Welding Guide for Attachments

INST-0001

WERK-BRAU

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Disclaimer: This "Welding Guide" is designed to give recommended welding guidelines for the application of mounting a Werk-Brau grip for our valued customers. It is a general welding guide and is not all inclusive. Each customer application may require special welding practices. Werk-Brau accepts no responsibility for the misuse or misinterpretation of this information. It is the responsibility of the customer to have the weld process installation of the thumb assembly comply with the latest version of *AWS D14.3/D14.3M-Specification for Welding Earthmoving, Construction, and Agricultural Equipment* and *ANSI Z49.1-Safety in Welding, Cutting, and Allied Processes.*

- Workmanship requirements for all arc welding processes:
  - Only qualified personnel and procedures should be used when performing the welding during installation.
  - The surfaces to be welded will be free of moisture, paint, loose or thick scale, slag, heavy rust, grease or oil, or any other foreign material which could adversely affect the structural integrity of the finished weld.
  - No welding shall be performed within 1/2” (13mm) minimum of paint or any other heavy contamination.
  - Welding shall not be performed when the weldment is exposed to high winds, drafts, or moisture.
  - Welding shall not be performed when the temperature of the part(s) is lower than 50°F (10°C).
  - Arc strikes outside of the joint must be ground off.
  - Minimum fillet weld leg size, including root passes for multi-pass welds, shall not be smaller than 3/16” (5mm).
  - Maximum fillet weld leg size deposited in one pass shall not exceed 5/16” (8mm).
  - Allow all welds to naturally cool in still ambient air. Do not quench or air cool.
  - Weld joint gaps should not exceed 1/8” (3mm). Gaps exceeding 1/8” (3mm), that cannot be corrected, should have the weld size increased to include the gap measurement.

- Processes:
  Welding should be done by any or combination of the following processes:
  - Shielded Metal Arc Welding (SMAW)
  - Gas-Metal Arc Welding (GMAW)
  - Metal-Cored Arc Welding (MCAW)
  - Flux-Cored Arc Welding (FCAW)

- Recommended filler metal:
  The following filler metal should be used but are not limited to:

Process	AWS Specification	AWS Classification
SMAW*	AWS A5.1	E7015, E7016, E7018
GMAW	AWS A5.18	ER70S-X
MCAW	AWS A5.18	E70C-XX (except –GS)
FCAW	AWS A5.20	E7XT-X(M) (except -2, -3, -10, -13, -14, or -GS)

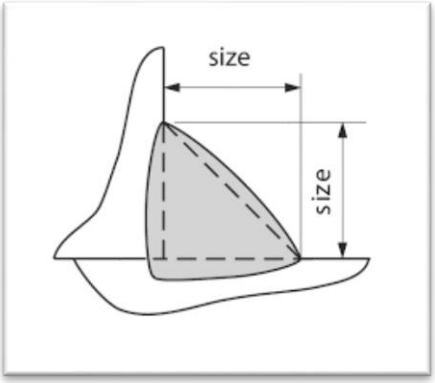
*Special care should be taken to ensure that low hydrogen electrodes are properly conditioned.

- Shielding gas:
  Shielding gas for GMAW, MCAW, and FCAW-G should be of welding grade quality complying with the latest edition of *AWS A5.32/5.32M Specification for Welding Shielding.*

- Electrical characteristics:
  - All welding should be done using direct current reverse polarity (DC+)
  - Filler metal manufacturer's recommended welding parameters and variables should be followed.
  - Voltage and amperage range for GMAW, MCAW, and FCAW should be sufficient enough to produce a spray, or globular transfer. Short-circuit transfer is not recommended.

- Position:
  All welding should preferably be done in a flat or horizontal position.

- Fillet Weld Size:
  Fillet weld sizes detailed on the installation instructions are metric and given as leg size (shown below). Weld size can deviate slightly but shall not exceed -0.5/+3mm.



Revision	Prepared By:	Approved By:	Date:
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TOUGH JOBS DEMAND TOUGH ATTACHMENTS

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