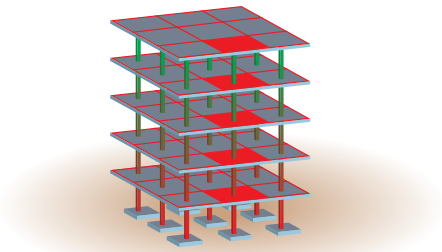
A Better Workflow for Concrete Structures

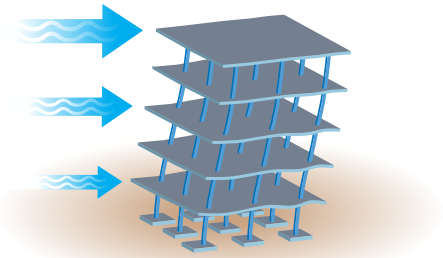
ADAPT
Structural Concrete Software

ADAPT-Builder 2017 enables a new workflow using patented tributary load takedown technology combined with ADAPT's trusted 3D Finite element solution. Our integrated column and wall design solution uniquely offers design of vertical elements for Tributary, FE, or enveloped loads. Coupled with the industry's only single-model approach to combined global and single-level analysis and design, Builder helps you save time and effort.



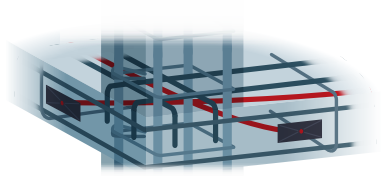
PRELIMINARY SIZING

- Quick and simple load takedown using tributaries
- Size structural elements
  - Columns
  - Slabs
  - Transfer elements
  - Foundations
  - Post-tensioning with optimizer
  - Walls



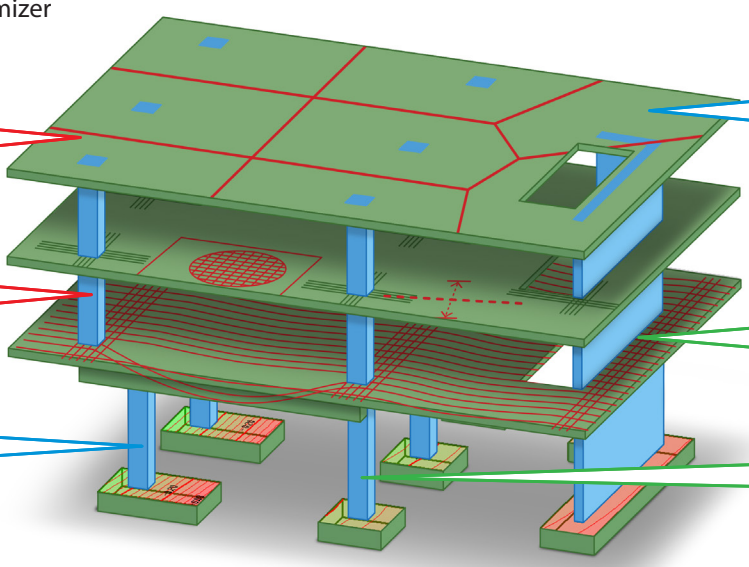
STABILITY ANALYSIS

- Wind and seismic forces
- Fully integrated frame action
- Incorporates effects of post-tensioning
- Same model for gravity and lateral analysis, each with own stiffness profile



DETAILED DESIGN

- Post-tensioned floor systems
- Mild reinforced floor systems
- Beams
- Foundations (mat or isolated)
- Columns
- Walls



Tributary feature calculates tributary area, loads, live load reduction factor

Use Tributary loads for preliminary sizing of columns, walls, and foundations

Design foundations for combined Gravity and Lateral loads

Design slabs for participation in lateral resisting system

Detailed PT and RC slab design with cracking, long term deflections, punching shear checks, temperature & shrinkage effects

Design columns and walls for FEM, Tributary, or enveloped loads.

ADAPT-Builder is specifically designed for the rapid modeling of concrete structures and gives the option of adding prestressing or post-tensioning to any slab or beam member at any level. Directly import concrete building models from ETABS, Revit,® or CAD, or use your Builder model to generate a new Revit Structure model.

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International - Kolkata, India

Applications and Project Types:

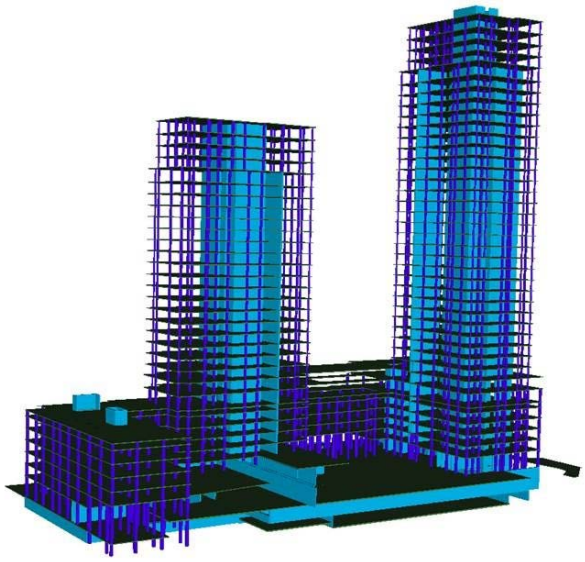
- Conventionally reinforced and/or Post-tensioned slab systems
  - One-way slabs
  - Two-way flat plates and flat slabs
  - Irregular/hybrid systems
  - Waffle, pan joist, and skip joist systems
- Beams and beam frames (parking structures)
- Bonded (grouted) and unbonded post-tensioning
- Shallow foundation systems including spread footings, strip footings, grade beams, combined footings, mats, and pier caps
- Investigations, new design, failure studies, and renovations

Key Modeling Capabilities:

- Complete concrete buildings
- Regular or irregular geometry, support configuration, and loading
- Post-tensioning and mild steel at any location within floor and foundation with any user-defined configuration of base reinforcement
- Drop caps, drop panels, slab steps at any location
- Multiple tendon profiles with customizable shape functions
- ETABS, Revit Structure, and CAD integration
- Generic sections and/or materials

Key Analysis Features:

- Accurate 3D Finite Element Analysis
- Cracked deflection calculation
- Automatic combination of gravity and lateral loads in floor and foundation designs
- Inclusion of secondary (hyperstatic) effects from post-tensioning in global building response
- Integration of friction and elongation calculations
- Modeling of soil-supported structures
- Optional analysis of full building or individual levels one at a time
- Industry-leading automated meshing algorithm
- Automated load takedown (FEM and geometry-based Tributary loads) for vertical elements
- Wind and Seismic load wizards & user-defined story forces (e.g. wind tunnel loads)
- Column, beam, and wall forces that truly reflect the composite structural behavior of all vertical building and horizontal floor system members
- Integrated column design option with partner software* for FEM loads, tributary loads, or envelope
- Temperature loading
- Shrinkage strain loading



New Features in 2017

- **Wall Design** – Native ADAPT-Wall and integration with partner software for optimization or investigation of wall sections
  - Grouped and individual wall reaction reporting
- **Tendon Modeling Enhancements** –
  - Insertion of swerve points around openings
  - Spline tendon curvature for more realistic layout and calculations that respect vertical and horizontal profiles
  - Editable cgs points on plan for fast tendon drape revisions
  - Fixed angle options (90, 45, etc.) for tendon anchors at slab edge
  - Optional “glued” tendon end points to slab edge

Supported Design Codes:

- ACI-318 (2014, 2011, 2008, 2005, & 1999)
- IBC (2015, 2012, 2009, & 2006)
- British-BS8110 (1997)
- Canadian-A23.3 (1994 & 2004)
- Australian-AS3600 (2001)
- Indian IS1343 (2004 reprint)
- European EC2 (2004)
- Hong Kong CoP (2007)
- Chinese GB 50010 (2002)
- Brazilian NBR 6118 (2014)
- Singapore Annex to EC2

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*ADAPT is a distributor of S-CONCRETE, sold separately