



**Subject: Geoweb® Cell Concrete Pullout Test**

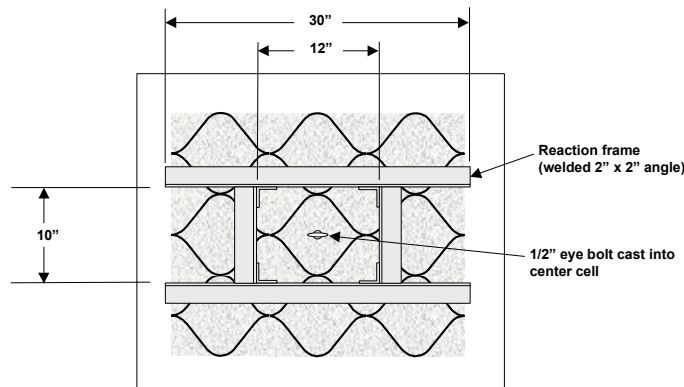
**From: Daniel F Senf, P.E.**

**Memo # GW-022**

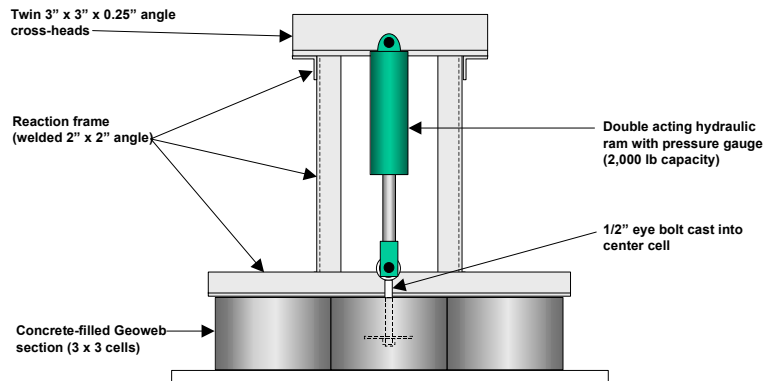
Questions have been asked as to the security of individual cured concrete plugs in the concrete filled Geoweb system. Typically, these questions are relative to slope and channel protection applications and boat-launch ramps. The engineer or owner generally has justifiable concerns for the security of the system relative to hydrodynamic forces, freeze-thaw cycles and general vandalism.

Desiring to answer these questions, we have determined the pullout resistance of cured concrete cast in a Geoweb® section for the various cell depths and types available.

A number of samples for each of the four cell depths and two cell types was prepared by expanding the 3-cell by 3-cell Geoweb test section over a polyethylene sheet. Concrete mixes from 20 - 32 MPa (3,000 – 4,800 psi) was poured in each section with an eyebolt placed in the center of the center cell and perpendicular to the plane of the Geoweb sample. The concrete was troweled flush with the top of the cells and allowed to cure for a minimum of one week. Figure 1 and Figure 2 illustrate a typical apparatus. After curing, the concrete was extracted.



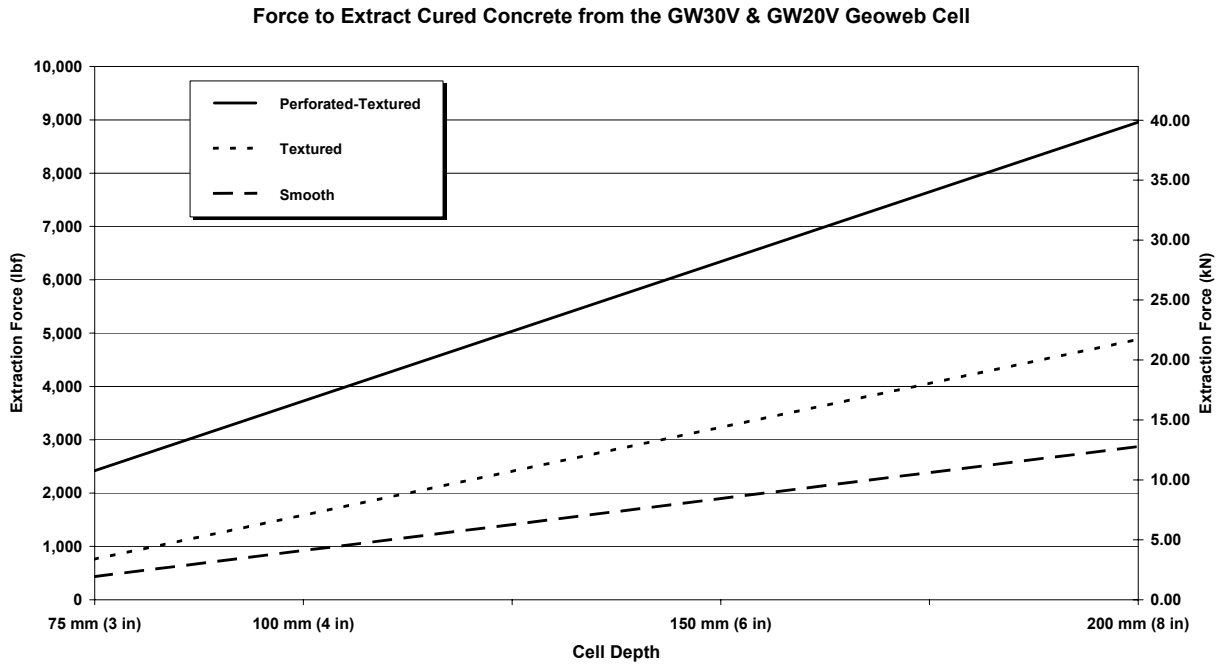
**Figure 1 Typical Frame for One Cell Type**



**Figure 2 Typical Details**



Test results are graphically presented in Figure 3.



**Figure 3**

Based on these results, Presto recommends that the perforated-textured Geoweb system be used for most concrete filled applications. Contact Presto or its authorized distributor / representative for application areas where the non-perforated system is recommended.