Post-Tensioning Software
Builder / Floor Pro

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ADAPT Offers A Wide Range of Solutions for Design of Post-Tensioned Structures

- **ABI**: for design of prestressed and post-tensioned concrete bridges
- **PT**: for 2D equivalent frame method analysis of floor systems and beams
- **Builder**: 3D modeling and analysis platform for concrete structures
  - **Floor Pro**: 3D FEM Design of concrete floor systems
  - **MAT**: 3D FEM Design of foundations systems
  - **SOG**: 3D FEM Design of post-tensioned slabs on expansive soils
- **FELT**: Utility for calculation of tendon losses and elongations
ADAPT-Build / Floor Pro

ADAPT-Floor Pro is Best Used To:

• Design complex floor systems

• Optimize efficiency and performance of complete slab system

• Efficiently produce high-volume projects

• Implement BIM design workflow with Revit, Etabs, and Robot

• Investigate existing structures
Based on True 3D FEM Analysis Model

Unlike other 2D plate software for floors, ADAPT-Floor Pro is based on a true 3D Finite Element analysis model that leads to the most reliable results.
BIM with Revit Integration

Import Design Details

Integrated Concrete Design Process

Export Geometry to ADAPT

Analyze and Design in ADAPT
A Better Way to Design Slabs for Projects Modeled in ETABS

Easily extract model info from ETABS to ADAPT:

- Geometry
- Gravity Loads
- Lateral Loads
Advanced Tendon Modeling

Lay out tendons as they will be constructed or use schematic tendon profiles using effective force.

Maximize efficiency with automated tendon layout and optimization options.
Advanced Tendon Modeling

All tendon properties and profiles are viewable and editable, with clear relation to Floor geometry.
Advanced Tendon Modeling

Force along tendon is clearly shown during modeling
All reinforcement bars in Floor Pro are intelligent, BIM-based objects that are fully editable by user.

Designate reinforcement as automated (program calculated) or base (user defined) to save your design.
Investigate Existing Structures

Model all as-built reinforcement and/or post-tensioning to determine capacity of floor system and use this information to develop strengthening or re-use designs.

Reinforcement modeled in slab

Moment capacity for a design strip
Accurate Deflection Calculation

• Cracked deflection calculation based on actual disposition of reinforcement and not multiplier

• Graphical display of location and extent of cracking
Accurate Deflection Calculation

• Option to design for specific crack width

• Reporting of crack width

• Long-term deflections considering load history
Easy to Follow Code Checks

Design results can be checked for each support line.
Automated P/T Shop Drawing Generation

Tendon Chair Heights Shown in Plan, for easy export to CAD

Tendon Chair Heights Shown at Every 3’ Along Beam Elevation
Easily extract tendon, rebar and concrete quantities from your design model.

Tendon elongation reports provide information needed for installation.
Integrated Modal Vibration Analysis

Floor Pro automatically calculates and reports the vibration response of any concrete floor system.

Factors considered include:
  • Post- or pre-stressing
  • Cracking
  • Contribution of any load case in x,y,z direction

Mode 1: 4.20 Hz
Mode 1: 4.30 Hz
Mode 1: 4.48 Hz
The Future of ADAPT Design Software

The next version of Builder will offer full building modeling, analysis and design capabilities with integrated post-tensioning!

There will be no need to run separate slab and general building design software...

All vertical shortening, lateral and post-tensioning effects will be handled in one model, as well as foundation design.