

### New Standards

- DIN 1045-1:2008
- EN 1992-1-1  
Austria  
Germany  
Sweden
- EN 1992-1-2
- EN 1993-1-2

**InfoCAD 8.0**

Update Information November 2008

Important information on the current version of the program can be found in the InfoCAD online help. New program versions are posted regularly on the service page of our web server at [www.infograph.eu](http://www.infograph.eu).

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Title image: Structure model of the 180 m high 'Europe Tower' in Sofia, Bulgaria.  
Courtesy of IDN Ingenieurbüro DOMKE Nachf., Duisburg, Germany.

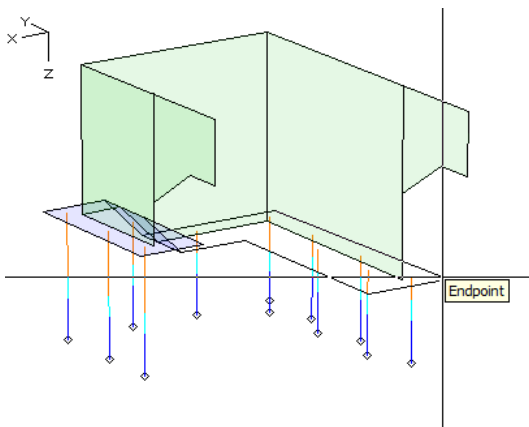
## News in InfoCAD 8.0

The following chapters provide you with the latest information on the InfoCAD program system and the most important changes with respect to the previous version 7.0 from november 2007.

### License Manager

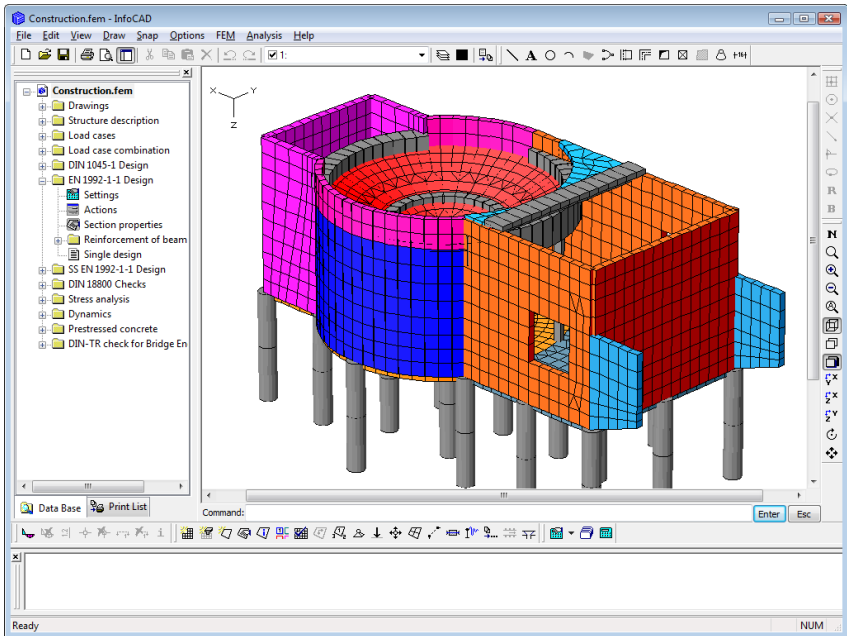
- Different licensing schemes can now be managed on a single server.
- You can now be notified of errors over an SMTP server.
- The InfoMonitor and InfoKeyTest help tool functions have been expanded.

### General Information



- When using crosshair input, object snap is now active by default.
- The numbering of supports and spring elements can now be set separately.
- There is now an option to color area elements under temperature load. A color legend is displayed for this purpose.
- Reactions of support lines can be labeled with their integral.
- Labeling of support lines and line loads has been improved.
- The numeric reinforcement representation for area elements is now separately selectable for the x and y direction.
- The user specific descriptions of design situations are now displayed within the database tree.
- The section legend is limited to visible sections.
- The "Hidden" view option has been completely revised.

## InfoCAD 8.0 Update Information



- The new “Section Representation” view option has been added.
- For the sake of increasing the printing speed for hidden and section representations, the usage of the z-buffer can be switched off.
- For rectangular sections, library section and polygons, an average across the section width can be performed for calculating the shear stresses from lateral force. This option is enabled by default for new sections.
- The “Condense” function now includes the “Triangulate” option. This option allows you to split rectangular elements into triangular elements.

### DIN 1045-1 and DIN Technical Report 102

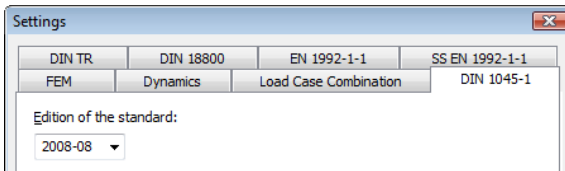
- You now have the option to perform the shear check for area elements separately for the x and y supporting directions (cf. Interpretation No. 76 of the Building and Civil Engineering Standards Committee, NABau).
- The lever arm  $z$  for the shear design is now limited to the maximum value from  $d-2 \cdot c_{vt}$  and  $d-c_{vt}-30\text{mm}$ . The laying measure  $c_{vt}$  of the longitudinal reinforcement can be preset (cf. Interpretation No. 24 of the Building and Civil Engineering Standards Committee, NABau).
- You can now choose either load actions or restraints for determining the minimum crack reinforcement.
- The crack width check can now alternatively be performed by limiting the bar distances.
- You can now specify the maximum crack distance for the direct crack width calculation.

- The permissible crack width is now suggested in the dialog with the table value that is based on the prestressing type and the requirement class.

## DIN Technical Report 102

- The check of principal tensile stresses can be limited to the zone of longitudinal compressive stresses.

## DIN 1045-1, New Edition 2008

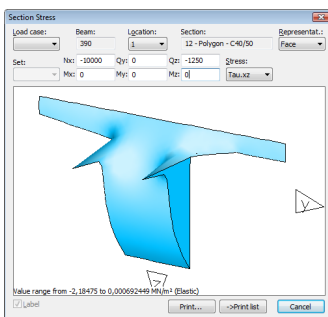


The DIN 1045-1 dialog page of the “Settings” function provides you with an option for selecting the 2001 or 2008 edition of the standard.

The following checks have been adapted to the new edition:

- Check of the maximal lateral load-bearing capacity  $V_{Rd,max}$  (Chapter 10.3.1 (4)).
- Determination of the lateral load-bearing capacity  $V_{Rd,ct}$  without lateral force reinforcement (Chapter 10.3.3 (1)).
- Limiting the strut angle  $\cot \theta$  (Chapter 10.3.4 (3)).
- Calculation of the lateral load-bearing capacity  $v_{Rd,ct}$  for slabs without lateral force reinforcement (Chapter 10.5.4 (1)).
- Definition of the permitted characteristic stress range  $\Delta\sigma_{Rsk}$  (Chapter 10.8.3 (5), Table 16).
- Calculation of the crack width (Chapter 11.2.4 (1)).

## Section Stresses



- The linear-elastic section stresses can now be represented in a two-dimensional manner.

## **EN 1992-1-1 (EC 2)**

The reinforced and prestressed concrete design according to EN 1992-1-1 is applicable with respect to the following standards:

- EN 1992-1-1:2004 as the base document
- DIN EN 1992-1-1:2005 with the Germany National Annex 2008 (Draft)
- OENORM EN 1992-1-1:2005 with the Austria National Annex B 1992-1-1:2007
- SS EN 1992-1-1:2005 with the Sweden National Annex 2008

The following checks can be conducted:

### **Ultimate Limit State**

- Minimum reinforcement against failure without warning
- Bending with or without normal force or normal force only
- Lateral force under consideration of the minimum level of reinforcement
- Pure torsion and torsion with lateral force
- Checks against punching shear

### **Serviceability Limit State**

- Limiting the concrete compressive stresses
- Limiting the reinforcing steel stresses
- Limiting the prestressing steel stresses
- Minimum reinforcement for the crack width limitation
- Limiting the crack width via direct calculation
- Decompression check
- Limiting deformations

## **Mesh Generation**

- The "Grid" generator is now also available for the automatic mesh generation of 3D systems with model faces.
- Large model structures are now processed much faster.

## **Prestressed Concrete**

- You can use the <Database> option to load properties from the lgraph.dat file or save them to that file.

## **DIN 18800**

- The stress check for the "BEAM" section now includes the "only compressive force" and "only tensile force" options.

## Dynamics

- If available, the number of the excitation spectrum will be indicated in the results for the stationary response.
- A static load case may be chosen as an initial condition for the direct time step integration.

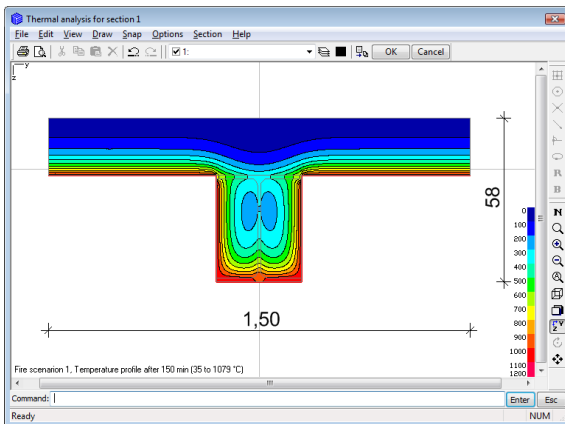
## Nonlinear System Analysis

- A bilinear bedding characteristic in the compressive and tensile sections is now included for area elements.
- The analysis according to EN 1992-1-1 has been added.

## IFC Data Transfer

- The data transfer is now based on the IFC version IFC 2x3.

## Structural Analysis for Fire Scenarios



With this module you can conduct a *Structural Analysis for Fire Scenarios* based on the general calculation method for 2D and 3D beam structures. Steel, reinforced concrete and composite sections are used in this analysis based on the following standards:

- EN 1992-1-2: 2004
- EN 1993-1-2: 2005
- ENV 1994-1-2: 1997

This module is offered as an extension of the 2D/3D Frame programs.

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