

## CC33: 3/4" Channel Clip - Design Example

**Given:**

- 362PDS125-30 (33ksi) studs at 16" o.c., 10-ft tall
  - Mid-point bracing (5-ft o.c.)
  - Distance from shear center to mid-plane of web  $m = 0.508$  in

- Lateral Load = 5psf

**Laterally Loaded Stud Design**

ASD tributary design load for bracing:

$$W = (5\text{psf})(16"/12")(5\text{-ft}) = \underline{33.33\text{-lbs}}$$

Required bracing force per AISI S100-12 Eq. D3.2.1-3:

$$P_{L1} = -P_{L2} = 1.5(m/d)W$$

$$P_{L1} = -P_{L2} = 1.5(0.508\text{-in} / 3.625\text{-in}) 33.33\text{-lbs} = \underline{7.1\text{-lbs}}$$

Torsional moment:

$$M_z = P_{L1}d = -P_{L2}d$$

$$M_z = (7.1\text{-lbs})(3.625\text{-in}) = \underline{25.7\text{ in-lbs.}}$$

From allowable load table, for 362PDS125-30 (33ksi) stud:

Select CC33 clip with 1-#8 screw,

Allowable torsional moment (in-lbs.) = 90 in-lbs. > 25.7 in-lbs. **OK**