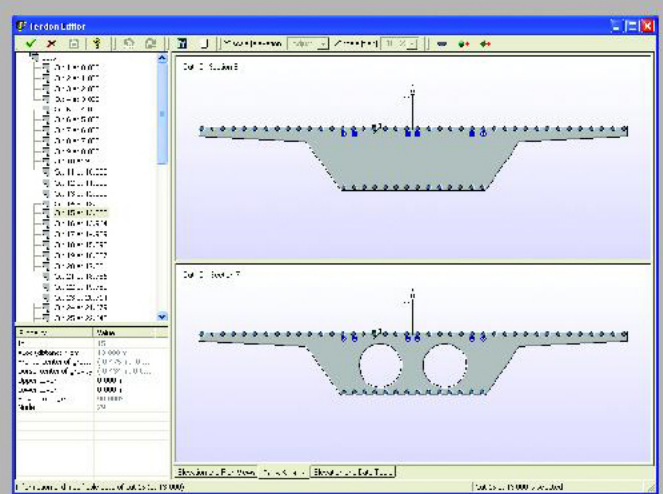
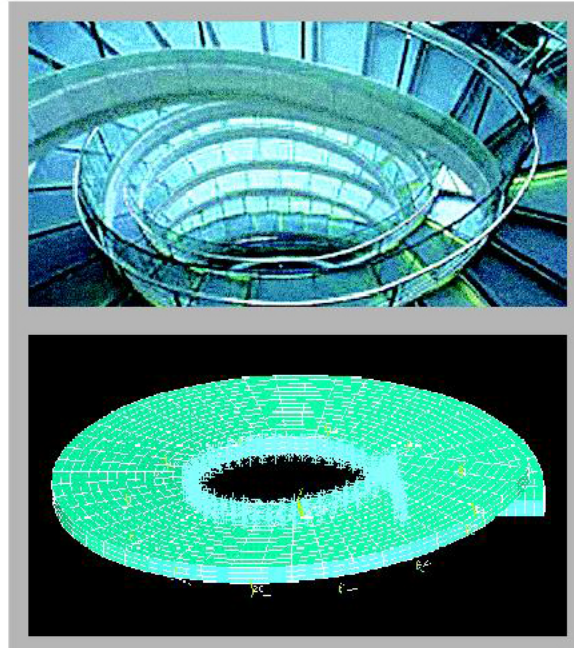


## ADVANCED PRESTRESSED CONCRETE MODULE

# Let your imagination set the limit



In addition to the state of the art ANSYS/CivilFEM analysis and simulation tools, that can be used simultaneously, the Advanced Prestressed Concrete Module offers best in class specific features that enable users to handle easily any kind of prestressed concrete structures. This module takes into account all the prestressing actions for performing advanced analysis and design procedures.



ADVANCED PRESTRESSED CONCRETE MODULE

### →3D Tendon Geometry Editor (for Beam and Solid Element Models)

- Allows intuitive graphical definition of the tendon layout in both plan and elevation views.
- Positioning of 3D tendons based on reference points and curvatures. Automatic 3D alignment generation of the defined tendons. Second order Bezier curves are used by the program to create the tendon layout.
- Possibility of selecting and viewing a cross section with the corresponding location of tendons displayed. Many graphical options are available.
- Data table view with a graphical and list representation of all prestressing losses throughout the structure that can be customized by selecting or unselecting different options.

### →Prestressing Losses

- Short-term prestressing losses are automatically considered for the effects of Anchorage slip, Friction and Elastic Concrete Shortening.
- Long-term prestressing losses are automatically considered for the effects of Creep, Shrinkage and Steel Relaxation of tendons.
- Variation of prestressing in tendons considered for the effects of prestressing order.
- Prestressing actions are calculated for both isostatic and hyperstatic structures.
- All the geometrical data and calculated losses for each tendon can be graphically displayed in a graph and in a table, which can be completely customized.

### →Transference of the Prestressing Actions

- The resultant prestressing actions, after all the losses have been accounted for, are automatically transferred to the model creating an equivalent system of forces at each node of the element crossed by the tendon. Applicable for both beams and solid element models.
- Optimization of the prestressing tendon location.
- Checking and Design according to codes taking into account the prestressing tendon for both Serviceability and Ultimate Limit State. Both Isostatic and Hyperstatic structures can be checked and designed.

### →Applicable to any prestressed concrete structure such as slabs, silos, etc.