



midas Civil -NX



midas Civil is a Finite Element Analysis software developed by MIDAS IT used for bridge analysis and design. midas Civil combines the powerful pre and post processing features with an extremely fast solver which makes bridge modeling and analysis simple, quick and effective. Also, there are several easy parameter modification tools available which can be used for parametric analysis leading to optimized and economical design.

For Who?

Engineers handling structural analysis and design of conventional bridges as listed below and general structures.

Advantages

Can handle concrete as well as steel bridges / Super and Sub structure analysis on same platform



Precast Girder Bridge



PSC Bridge



Culvert



Slab Bridge



Steel Arch Bridge



Truss Bridge



Steel Box Girder Bridge



Multi-Cell Box Girder Bridge



Push Over Analysis



Dynamic Analysis



Moving Load



Integral Abutment

- Unlimited Nodes (Elements)
- Construction Stages (Up to 10 stages)
- Wizards (Slab, RC Frame & Culvert)
- Integral Bridge Wizard (Soil-Structure Interaction)
- Grillage Model Wizard (Multi-Cell Box Girders)
- Superstructure and Substructure Modelling
- Time Dependent Material Properties
 - IRC Codes, International Standards
- Pres-tressing/ Post - tensioning
- P-Delta Analysis
- Moving Load Analysis
 - IRC Codes for Highway Bridges
 - IRS Moving Load for Railway Structure
 - International Standards - AASHTO, Euro etc.,
- Composite Bridge Analysis (PSC & Steel)
- Thermal Stress Analysis
- Dynamic Analysis – Pushover, Time History
- Settlement Analysis
- 3D PSC Loss Calculations
- Design Codes:
 - IRC 112 – RC Design, PSC Box Design
 - IRS Bridge Rules – PSC Design, RC Design
 - IS 456 - RC Design (IS 3370 Crack width Check))
 - IRC 24 – Steel Bridge Design
 - IS 800 – Steel Design
 - International design Codes: AASHTO, Eurocodes, Canadian
- Dynamic Report Generation

For Who?

Engineers dealing with challenging structures requiring complex analysis.

Advantages

Wizards to generate the geometry along with construction stages and tendon placement in 3D. Unique tools for automatic cable force optimization at final stage and construction stages.



Cable Stayed Bridge



PSC Bridge



Suspension Bridge



Long Span Bridge



Concrete Arch Bridge



Extradosed Bridge



Movable Scaffolding Bridge Dynamic Analysis



Nonlinear Bridge Dynamic Analysis



Incremental Launching Bridge



Precast Segmental Bridge



Balanced Cantilever Bridge



Full Staging Bridge

- Includes Lite Version functionality and :
 - Construction Stage Analysis (unlimited number of stages) & Nonlinear Static Analysis
- Segmental Post-tensioned Bridge Wizards
 - FCM (Balanced Cantilever Method)
 - ILM (Incremental Launching Method)
 - MSS (Movable Scaffolding System)
 - FSM (Full Staging Method)
 - P SC (Prestressed/Post tensioned Concrete)
- Cable Bridge Wizard
 - Suspension Bridge Wizard
 - Cable Stayed Bridge Wizard
 - Cable Tuning
- Large Displacement (Forward/Backward) Analysis
- Boundary Nonlinear Dynamic Analysis
 - Gap
 - Hook
 - Damper
 - Isolator
 - Hysteretic System
 - Etc.

02. Modules

GSD (General Section Designer)

- Draw Arbitrary Cross-sections (RC, Steel, Composite)
- Interaction Curves (P-M, MM, P-MM) & Capacity Check Ratio (IRC 112)
- Moment-Curvature Curves for Different Axial Loads
- Stress Contours for Combined Loading

Composite Bridge Wizard & Design

- Steel Composite Girder Bridge Wizard
- PSC Composite Girder Bridge Wizard
- Steel Composite Girder Design as per IRC 22 & International Standards
- PSC Composite Girder Design as per IRC 112 & International Standards