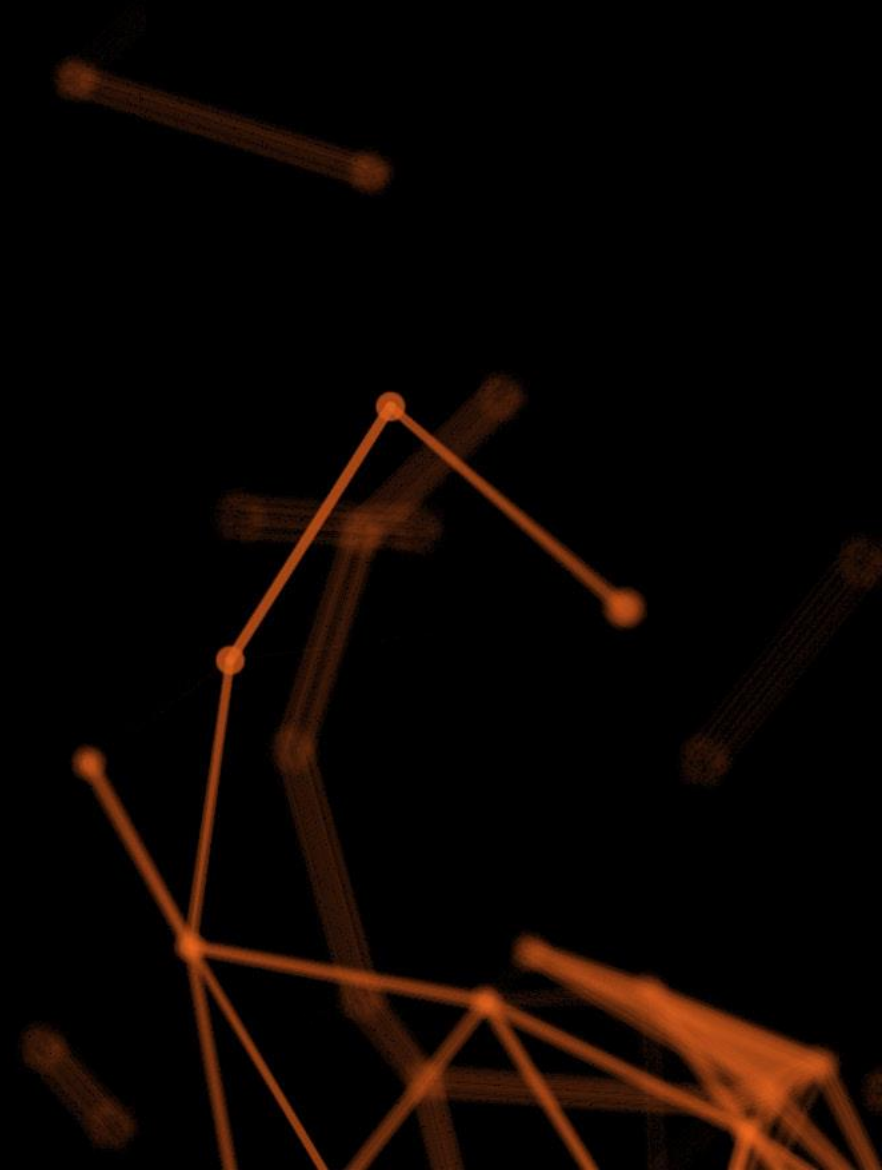


IDEA StatiCa®

Calculate yesterday's estimates

IDEA STATICA CONCRETE 3D DETAIL



PRÄSENTATION



Alexander Szotkowski

Produktingenieur
IDEA StatiCa

WORL-LEADING STRUCTURAL DESIGN SOFTWARE



8000+
desktop
licenses



Software results
validated by
universities



Linked to
20+ FEA/CAD
software



100+ employees
40+ resellers

Einführung

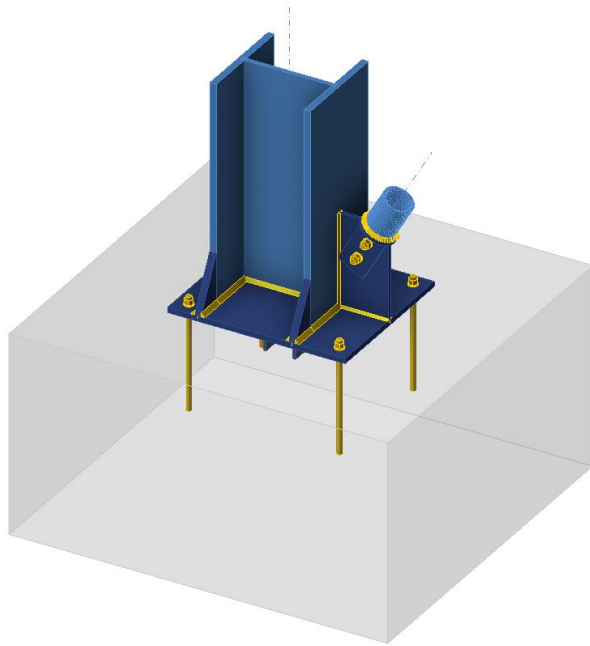
3D DETAIL

 **StatiCa®**

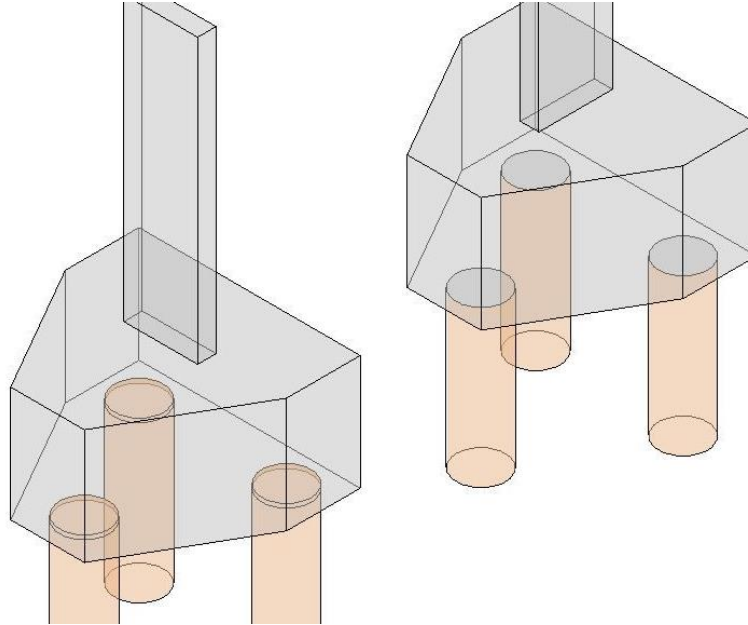
Calculate yesterday's estimates



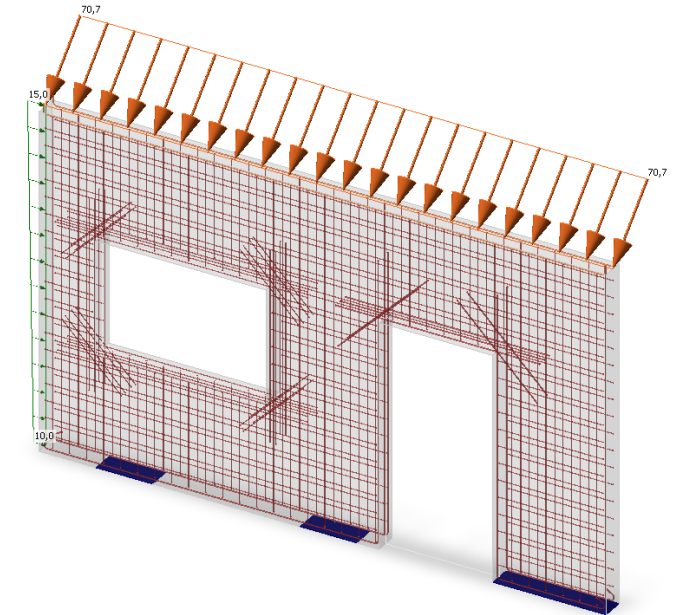
ÜBLICHE 3D-SPANNUNGSPROBLEME IM BETON



Verankerung

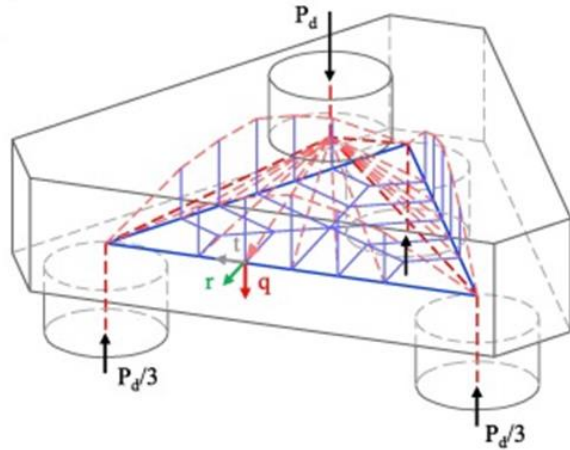


Pfahlkappen

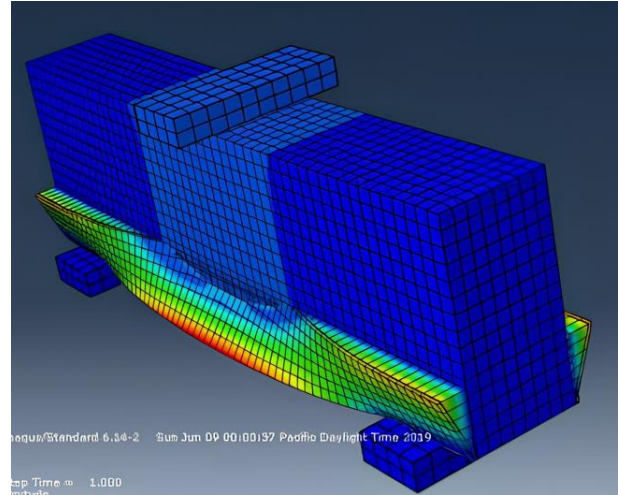


Belastung außerhalb der Ebene

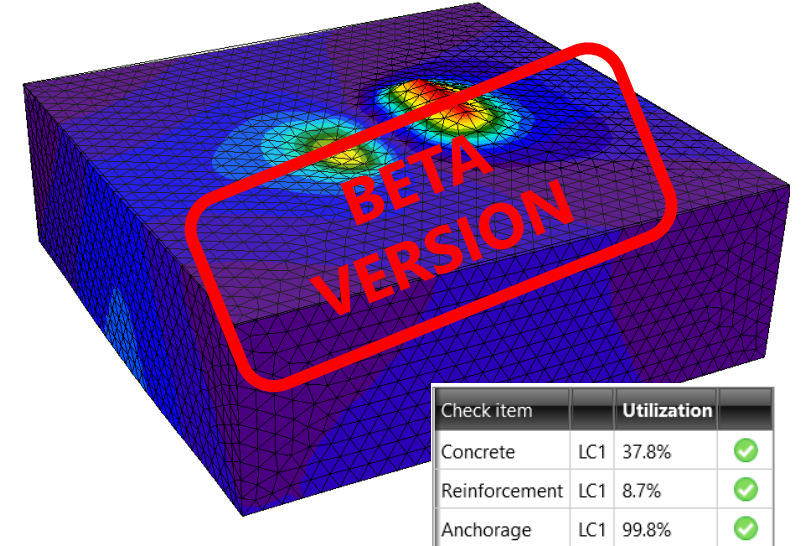
DERZEIT VERFÜGBARE METHODEN



Strebe und Zugband
Methode



Wissenschaftliche FEM
Nicht-lineare Lösungen

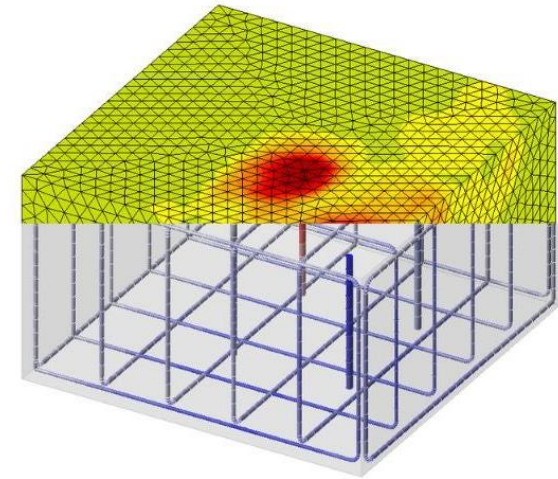
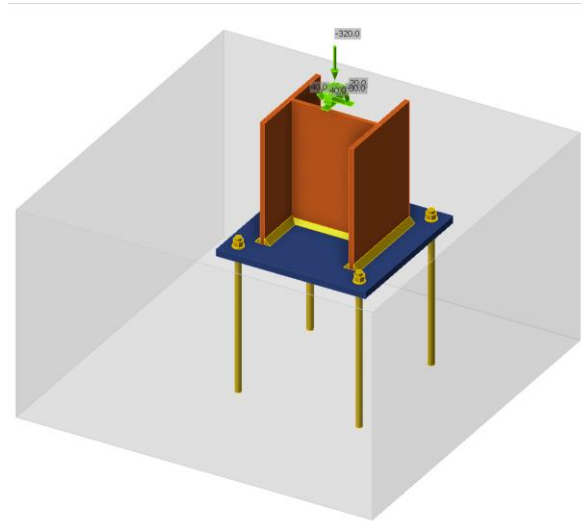


CSFM in IDEA StatiCa
Detail 3D

IDEA STATICA DETAIL 3D MIT CSFM

Ingenieure können 3D-Betonmodelle entwerfen und nachweisen

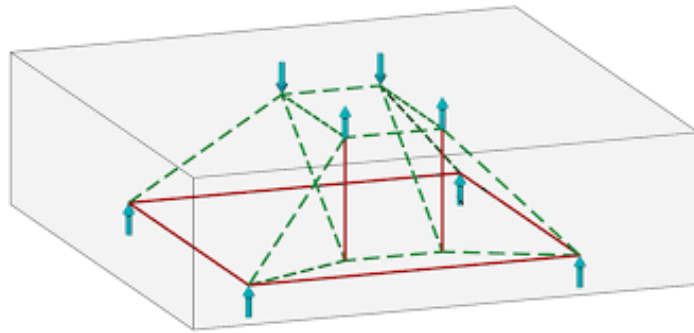
- ☑ JEDE TOPOLOGIE
- ☑ JEDE BELASTUNG
- ☑ IN MINUTEN



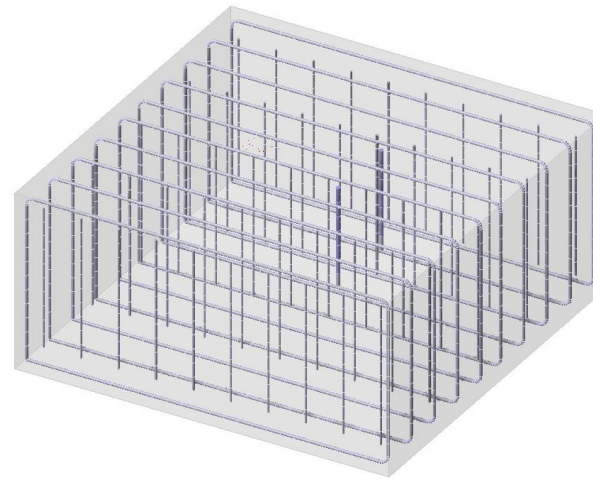
IDEA STATICA DETAIL 3D MIT CSFM

Die **erweiterte nichtlineare** Methode zur rechnergestützten Spannungsfeldbemessung ermöglicht die automatische Bemessung und Bewertung von Betonbauteilen unter komplexer Beanspruchung.

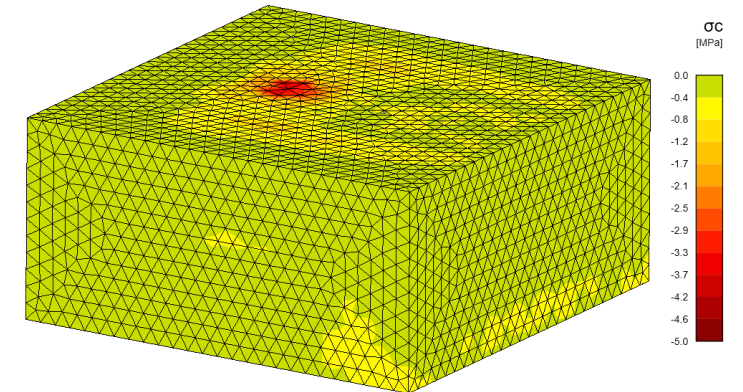
Die Methode **überwindet die Vereinfachungen** und Unzulänglichkeiten der bestehenden und bekannten Strut&Tie-Methode und ermöglicht einen Code-Check des Grenzzustands der Gebrauchstauglichkeit.



Strut & Tie Model

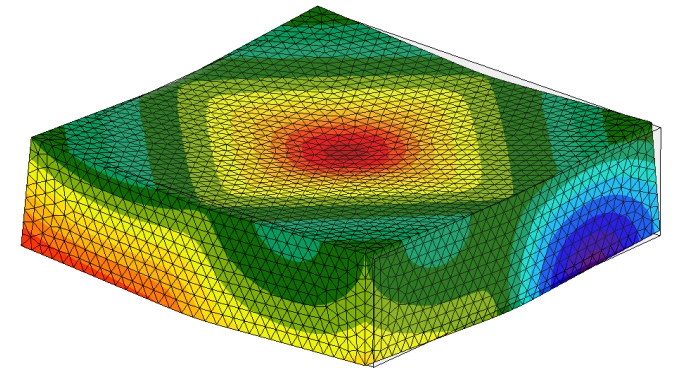
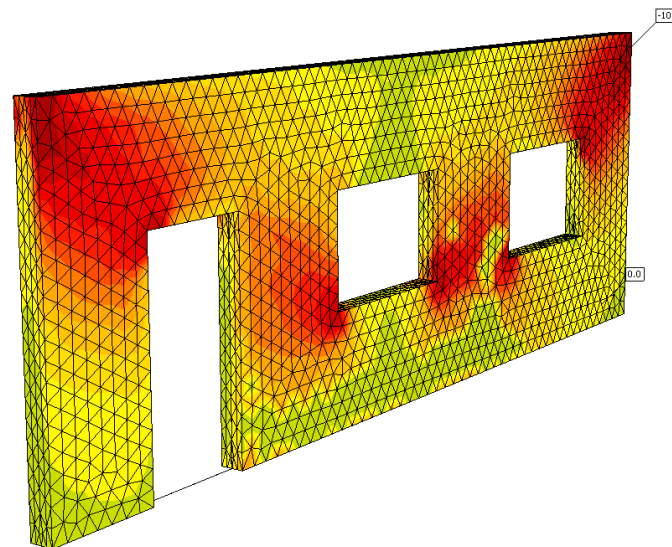
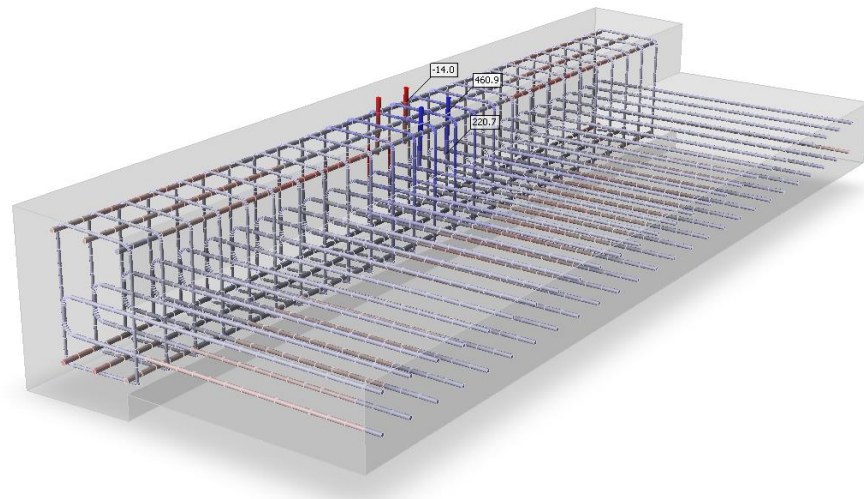
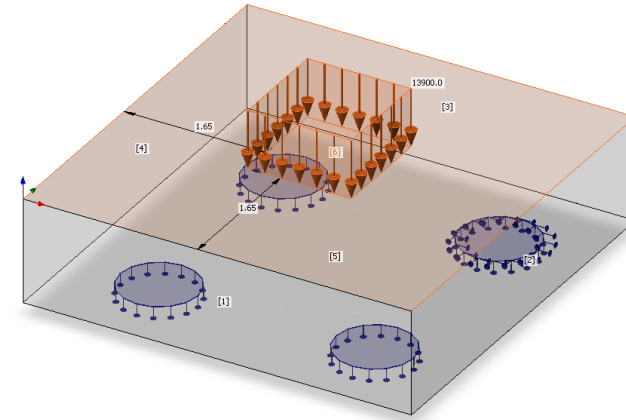
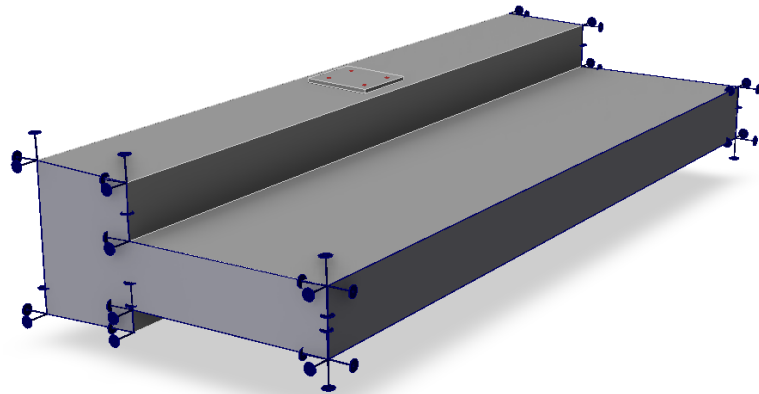


3D CAD Model



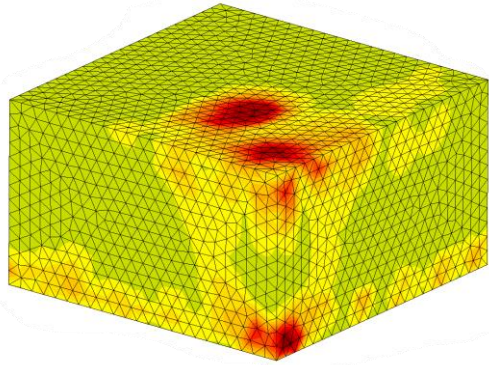
3D CSFM Model
IDEA StatiCa Detail

WOFÜR IST 3D DETAIL GEDACHT?

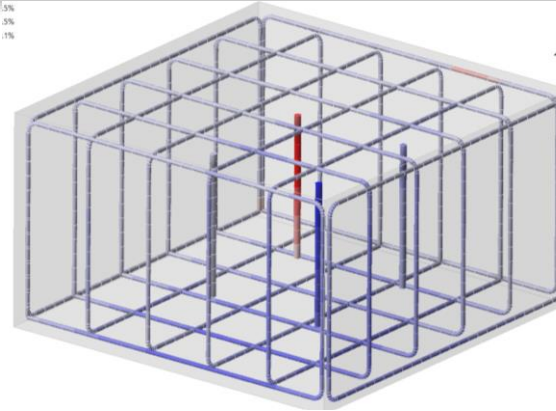


EUROCODE - KONFORMITÄT

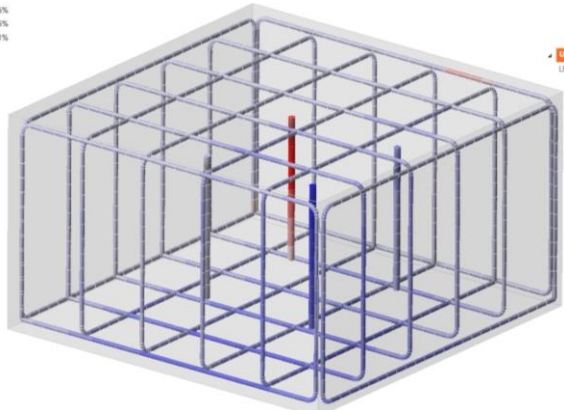
Beton



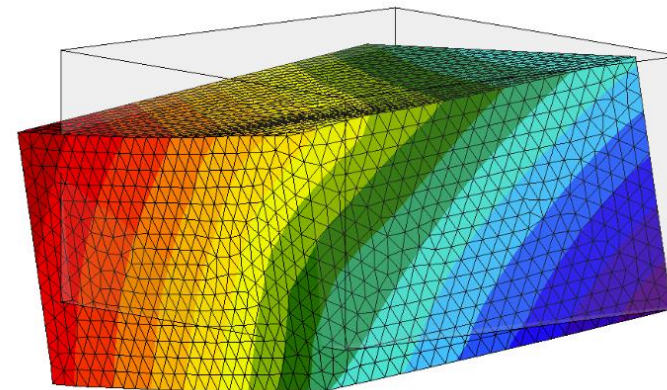
Bewehrung



Anker



Deformation



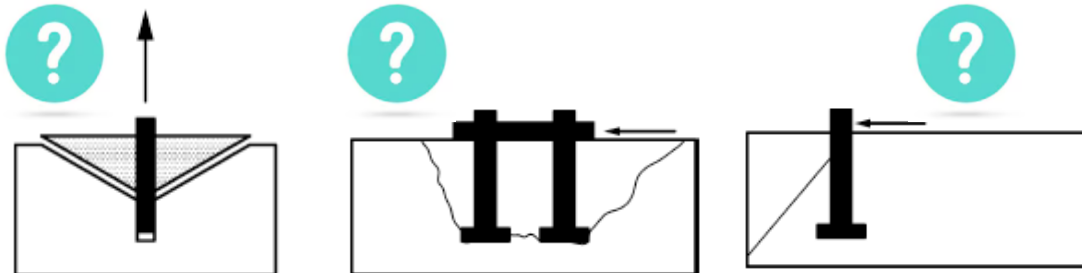
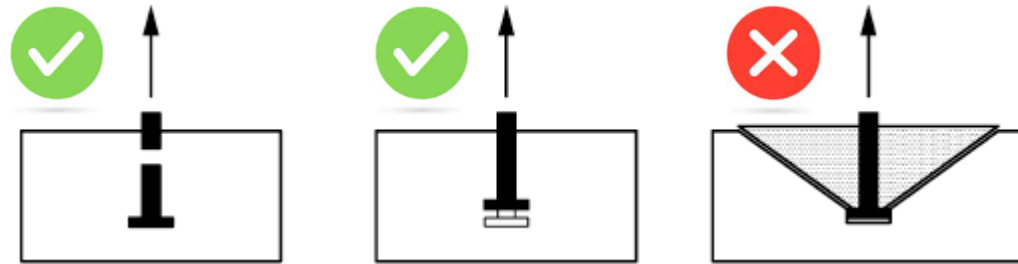
Verankerung

3D DETAIL

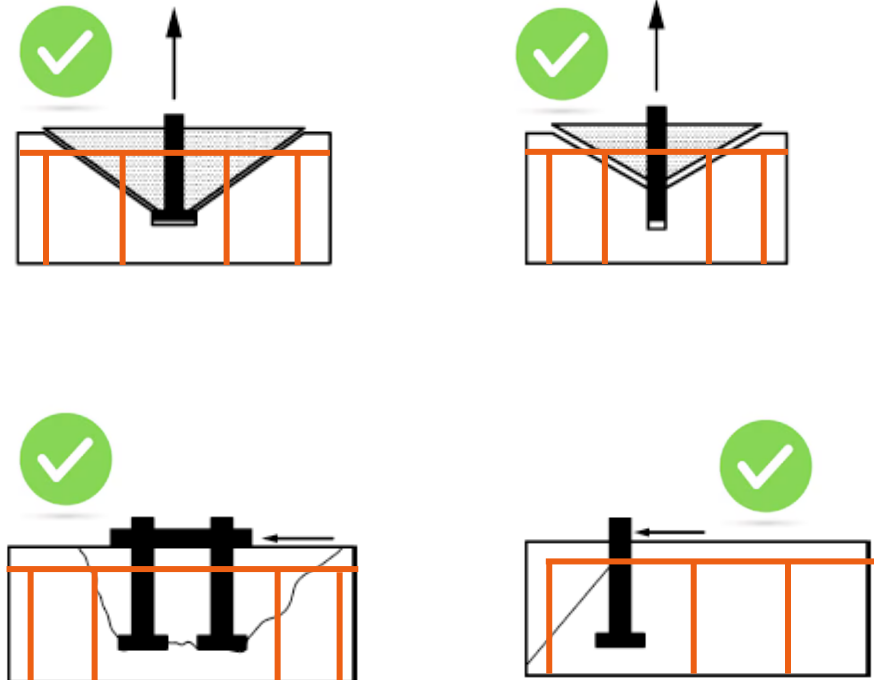


VERANKERUNG

EN 1992-4



Detail 3D



VERANKERUNG

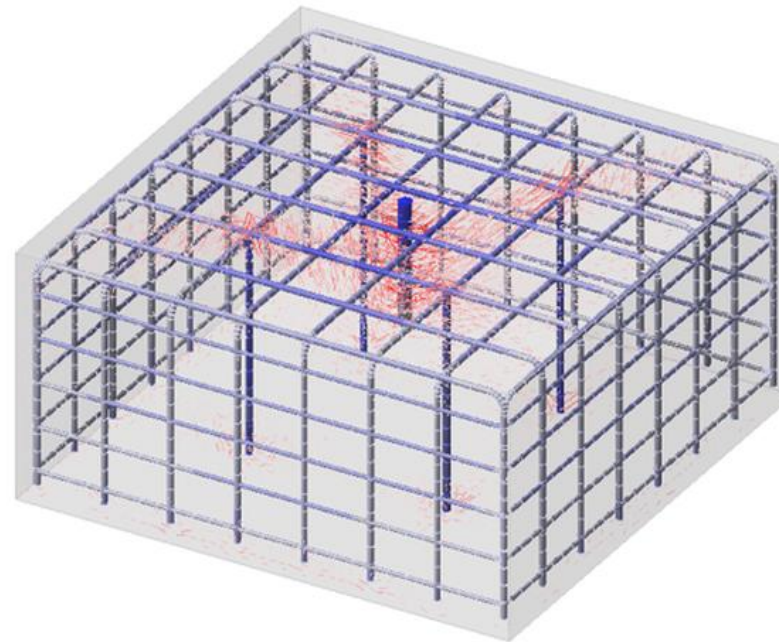
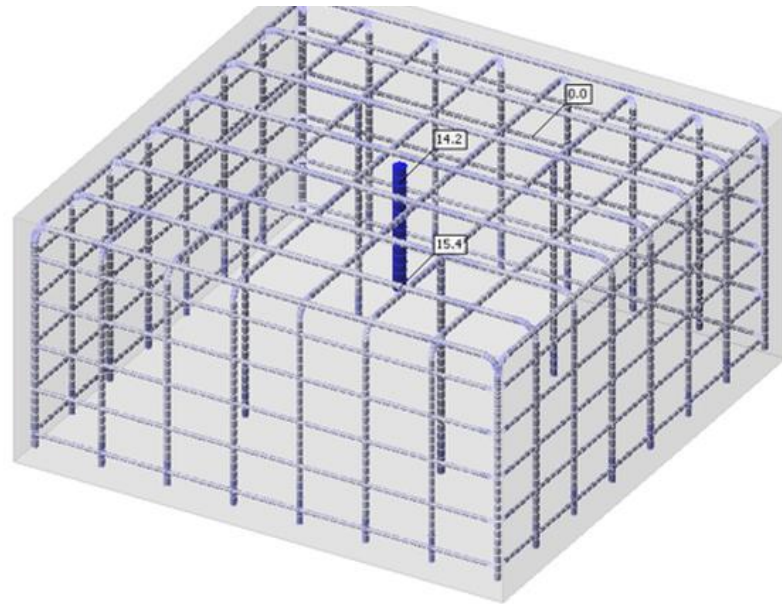
The screenshot displays the IDEA StatiCa software interface for a base plate analysis. The main 3D model shows a rectangular base plate with a grid of reinforcement bars. A color scale on the right indicates stress levels in MPa, ranging from -18.0 (red) to 224.6 (blue). The reinforcement bars are color-coded according to this scale, with some bars showing high stress (red/orange) and others showing low stress (blue).

Key interface elements include:

- Top Toolbar:** Contains icons for New Copy, Undo, Redo, Save, Member names, Dimension lines, Rebar, Loads, New Gallery, Settings Calculate, Summary Strength Anchorage, Stress limitation, and Code-check results.
- Left Panel:** Shows a tree view with 'CON1' expanded to 'Members', 'COL', and 'Load effects', 'LE1'.
- Right Panel:** Displays 'BP1 [Base plate]' with sections for 'Base plate', 'Member', 'Material', 'Thickness [n]', 'Dimensions', 'Offsets', 'Top [mm]', and 'Left [mm]'. A 'Beta' button is highlighted with a red box.
- Table:** A table titled 'Check of anchors for extreme load effect' with columns for Status, Item, Loads, N_{Ed} [kN], V_{Ed} [kN], $N_{Rd,c}$ [kN], $N_{Rd,p}$ [kN], $N_{Rd,cb}$ [kN], $V_{Rd,sp}$ [kN], U_{t1} [%], and U_{t2} [%].
- Summary Box:** A red-bordered box containing the following data:

ULS:		
Concrete	LE1	43.4%
Reinforcement	LE1	32.3%
Anchorage	LE1	98.8%
- Bottom Left:** A 3D view of the base plate with a 'Production cost - 116 €' label.

VERANKERUNG



IDEA STATICA DETAIL 3D - GRUNDVORAUSSSETZUNGEN

- Beton unter Spannung vernachlässigt - alle Spannungen werden durch die Bewehrung übertragen
- Geeignet nur für bewehrten Beton
- Triaxiale Druckspannung berücksichtigt
- Mohr-Coulomb $F=0^\circ$ -> konservativer Ansatz
- Materialmodelle entsprechend den Normen
- Nachweise im Endzustand

Es ist kein wissenschaftliches Werkzeug! Es ist ein Bemessungswerkzeug.

Bemessungs-Methoden, Materialmodelle, Koeffizienten usw. werden gemäß der Normen implementiert.

DEMO

3D DETAIL

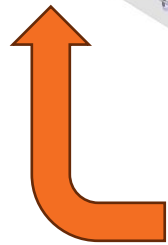
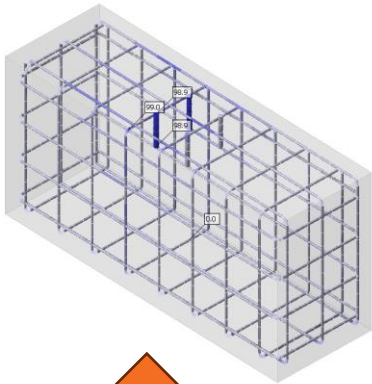


BIM LINKS

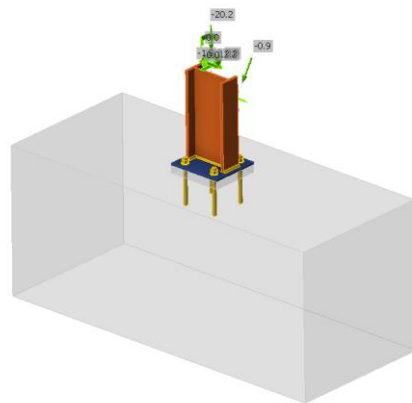
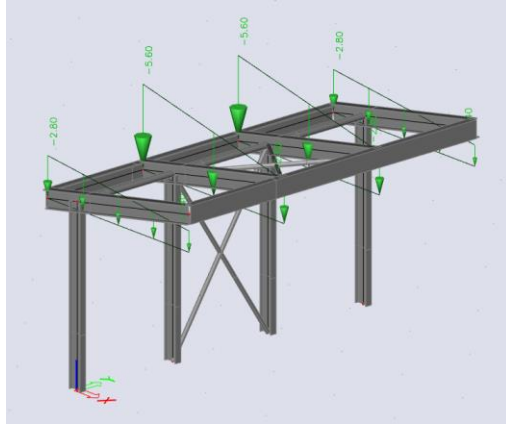
3D Detail

ULS: Concrete CO2(1) 17.0%
Reinforcement CO2(1) 27.9%
Anchorage CO2(1) 98.9%

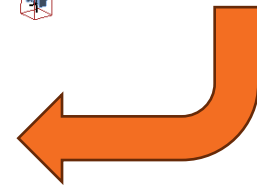
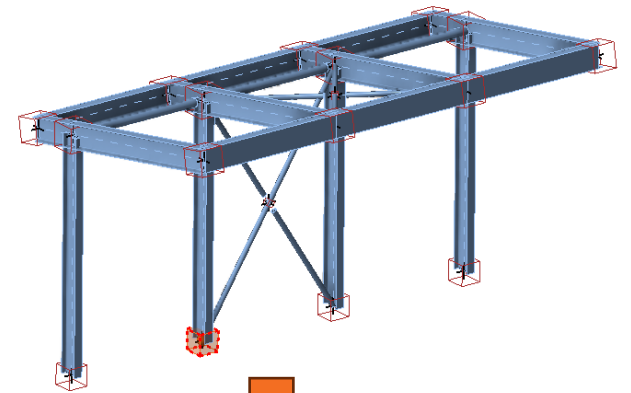
tb/fbd [%]
99.0
86.6
74.2
61.9
49.5
37.1
24.7
12.4

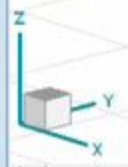
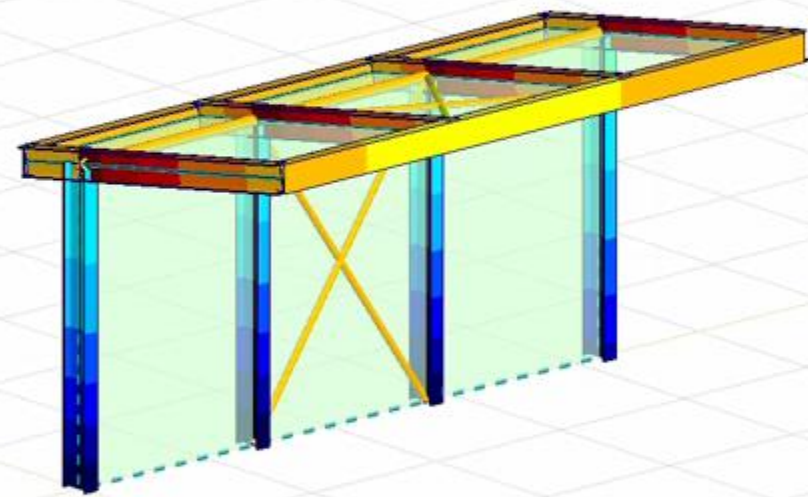


FEA Model



IDEA -Checkbot





d	dx[m] : -13,619	d	dr[m] : 18,557
	dy[m] : 12,411		da[*] : 137,66
	dz[m] : -2,200		dh[m] : -2,200
	dL[m] : 18,557		

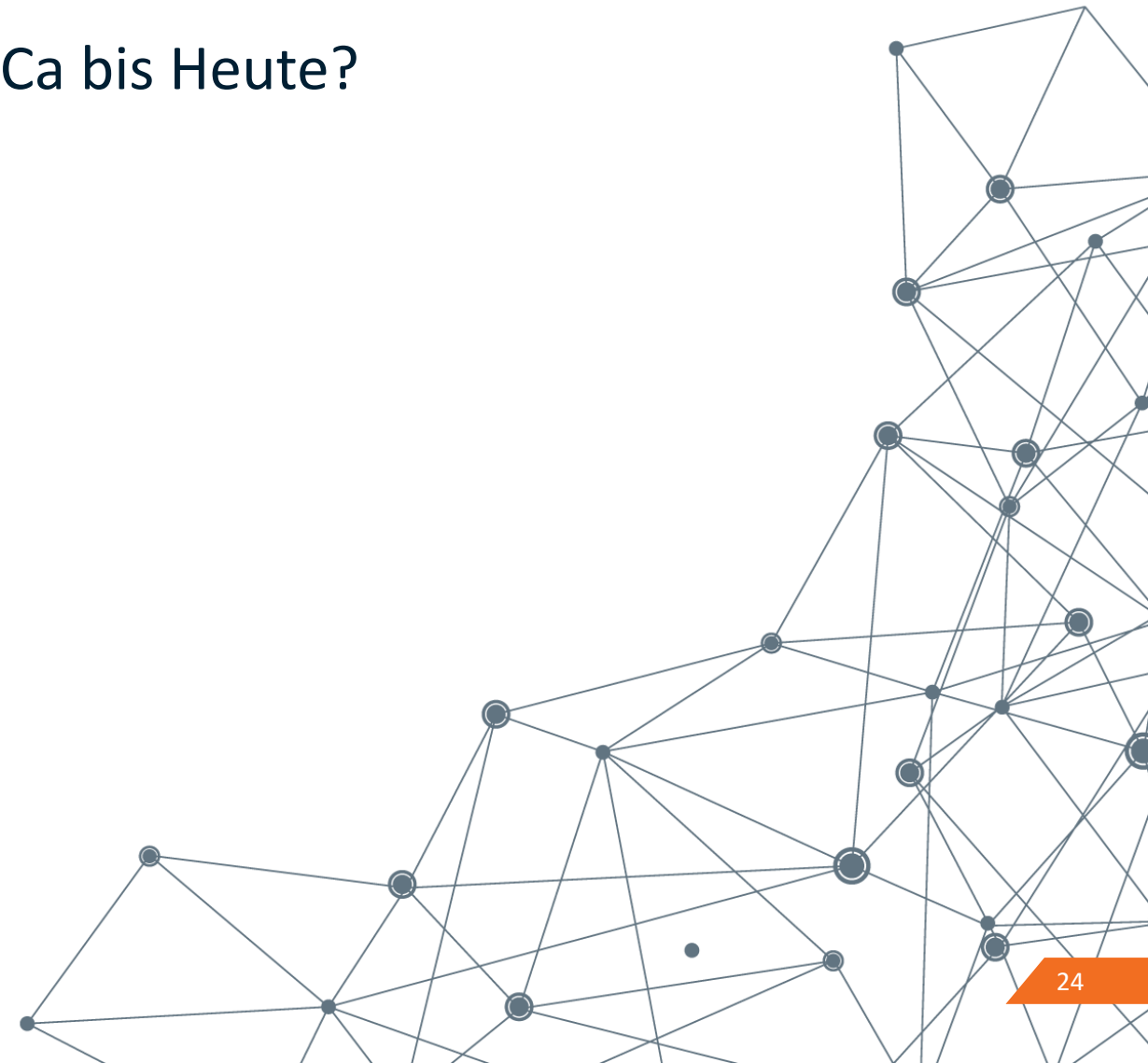


Umfrage

FRAGE

Wie viele Lizenzen weltweit hat IDEA StatiCa bis Heute?

- A. Mehr als 6 000
- B. Mehr als 8 000
- C. Über 10 000





Calculate yesterday's estimates

CALCULATE YESTERDAY'S ESTIMATES

www.ideastatica.com