

# AWS Structural Welder Qualification Test

“AWS QC7” National Certification Program  
 Using Welding Procedure Specification (WPS) per  
 American Welding Society D1.1 Code

Eastern Maine  
 Community College  
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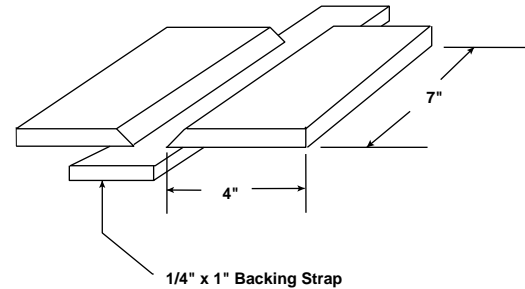
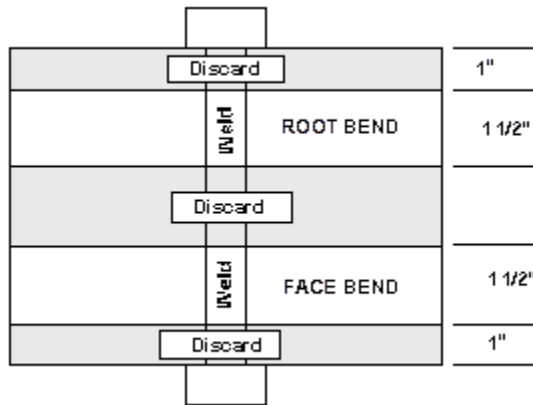
Technical  
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## Welding Test Center

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Test #: **D1-SM-F4-P-A-L** - Shielded Metal Arc Welding (SMAW) - E7018

**3/8" Limited Thickness Test** (positions: 3G-vertical & 4G-overhead or 1G flat option)



- Plate material: A36 - 3/8" x 7" stock cut into 4" lengths with a 22 1/2 degree bevel.
- The plates and backing should be ground and cleaned of any mill covering a minimum of 1" front and back and are then gaped 1/4" apart and tacked on the ends where the backing (1/4" minimum x 1" x 9") meets the plate.
- The welder decides which position they want to do first and may begin after an initial inspection. Time limit is 45 minutes per position (material prep, fit-up and tack and any warm up practice is not counted in the 45 min.).
- Fill and cover passes may be welded with 3/32" or 1/8" diameter E7018 electrode.
- Power brushing is allowed.
- Grinding is allowed except on the cover passes which will be visually inspected.

### The visual inspection consists of the following:

- ✓ Weld metal on cover passes must be a minimum of flush with plate and no more than 1/8" reinforcement.
- ✓ Bead width should be no more than 3x the core diameter of the electrode.  
 (Example: 1/8" E7018, maximum bead width = 3/8")
- ✓ Undercut shall not exceed 1/32" (if undercut is greater than 1/32" an extra pass is allowed but caution should be taken to avoid repeating the problem on this extra pass)

### 3/8" Plate Test Joint Details

