



# Structural Analysis & Design Software

[www.dlubal.com](http://www.dlubal.com)



**Dipl.-Ing. (FH) Andreas Hörold**  
Organizer

Marketing & Public Relations  
Dlubal Software GmbH



**Dipl.-Ing. (FH) Ulrich Lex**  
Co-Organizer

Product Engineering & Customer Support  
Dlubal Software GmbH

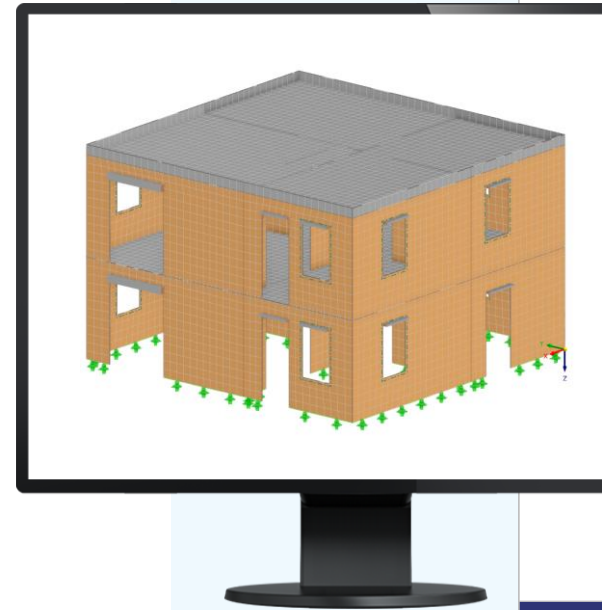


**Dipl.-Ing. Frank Faulstich**  
Co-Organizer

Product Engineering & Customer Support  
Dlubal Software GmbH

Webinar

# Masonry Design Using Finite Element Method in RFEM 6



# Questions During the Presentation



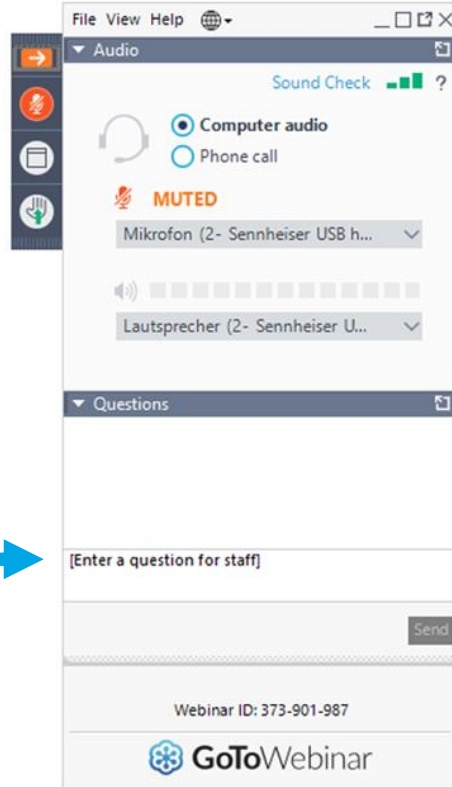
GoToWebinar Control Panel  
**Desktop**



E-mail: [info@dlubal.com](mailto:info@dlubal.com)



Show or hide control panel



Adjust audio settings

Ask questions



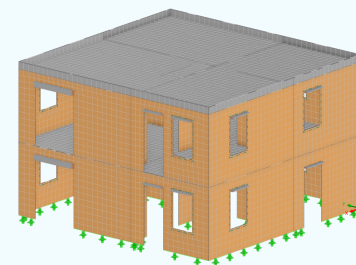
# CONTENT



**01** Theory or basics of the used material model

**02** Modelling of masonry structures

**03** Evaluation of results





# Add-On Masonry Design

In cooperation with partners from science and industry,  
was this Add-On in a research project developed.

The project was called:

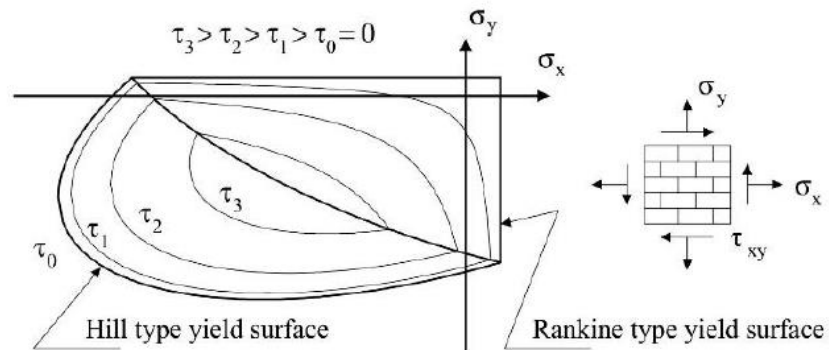
**DDMaS—Digitizing the Design of Masonry Structures**



Picture: Website TU Graz

# Material Model

- Orthotropic nonlinear plastic material model

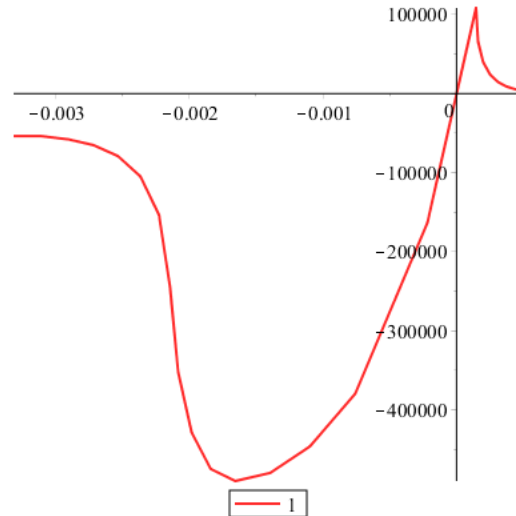


Excerpt from the explanatory report of project DDMaS - Composite Rankine Hill yield surfaces according to Lourenco (Lourenco 1996, p. 126)



# Material Model

- Orthotropic nonlinear plastic material model

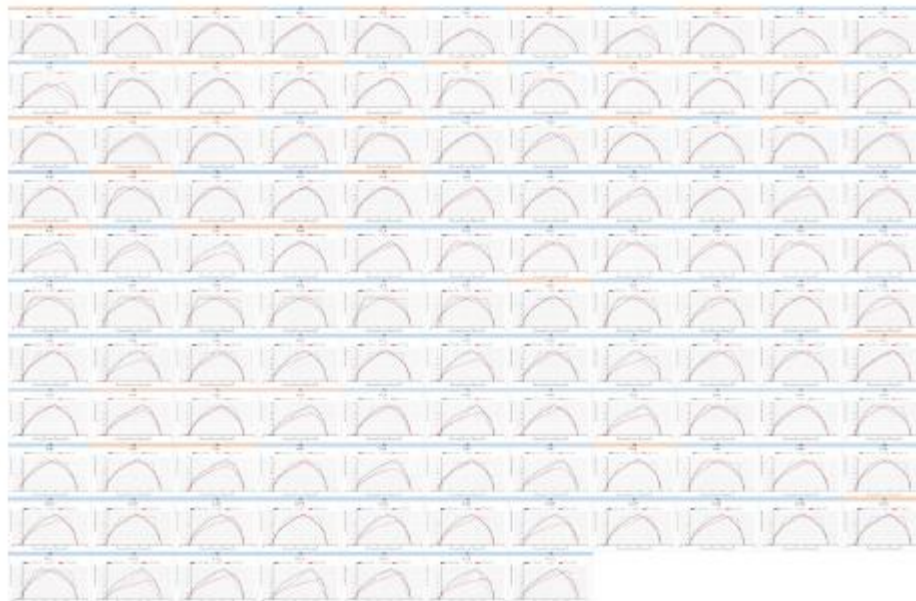


Exemplary stress-strain curve of the MW material



# Material Parameters

- The parameters of the material model are determined in accordance with the standard, so that a calculation close to the Eurocode can be carried out

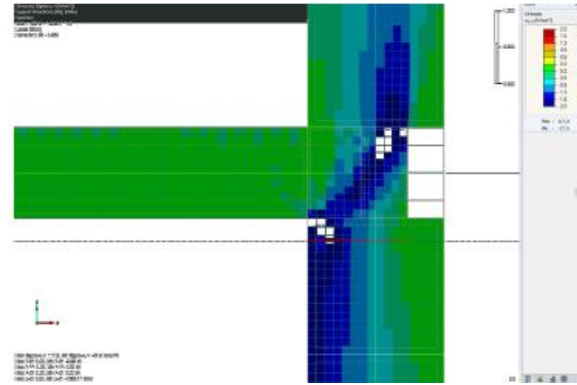
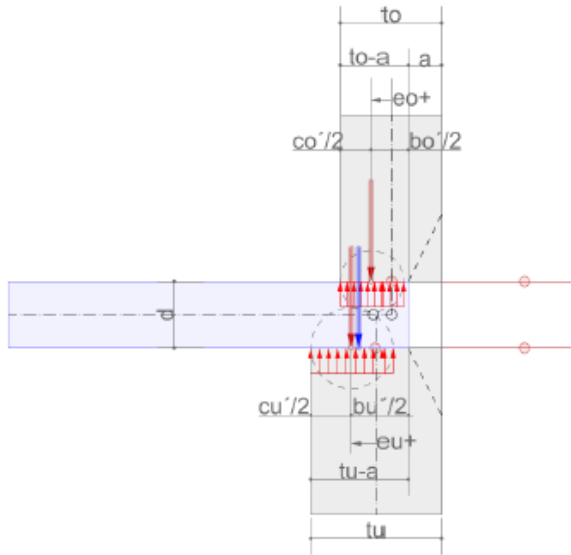






# Wall Slab Connection

- Illustration of the wall-slab connection using a line hinge

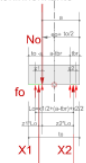




# Wall Slab connection

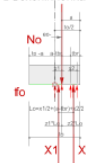
- Excerpt of interaction relationships wall-slab connection

Fall III-C eo in Deckeninnenkante



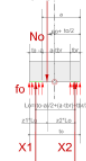
1. III-3

Fall III-C eo in Deckeninnenkante



2. III-5

Fall III-D eo für  $X1=f_0(t_0-a)$  und  $X2=f_0(t_{br})$



1. III-4

Fall III-E eo = 0



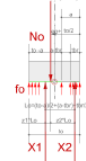
1. III-5

Fall III-F eo in Roststeininnenkante



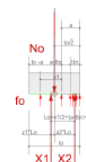
1. III-6

Fall III-D eo für  $X1=f_0(t_0-a)$  und  $X2=f_0(t_{br})$



2. III-3

Fall III-E eo = 0



2. III-4

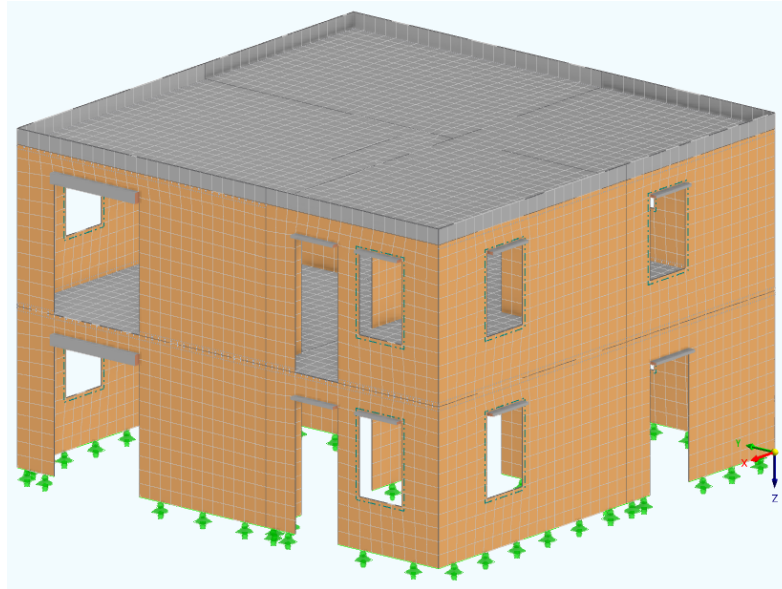
Fall III-F eo in Roststeininnenkante



2. III-6

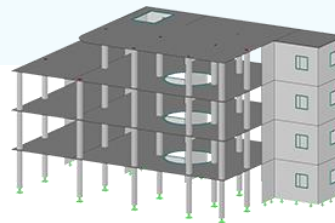


# Modelling of Masonry Structures



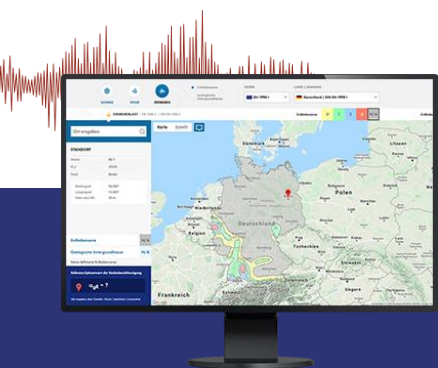


# Free Online Services



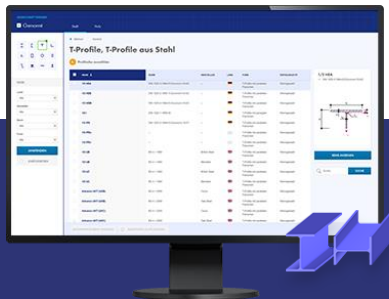
## Geo-Zone Tool

Dlubal Software provides an online tool with snow, wind and seismic zone maps.



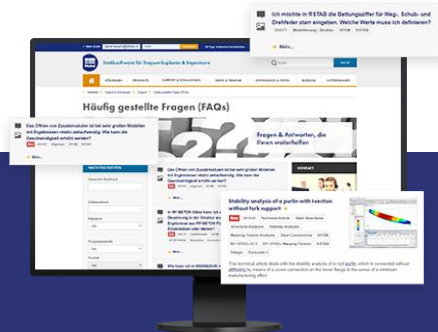
## Cross-Section Properties

With this free online tool, you can select standardized sections from an extensive section library, define parametrized cross-sections and calculate its cross-section properties.



## FAQs & Knowledge Base

Access frequently asked questions commonly submitted to our customer support team and view helpful tips and tricks articles to improve your work.



## Models to Download

Download numerous example files here that will help you to get started and become familiar with the Dlubal programs.





# Free Online Services

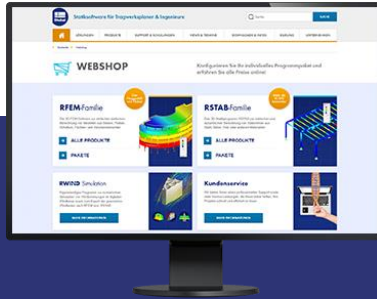
## Youtube Channel - Webinars, Videos

Videos and webinars about the structural engineering software.



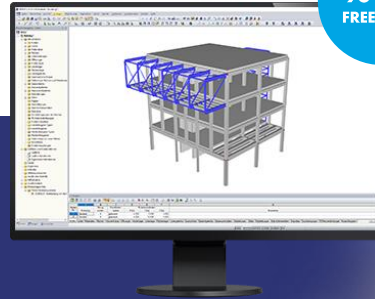
## Webshop with Prices

Configure your individual program package and get all prices online!



## Trial Licenses

The best way how to learn using our programs is to simply test them for yourself. Download a 90-day free trial version of our structural analysis & design software.



90-DAY FREE TRIAL

We offer free support via email and chat



# — Get Further Details About Dlubal



Visit website

[www.dlubal.com](http://www.dlubal.com)

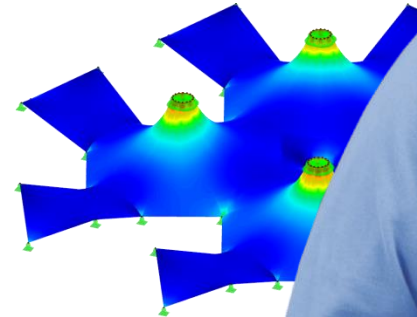
- Videos and recorded webinars
- Newsletters
- Events and conferences
- Knowledge Base articles



See Dlubal Software in action in a webinar



Download free trial license



**Dlubal Software GmbH**  
Am Zellweg 2,  
93464 Tiefenbach, Germany

Phone: +49 9673 9203-0  
E-mail: [info@dlubal.com](mailto:info@dlubal.com)



[www.dlubal.com](http://www.dlubal.com)