ Backing Material \_\_\_\_\_  
Electrical Characteristics: Current \_\_\_\_\_ Polarity \_\_\_\_\_  
Shielding Gas \_\_\_\_\_ Flow \_\_\_\_\_

**For Information Only**

Power Source \_\_\_\_\_  
(Make, model, type)

Wire Feeder \_\_\_\_\_  
Welding Torch \_\_\_\_\_

**VISUAL INSPECTION (3.6)**

Appearance \_\_\_\_\_ Undercut \_\_\_\_\_ Piping Porosity \_\_\_\_\_

**GUIDED BEND TEST RESULTS**

Type of Bend	Specimen Thick., in	Bend Jig Fig. No.	Bend Diam., in	Result	Type of Bend	Specimen Thick., in	Bend Jig Fig. No.	Bend Diam., in	Result

Radiographic results: Alternative qualification of groove welds by radiography in accordance with 3.21.6.3 \_\_\_\_\_

Test conducted by \_\_\_\_\_ Laboratory: Test No. \_\_\_\_\_  
per \_\_\_\_\_

**FILLET WELD TEST RESULTS**

Fracture test \_\_\_\_\_  
(Describe the location, nature, and size of any crack or tearing of specimen.)

Length and percent of defects \_\_\_\_\_ Inches \_\_\_\_\_ %  
Appearance: Fillet Size \_\_\_\_\_ in X \_\_\_\_\_ in Convexity or Concavity \_\_\_\_\_ in  
Test conducted by \_\_\_\_\_ Laboratory: Test No. \_\_\_\_\_  
per \_\_\_\_\_

We certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of AWS D1.2/D1.2M, *Structural Welding Code—Aluminum*.

Signed \_\_\_\_\_ By \_\_\_\_\_  
(Organization)

Date \_\_\_\_\_ Title \_\_\_\_\_

Form F(c)

## Manufacturer's Record of Welder, Welding Operator, or Tack Welder

# AWS Forms D1.2 ... Form F<sub>d</sub>

## Aluminum Forms - Fa, Fb, Fc, Fd, and Fe

AWS D1.2/D1.2M:2008 ANNEX F

**WELDING PROCEDURE SPECIFICATION (WPS)  
FOR STUD WELDING APPLICATIONS**

Specification No. \_\_\_\_\_ Date \_\_\_\_\_ Approved \_\_\_\_\_  
Revisions \_\_\_\_\_ Date \_\_\_\_\_ Approved \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Supporting PQR Numbers \_\_\_\_\_  
\_\_\_\_\_

**Joints**  
Stud Base Sketch

**Base Metals**  
M-No. \_\_\_\_\_ Specification \_\_\_\_\_  
Thickness \_\_\_\_\_ to \_\_\_\_\_  
Alloy and Temper \_\_\_\_\_  
Pipe or Tube Diameter \_\_\_\_\_  
Alloy and Temper \_\_\_\_\_

**Stud Materials**  
F-No. \_\_\_\_\_ Specification \_\_\_\_\_  
Stud Diameter \_\_\_\_\_  
Other \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Welding Process**  
Arc Stud Welding \_\_\_\_\_  
Capacitor Discharge \_\_\_\_\_  
Contact Method \_\_\_\_\_  
Gap Method \_\_\_\_\_  
Drawn Arc Method \_\_\_\_\_

**Cleaning**  
Initial Oxide Cleaning \_\_\_\_\_  
\_\_\_\_\_  
Initial Oil & Dirt Cleaning \_\_\_\_\_  
\_\_\_\_\_

**Machine Settings**  
Power Supply Make \_\_\_\_\_  
Stud Gun Model \_\_\_\_\_  
Current/Polarity \_\_\_\_\_  
Amperage Range Setting \_\_\_\_\_  
Stud-to-work Distance \_\_\_\_\_  
Lift Setting \_\_\_\_\_  
Cable Size \_\_\_\_\_ Length \_\_\_\_\_  
Form E(d)

**Shielding Gas**  
Shielding Gas(es) \_\_\_\_\_  
Percent Composition \_\_\_\_\_  
Flow Rate \_\_\_\_\_  
Other \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Ferrules**  
Ferrule Material \_\_\_\_\_  
Ferrule Specification \_\_\_\_\_  
Ferrule Description \_\_\_\_\_  
\_\_\_\_\_  
Model No. \_\_\_\_\_  
Timer Range Setting \_\_\_\_\_  
Capacitance or Power Tap Setting \_\_\_\_\_  
Other \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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## WPS for Stud Welding

# AWS Forms D1.2 ... Form F<sub>e</sub>

## Aluminum Forms - Fa, Fb, Fc, Fd, and Fe

ANNEX F AWS D1.2/D1.2M:2008

**PROCEDURE QUALIFICATION RECORD (PQR)  
FOR STUD WELDING APPLICATIONS**

Procedure Qualification Record No. \_\_\_\_\_ Date \_\_\_\_\_  
WPS No. \_\_\_\_\_ Process \_\_\_\_\_

<p><b>Machine Settings</b></p> Power Supply Make _____ Model No. _____ Stud Gun Model _____ Timer Range Setting _____ Current/Polarity _____ Capacitance or Power Tap Setting _____  Amperage Range Setting _____ Stud-to-work Distance _____ Lift Setting _____ Cable Size _____ Length _____ Other _____ <b>Base Metals</b> M-No. _____ Specification _____ Thickness _____ to _____ Alloy and Temper _____ Pipe or Tube Diameter _____ Alloy and Temper _____ <b>Ferrules</b> Ferrule Material _____ Ferrule Specification _____ Ferrule Description _____  <b>Cleaning</b> Initial Oxide Cleaning _____ Initial Oil & Dirt Cleaning _____	<p><b>Stud Base Sketch</b></p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div> <p><b>Stud Materials</b>  F-No. _____ Specification _____  Stud Diameter _____  Other _____    <b>Shielding Gas</b>  Shielding Gas(es) _____  Percent Composition _____  Flow Rate _____  Other _____    <b>Other</b>  Welding Position _____  Welding Agent _____  Ferrule Description _____ </p>
--	--

Test Results	Visual Acceptance	Bend Test	Tension Test Option No. 1	Tension Test Option No. 2
Stud No. 1	_____	_____	_____	_____
Stud No. 2	_____	_____	_____	_____
Stud No. 3	_____	_____	_____	_____
Stud No. 4	_____	_____	_____	_____
Stud No. 5	_____	_____	_____	_____
Stud No. 6	_____	_____	_____	_____
Stud No. 7	_____	_____	_____	_____
Stud No. 8	_____	_____	_____	_____
Stud No. 9	_____	_____	_____	_____
Stud No. 10	_____	_____	_____	_____

We certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of Clause 6, AWS D1.2/D1.2M, *Structural Welding Code—Aluminum*.

Signed \_\_\_\_\_ By \_\_\_\_\_  
(Manufacturer)

Date \_\_\_\_\_ Title \_\_\_\_\_

Form F(e)

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## PQR for Stud Welding

# AWS Forms D1.6 ... Form M-1

## Stainless Forms – M-1, M-2 and M-3

ANNEX M AWS D1.6/D1.6M:2007

**WELDING PROCEDURE SPECIFICATION (WPS) Yes**   
**PREQUALIFIED QUALIFIED BY TESTING**  
**or PROCEDURE QUALIFICATION RECORDS (PQR) Yes**

Identification # \_\_\_\_\_  
 Revision \_\_\_\_\_ Date \_\_\_\_\_ By \_\_\_\_\_  
 Authorized by \_\_\_\_\_ Date \_\_\_\_\_  
 Type—Manual  Machine  Semi-Automatic  Automatic

Company Name \_\_\_\_\_  
 Welding Process(es) \_\_\_\_\_  
 Supporting PQR No.(s) \_\_\_\_\_

**JOINT DESIGN USED**  
 Type: \_\_\_\_\_  
 Single  Double Weld   
 Backing: Yes  No   
 Backing Material: \_\_\_\_\_  
 Root Opening \_\_\_\_\_ Root Face Dimension \_\_\_\_\_  
 Groove Angle: \_\_\_\_\_ Radius (J-U) \_\_\_\_\_  
 Back Gouging: Yes  No  Method \_\_\_\_\_

**POSITION**  
 Position of Groove: \_\_\_\_\_ Fillet: \_\_\_\_\_  
 Vertical Progression: Up  Down

**ELECTRICAL CHARACTERISTICS**  
 Transfer Mode (GMAW) Short-Circuiting   
 Globular  Spray   
 Current: AC  DCEP  DCEN  Pulsed   
 Other \_\_\_\_\_  
 Tungsten Electrode (GTAW)  
 Size: \_\_\_\_\_  
 Type: \_\_\_\_\_

**BASE METALS**  
 Material Spec. \_\_\_\_\_  
 Type or Grade \_\_\_\_\_  
 Thickness: Groove \_\_\_\_\_ Fillet \_\_\_\_\_  
 Diameter (Pipe) \_\_\_\_\_

**FILLER METALS**  
 AWS Specification \_\_\_\_\_  
 AWS Classification \_\_\_\_\_

**SHIELDING**  
 Flux \_\_\_\_\_ Gas \_\_\_\_\_  
 Composition \_\_\_\_\_  
 Electrode-Flux (Class) \_\_\_\_\_ Flow Rate \_\_\_\_\_  
 Gas Cup Size \_\_\_\_\_

**TECHNIQUE**  
 Stringer or Weave Bead: \_\_\_\_\_  
 Multi-pass or Single Pass (per side) \_\_\_\_\_  
 Number of Electrodes \_\_\_\_\_  
 Electrode Spacing \_\_\_\_\_ Longitudinal \_\_\_\_\_  
 Lateral \_\_\_\_\_  
 Angle \_\_\_\_\_

**PREHEAT**  
 Preheat Temp., Min. \_\_\_\_\_  
 Interpass Temp., Min. \_\_\_\_\_ Max. \_\_\_\_\_

**POSTWELD HEAT TREATMENT**  
 Temp. \_\_\_\_\_  
 Time \_\_\_\_\_

**WELDING PROCEDURE**

Pass or Weld Layer(s)	Process	Filler Metals		Current		Volts	Travel Speed	Joint Details
		Class	Diam.	Type & Polarity	Amps or Wire Feed Speed			

Form M-1 248

Welding  
 Procedure  
 Specification  
  
 WPS

# AWS Forms D1.6 ... Form M-2

## Stainless Forms – M-1, M-2 and M-3

AWS D1.6/D1.6M:2007 ANNEX M

Procedure Qualification Record (PQR) # \_\_\_\_\_  
Test Results

TENSILE TEST

Specimen No.	Width	Thickness	Area	Ultimate tensile load, lbs [N]	Ultimate unit stress, psi [MPa]	Character of failure and location

GUIDED BEND TEST

Specimen No.	Type of bend	Result	Remarks

VISUAL INSPECTION  
 Appearance \_\_\_\_\_  
 Undercut \_\_\_\_\_  
 Piping porosity \_\_\_\_\_  
 Convexity \_\_\_\_\_  
 Test date \_\_\_\_\_  
 Witnessed by \_\_\_\_\_

Other Tests \_\_\_\_\_

Radiographic-ultrasonic examination  
 RT report no.: \_\_\_\_\_ Result \_\_\_\_\_  
 UT report no.: \_\_\_\_\_ Result \_\_\_\_\_

FILLET WELD TEST RESULTS

Minimum size multiple pass \_\_\_\_\_ Maximum size single pass \_\_\_\_\_  
 Macroetch \_\_\_\_\_ Macroetch \_\_\_\_\_  
 1. \_\_\_\_\_ 3. \_\_\_\_\_ 1. \_\_\_\_\_ 3. \_\_\_\_\_  
 2. \_\_\_\_\_ 2. \_\_\_\_\_

All-weld-metal tension test  
 Tensile strength, psi [MPa] \_\_\_\_\_  
 Yield point/strength, psi [MPa] \_\_\_\_\_  
 Elongation in 2 in., % \_\_\_\_\_  
 Laboratory test no. \_\_\_\_\_

Welder's name \_\_\_\_\_ Clock no. \_\_\_\_\_ Stamp no. \_\_\_\_\_  
 Tests conducted by \_\_\_\_\_ Laboratory \_\_\_\_\_

Test number \_\_\_\_\_  
 Per \_\_\_\_\_

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of Clause 4 of AWS D1.6, (\_\_\_\_\_) *Structural Welding Code—Stainless Steel*.  
 (\_\_\_\_\_) (year)

Signed \_\_\_\_\_  
 Manufacturer or Contractor  
 By \_\_\_\_\_  
 Title \_\_\_\_\_  
 Date \_\_\_\_\_

Form M-2

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Procedure  
Qualification  
Record  
  
PQR

# AWS Forms D1.2 ... Form M-3

## Stainless Forms – M-1, M-2 and M-3

ANNEX M AWS D1.6/D1.6M:2007

**WELDER OR WELDING OPERATOR QUALIFICATION TEST RECORD**

Type of Welder \_\_\_\_\_  
 Name \_\_\_\_\_ Identification No. \_\_\_\_\_  
 Welding Procedure Specification No. \_\_\_\_\_ Rev \_\_\_\_\_ Date \_\_\_\_\_

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type (4.8.1)	_____	_____
Electrode (single or multiple)	_____	_____
Current/Polarity	_____	_____
Position (4.8.4 or 4.9.4)	_____	_____
Weld Progression (4.8.6)	_____	_____
Backing (YES or NO) (4.8.7)	_____	_____
Material/Spec.	_____ to _____	_____
Base Metal	_____	_____
Thickness: (Plate)	_____	_____
Groove	_____	_____
Fillet	_____	_____
Thickness: (Pipe/tube)	_____	_____
Groove	_____	_____
Fillet	_____	_____
Diameter: (Pipe)	_____	_____
Groove	_____	_____
Fillet	_____	_____
Filler Metal (4.8.2)	_____	_____
Spec. No.	_____	_____
Class	_____	_____
F-No.	_____	_____
Gas/Flux Type (4.8.3)	_____	_____
Other	_____	_____

**VISUAL INSPECTION (4.10.1.1)**  
 Acceptable YES or NO \_\_\_\_\_

**Guided Bend Test Results (4.10.2.3)**

Type	Result	Type	Result

**Fillet Test Results (4.10.5)**

Appearance \_\_\_\_\_ Fillet Size \_\_\_\_\_  
 Fracture Test Root Penetration \_\_\_\_\_ Macroetch \_\_\_\_\_  
 (Describe the location, nature, and size of any crack or tearing of the specimen.) \_\_\_\_\_

Inspected by \_\_\_\_\_ Test Number \_\_\_\_\_  
 Organization \_\_\_\_\_ Date \_\_\_\_\_

**RADIOGRAPHIC TEST RESULTS (4.10.3)**

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks

Interpreted by \_\_\_\_\_ Test Number \_\_\_\_\_  
 Organization \_\_\_\_\_ Date \_\_\_\_\_

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of Clause 4 of AWS D1.6, (\_\_\_\_\_) *Structural Welding Code—Stainless Steel*, (\_\_\_\_\_) (year)

Manufacturer or Contractor \_\_\_\_\_ Authorized By \_\_\_\_\_  
 Form M-3 \_\_\_\_\_ Date \_\_\_\_\_

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## Welder and Weld Operator Qualification Test Record

# Quick Welding Code Update

## Welding Program

- Comm 5.004, Adoption of Standards
  - D1.1- 2010 Structural Welding Code, **Steel**
  - D1.2 - 2008 Structural Welding Code, **Aluminum**
  - D1.3 - 2008 Structural Welding Code, **Sheet Steel**
  - D1.6 - 2007 Structural Welding Code, **Stainless**

# Welding Program Form Transition

## Welding Program Forms:

- D1.1 & D1.3 Qualification:** Use Existing Structural Steel Welding form as usual during transition or WTC may begin use of AWS N-forms for steel.
- D1.2 Qualification:** Use AWS F-form for aluminum
- D1.6 Qualification:** Use AWS M-forms for Stainless
- All procedures remain the same except .....
- Welder shall retain a copy of his “**Evidence of Completion**” and provide same with other welding documents upon request at the welding site.



# Questions ?

## Thank You for the Opportunity !

### **Department of Safety and Professional Services**

Safety & Buildings Division, Welding Safety

Rick, Mike and Terry

141 NW Barstow

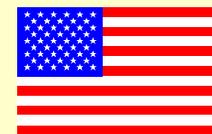
Waukesha WI 53188



Mike Verhagen 262-548-8617

Rick Merkle 262-521-5065

Terry Waldbillig 414-303-8575



**Special thanks** ... to **Brain Strebe** - Weld Test Conductor and other Lakeshore Tech College staff who made arrangements and volunteered time and efforts to make this meeting reality.



END



# 2012 WTC Meeting Sponsor ?

- Oct 1, 2008 - FVTC @ Appleton
- Oct 22, 2009 - MATC @ Madison
- Oct 22, 2010 - MPTC @ Fond du lac
- Oct 20, 2011- LTC @ Cleveland
- Oct 00, 2012 ... **Volunteer** ? Thanks