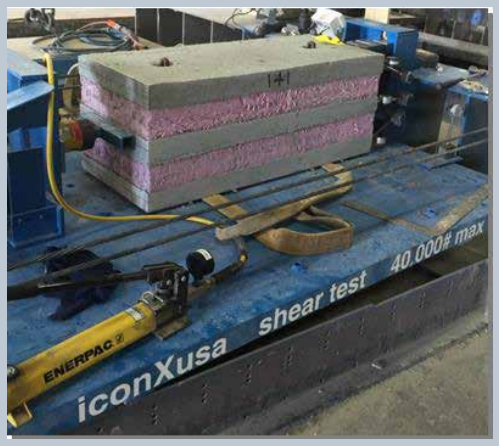
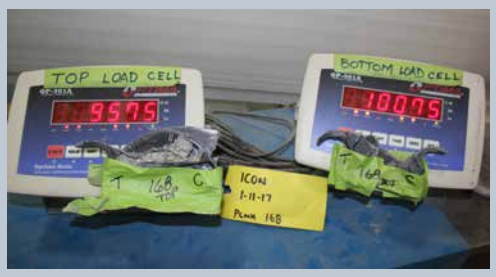
Shear and Delamination Tests

Double shear tests were performed using industry standards. The test results produced load deflection curves that were used to calculate the Icon Performance Charts. The charts give the engineer the effective moment of inertia of the sections. The I_{eff} can then be used to calculate stresses and deflections. To get an Icon Design Manual, including the engineering design data, contact IconX LLC at 844-274-4366 or email joel@iconxusa.com



Double shear test where the center section is pushed to the right in this picture while the top and bottom wythe reaction is measured with compression load cells.



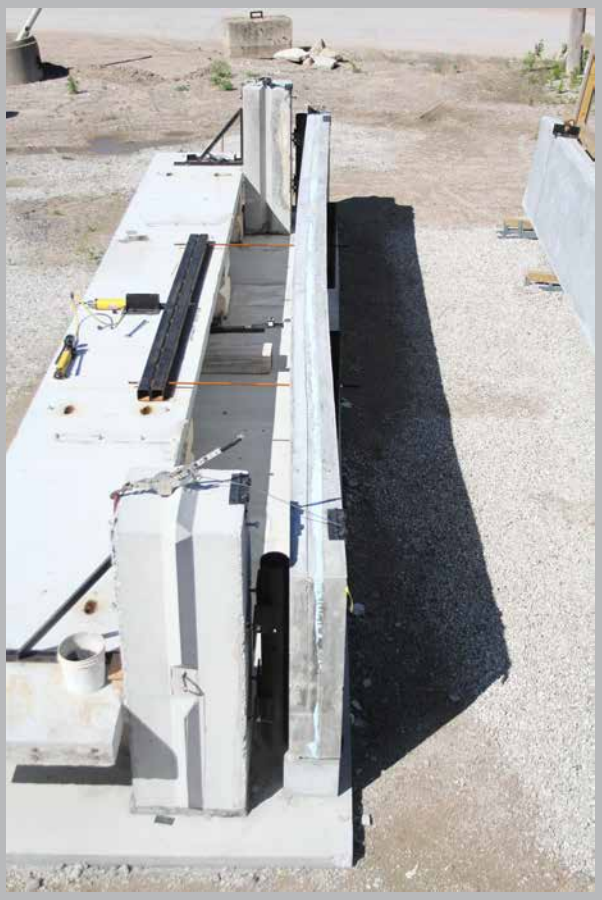
Shear Tested Icons removed from concrete after samples were subjected to ultimate loading criteria.

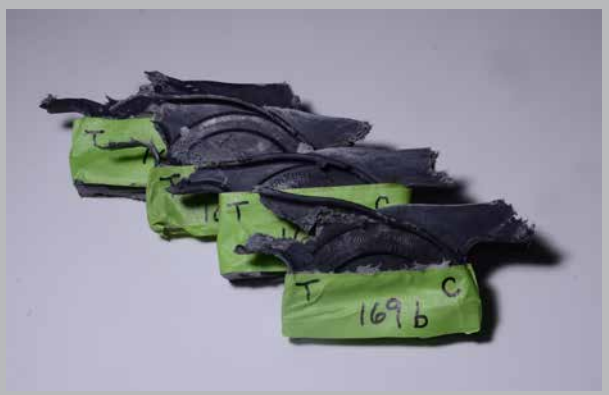
Ultimate Load Testing

The ultimate load testing of the Icon shear connector produced a consistent and known mode of failure. The load tests did NOT result in a concrete shear cone failure, or a connector pullout or slip from the concrete. Instead the connector fails as shown in the picture, through the glass fiber reinforced body of the connector. The consistent test results allows the designer to use a high Φ factor when calculating the moment capacity of the section.

Full Scale Testing

Full scale (32'-0" long x 4'-0" wide) panels were used to confirm the computer generated load deflection curves. The computer modeling proved to be very accurate in predicting the load capacity, deflection and cracking moment of the full scale panels during testing.





Icon shear test samples showing the predictable mode of failure.