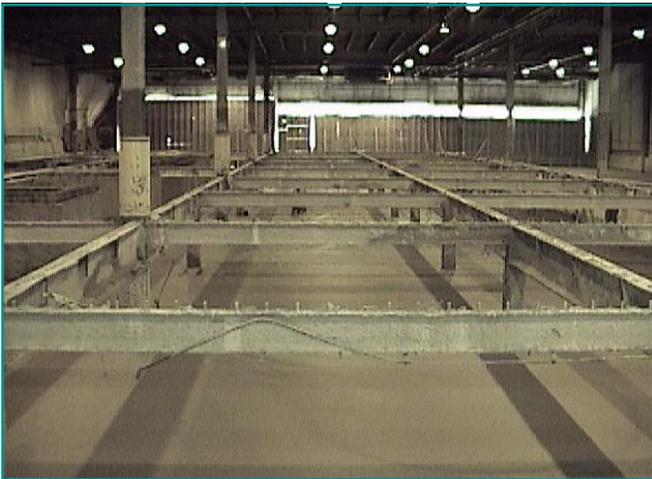


# Load Reduction Fill / Void Fill

**United Cargo Building, Chicago IL**  
**Chicago O'Hare Int. Airport**  
**2001**

**Density: 27 and 30 pcf**  
**Volume: 30,000 cy**

A cost-effective solution was sought that would enable United Airline's new shipping container handling system to operate on one level of an existing building. PROVOTON foam concrete was chosen to backfill a 275'x 150' section of the building's basement 20' deep to support the new automated handling equipment floor. The PROVOTON foam concrete greatly reduced loading on the basement floor and roof column piers, which eliminated the need for additional piling in the basement. Foam concrete being a free standing rigid body when set will cause no lateral load on vertical walls. This characteristic of foam concrete allowed for major cost savings of the construction of a concrete partition wall in the basement to retain the material. The easy placement of PROVOTON foam concrete provided a 100% compacted fill where conventional materials would have been difficult to install and compact.



After the existing concrete floor was removed, the structural floor steel was left in place to provide needed support to roof columns during the foam concrete fill making compaction of conventional materials very difficult with equipment. Once the backfill reached the floor steel elevation the floor structural steel members were removed since the foam concrete now provided the lateral support for the roof columns.



The containers, which might weigh as much as 30,000 lbs., are moved horizontally along rollers or vertically on lifts. PROVOTON foam concrete will provide a settlement free backfill for United's automated cargo handling track system.