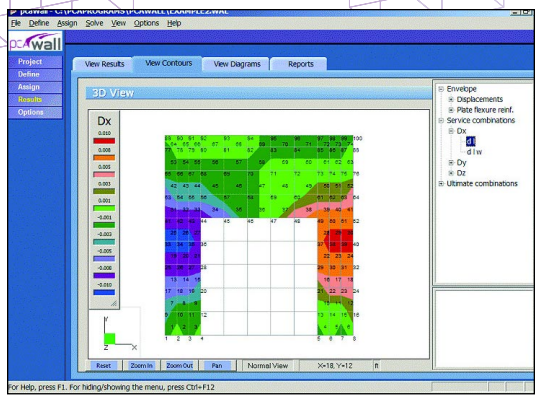
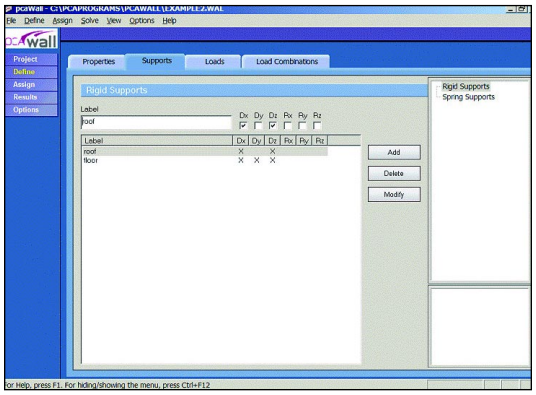
pcaWall

For the design and analysis of reinforced concrete walls





pcaWall is software for the design and analysis of reinforced concrete walls according to ACI 318-02 and CSA A23.3. The wall may include any number of openings and stiffeners. The program is based on the finite element method and can take into account moment magnification due to wall deflection. The required amount of reinforcing steel is computed based on the appropriate code, and the user can specify one or two curtains of reinforcement.

The program uses an advanced graphical interface that enables the user to easily generate complex wall models. The geometry of the wall (including any number of openings and stiffeners), the material properties, the loads (point, area, and line), and the support conditions are assigned graphically using the mouse. Supports and springs (translational and rotational) can be graphically assigned at any node.

Visit www.pcastructurepoint.com to download a fully functional 15-day evaluation copy.

Material properties

Concrete

- Compressive strength
- Modulus of elasticity
- Unit weight
- Poisson's ratio

Steel

- Yield strength
- Modulus of elasticity

System Requirements

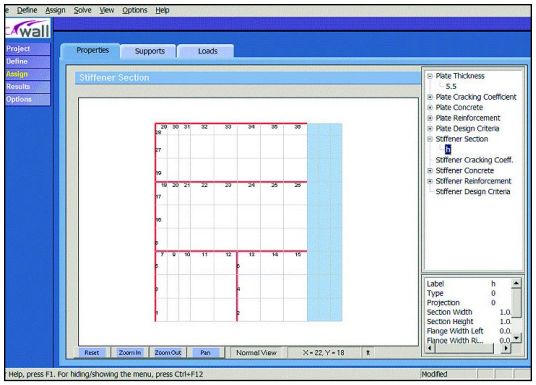
- Microsoft Windows 98 or higher
- CD Drive or internet connection
- 50 MB of hard-disk space

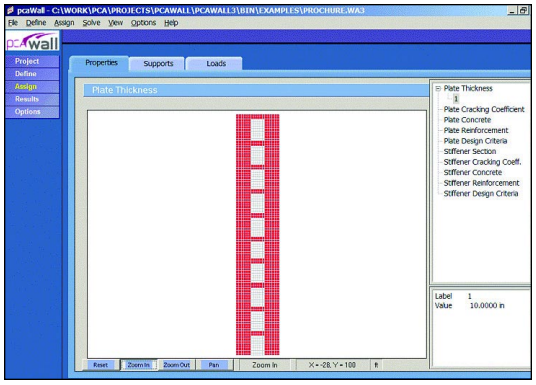
Licensing Options

- Stand alone
- Network seat (floating) licensing available

pcaStructurePoint

Work quickly. Work simply. Work accurately.





Options

- System of units: English or metric
- Design code: ACI 318 (02 & 05) or CSA-A23.3 (94 & 04)
- May include second order effects in the analysis
- May include one or two reinforcement curtains
- Spring supports
- Nodes may be restrained for displacement in any direction X, Y, and Z
- Nodes may be restrained for rotations about any axis X, Y, and Z
- Include or exclude self weight in the analysis
- User defined in-plane and out-of-plane crack coefficient
- User defined maximum and minimum reinforcement ratio

Wall geometry

- May include openings
- The wall may included stiffeners (rectangular, L, T, or circular cross section)

Loads

- Point load
- Uniform Area load
- Linearly varying area load (simulates water or earth pressure)
- Line load
- Loads could be in any direction XYZ
- Point and line loads can be offset out of the wall plane

Input

- Basic definitions (thicknesses, materials, design parameters, loads, etc.) are input using dialog boxes
- Rectangular grid layout is defined by entering the grid lines coordinates or by generating equally spaced grid lines.
- Wall geometry is created by graphically applying elements thicknesses and stiffener sections to the grid system
- Material properties, design parameters, loads, and boundary conditions are graphically applied to the model using the mouse
- All nodes and elements are automatically numbered by the program

Analysis and design reports

- Displacements in X, Y, and Z directions
- Reactions at the supports and restrained nodes
- Plate internal forces
- Stiffeners internal forces
- Plate flexural reinforcement
- Stiffeners flexural reinforcements
- Stiffeners shear reinforcements
- Stiffeners torsion reinforcements

Views

- Fast graphical interface that displays the molded mesh at all times for verification
- Graphical image displaying node and element numbers, grid lines and wall boundaries, stiffeners numbers, and stiffeners boundaries
- Ability to zoom and translate the graphical image
- User controlled screen color setting for different elements
- Contour plots for the results
- Stiffeners results Wall diagrams

General features

- Unparalleled technical support
- Online help
- Input dialog boxes have clear labels with corresponding units displayed at all times
- Ability to save setting to be used for future input session
- A tool bar with push buttons provided for quick access to the commands you use most

Program Capacity

- 255 thickness definitions
- 255 concrete definitions
- 255 reinforcing steel definitions
- 255 concentrated load definition
- 255 load definition per load case
- Six load cases
- 255 service load combinations
- 255 factored load combinations
- 10,000 finite element nodes

Output

- Ability to view results in text and graphical format prior to printing
- Echo of input data
- Generated finite element data
- Output in text format for plate internal forces, displacements, and reinforcement
- Output in text format for stiffener internal forces, moment reinforcement, shear reinforcement, and torsion reinforcement
- Contour plots for plate displacements and internal forces
- Stiffeners internal force diagrams
- Reactions
- Selective printing allowing printing results for all or user selected nodes, members, and load combinations
- Copy contour plots to clipboard

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Visit our website for updates, technical papers, new products, technical support, newsletters, and 15 day fully functional, free demos.