

# MIVAN system

## How is a MIVAN system modeled in ETABS?

**Answer:** A **MIVAN** system is a type of formwork for rapid construction of multi-story buildings. The structures created using MIVAN formwork may have levels without beam systems, instead being composed only of walls and slabs.

This type of system may be modeled in **ETABS** using **shell** objects for walls and slabs. Since these area objects entirely resist loading, shells should be adequately **meshed** to capture bending, shearing, torsional, and axial behavior. For most models of this type, **staged** analysis will be necessary.

A key concern when modeling MIVAN systems includes locations where these interconnecting shells transition into transfer girders and supporting columns, which are necessary for levels with uninterrupted areas, such as parking or the ground floor. To achieve proper connectivity to the walls above, it may be effective to model girders and columns using wall objects. Here, wall stresses should be investigated more closely. Principal stresses may be plotted in ETABS to indicate load path. Arching action in deep girders should also be closely observed.