



TRAINING

SCIAENGINEER

SCIA ENGINEER - FUNDAMENTALS 2 (PLATES & SHELLS) (1 DAY)

Description

This training is an additional day on the “SCIA Engineer Fundamentals Training 1 – Steel and Concrete reinforcing bars”. During this day the basic principles and applications for **steel and concrete slabs** according to the finite element method will be explained in detail by means of **practical examples**. The training is intended for **new users** that already have the application knowledge for steel and concrete bars.

- How can you insert in the most efficient way 2D/3D plates and shells in SCIA Engineer?
- In what manner are the mesh refinements taken into account?
- What kinds of loads are possible on plate elements?
- What is the working principle of free loads on plates?
- How can you determine the reinforcement in 2D elements?

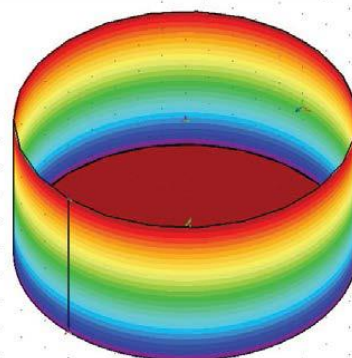
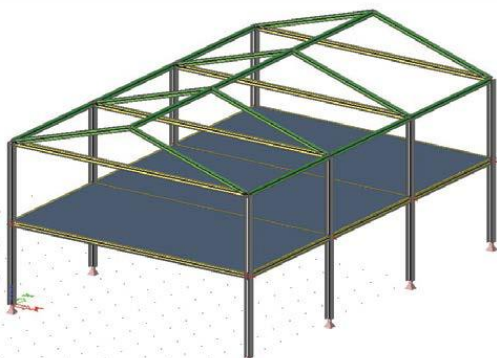
All these questions will be answered during this additional day of Fundamentals Training.

What knowledge will you obtain?

Each participant works individually on several practical applications, under guidance of a Customer Service Engineer of SCIA. At the end of the training, you will have the knowledge and confidence to:

- Model in a quick and correct way plates structures in SCIA Engineer with the intention to drastically increase your productivity and efficiency.
- You will learn how to insert loads, such as point forces, line forces or surface loads, on plates.
- Learning to deal with ‘Free loads’. These may be defined in an arbitrary position in the space. Afterwards you define yourself on which element(s) the projection of the inserted load has to be generated. SCIA Engineer’s ‘Free Loads’ can also be used to model variable loads, like for example hydrostatic water pressure in a tank.
- Finally, we will familiarize you with the basics of 2D reinforcement in SCIA Engineer.

To guarantee the interaction between the participants and the trainer, the course will be given for a small group of up to 8 people.





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Program

Modeling

- You learn how to enter quickly and correctly plates and shells in SCIA Engineer
- How can you increase your efficiency by using the modeling options?
- Introducing 2D components (for example openings, subregions, ...)
- Inset subsoils in SCIA Engineer
- How can you connect bars and plates? (for example a ribbed plate with an effective width)
- Where can you insert mesh refinements?

Loads

- Which loads can be inserted on plates?
- How do free loads work?

Results

- Requesting calculation results such as deformations, internal forces, stresses in plates
- Where can you request the reinforcement moments in SCIA Engineer?

2D reinforcement

- What is the needed reinforcement in a slab?
- How can you define additional reinforcement?

Syllabus & Hand-outs

All participants will receive a syllabus at the start of the course containing the practical examples and exercises which will be discussed in detail during the training.

Prerequisites

This course is adapted to completely new and start-up SCIA Engineer users with the necessary knowledge of building design. This day is a supplement to "Fundamentals Training 1 – Steel and reinforcing bars". SCIA strongly recommends to attend this two-day training first.

Certificate

Each participant will receive an official SCIA Engineer "Fundamentals Training 2" certificate at the end of the training, signed by the trainer.

Disclaimer: The content of the training may be modified without notification (11/2015).