

ER-POSTTM - Prestressed Open Space Truss System

The ER-POST TM system patented by Ericksen, Roed and Associates, Inc. structural engineers utilizes precast prestressed concrete open space trusses that support two levels simultaneously. The trusses span approximately 70' and are spaced at 40'+ o.c. allowing for large bays. The alternate levels are wide open with no structural elements, allowing complete flexibility in layout of interior walls and partitions. Parking levels having column free spaces realize increase capacity by approximately 15%. High fire ratings and sound transmission are inherent in this system

- The trusses span from exterior column to exterior column, allowing the structure to be column free on the interior.
- The trusses are on alternate floors, (2 to 3, 4 to 5, etc.) allowing the odd floor to be completely open. Most importantly, the ground level is open, which allows the design of column free congregate spaces in hotels, nursing homes, senior housing, etc. The lowest level being open is a great feature for mixed use, e.g. retail on ground, housing above. On the floors with trusses, the trusses are approximately 40' apart, thus creating large open spaces on these floors as well.
- Clear spanning the complete width of the units eliminates interior bearing walls and columns that would interfere with flexibility in renovation or remodeling.
- Clear spanning the building also eliminates columns from the structure above penetrating the parking levels. This alleviates many parking garage planning and layout problems.
- The concrete structure sound attenuation and fire resistance attributes are significant improvements over wood frame structures.
- Speed of construction allows early beneficial occupancy.
- The system can be constructed in a restrictive building site and in cold weather. • It is more economical than concrete or structural steel alternatives.
- The exterior cladding is non-load bearing which allows great design flexibility.



**Bookman Stacks Condominiums
Minneapolis**



**Cobalt Condominiums
Minneapolis**



The Bookman Stacks is a for sale condominium building of 45 units in Minneapolis, Minnesota. The building is 70'-0" x 160'-0", and has nine floors above the parking. Floors are approximately 11,000 square feet. The structure was erected in four weeks

The 64'-0" long and 13'-6" tall precast concrete truss is delivered to the site on flat bed truck. The truss is lifted off the truck and is starting its swing into position.



The truss is aligned with its support columns, slid into the column brackets, and welded to the columns.

The truss is in its final position and awaits the top and bottom chord precast plank to complete the floor system.



An overall view of the ER-POST™ system. Note the parking is clear spanned with precast prestressed double tees. The truss bottom chord supports the second floor and the truss top chord supports the third floor, thus leaving the first floor completely open. The floors are 12" precast prestressed concrete plank spanning between the trusses. The trusses are approximately 40'-0" o.c.



Here, the structure is near completion. All but the two final trusses are in place, and the precast plank will soon establish the two top floors. The erection is fast and simple, and with all precast elements – columns, trusses and plank the on site work is minimized. With this building elevation you can visualize the amount of open space on all floors, allowing for large flexible space planning.