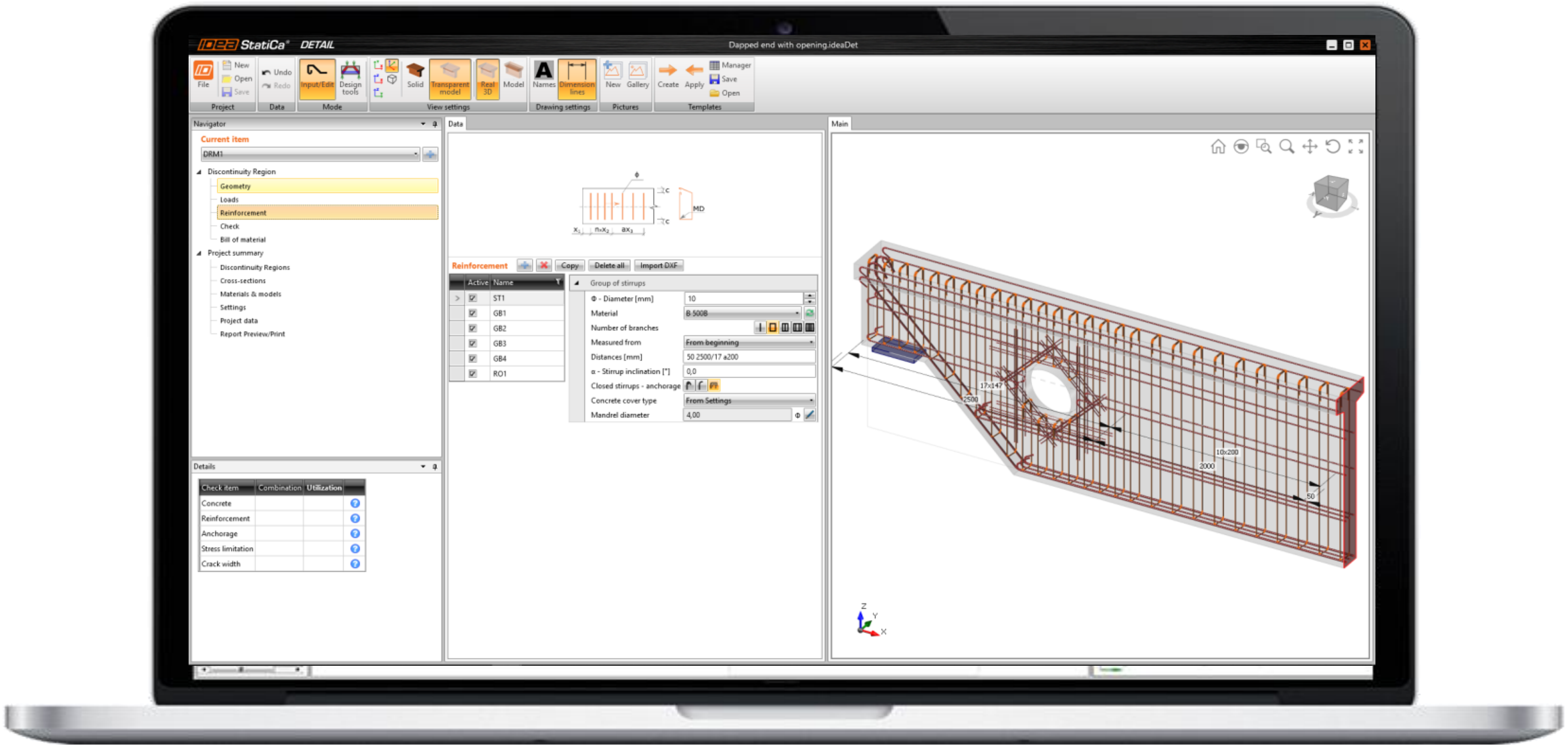
IDEA StatiCa®



Dzelzsbetona elementu aprēķini, izmantojot IDEA StatiCa Detail

BIM SOLUTIONS

- IDEA STATICA DZ-BETONA APRĒĶINIEM
- TEORIJA (IDEA STATICA DETAIL)
- APRĒĶINU PIEMĒRI
- DATU IMPORTĒŠANA

DETAIL

RCS

BEAM

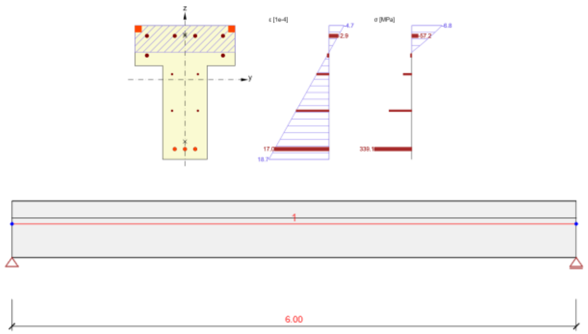
COLUMN

FRAME

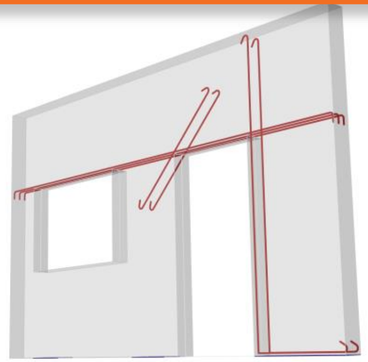
CORBEL

IDEA STATICA MONOLĪTAJAM DZ-BETONAM

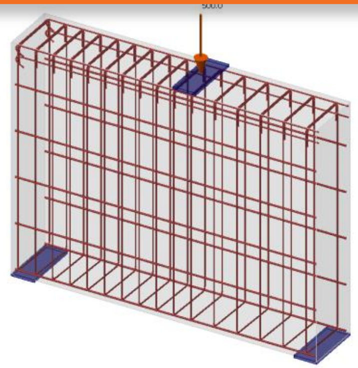
Sijas



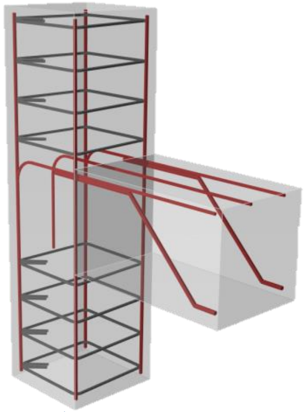
Sienas



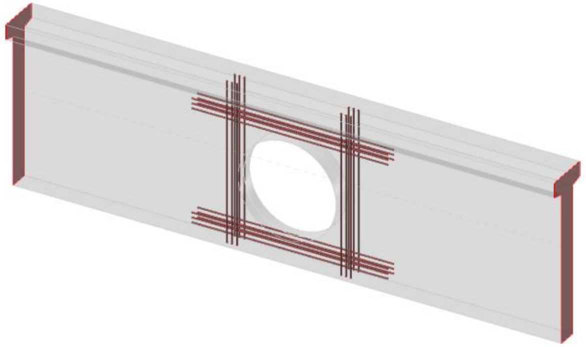
Sijas ar lielu augstumu



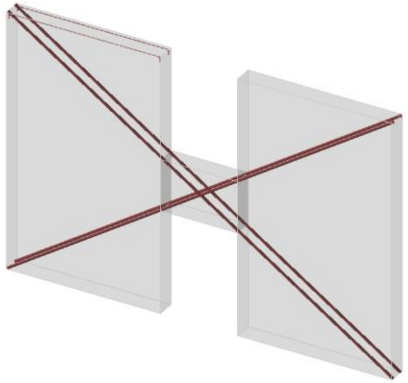
Mezgli



Atvērumi

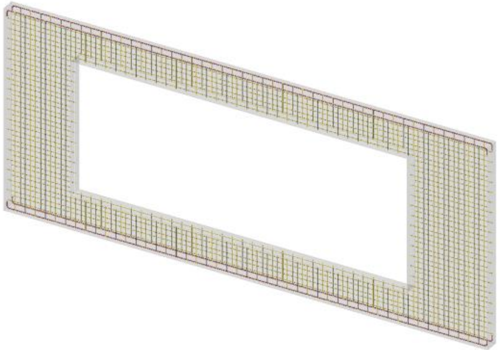


Nestandarta elmenti

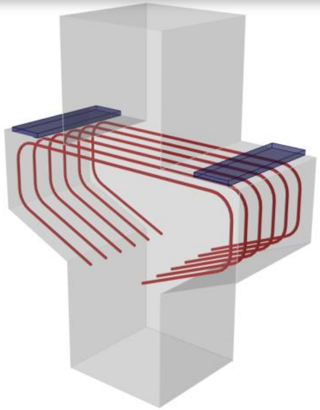


IDEA STATICA SALIEKAMAJAM DZ-BETONAM

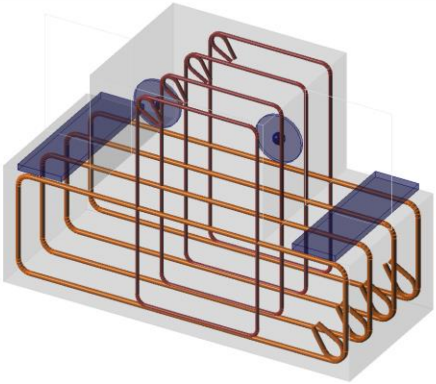
Sienas



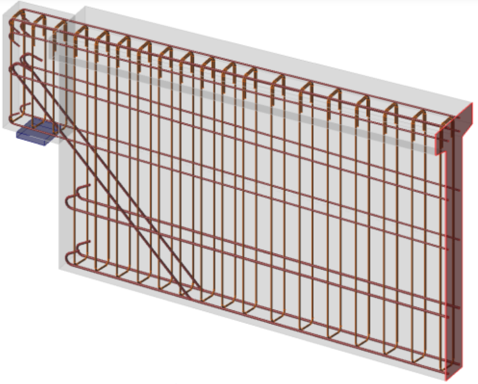
Konsoles



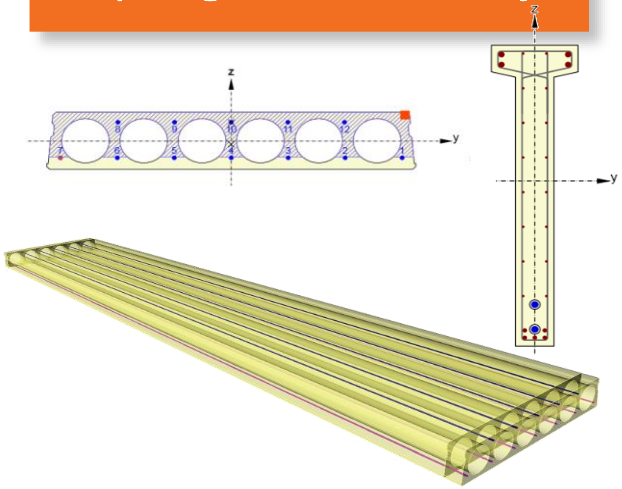
T un L veida sijas



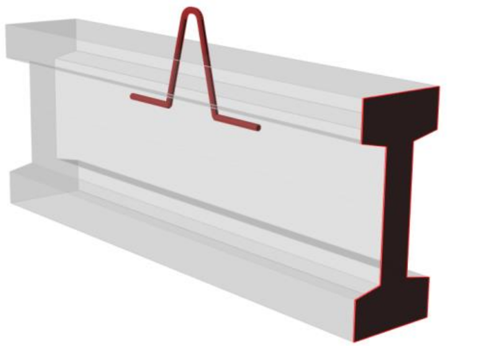
Nestandarta sijas



Saspriegtās konstrukcijas

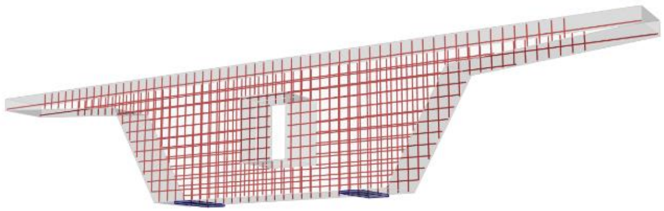


Pacelšanas elementi

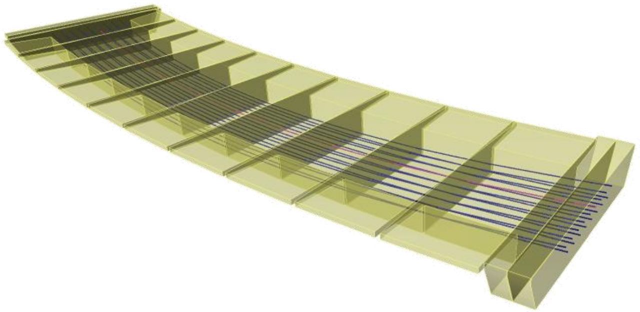


IDEA STATICA TILTU PROJEKTĒŠANĀ

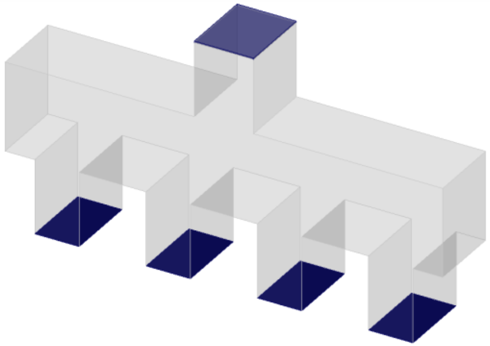
Diafragmas



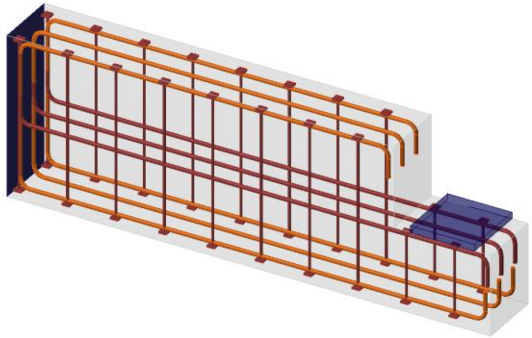
Laidumi



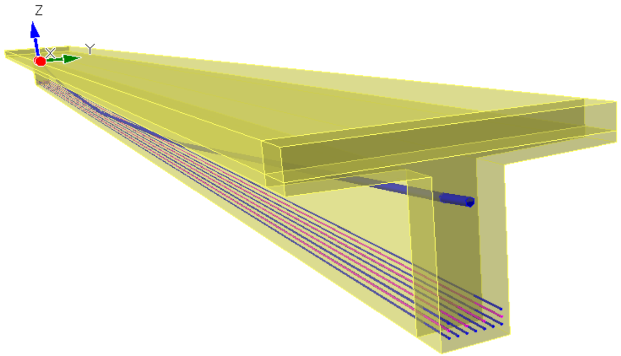
Pāļi un režģogi



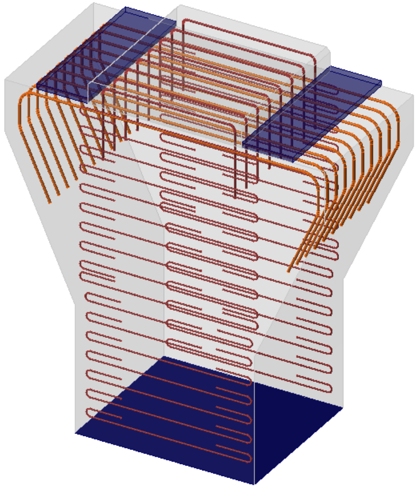
Sijas



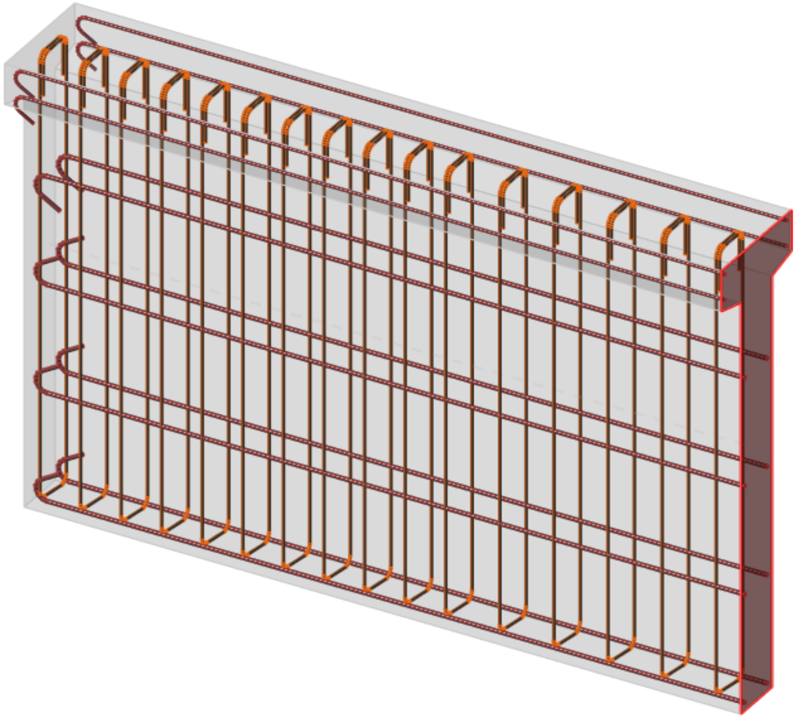
Kopozītas sijas

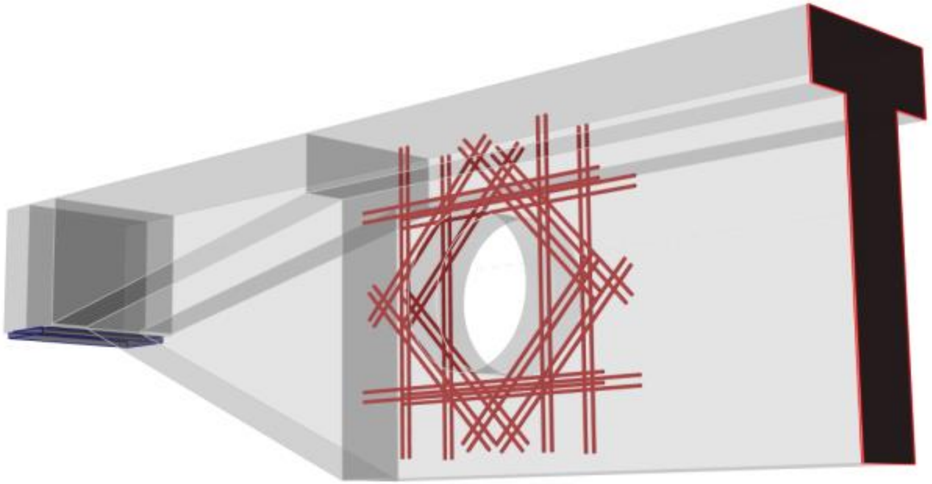


Balsti



VIENKĀRŠA SITUĀCIJA	SAREŽĢĪTA SITUĀCIJA





VIENKĀRŠA SITUĀCIJA

Standarti, rokasgrāmatas

SAREŽĢĪTA SITUĀCIJA

Sarežģīti FEM modeļi

↓

Excel

↓

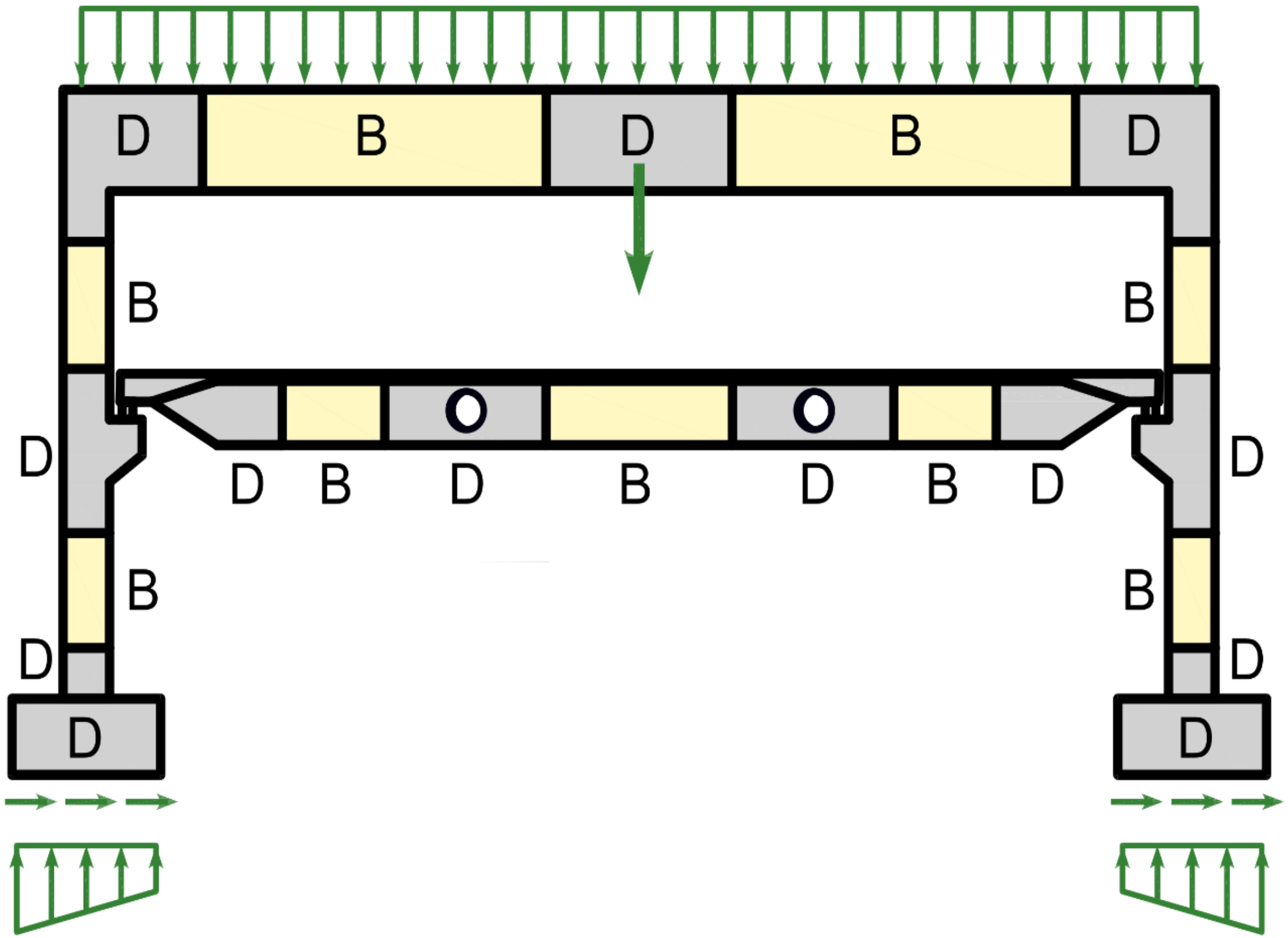
Pieņēmumi

↓

Izvairīties no sarežģīta risinājuma(?)

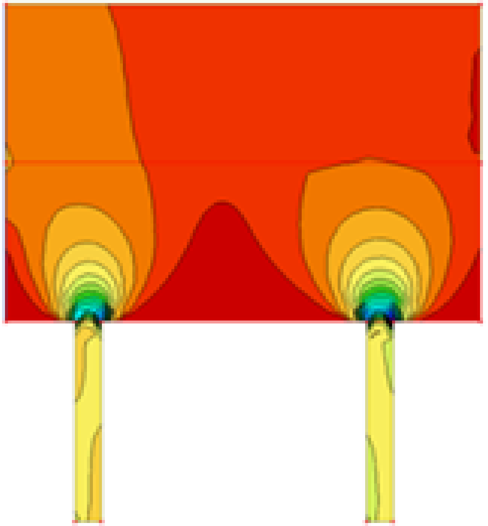
ELEMENTU SKAITS	PATĒRĒTAIS LAIKS
30 % SAREŽĪTA SITUĀCIJA	30 % VIENKĀRŠA SITUĀCIJA
70 % VIENKĀRŠA SITUĀCIJA	70 % SAREŽĪTA SITUĀCIJA

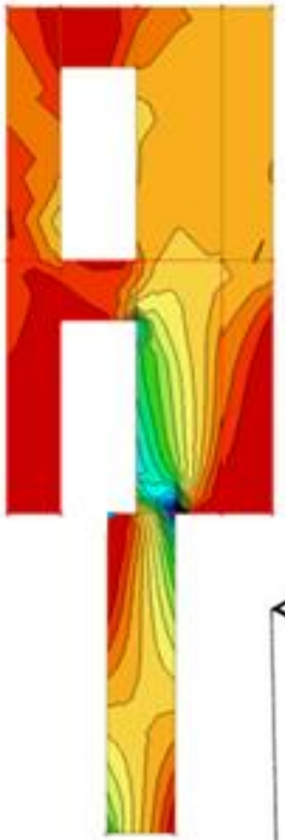
DISCONTINUITY REGIONS

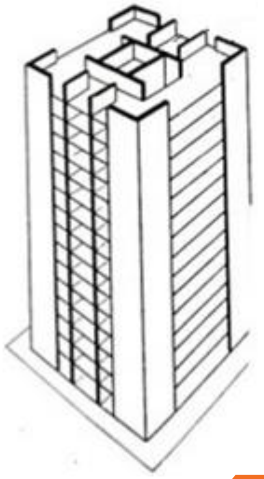


SALIEKAMĀ DZ-BETONA SIENAS

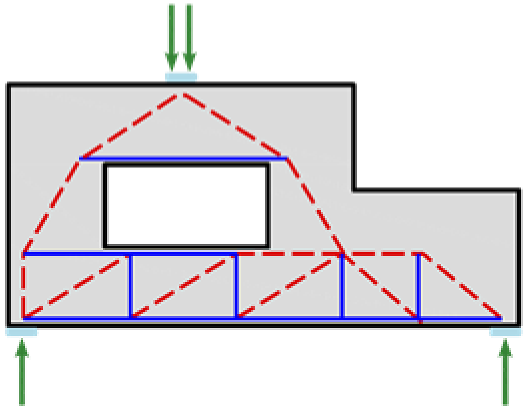
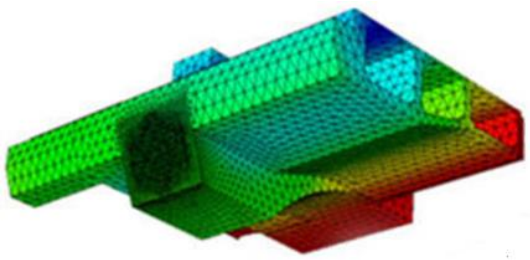
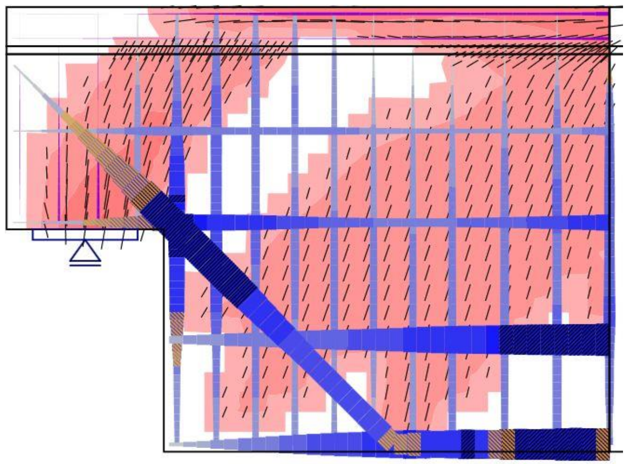
SALIEKAMĀ DZ-BETONA SIENAS







APRĒĶINU METODES

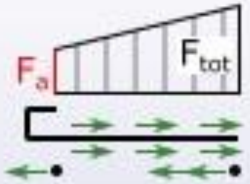
Stiepto – spiesto stieņu metode	Sarežģīti FEM modeļi	IDEA StatiCa
		
Situācija tiek vienkāršota	Meģinājums simulēt realitāti	Standartos balstīts drošs un ekonomisks projekts

CSFM – COMPATIBLE STRESS FIELD METHOD

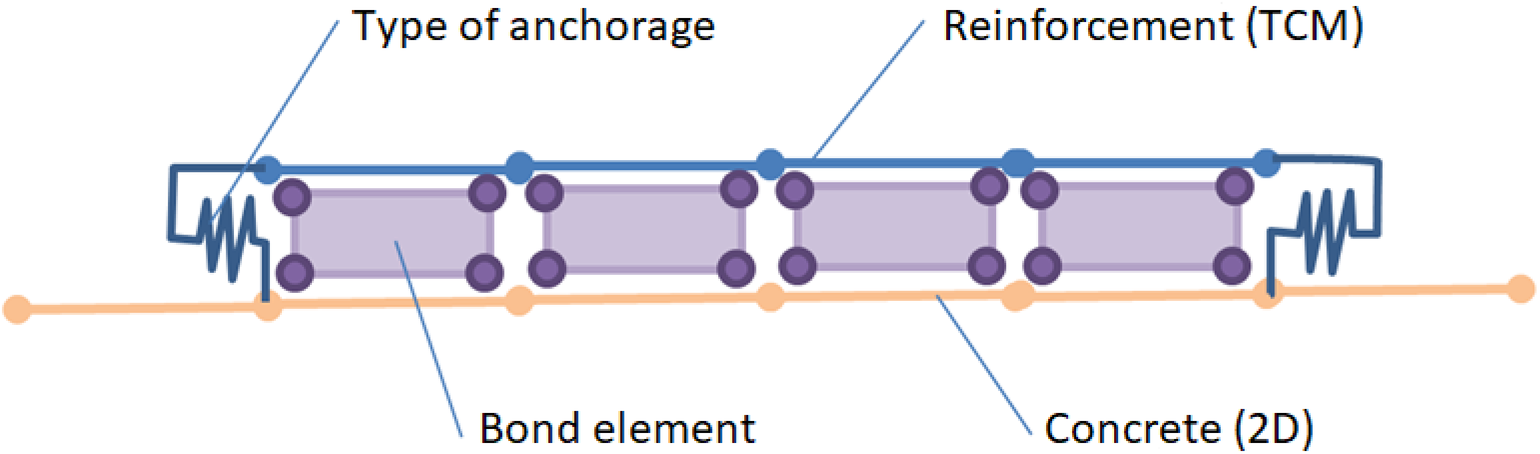
- ĻAUJ PROJEKTĒT DROŠAS UN EKONOMISKAS KONSTRUKCIJAS.
- MATERIĀLU ĪPAŠĪBAS ATBILSTOŠI EIROKODAM.
- APRĒĶINA MODELIS SASTĀV NO BETONA UN STIEGROJUMA GALĪGAJIEM ELEMENTIEM.
- METODE VERIFICĒTA UN VALIDĒTA ETH UNIVERSITĀTĒ CĪRIHĒ

ENKUROŠANĀS UN SAISTE STARP BETONU UN STIEGROJUMU

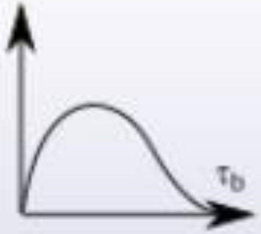
Anchorage force



The anchorage force is displayed and for applied portion of the load. It is developed at the ends of the bars due to hooked anchorage.

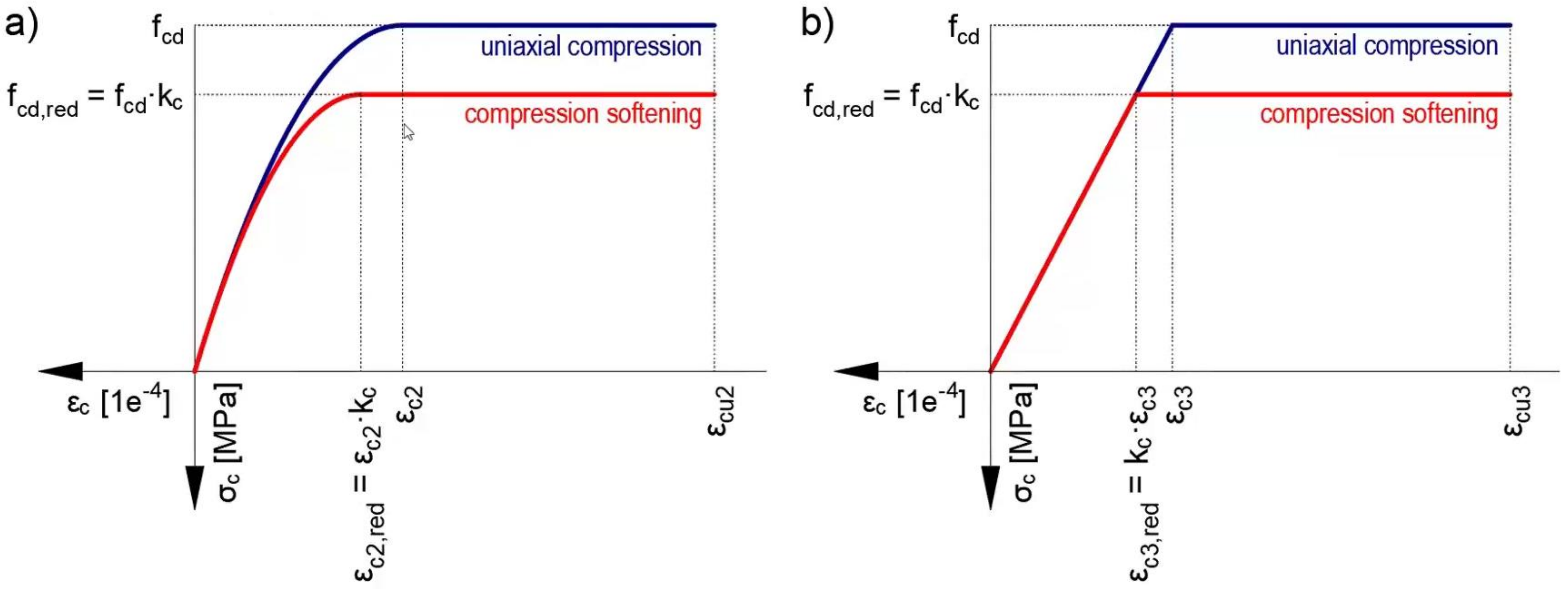


Bond stress

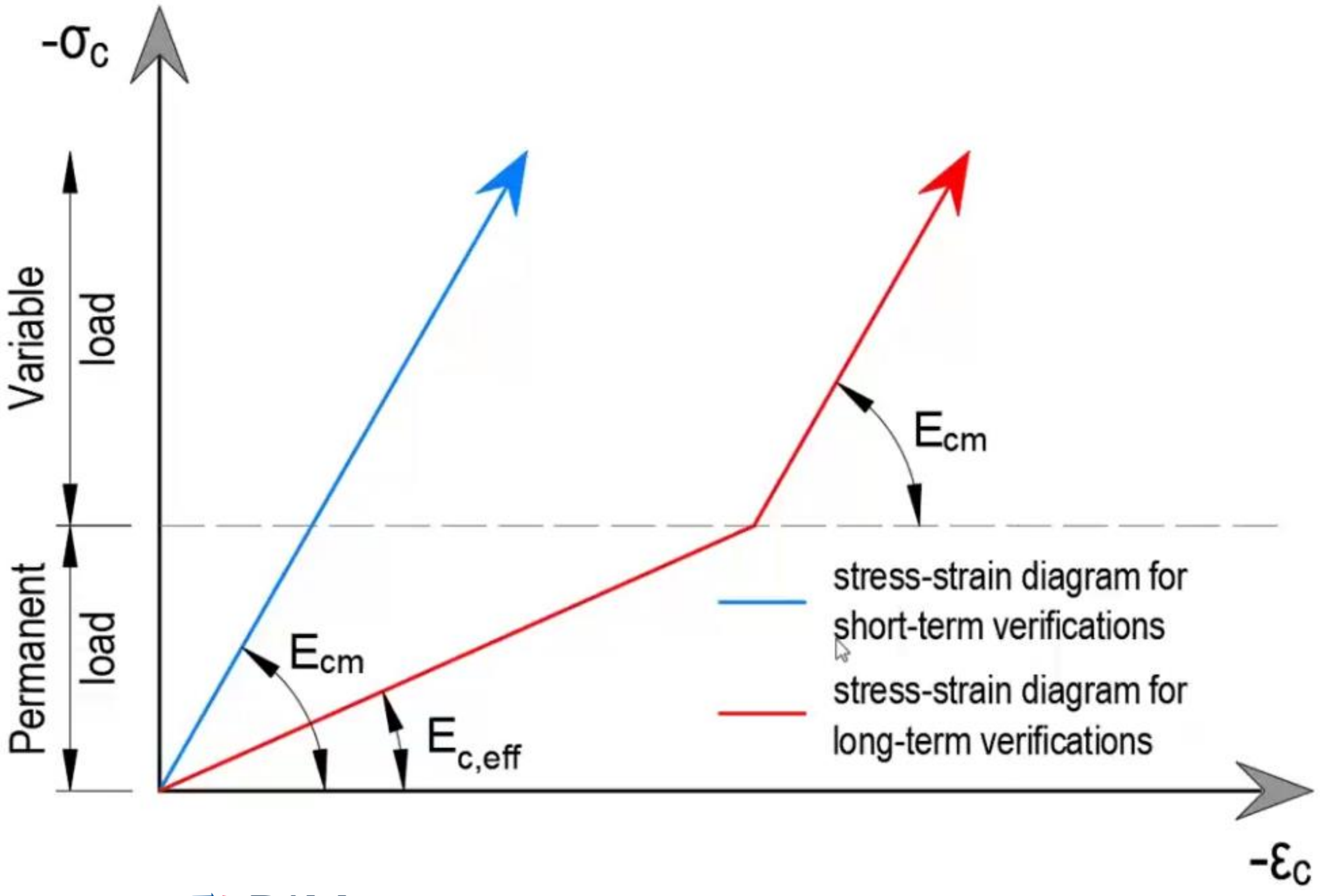


Bond stress on the surface of the bar is displayed for selected (group of) bars and applied portion of the load

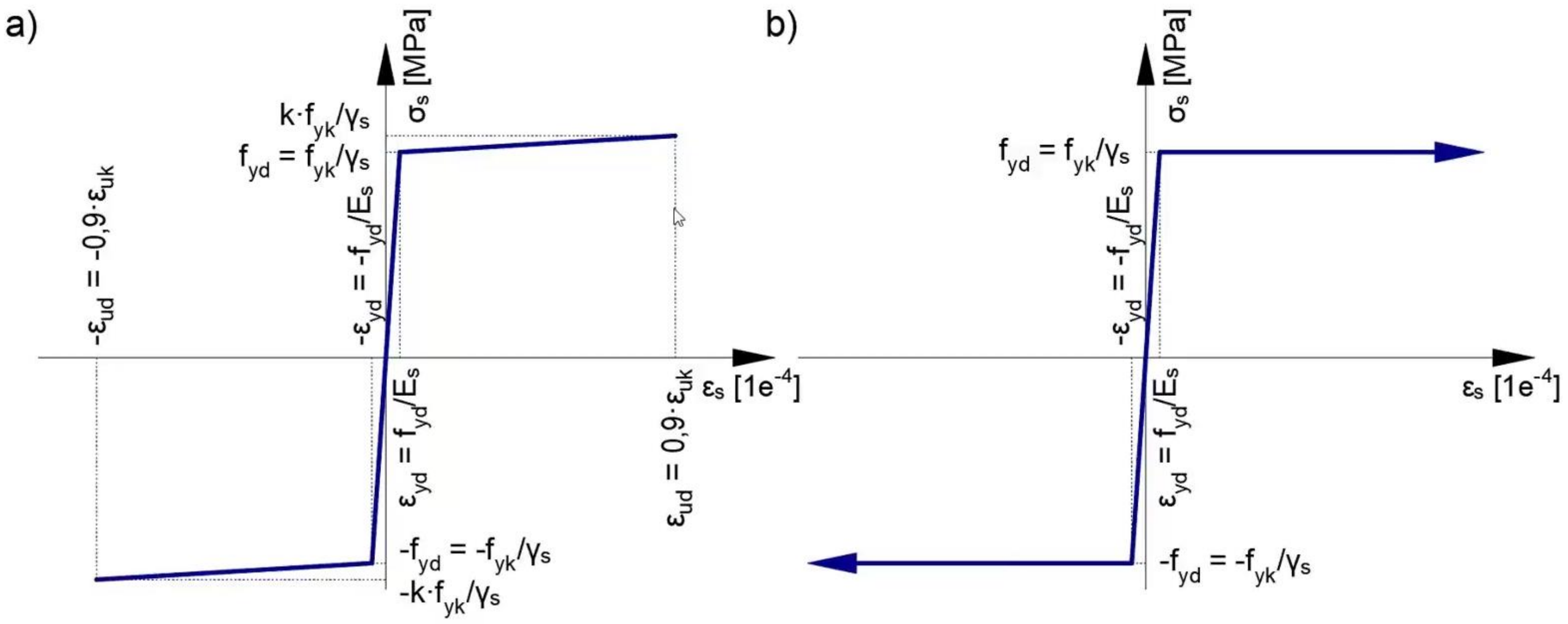
MATERIĀLU MODEĻI



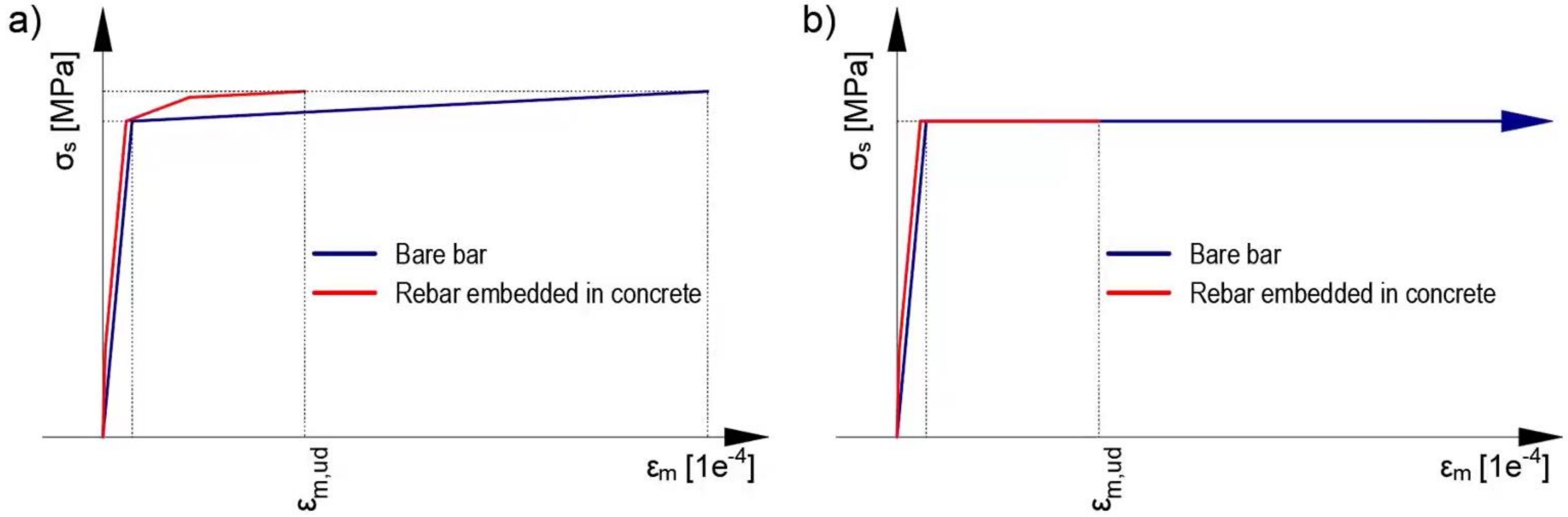
MATERIĀLU MODEĻI



MATERIĀLU MODEĻI

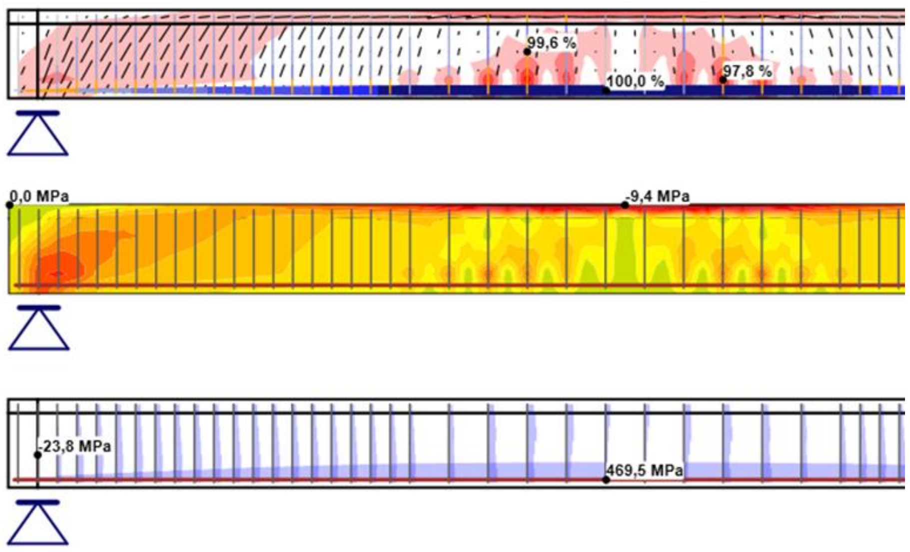


MATERIĀLU MODEĻI

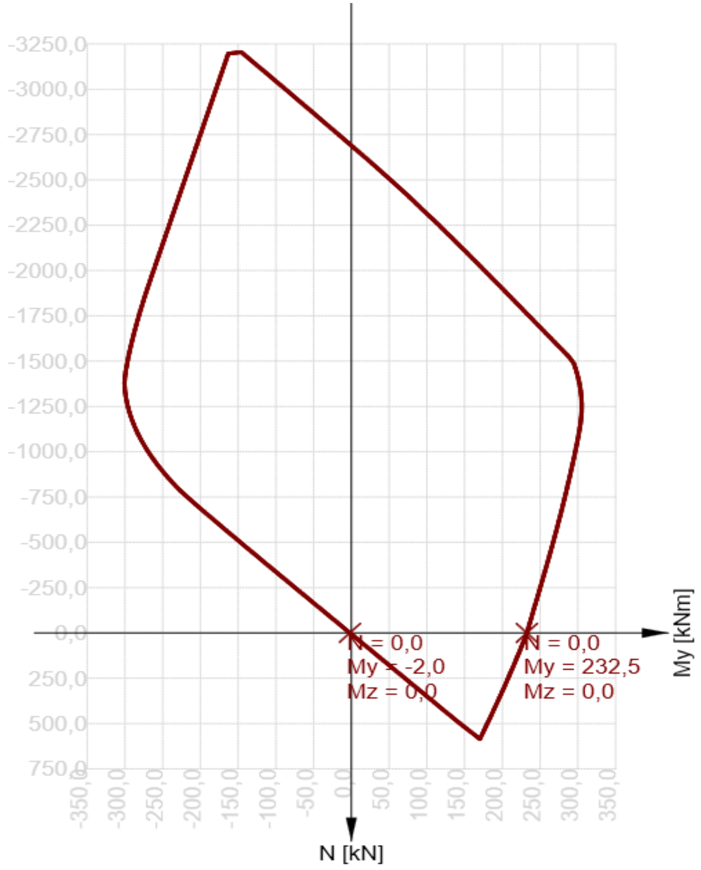


VERIFIKĀCIJA

ULS



	M_{Rd} [kNm]
Example 1.4	218,2
IDEA StatiCa RCS	232,5
IDEA StatiCa Detail	233,0



Beam – example 1.4, Procházka, J. (2009)

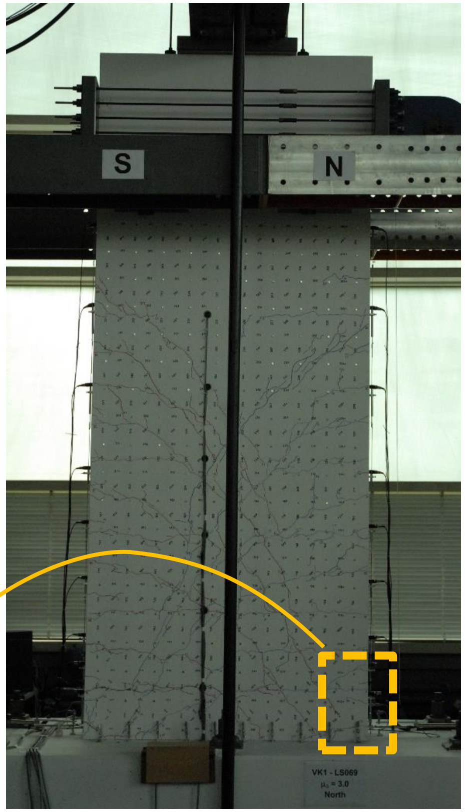
EKSPERIMENTĀLAS PĀRBAUDES

Bimschas et al. (2010, 2013)

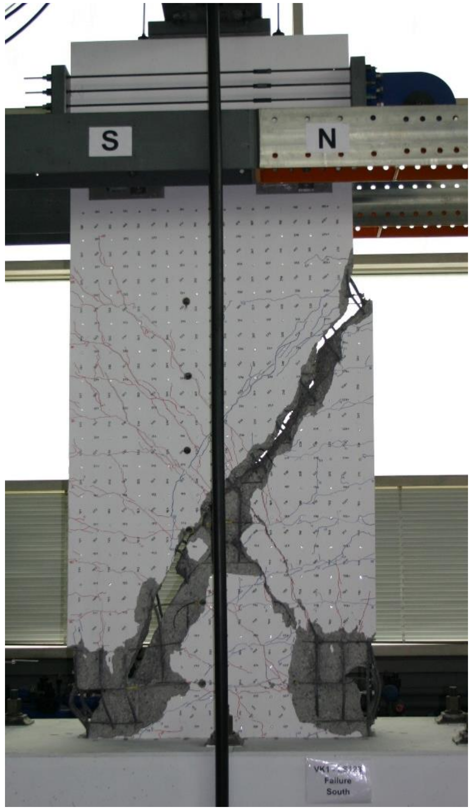
Peak load

Specimen	VK1	VK3	VK6
Experiment* V_{exp} (kN)	728	876	647
DR-Design V_{calc}(kN)	730	860	650
V_{exp}/V_{calc}	**1.00**	**1.02**	**1.00**

Concrete crushing in compression

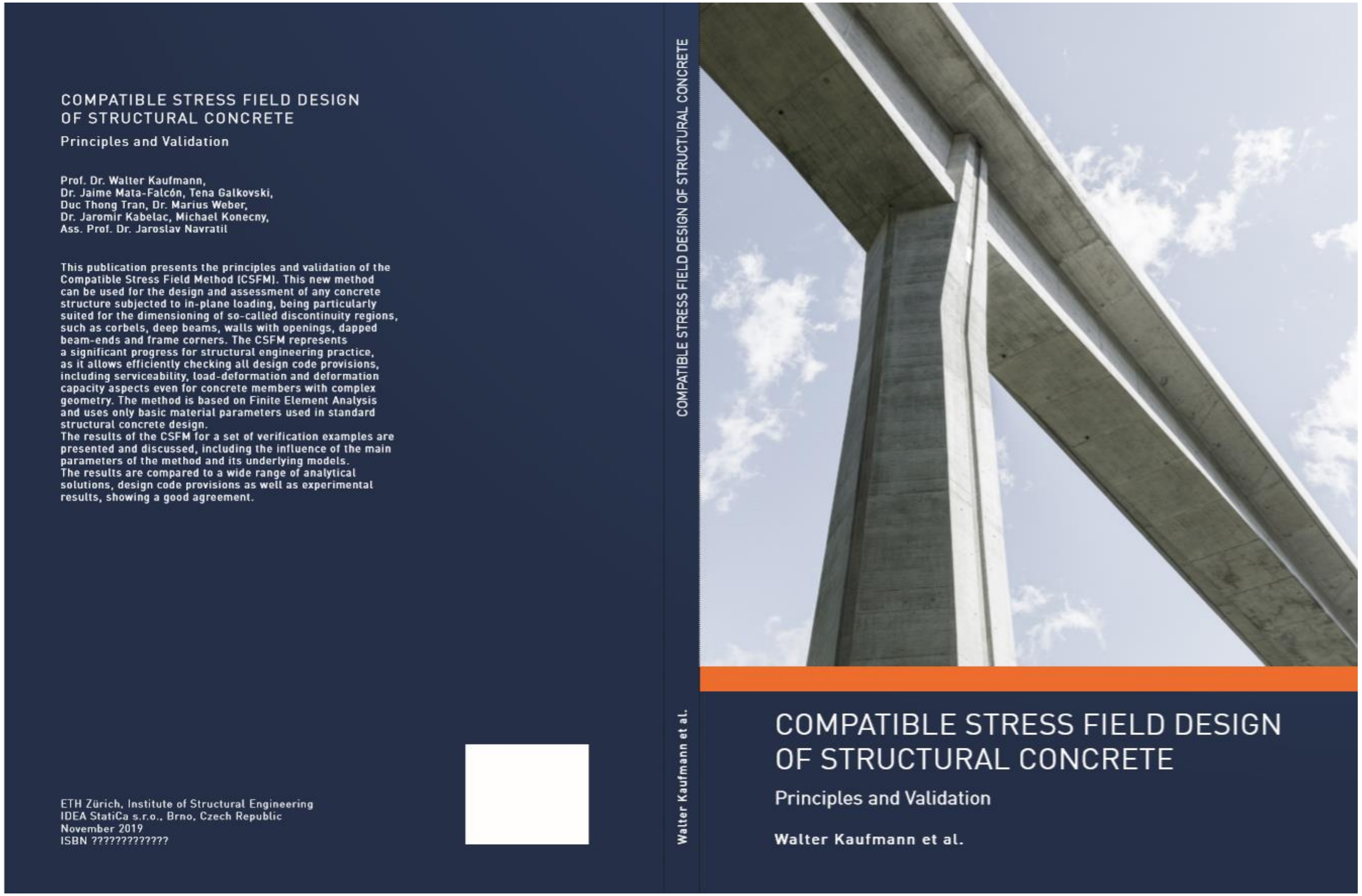


VK1: peak strength

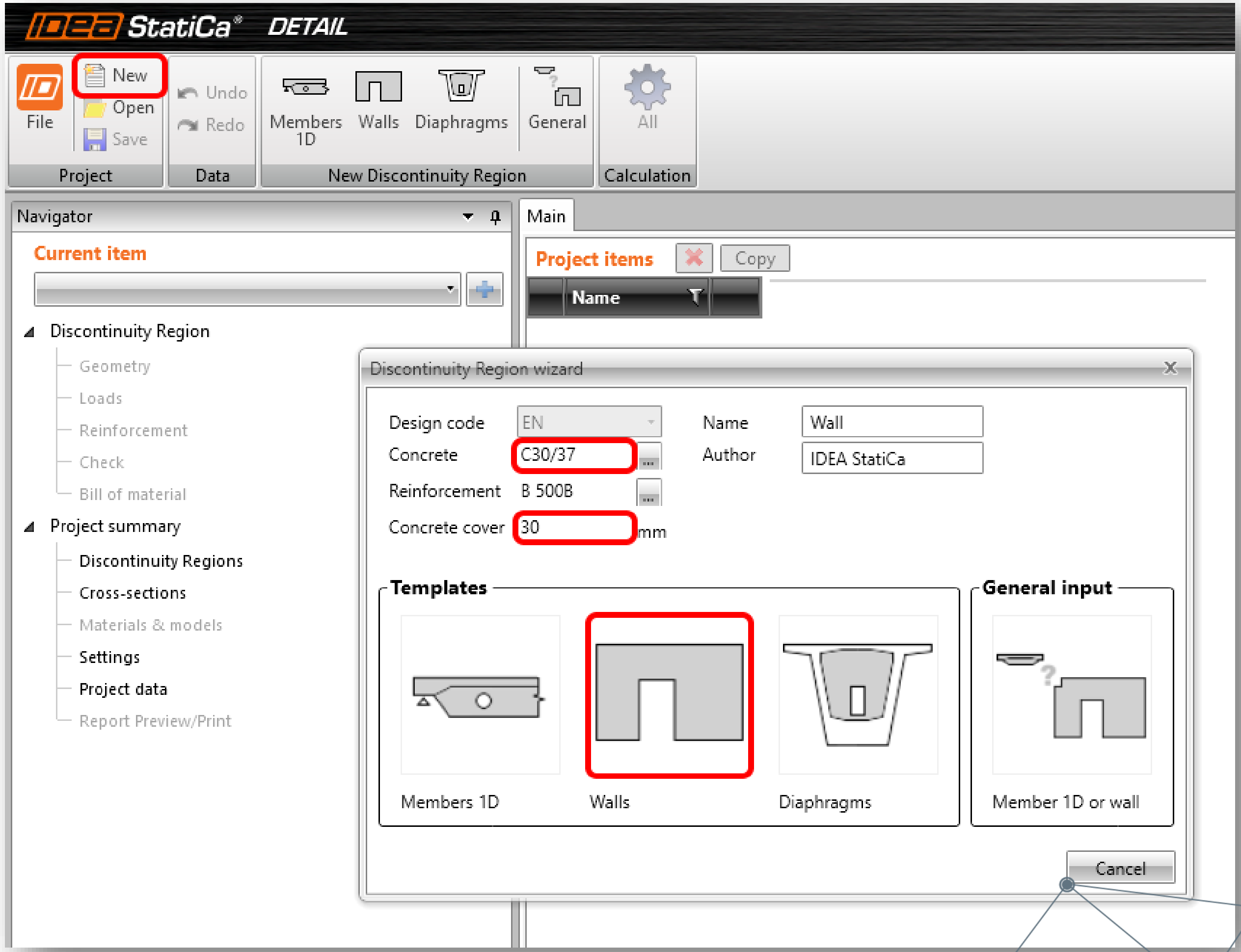


VK1: failure

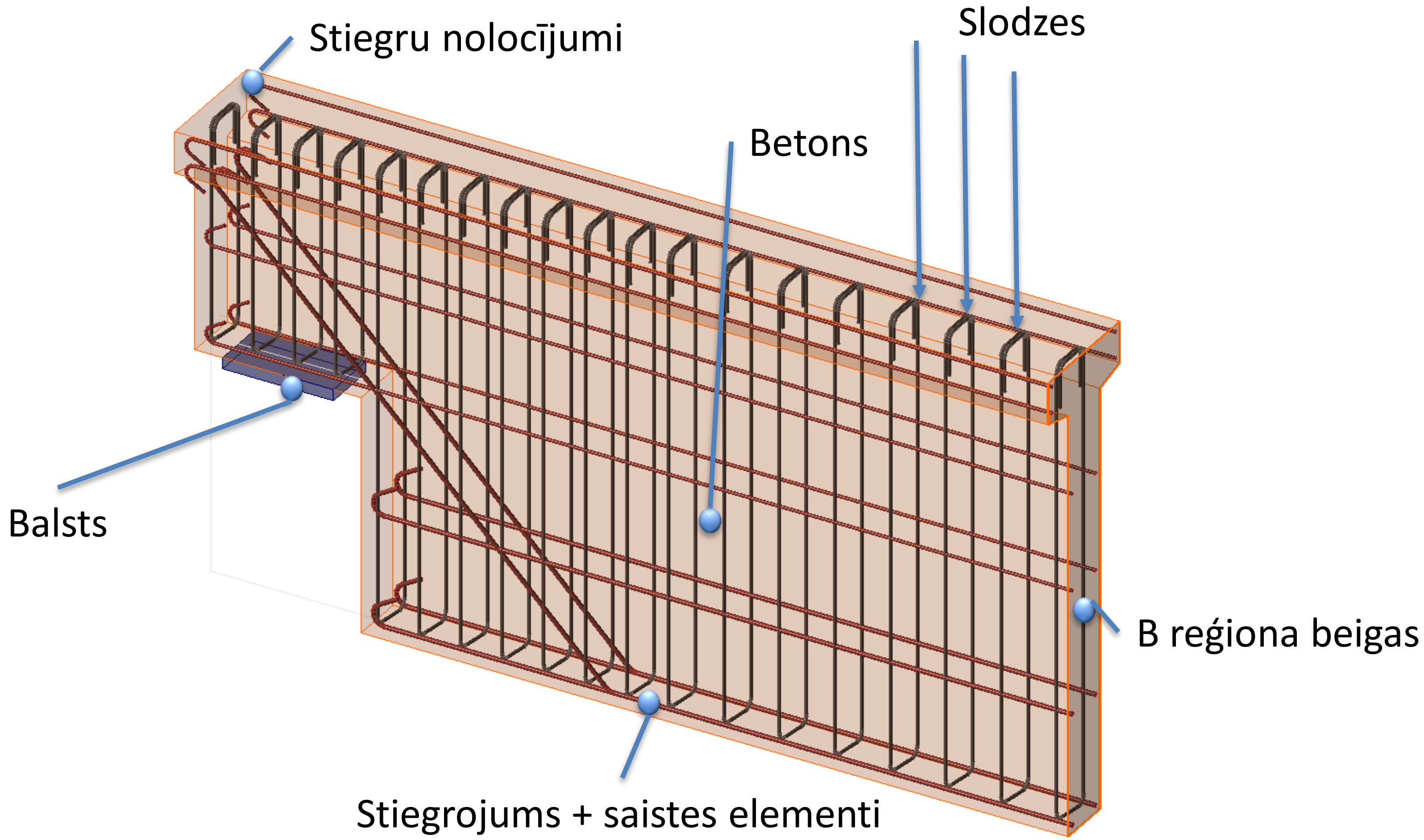
VERIFICATION BOOK – PROF. KAUFMANN



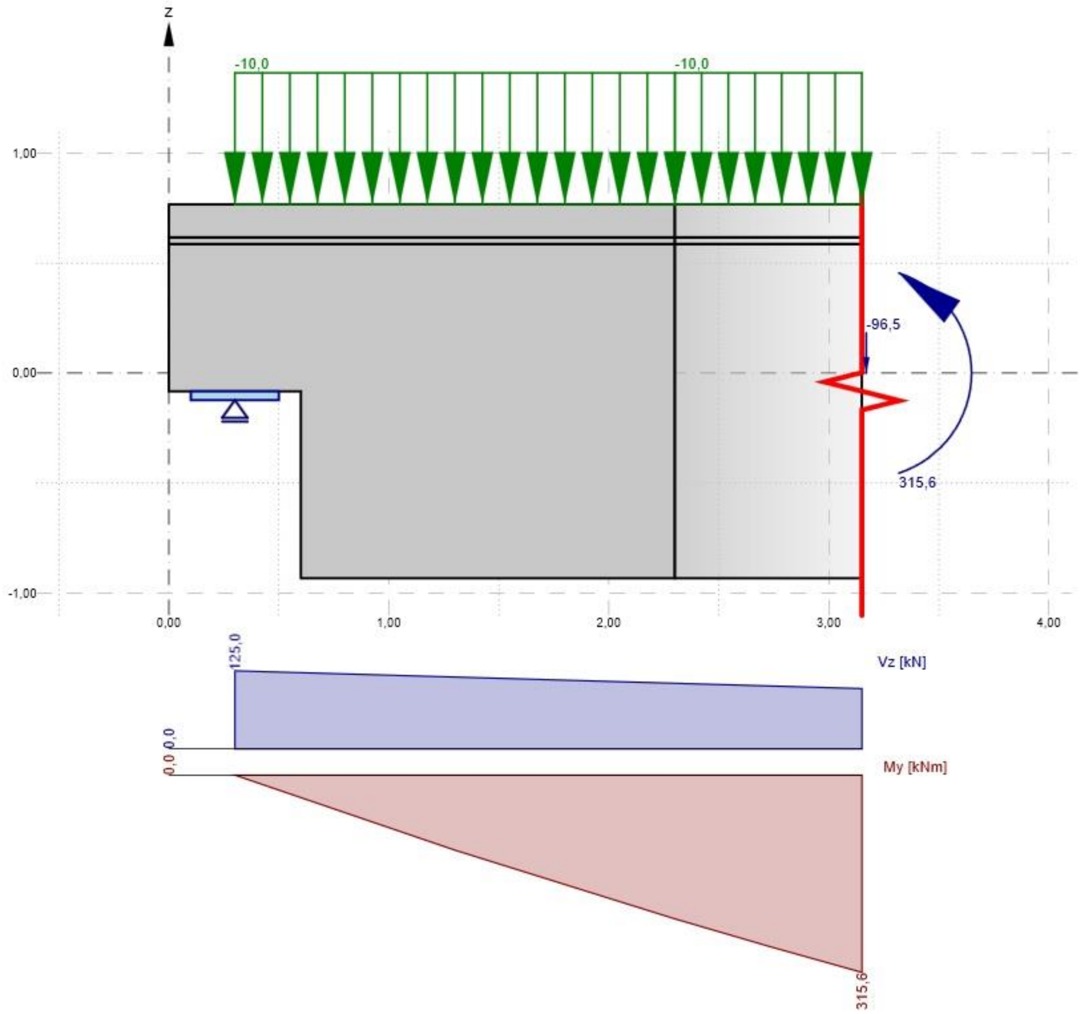
JAUNA APRĒĶINU METODE, KAS PĀRVĒRSTA ĒRTI LIETOJAMĀ PROGRAMMĀ



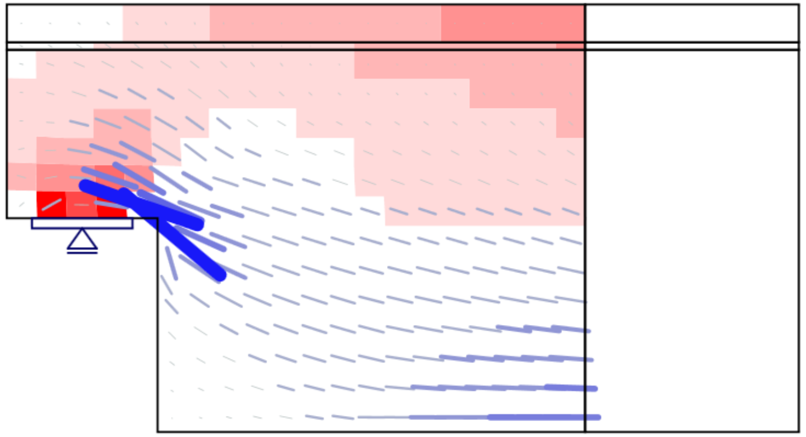
APRĒĶINU MODELIS



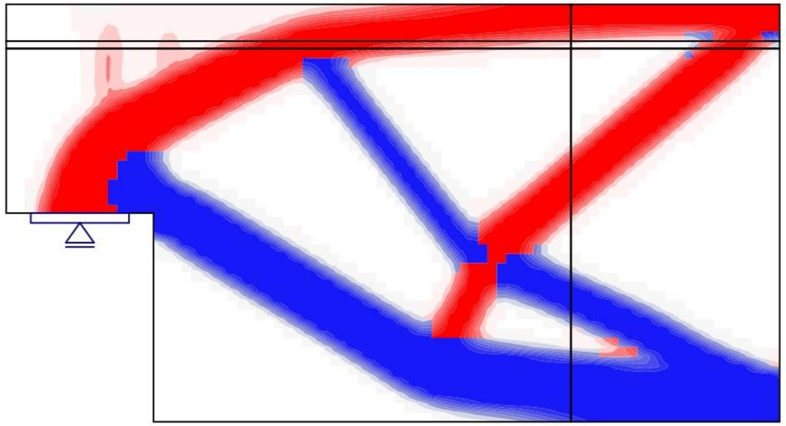
APRĒĶINS



Lineārs aprēķins



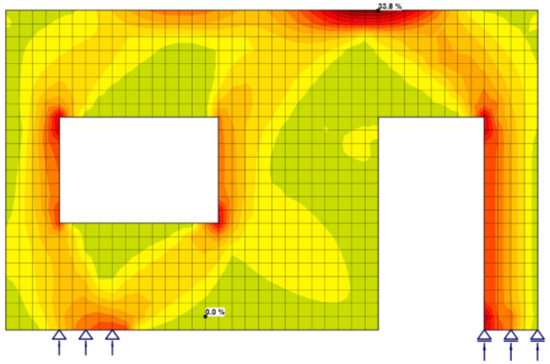
Topoloģijas optimizācija



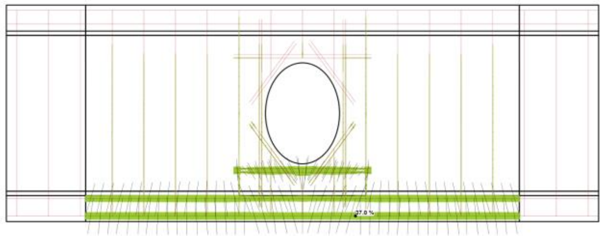
IDEA StatiCa® BIM SOLUTIONS

ULS/SLS PĀRBAUDES

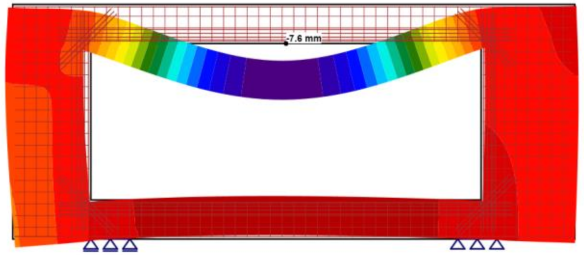
Spriegumi betonā



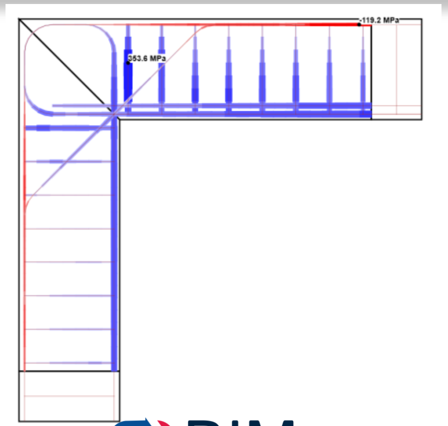
Plaisu platums



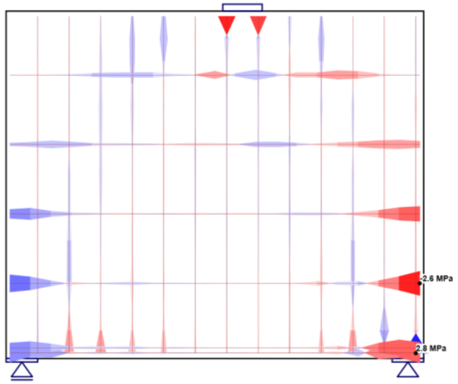
Izlieces



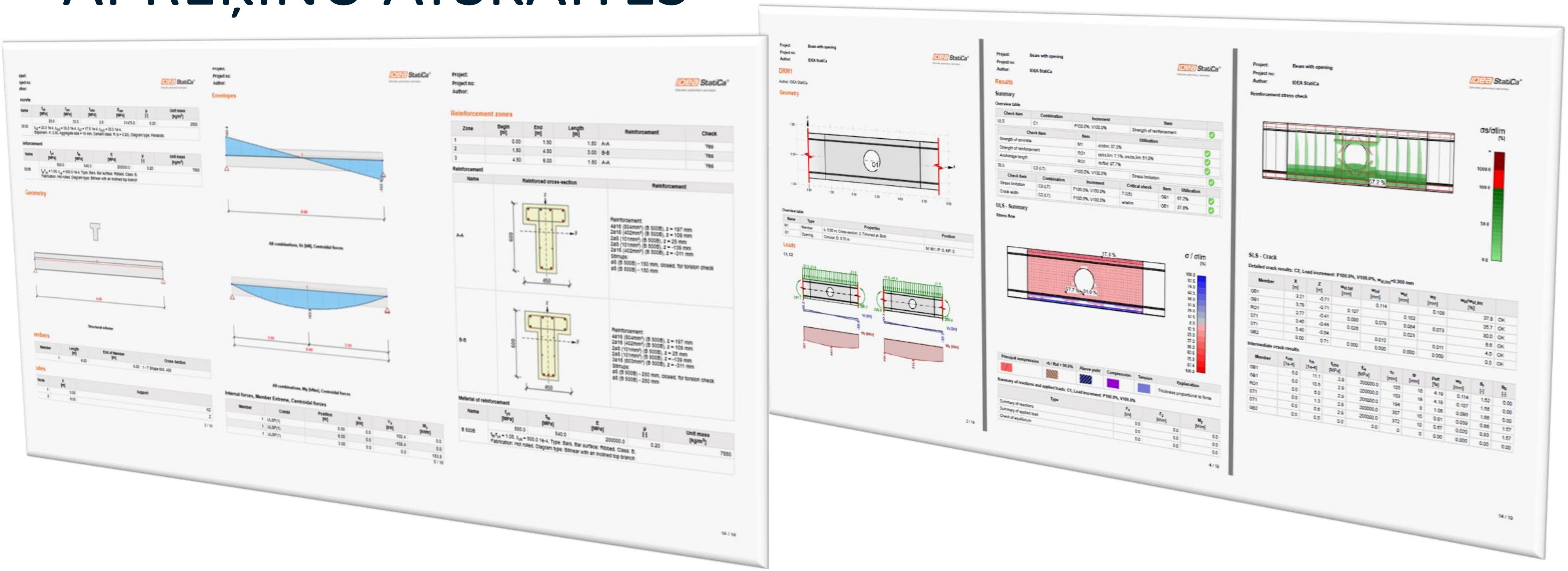
Spriegumi stiegrojumā



Enkurošanās

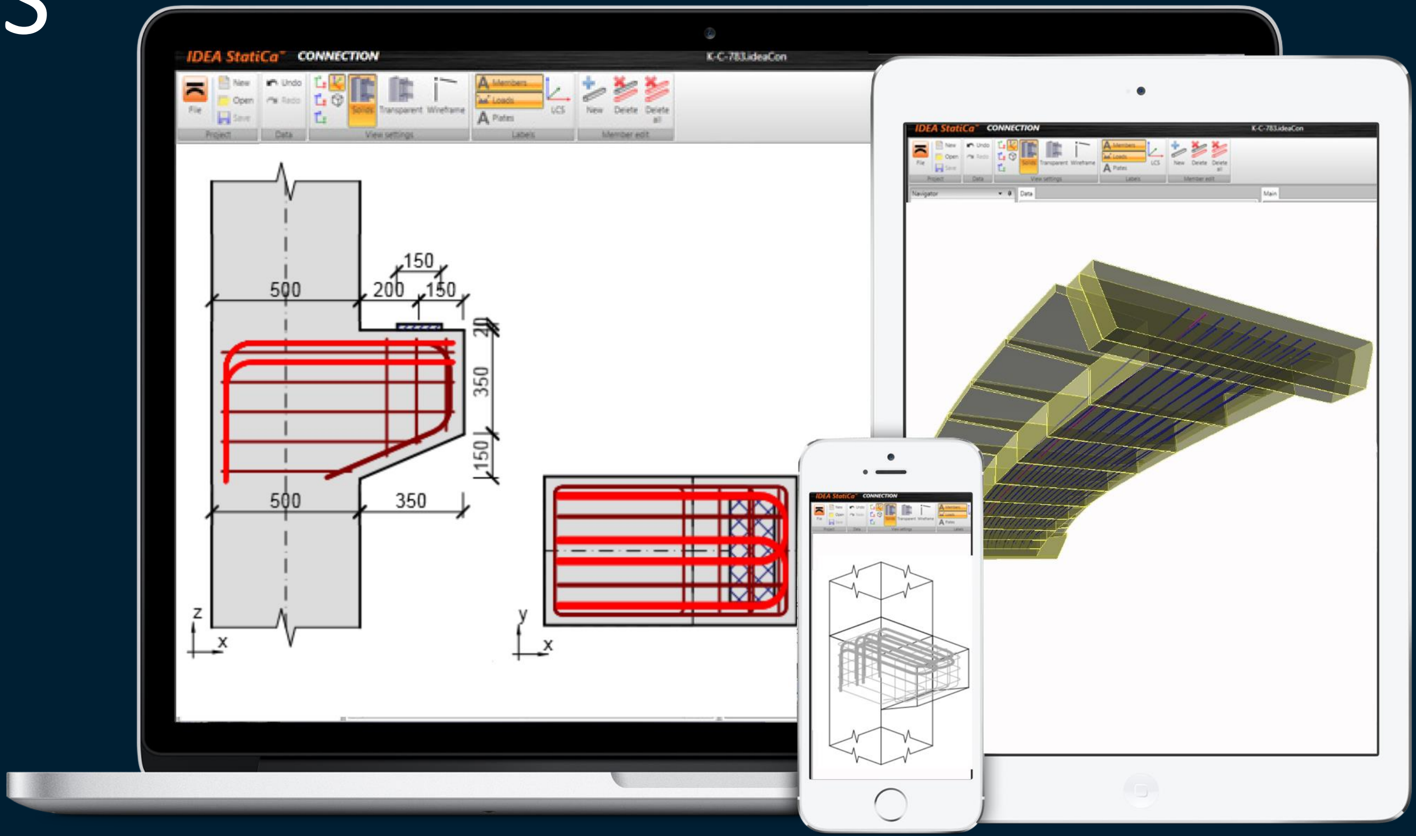


APRĒĶINU ATSKAITES



Visi aprēķini saskaņā ar Eirokodu

JAUNAS PROGRAMMAS VERSIJAS



2 JAUNAS VERSIJAS GADĀ - PAVASARĪ/RUDENĪ

Q/A