

Architectural Engineer's Solutions Suite

Platform: Windows
Includes Mathcad Engine
Available for ground shipment



This Mathcad electronic book is a rendering of selections from *Hick's Standard Handbook of Engineering Calculations* by McGraw-Hill. Solve structural design problems with this interactive software resource which contains text, tables, graphs, and diagrams in addition to 200 formulas and equations. This fully-interactive CD-ROM supplies builders, designers, planners, and architectural engineers with all the tools they need to find the right equation and solve a problem in an instant.

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The Architectural Engineer's Solutions Suite includes topics such as plumbing and drainage systems, HVAC systems, solar heating and cooling systems, wind-stress analysis, vibration, design of connections, and column and beam design.

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Structural Design

- Design of an Eyebars
- Analysis of a Steel Hanger
- Analysis of a Gusset Plate
- Design of a Semirigid Connection
- Riveted Moment Connection
- Design of a Welded Flexible Beam Connection
- Rectangular Knee of Rigid Bent
- Curved Knee of Rigid Bent
- Base Plate for Steel Column Carrying Axial Load
- Base for Steel Column with End Moment
- Grillage Support for Column
- Wind-Stress Analysis by Portal Method
- Light-Gage Steel Beam with Unstiffened Flange
- Light-Gage Steel Beam with Stiffened Compression Flange
- Steel Beam Encased in Concrete
- Composite Steel-and-Concrete Beam
- Design of a Concrete Joist in a Ribbed Floor
- Design of a Stair Slab

Plumbing and Drainage

- Determination of Plumbing-System Pipe Sizes
- Sprinkler-System Selection and Design
- Sizing Gas Piping for Heating and Cooking
- Swimming Pool Selection, Sizing, and Servicing

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Heating, Ventilating, and Air Conditioning

- Building or Structure Heat-Loss Determination
- Required Capacity of a Unit Heater
- Snow-Melting Heating-Panel Choice and Sizing
- Heat Recovery from Lighting Systems for Space Heating
- Air-Conditioning-System Heat-Load Determination--Numerical Computation
- Air-Conditioning-System Cooling-Coil Selection
- Mixing of Two Airstreams
- Sizing Low-Velocity Air-Conditioning-System Ducts--Equal-Friction Method
- Air-Conditioning-System Outlet- and Return-Grille Selection
- Selecting Roof Ventilators for Building
- Selection of Noise-Reduction Materials

Solar Energy

- Determination of Solar Insolation on Solar Collectors under Differing Conditions
- Sizing Collectors for Solar-Energy Heating Systems
- Domestic Hot-Water-Heater Collector Selection
- Passive Solar-Heating System Design

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