

midas Civil -Basic-	➤ Static Analysis ➤ Dynamic Analysis • Eigen (Lanczos) and Ritz vector Analyses • Response Spectrum Analysis • Time History Analysis (Multiple Support Excitation) ➤ Vehicle Load Optimization • Eurocode 1 • AASHTO LRFD & Standard. Load auto-generation • CAN/CSA-S6 • BS5400 Spec. & BD37/01 • AS5100 • SP 35.13330.2011 • Abnormal Indivisible Load • Influence Line/Surface • Moving Load Tracer & Force Envelopes ➤ P-Delta Analysis ➤ Wizards (Slab, RC Frame & Culvert auto-generators) ➤ Integral Bridge Module (Soil-Structure Interaction) ➤ Grillage Model Auto-Generation (Multi-Cell Box Girders) ➤ Transverse Analysis Model Auto-Generation ➤ Settlement Analysis ➤ Pushover Analysis ➤ Section Property Calculator for irregular sections ➤ Buckling Analysis ➤ Thermal Stress Analysis ➤ Automesh for Planar Area (Wood-Armer moments) ➤ Composite Bridge Analysis ➤ Construction Stage Analysis (up to 10 stages) • Creep, Shrinkage & Modulus of Elasticity (AASHTO / Eurocode / CEB-FIP / ACI209 / PCA / AS3600 / AS/RTA 5100.5) • Tension losses in tendons (Magura / CEB-FIP / European) ➤ Design • AASHTO LRFD: Prestressed Box Girder / Concrete & Steel • AASHTO LFD & ASD: Concrete & Steel • AISC LRFD & ASD / ACI 318 • CAN/CSA-S6: Prestressed Box Girder / Concrete • Eurocode 2: Prestressed Box Girder / Concrete (Column) • Eurocode 4: Composite Plate Girder / Composite Steel Box & PC Girder • Eurocode 3: Steel Frame ➤ PSC Bridge Rating as per AASHTO LRFR ➤ Dynamic Report Generation
midas Civil -Advanced-	➤ Static Analysis ➤ Dynamic Analysis • Eigen (Lanczos) and Ritz vector Analyses • Response Spectrum Analysis • Time History Analysis (Multiple Support Excitation) ➤ Vehicle Load Optimization • Eurocode 1 • AASHTO LRFD & Standard. Load auto-generation • CAN/CSA-S6 • BS5400 Spec. & BD37/01 • AS5100 • SP 35.13330.2011 • Abnormal Indivisible Load

	• Influence Line/Surface • Moving Load Tracer & Force Envelopes ➤ P-Delta Analysis ➤ Wizards (Slab, RC Frame & Culvert auto-generators) ➤ Integral Bridge Module (Soil-Structure Interaction) ➤ Grillage Model Auto-Generation (Multi-Cell Box Girders) ➤ Transverse Analysis Model Auto-Generation ➤ Settlement Analysis ➤ Pushover Analysis ➤ Section Property Calculator for irregular sections ➤ Buckling Analysis ➤ Thermal Stress Analysis ➤ Automesh for Planar Area (Wood-Armer moments) ➤ Composite Bridge Analysis ➤ Construction Stage Analysis (up to 10 stages) • Creep, Shrinkage & Modulus of Elasticity (AASHTO / Eurocode / CEB-FIP / ACI209 / PCA / AS3600 / AS/RTA 5100.5) • Tension losses in tendons (Magura / CEB-FIP / European) ➤ Design • AASHTO LRFD: Prestressed Box Girder / Concrete & Steel • AASHTO LFD & ASD: Concrete & Steel • AISC LRFD & ASD / ACI 318 • CAN/CSA-S6: Prestressed Box Girder / Concrete • Eurocode 2: Prestressed Box Girder / Concrete (Column) • Eurocode 4: Composite Plate Girder / Composite Steel Box & PC Girder • Eurocode 3: Steel Frame ➤ PSC Bridge Rating as per AASHTO LRFR ➤ Dynamic Report Generation ➤ Construction Stage Analysis (unlimited number of stages), Post-tension Wizards (FCM, ILM, MSS, FSM & PSC bridge), Large Displacement (Forward/Backward) Analysis • Suspension Bridge Wizard • Cable Stayed Bridge Wizard • Cable Tuning ➤ Boundary Nonlinear Dynamic Analysis (Gap, Hook, Damper, Isolator, Hysteretic System, etc.)
midas Civil -Full Version-	➤ Static Analysis ➤ Dynamic Analysis • Eigen (Lanczos) and Ritz vector Analyses • Response Spectrum Analysis • Time History Analysis (Multiple Support Excitation) ➤ Vehicle Load Optimization • Eurocode 1 • AASHTO LRFD & Standard. Load auto-generation • CAN/CSA-S6 • BS5400 Spec. & BD37/01 • AS5100 • SP 35.13330.2011 • Abnormal Indivisible Load • Influence Line/Surface • Moving Load Tracer & Force Envelopes ➤ P-Delta Analysis ➤ Wizards (Slab, RC Frame & Culvert auto-generators) ➤ Integral Bridge Module (Soil-Structure Interaction) ➤ Grillage Model Auto-Generation (Multi-Cell Box Girders) ➤ Transverse Analysis Model Auto-Generation ➤ Settlement Analysis

- **Pushover Analysis**
- **Section Property Calculator for irregular sections**
- **Buckling Analysis**
- **Thermal Stress Analysis**
- **Automesh for Planar Area (Wood-Armer moments)**
- **Composite Bridge Analysis**
- **Construction Stage Analysis (up to 10 stages)**
 - Creep, Shrinkage & Modulus of Elasticity (AASHTO / Eurocode / CEB-FIP / ACI209 / PCA / AS3600 / AS/RTA 5100.5)
 - Tension losses in tendons (Magura / CEB-FIP / European)
- **Design**
 - AASHTO LRFD: Prestressed Box Girder / Concrete & Steel
 - AASHTO LFD & ASD: Concrete & Steel
 - AISC LRFD & ASD / ACI 318
 - CAN/CSA-S6: Prestressed Box Girder / Concrete
 - Eurocode 2: Prestressed Box Girder / Concrete (Column)
 - Eurocode 4: Composite Plate Girder / Composite Steel Box & PC Girder
 - Eurocode 3: Steel Frame
- **PSC Bridge Rating as per AASHTO LRFR**
- **Dynamic Report Generation**
- **Construction Stage Analysis (unlimited number of stages), Post-tension Wizards (FCM, ILM, MSS, FSM & PSC bridge), Large Displacement (Forward/Backward) Analysis**
 - Suspension Bridge Wizard
 - Cable Stayed Bridge Wizard
 - Cable Tuning
- **Boundary Nonlinear Dynamic Analysis**
(Gap, Hook, Damper, Isolator, Hysteretic System, etc.)
- **Heat of Hydration Analysis for Mass Concrete**
 - Heat Transfer Analysis based on Construction Stage
 - Convection, Heat Source, Pipe Cooling, etc
- **Material Nonlinear Analysis**
 - Truss, Plate, Plane Stress, Plane Strain, Axisymmetric, and Solid
 - Tresca, von Mises, Mohr-Coulomb and Drucker-Prager
 - Isotropic, Kinematic, and Mixed Hardening
- **Inelastic Time History Analysis**
 - Beam Element
 - Lumped Hinge & Distributed Hinge
 - Automatic Calculation of Yield Strength
 - Axial Load – Biaxial Moment Interaction
 - Fiber Model
- **FX+ Modeler**
 - Finite Element Modeler & Auto-Mesh Generator
 - Export Models to Civil (MCT format)
- **GSD (General Section Design)**
 - Draw Arbitrary Cross-sections (RC, Steel, Composite)
 - Capacity Curves (P-M, M-M, 3D) & Capacity Check Ratio (Eurocode)
 - Moment-Curvature Curves for Different Axial Loads
 - Stress Contours for Combined Loading
- **Rail Track Analysis**
 - Auto-generation Wizard of Rail Track Analysis Model
 - Rail Track – Structure Interaction
 - Temperature, Acceleration, and Braking Loads
- **AASHTO Steel Composite Design**
 - AASHTO LRFD Steel Composite Girder Design
 - AASHTO LRFD Steel Composite Girder Load Rating