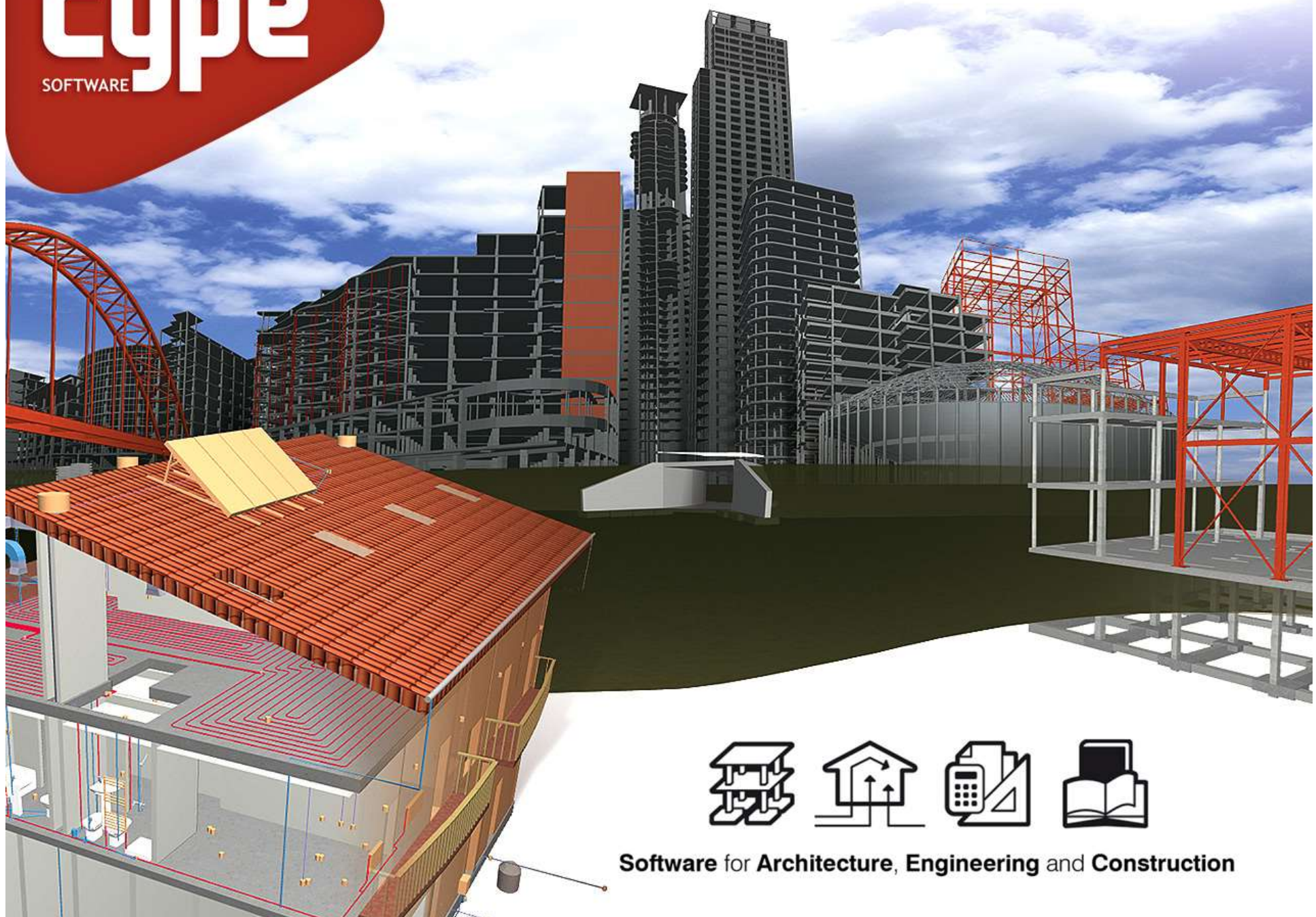


cype

SOFTWARE



Software for Architecture, Engineering and Construction

What is CYPE?

CYPE develops and distributes technical software for Architecture, Engineering and Construction professionals.

CYPE's journey began in 1983 with an intense activity in the field of engineering and structural analysis, which motivated the computer development of applications to cover its own needs and those of its clients. The success of these programs led the company to concentrate its activity in the development, commercialisation and distribution of technical software.

As a result of this work, CYPE occupies a leading position within the sector, offering a variety of programs that stand out due to the wide range of casuistry that is dealt with, the reliability of the results and the ease with which they can be managed.

60.000 users throughout Europe, Latin America, Africa, Oceania and Asia have already acquired over **100.000 programs**. Amongst our clients are town councils and ministries, as well as technical control organisations, universities and professional offices.



Software within everyone's reach

Program development begins with analysing professional needs and the reality of the sector; then continues with the productive process, which incorporates the direct contact experience with users and the most innovative software technology.

Highly reliable analyses are guaranteed; precise check reports are provided with the added security that these analyses are updated to the latest **national and international design codes**.

CYPE software covers three fundamental areas in the elaboration of the project:

- Structural design and analysis
CYPECAD, Metal 3D, Shear walls, Box culverts...
- Design and analysis of building services
CYPECAD MEP...
- Project management and project documents
Arquimedes, Arquimedes and job control...

Furthermore, different options are available to acquire or access the programs:

- Professional version
- Evaluation version
- Campus version and temporary licence



Active participation

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By **collaborating** with the most important professional studios, technical control organisms and construction companies, with the added suggestions from our users, we are constantly up-to-date on new work methods to then **update our programs** periodically and effectively. We also participate in projects with associations of renown prestige such as:

- The Instituto Eduardo Torroja
- Asociación Científico-Técnica del Hormigón Estructural (ACHE)
- Tecnalía
- Centre Scientifique et Technique du Bâtiment (CSTB-France)
- Comitato Termotecnico Italiano (CTI)
- Agência para a energia (ADENE-Portugal)
- Agence Nationale pour le Développement des Energies Renouvelables et de l'Efficacité Energétique (ADEREE-Morocco)
- BuildingSmart Spanish Chapter (as founding member)
- Green Building Council de España (GBCe)
- Instituto Español del Cemento y sus Aplicaciones (IECA)
- Cámara Peruana de la Construcción (CAPECO)
- Builders' Association of India (BAI)
- EDIBATEC (France)
- Arquitectos Sin Fronteras
- Plataforma Tecnológica de la Construcción (PTEC)
- UPONOR and REPSOL.



Specialised technical service

The team of qualified experts that make up the Technical support department guarantees the software is implemented and adequately performs within our clients' professional environment, resolving their queries in an agile and efficient manner.

Moreover, CYPE also offers **exclusive customer and post-sales services** to our clients to respond to orders, claims, deliveries and courses.

Courses and training

We offer **quality and up-to-date training and courses** of CYPE programs in the national and international scene so users can make the best use of our products.



R+D+I Projects

Our vision of the future and the objective analysis of the situation of the sector are two factors which lead us to participate in diverse R+D+I projects, several of which are financed by the Centre for the Development of Industrial Technology (CDTI) and by the European Regional Development Fund (ERDF).

Since we began our journey, we have acquired great experience in the development of European and national investigation projects, and have created quality performance tools, especially aimed at professionals.

To Summarise, CYPE is...

A **leading firm**, composed of a team of more than **130 professionals**, which believes specialization and integration are the best formulae for its development within the professional field, by providing agile and effective services to its clients.



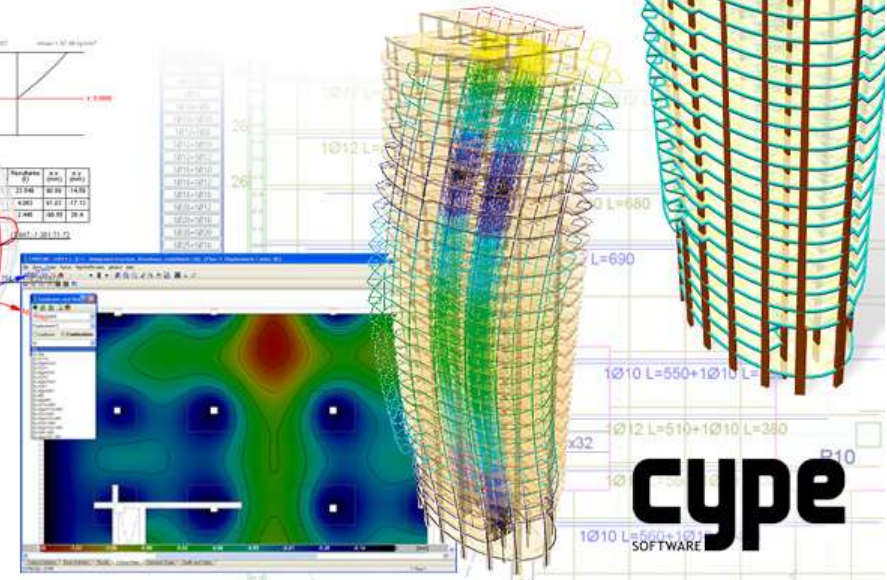
CYPECAD

Analysis and design of reinforced concrete and steel structures, exposed to horizontal and vertical loads. For buildings and civil works.

- **Foundations** consisting of pad footings, combined footings, piles with their corresponding pile caps, mat foundations and foundation beams.
- **Vertical supports** composed of reinforced concrete columns, steel columns, reinforced concrete walls and shear walls, and masonry walls.
- **Beams:** reinforced concrete, steel and composite.
- **Floor slabs:** joist floor slabs, precast slabs, flat slabs, waffle slabs, composite slabs (steel deck) and post-tensioned concrete slabs for buildings.
- **Analysis of the results** with graphics and detailed U.L.S. reports.
- **Design and edition** of all the reinforced concrete and steel structural elements.
- **Joints:** design of welded and bolted connections of rolled and welded steel I sections and hollow sections.
- **Drawings** containing the geometry and reinforcement of the structural elements.
- **Reports:** complete with all the data, analysis results, reinforcements, and takeoff of the materials and formwork.
- **Codes** national and international.
- Integration with **Metal 3D**.
- Import/export using **IFC 2x3, IFC4** format (CAD/BIM models).



Barra	Cantidad (Barra)	Cantidad (Barra)	Barra	Cantidad (Barra)	Barra	Cantidad (Barra)
1	100	100	100	100	100	100
2	100	100	100	100	100	100
3	100	100	100	100	100	100
4	100	100	100	100	100	100
5	100	100	100	100	100	100
6	100	100	100	100	100	100
7	100	100	100	100	100	100
8	100	100	100	100	100	100
9	100	100	100	100	100	100
10	100	100	100	100	100	100

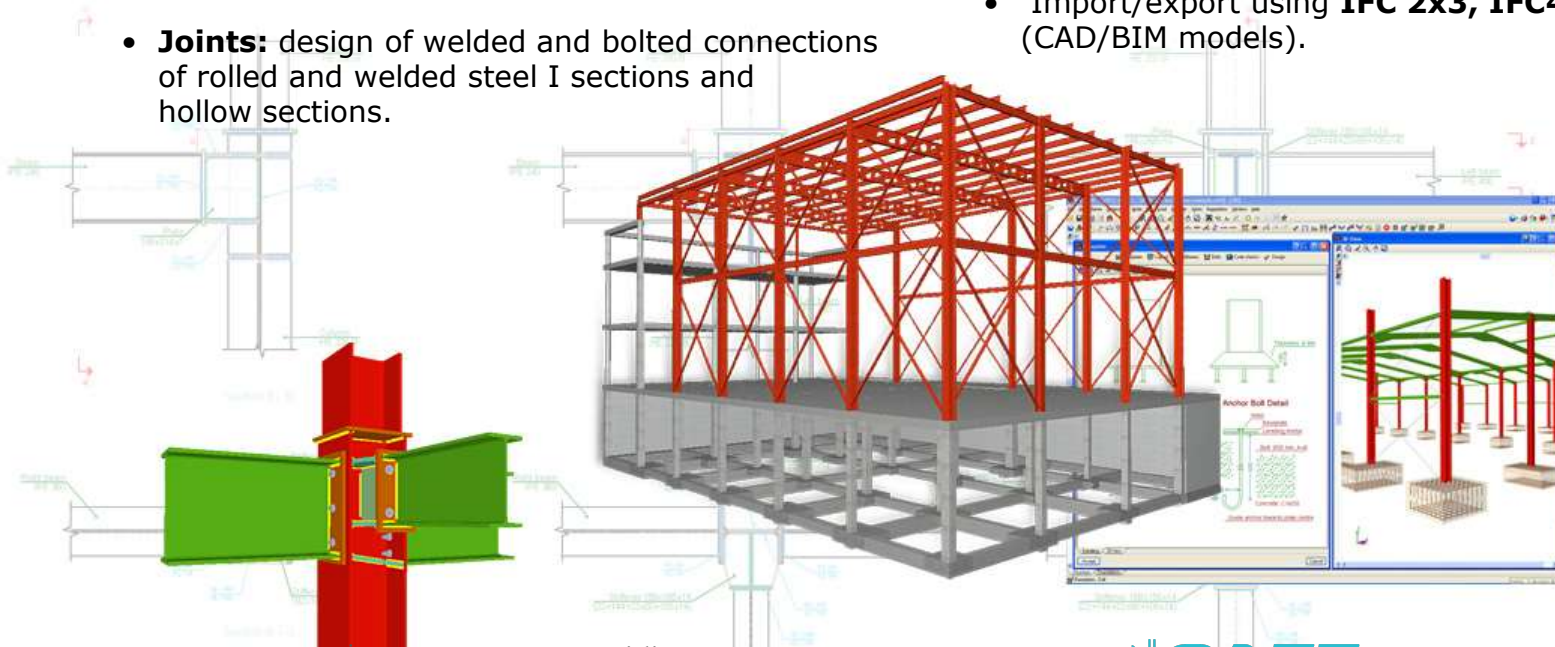
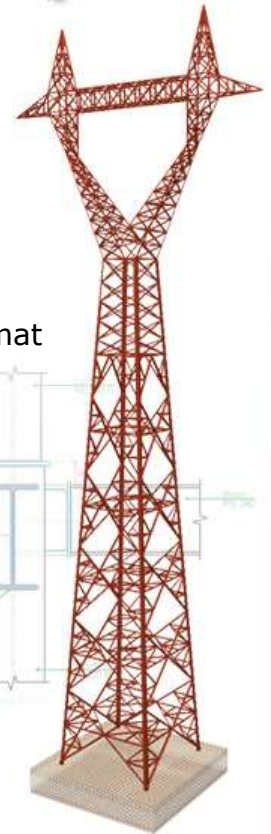


CYPE 3D

Analysis and design of three dimensional steel, aluminium and timber bars (including foundation), exposed to horizontal and vertical loads.

The program also carries out the analysis of bars composed of any material.

- **Foundations** consisting of pad footings, combined footings, piles with their corresponding pile caps and baseplates.
- **Analysis of the results** with graphics and detailed U.L.S. reports for steel, aluminium and timber bars.
- **Design and edition** of steel, aluminium and timber bars, and the foundations.
- **Joints:** design of welded and bolted connections of rolled and welded steel I sections and hollow sections.
- **Drawings:** precise and with detailing of the joints.
- **Reports:** complete with all the data, analysis results, and steel, aluminium, timber and foundation takeoff.
- **Codes** national and international.
- Import/export using **IFC 2x3, IFC4** format (CAD/BIM models).

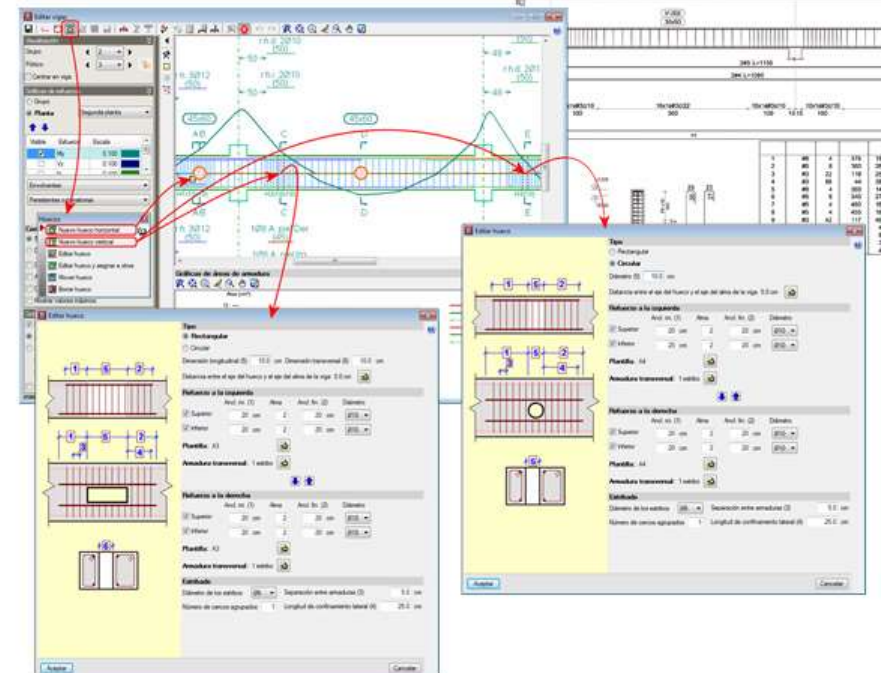
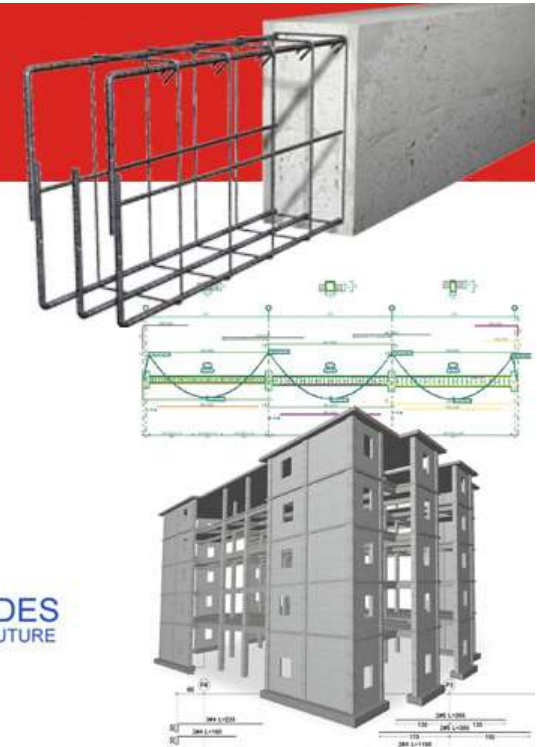


Continuous beams

*Continuous beams is a program which has been conceived to **analyse, design and check continuous beam** alignments of frames made out of concrete and rolled, welded and cold-formed steel (with various floor slab arrangements) based on the introduced geometry of the alignment and loadcase of the acting forces.*

The program offers:

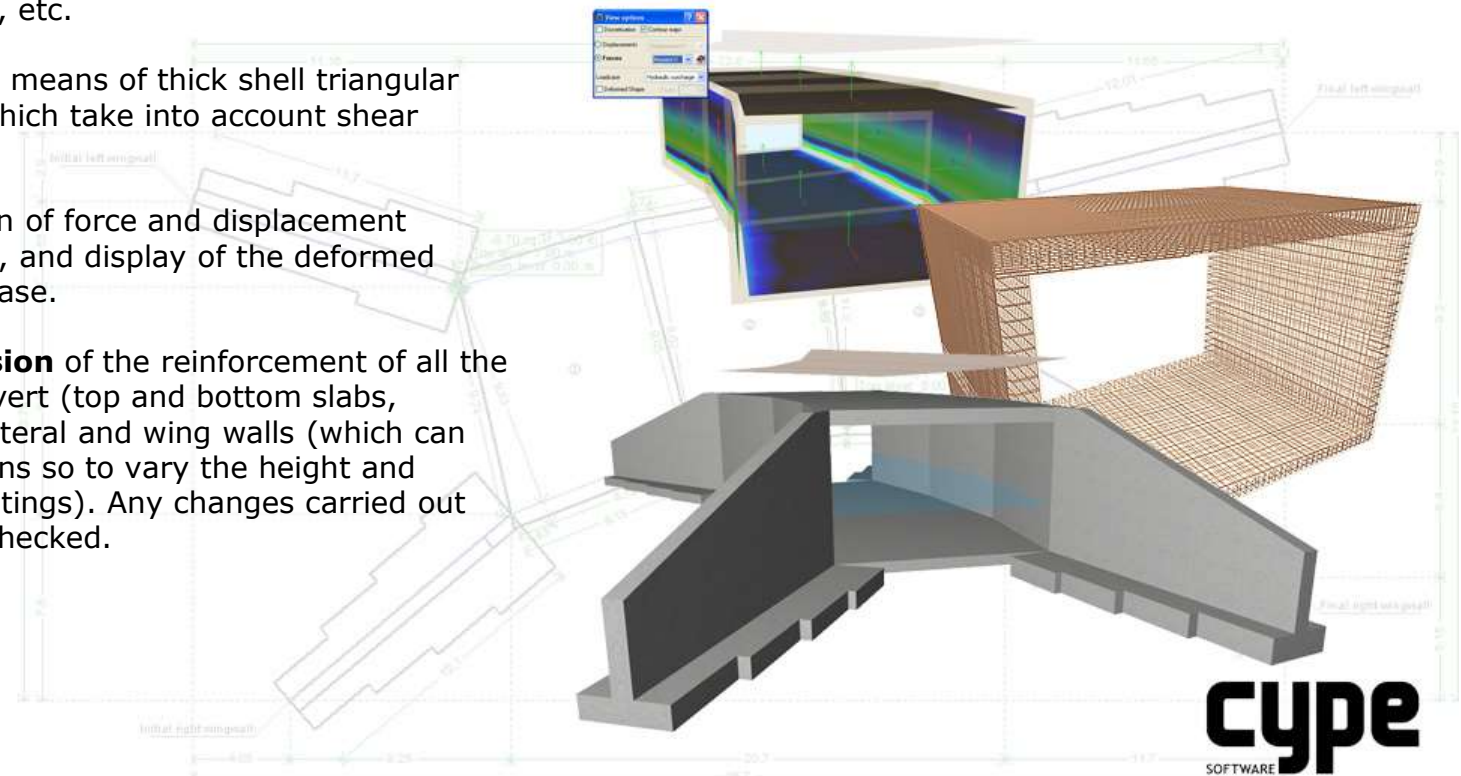
- **Data introduction assistant** and complete editor for the data that has been introduced.
- **Detailed Ultimate Limit State (U.L.S.)** check reports and detailed drawings containing the corresponding reinforcement detailing.
- A design process which is adapted to **a large number of standards:** Eurocode 2 (EU), IS 456: 2000 (India), ACI 318M-08 (USA), Eurocode 3 (EU), IS 800: 2007 (India)...



Box culverts

Analysis, design and check of reinforced concrete box culverts used as underpasses, subways and drainage works.

- **Geometry:** rectangular or trapezoidal (single or multi-cell and several types of wingwalls), with unlimited polygonal arrangement on plan and elevation.
- **Truck loads** at any position (vast vehicle library) with graphical indication of their axis path and the distance between the sequential load acting positions. Strip loads on slabs, etc.
- Force calculation by means of thick shell triangular **finite elements**, which take into account shear deformation.
- 3D view consultation of force and displacement **contour diagrams**, and display of the deformed shape for any loadcase.
- **Design and provision** of the reinforcement of all the elements of the culvert (top and bottom slabs, intermediate cell, lateral and wing walls (which can be divided in to spans so to vary the height and geometry of the footings). Any changes carried out can be edited and checked.
- **Drawings and reports** containing the data that has been introduced and the design results, the detailing of all the elements of the culvert and material takeoff.
- National and international **design codes**.

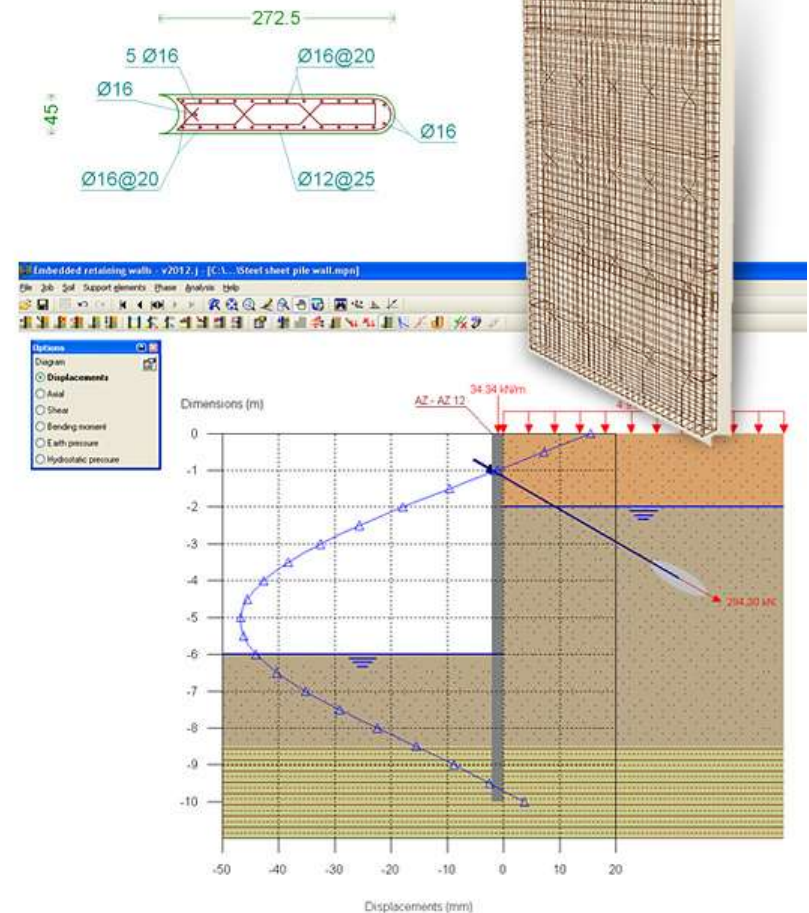


Soil retention elements

Embedded retaining walls

Analysis, design and check of retaining walls composed or reinforced concrete, concrete in-situ piles, steel sheet piles and mini pile screens.

- Possibility of defining different **soil layers**, berms at the infill and excavations at the backfill by phases.
- Active and passive **anchors**, struts, slabs, etc.
- **Floor slabs** at different levels.
- Option to consider **seismic action**.
- **Non-linear analysis**, considering elastoplastic behaviour for the soil and support elements.
- **Global stability analysis**. Ratio between the balancing moment of the passive pressure at the infill; safety factor of the passive pressure at the infill; and worst case slip circle.
- **Design** for the different construction phases.
- **Reports**: data, drawings of the construction phases, design results, force and deformation diagrams and material takeoff.
- **Drawings** displaying reinforcement layout with the option to edit and check the modifications.

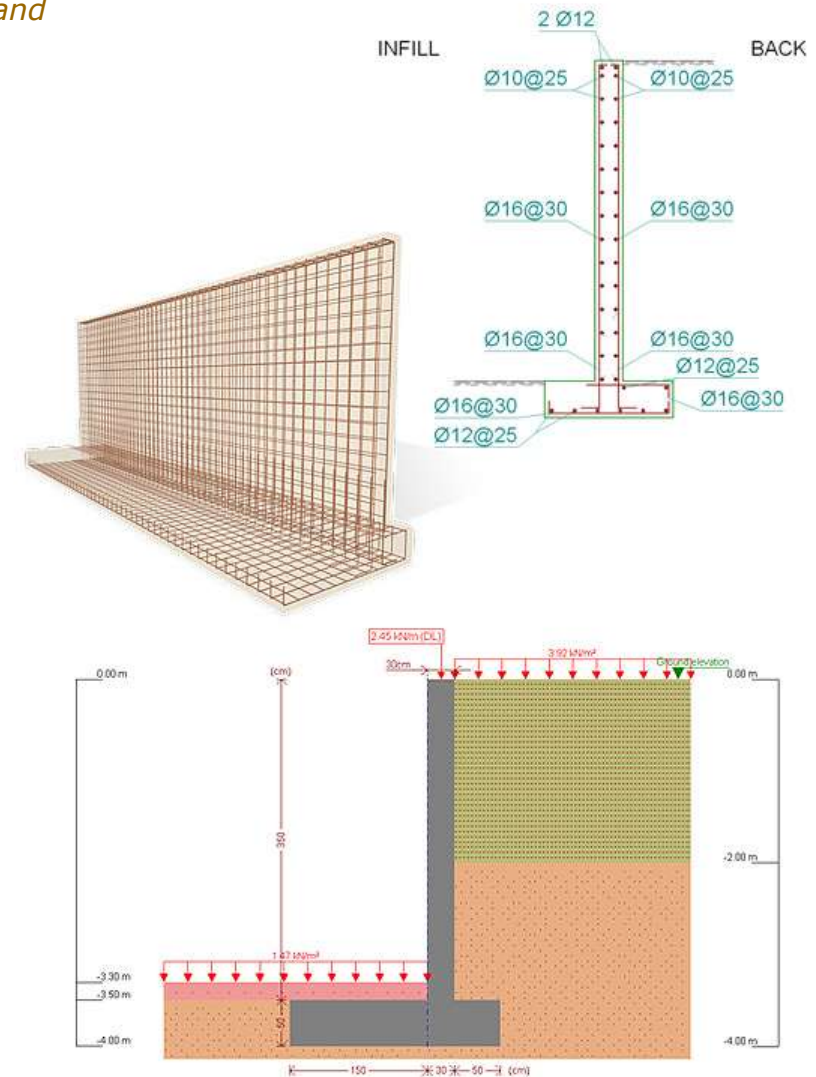


Soil retention elements

Reinforced concrete cantilever walls

Analysis and design of reinforced concrete walls for soil retention and its corresponding foundation (footing or pile cap with piles).

- Possibility of defining different **soil layers**.
- Automatic **pre-design** of the geometry of the wall and the foundation.
- **Design** of the elevation reinforcement and foundation of the wall.
- **Phase analysis** and consideration of **seismic action**.
- **Global stability analysis** (turning, sliding and worst case slip circles).
- **Reports:** data, analysis results and material takeoff.
- **Drawing of the phases** and force diagrams and deformations for each phase.
- **Drawings** displaying reinforcement layout with the option to edit and check the modifications.

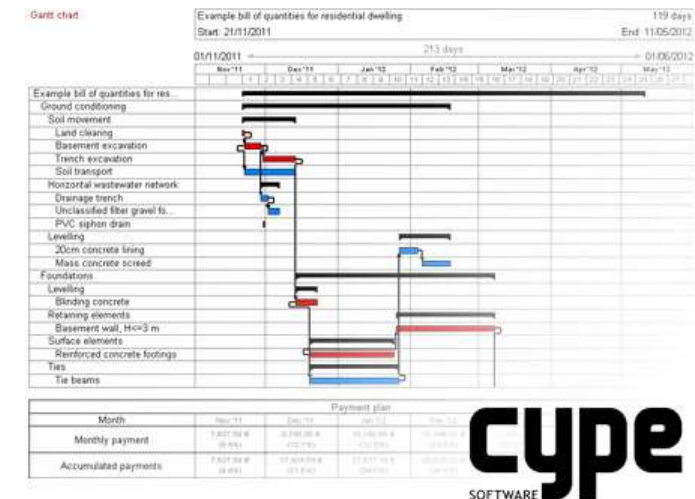
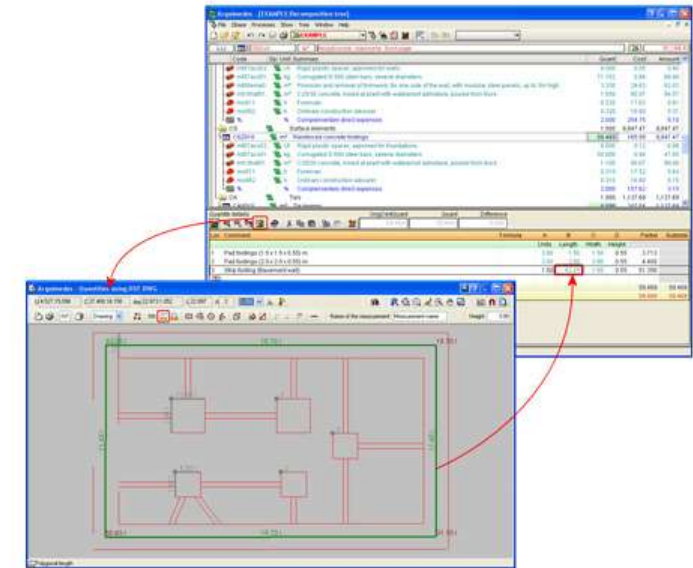


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Project Management Arquimedes and Job Control

Bills of quantities, certifications, specifications and budget control of the job.

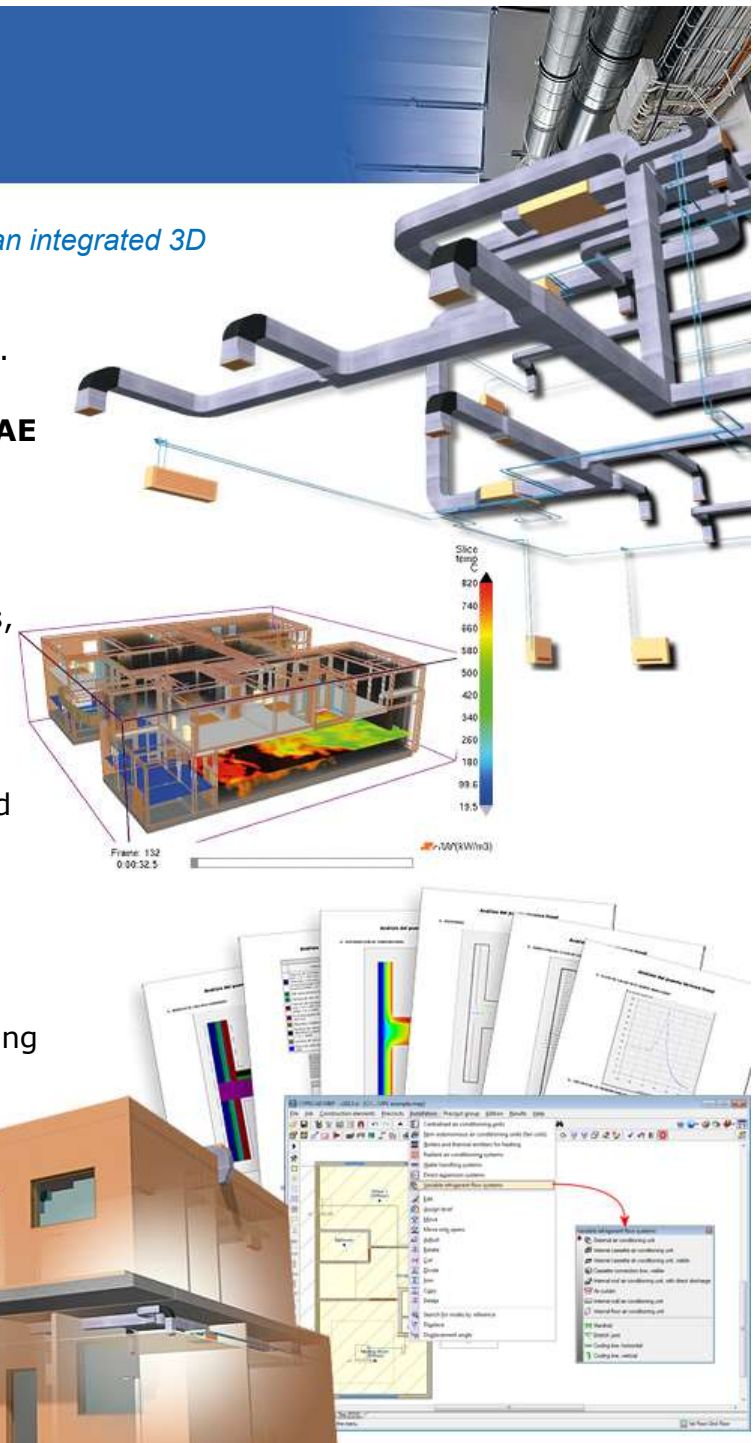
- Bills of quantities containing details tables with manual introduction, with quantity measurements taken from DXF or DWG files, or by importing CAD program quantities carried out using Allplan®, ArchiCAD® and +Extended® (AutoARQ).
- Comparison of different bills of quantities.
- Exchange with other bill of quantity programs using FIEBDC-3 format and export in spreadsheet format.
- Vast list of default reports (over a hundred) with the possibility of configuring and creating personalised reports.
- Gantt chart for the job.
- **Job control. Financial control** (quantity and price variance, cash-flow, and account status with suppliers and clients); Purchase control (orders, deliveries, invoices, supplies, stock...); and Control using cost centres (real execution expenses and their variances, real up-to-date profits and foreseeable profit at the end of the job; all displayed for each job unit, chapter and budget total).



Building services CYPECAD MEP

Software to design the envelope, distribution and services of the building using an integrated 3D model with the various elements of the building.

- Import/export using **IFC 2x3, IFC4** format files (CAD/BIM models).
- **Thermal loads** and option to view **shadows**. Includes the **"ASHRAE Weather Data Viewer 4.0" weather database** and the monthly average daily global solar irradiance database: "NASA Langley Research Center Atmospheric Science Data Center".
- Design of **HVAC** installations (heat pumps with 2 or 4-pipe fan coils, heating systems with radiators, radiant floor, radiant ceiling, direct expansion and VRF systems, rooftop systems, zoning, geothermal energy harvesting systems...)
- **Thermal analysis** of the building with export to **EnergyPlus™** and analysis of thermal bridges.
- **Acoustic analysis** of the building in accordance with **EN 12354 (ISO 15712)** including noise generated by **HVAC** installations.
- Design of **fire safety installations** and dynamic fire simulation using FDS.
- **Graphical view** of the analysis results and detailed reports.
- Data and analysis result reports, quantities of the construction elements, materials and equipment.
- Drawings and circuit diagrams.



International codes Design codes Implemented in CYPE programs

CYPE programs have a wide range of national and international codes available which are applied to carry out the analysis, design and check of reinforced concrete, rolled steel, welded steel, cold-formed steel, composite, aluminium and timber structures for gravitational, wind, seismic and snow loads.

NCSE02 PS92 DIN4149:2005-04 NRA
Th-ce 2005 CSCR-2002 CIRSOCIO3-199
RPS2000 PPA 99/V2003 Nch-430Of96
NTC-2004 PPA 99/V2003 NC46:1999
Eurocode 3 (Bulgaria)
Eurocode 3 (France)
Eurocode 3 (Italy)
Eurocode 3 (Portugal)
Eurocode 3 (Spain)
Eurocode 3 (USA)
Eurocode 3 (UK)
Eurocode 3 (Australia)
Eurocode 3 (Canada)
Eurocode 3 (Mexico)
Eurocode 3 (Brazil)
Eurocode 3 (Chile)
Eurocode 3 (Colombia)
Eurocode 3 (Cuba)
Eurocode 3 (Czech Republic)
Eurocode 3 (Denmark)
Eurocode 3 (Finland)
Eurocode 3 (Germany)
Eurocode 3 (Greece)
Eurocode 3 (Hungary)
Eurocode 3 (India)
Eurocode 3 (Indonesia)
Eurocode 3 (Japan)
Eurocode 3 (Korea)
Eurocode 3 (Malaysia)
Eurocode 3 (Maldives)
Eurocode 3 (Mauritius)
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Eurocode 3 (Netherlands)
Eurocode 3 (New Zealand)
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Eurocode 3 (Pakistan)
Eurocode 3 (Peru)
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Eurocode 3 (Portugal)
Eurocode 3 (Romania)
Eurocode 3 (Russia)
Eurocode 3 (Saudi Arabia)
Eurocode 3 (Singapore)
Eurocode 3 (South Africa)
Eurocode 3 (South Korea)
Eurocode 3 (Sri Lanka)
Eurocode 3 (Sweden)
Eurocode 3 (Switzerland)
Eurocode 3 (Taiwan)
Eurocode 3 (Thailand)
Eurocode 3 (Turkey)
Eurocode 3 (Ukraine)
Eurocode 3 (United Arab Emirates)
Eurocode 3 (United Kingdom)
Eurocode 3 (United States)
Eurocode 3 (Vietnam)
Eurocode 3 (Yemen)
Eurocode 3 (Zimbabwe)

Loads on structures. Wind loads	
<ul style="list-style-type: none"> Algeria • R.N.V.99 D.T.R. C 2-4.7 Argentina • CIRSOC 102-1984 Belgium • Eurocode 1 (Belgium) Brazil • ABNT NBR 6123 Bulgaria • Ordenanza nº 3, 21 de julio de 2004, Sección VI: Cargas de viento Canada • NBC 05 Chile • NCH432.071 Colombia • NSR-10 Costa Rica • RC80 Cuba • NC 285:2003 EU International • Eurocode 1 France • Eurocode 1 (France) • NV 65:2009 Germany • DIN 1055-4:2005-03 Guatemala • NSE2 Honduras • CHOC-04 India • IS-875: (Part3) - 1987 (Reaffirmed 1997) 	<ul style="list-style-type: none"> International • Generic code (pressure/ height curves) Italy • N.T.C. (Italy) Mexico • CFE - 2008 Mexico City • NTC Morocco • Cahier des Prescriptions Communales Applicables au Calcul des Surcharges dues au Vent Panama • REP-04 Paraguay • NBR Peru • Norma Técnica E.020 Portugal • RSA • Eurocode 1 (Portugal) República Dominicana • Boletín nº 9/80 South Africa • SANS 10160-3:2011 Spain • CTE DB SE-AE • NTE United Kingdom • Eurocode 1 (United Kingdom) Uruguay • UNIT 50-84 USA • ASCE/SEI 7-10 • ASCE/SEI 7-05 Venezuela • COVENIN 2003-89

Concrete structures	
<ul style="list-style-type: none"> Argentina • CIRSOC 201-2005 • CIRSOC 201-1982 Bolivia • CBH 87 Brazil • ABNT NBR 6118:2007 • ABNT NBR 6118:2003 • ABNT NB-1 Bulgaria • Eurocode 2 (Bulgaria) Chile • NCH430.0f2008 • ACT 318-99 (Chile) EU International • Eurocode 2 	<ul style="list-style-type: none"> Italy • NTC: 14-01-2008 Mexico City • NTCRC • NTCRC:2004 Peru • NTE E.060: 2009 Portugal • Eurocode 2 (Portugal) • REBAP Romania • Eurocode 2 (Romania) Spain • EHE-08 • EHE-98 • EHE-01
Rolled and welded steel structures	
<ul style="list-style-type: none"> Brazil • ABNT NBR 8800:2008 • ABNT NBR 8800:1986 Bulgaria • Eurocode 3 (Bulgaria) Canada • CAN/CSA S16-01 Chile • NCH427 EU International • Eurocode 3 France • Eurocode 3 (France) Germany • DIN 18800:2008-11 	<ul style="list-style-type: none"> India • IS 800: 2007 Italy • Eurocode 3 (Italy) • NTC: 14-01-2008 Mexico City • NTCRC Estruct.Metal. Portugal • REAE • Eurocode 3 (Portugal) Spain • EAE • CTE DB SE-A • EA-95 (MV103) USA • AISI ASD 89 • AISI LRFD 89
Cold-formed steel structures	
<ul style="list-style-type: none"> Brazil • ABNT NBR 14762:2010 • ABNT NBR 14762:2001 • AISI (Brazil) Bulgaria • Eurocode 3 (Bulgaria) Canada • CAN/CSA S136-07 Chile • NCH427 EU International • Eurocode 3 France • Eurocode 3 (France) Germany • DIN 18800:2008-11 	<ul style="list-style-type: none"> Italy • Eurocode 3 (Italy) • NTC: 14-01-2008 Mexico • AISI/NASPEC-2007 (LRFD) (México) Portugal • Eurocode 3 (Portugal) • MV110 (Portugal) Spain • EAE • CTE DB SE-A • EA-95 (MV110) USA • AISI/NASPEC-2007 (LRFD) (USA)

Some of our clients

- Abener
- Abengoa, S.A.
- Acciona
- Aguirre Newman, S.A.
- Applus Norcontrol, S.L.U.
- Asea Brown Boveri
- Bureau Veritas, S.A.
- Carlos Fernández Casado, S.L.
- Cemex, S.A.
- Cepsa
- CH2MHILL ESPAÑA, S.L.
- Chemtrol, S.A.
- Cobra, S.A.
- Corsán-Corviam, S.A
- Daugson Hispana, S.L.
- Dragados, S.A.
- Endesa, S.A.U.
- Engineers India Limited
- Eptisa
- FCC, S.A.
- Ferrovial, S.A.
- IBERDROLA
- IZAR, S.A.
- King Sturge - Project Management
- OHL, S.A.
- Otep, S.A.
- Ove Arup
- Ploder, S.A.
- Qualitas,
- Renfe/Adif
- Repsol
- Rodio, S.A.
- Saint Gobain Vicasa, S.A.
- Schneider Electric, S.A.
- SGS Tecnos, S.A.
- Siemens, S.A.
- Socotec, S.A.
- Técnicas Reunidas, S.A.
- Terratest, S.L.
- Tifsa, S.A.
- Typsa
- Urssa S. Coop.





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