

CivilFEM performs the best customization for civil engineering of the well-known Finite Element Program ANSYS. The combination of both programs, totally integrated, provide to the construction and civil engineering field with the capability of applying the finite element method analysis to a wide range of problems, that meet the challenges and requirements of this industry.

ANSYS and CivilFEM share the same windows graphic user interface, input data and results, making it very easy to solve difficult civil engineering problems. The ability to generate finite element models of any complex three-dimensional structure with nonlinear behavior means a new and efficient approach to run advanced analysis on your PC.

The most general program is named CivilFEM INTRO. Other specific modules are Bridges and Civil Nonlinearities module, Geotechnical module, Advanced Prestressed Concrete module. The software is available in three different versions: commercial, university and educational, depending on the use of the product. The specific modules can be optionally added. CivilFEM is supplied together with ANSYS/Structural OPT. I, II or III as a totally integrated product. In addition, it works with any other higher product of the ANSYS family as an add-on product.

ANSYS/CivilFEM INTRO perform earthquake analysis, true nonlinear buckling, checking and design according to reinforced concrete and structural steel standards, soil mechanics, dams, etc., reducing dramatically the time needed for designing and analysing, as well as increasing the quality of the projects and efficiency in innovative construction processes. A library of materials, hot rolled structural steel sections, etc., are included in this cutting-edge program, to make model generation easier. All material properties in CivilFEM are time-dependent, and allow the definition of true stress-strain diagrams. The user can create and save his/her own materials and sections into the corresponding CivilFEM libraries.

A very powerful and smart load combination tool has been also incorporated for typical civil engineering result combinations. Furthermore, automatic modal Spectrum for seismic analysis is supported.



CivilFEM INTRO Module Features

1. GENERAL FEATURES

- Fully Integrated inside ANSYS Program
- Free Units System Selection

2. CIVIL MATERIAL LIBRARY

- Concrete Material Library
- Steel Material Library
- Reinforcing Steel Material Library
- Prestressing Steel Material Library
- User defined material library
- Time-dependent material properties

3. CIVIL SECTION LIBRARY

- Libraries of Hot Rolled Shapes
- Typical Steel Sections by Dimensions
- Generic Steel Sections by Plates
- Typical Concrete Sections by Dimensions
- Generic Mixed Material Concrete Sections
- Section definition by capture from 2D/3D ANSYS Models
- Discretization in points and tessellation inside the beam cross section (small facets).
- User-defined section library

4. USER FRIENDLY BEAMS & SHELLS

- Automatic List & Plot of Section Geometry and Properties
- Automatic Load of Forces & Moments
- Plot and List of Beam & Shell Results
- Plot of Stresses and Strains Inside Beam Cross Sections
- Reinforcement Pre-design

5. LOAD UTILITIES

- Automatic earth pressure on beam, shell and solids

6. SKILLED COMBINATIONS

- Smart Selection of Loads and Coefficients
- Code Combination Logic
- Moving Loads Combination
- Concomitance at Element Level
- Concomitance at Global Structural Level
- Worst Load Arrangements and Coefficients

7. STEEL CODE CHECKING

- Eurocode No 3 (European), EA (Spanish), AISC-LRFD (USA), British Standard 5950-85, British Standard 5950-01, Others (*)

8. CONCRETE CODE CHECKING & DESIGN

- Eurocode No 2 (European), EHE (Spanish), ACI 318 (American), CEB-FIP (Model Code), British Standard 8110, AS3600 (Australian), GB50010 (Chinese), Others (*)

9. SHELL REINFORCEMENT

- Wood Armer Reinforcement (Flexure)
- CEB-FIP (Flexure+Shear+Membrane Forces)

10. SEISMIC UTILITIES

- Spectrum definition
Eurocode N° 8, NCSE- 94 (Spanish), NCSE-02 (Spanish), GB50011 (Chinese), Others (*)
Automatic mode combination according to code specifications

11. FLAC3D INTEGRATION (specialized geotechnical software)

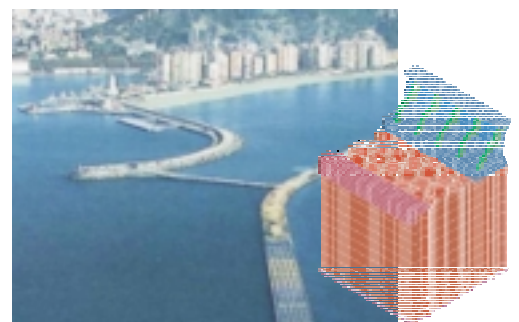
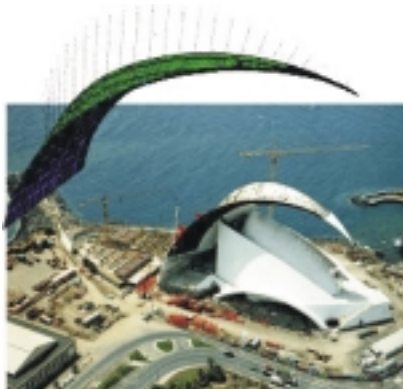
- Automatic export-import of an ANSYS/CivilFEM model to FLAC3D
- FLAC3D Structural elements reinforcements

12. GENERAL UTILITIES

- HTML listing and graphic results
- Export/Connection with MS-EXCEL

PLATFORMS

- Intel workstations (Windows NT 4.0, 2000, XP, and subsequent)



(*) Please for further information and available capabilities contact your local CivilFEM Support Distributor