

TRANSVERSE POSITIVE LOADING

The transverse positive uniform load test was performed on three test panels. The panels were tested with the concrete facing on top of the steel studs. A frame of 4" x 6" steel studs was constructed around the perimeter of the test. Sand was shoveled uniformly on the panels in 1-inch increments. Deflections readings were taken for each increment at the supports and at midspan. Deflections were monitored with dial indicators accurate to 0.001". After the midspan deflection slightly exceeded $L/240$, the test load was removed and the test panels used for the racking shear test. Upon completion of the racking shear test, the same panels were retested for transverse positive uniform loads to ultimate failure.

TRANSVERSE NEGATIVE UNIFORM LOAD

The transverse negative uniform load test was performed on three test panels. The panels were tested with the concrete facing on the bottom of the metal stud. Sand was shoveled uniformly onto the panels in 1-inch increments. Deflections were monitored at midspan and at the supports for each increment using dial indicators accurate to 0.001". When the sand used for loading was flush with the back of the steel studs, a frame utilizing 4" steel studs was welded along the perimeter of the test panel to restrain the sand. Loading was continued until failure occurred.

RACKING SHEAR LOAD

Racking shear tests were performed on three test panels in a horizontal position. The bottom sill of the test panels were fastened to three 4" angles welded on the I-beam support with three, 3/4" "quick-bolts". A horizontal shear load was applied using a crane and monitored with a 20,000 lb. capacity calibrated dynamometer. Three dial indicators accurate to 0.001" were located in the load test setup such that an absolute racking deflection could be calculated.

During the initial pre-load stage, net horizontal loads of 790, 1,570 and 2,360 lbs. were applied and removed. Upon completion of the pre-load stage, the horizontal shear load was applied continuously at 400 lb. increments until failure occurred. Lateral deflection of the test panel was monitored at each load increment. The net racking shear load was calculated by subtracting an estimated 1,000 lb. frictional load between the panel and I-beam support from the total racking shear load.