

## PSE Consulting Engineers Inc.

Project Number AquaWorks DBO 224-2001  
Project Name Phippsburg  
Subject Weld Design

Designed by  
Checked by

MRD

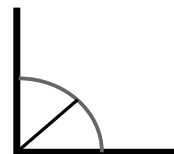
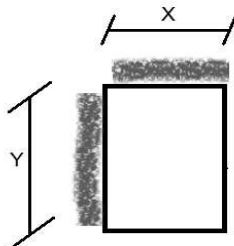
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Date

### Corner Casting to Baseplate

Shear = 18,200 lbs  
Column Uplift = 2,500 lbs

#### Corner Casting Dimensions:

X = 6.0 in  
Y = 7.0 in



Weld Thickness (t) = 1 inch  
 $\alpha = 45^\circ$

### Weld Design

Fy = 70 ksi  
 $\Omega = 2.0$

$$F_{exx} = F_y \cdot \sin(\alpha) = 49.497 \text{ ksi}$$

Allowabled Force (Fa) =  $0.6 F_{exx} / \Omega$  per 1" of weld thickness

$$1" Fa = 14.85 \text{ kips per 1" of weld thickness}$$

Use 1/4" thick E70 Fillet Weld

$$1/4" Fa = 3.71 \text{ kips per 1/4" of weld thickness}$$

### Shear Check

$$\text{Min Weld Length} = 4.903 \text{ inches of weld}$$

### Uplift Check

$$\text{Min Weld Length} = 0.673 \text{ inches of weld}$$

\*For uplift only half of the side length of X and Y may be used. If weld exceeds more than half of X or Y additional weld is required

USE

1/4" E70 Fillet Weld on Two sides of Corner Casting

REVIEWED  
FOR CODE  
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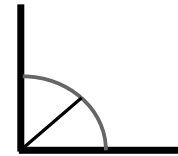
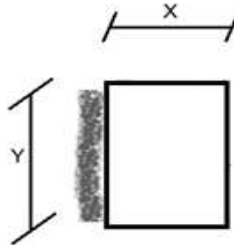
### Shim or Continuous Plate to Baseplate

Shear = 2,700 lbs

#### Corner Casting Dimensions:

X = 6.0 in

Y = 7.0 in



Weld Thickness (t) = 1 inch  
 $\alpha = 45^\circ$

### Weld Design

Fy = 70 ksi

$\Omega = 2.0$

Fexx = Fy \* sin ( $\alpha$ ) = 49.497 ksi

Allowabled Force (Fa) = 0.6 Fexx /  $\Omega$  per 1" of weld thickness

1" Fa = 14.85 kips per 1" of weld thickness

Use 1/4" thick E70 Fillet Weld

1/4" Fa = 3.71 kips per 1/4" of weld thickness

### Shear Check

Min Weld Length = 0.727 inches of weld

\*For uplift only half of the side length of X may be used. If weld exceeds more than half of X additional weld is required

USE 1/4" E70 Fillet Weld along one side of shim to baseplate

**REVIEWED  
FOR CODE  
COMPLIANCE**

10/10/2024