



## Case Study: Fiberglass Buildings for EMC Testing

Two 62' wide x 69' long x 24' high buildings for Compaq Computer Corporation that are all-fiberglass structures. The buildings have absolutely no metal or wood components. Compaq conducts all-weather EMC (electromagnetic compatibility) testing on its computer equipment in the buildings. The fiberglass materials are used because they do not affect the test results.

The siding and roofing are tongue-in-groove panels with nearly 3" of 4 lb./ft<sup>3</sup> rigid closed cell polyurethane foam core providing an "R" value of 21. The foam is enclosed in a seamless skin of fiberglass. The combination of the skin and the rigid foam yield a panel with enough structural integrity to free span the columns and rafters. The structural strength in the panels eliminates the need for girts and purlins, therefore creating a simpler frame and easier installation.

The frame components can easily be lifted into place because they are made from fiberglass. The 62' wide rigid gables that support the siding and roof on the Compaq buildings weigh only 1,400 lbs. each and were lifted into place in one piece. The gables are made with 24" x 7-1/2" EXTREN® I-shapes as both column and rafter.

Even the fasteners are fiberglass. FIBREBOLT® threaded rods and hex nuts tie the panels to the frame and reinforce epoxy connections in the frame.

