Application

76,200 cubic feet of Foam-Control® EPS46 Geofoam was used as a lightweight structural fill on a large parking structure adjoining the Primary Children’s Hospital Ambulatory Care building in Salt Lake City, Utah.

Project Details

The new Ambulatory Care Center at the Primary Children’s Hospital on the University of Utah campus is accompanied by a five-level parking garage with a capacity of up to 1,400 vehicles. The integrated parking structure rises along the outer edge of the building until the deck’s top level adjoins the building’s main entrance via a large curbside patient pick-up/drop-off area and pedestrian plaza. The garage’s design had to support the weight of the plaza, extensive landscaping, and top-level roadway including full access for emergency vehicles to meet state building codes.

Engineers needed a material that could absorb some of the stress caused by the weight of the automobiles and the landscaping. The material also couldn’t add much weight to the beams supporting the roof deck. ACH Foam Technologies’ Foam-Control® EPS46 Geofoam was the perfect solution. This density of Geofoam can withstand 18.6 psi at less than 1% deformation, well within the strength range needed to support the expected traffic loads.

Engineers used Foam-Control® Geofoam instead of concrete or soil, both of which would have been too heavy for the structure. Geofoam was also used to create elevation changes for the driving structure. By using a lightweight material to support the top level of the parking structure, engineers were able to increase overall loading capacity. This weight reduction also helped decrease the amount of structural support needed for the top floor.