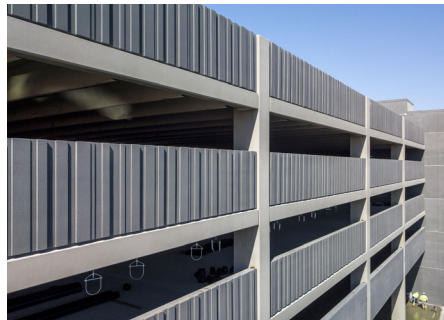


## PRECAST CONCRETE BEAMS AND COLUMNS

Precast concrete is a versatile structural material that can be used as the structural system of a building, bridge, or other structure. Precast structural systems are comprised of a variety of shapes and components. Most of these will fall into categories of beams, columns, or walls. However, since precast is a cast material, essentially any shape can be manufactured to meet a project's needs. Basic beams and columns are described in this Precast Focus.



### BEAMS

Beams are typically considered structural components and are made in one of three key shapes:

- Rectangular
- Inverted Tee Beams
- L-Beams

Beams are horizontal components that support deck members like double tees, hollowcore, solid slabs, and sometimes other beams. They can be reinforced with either prestressing strand or conventional reinforcing bars.

Since beams are cast upright, the bottom, sides, and ledges are cast against a form and will typically be provided with an “as cast” finish that results in a smooth, hard finish.

### COLUMNS

Columns are typically used to support beams and spandrels in applications such as parking structures and precast concrete structural systems of all types. They are generally designed as multilevel components ranging from a single story to six levels or more. Sizes and shapes can vary to satisfy both architectural and structural requirements.

Since columns are cast in a horizontal position, three of the four sides are created with a form. These finishes are very smooth and most often remain “as cast” in the finished construction, although they may have an architectural finish and be exposed to view. The fourth side is normally troweled to match the other three sides as closely as possible.

### RAKER BEAMS

Raker beams are angled, notched beams that support stadium riser units. They are used in outdoor stadiums and arenas and in many indoor arenas and performing-arts theaters.

Typically, three sides will have an “as cast” finish that results in a smooth, hard finish. The fourth side is troweled by the finishing crew to match the other sides as closely as possible.