



TRAINING

SCIAENGINEER

SCIA ENGINEER – ADVANCED TRAINING ALUMINIUM: REDUCED SHAPE, SECTION AND STABILITY CHECKS (1 DAY)

Description

This course will focus on the advanced principles of **calculations of aluminium according to Eurocode 9** (EN1999). The applications for frame structures will be examined by means of **practical examples**. This training is geared to **advanced users**.

The users will gain understanding into:

- interpretation and usage of different materials and cross-section classifications
- the importance of the effective cross-section
- a summary of the executed code checks
- backgrounds and applications of 2nd order calculations

What knowledge will you obtain?

Our Customer Service Engineer will explain the applications step by step, so that the participants can perform and verify an aluminium design that conforms to the code in a fast and accurate way. Specific results of the acquired knowledge include:

- insight how to link the theoretical requirements of the Eurocode with the practical use of the aluminium modules in SCIA Engineer
- know when and how to perform advanced calculations (general buckling and 2nd order)
- correctly and efficiently create own aluminium cross-sections (e.g. by importing a DXF file), taking into account the reduced shape

Program

Materials

- explanation of the material properties of Eurocode 9

2nd order calculation

- general principles of a 2nd order calculation in SCIA Engineer
- explanation of the introduction of global and local imperfections
- view and interpret the results

Cross-section types and classifications

- explanation of the different types of cross-section in SCIA Engineer



TRAINING

SCIAENGINEER

- principles of the section classification according to Eurocode 9

Initial shape

- explanation of the thin-walled representation of the cross-section
- calculation of the effective cross-section

Aluminium stress check

- explanation of general parameters and specific settings for each element
- overview of the section checks (compression, flexion, torsion, shear ...)
- overview of the stability checks (flexural buckling, lateral torsional buckling, torsion, shear buckling ...)

HAZ data								
	Plate ID	Pos.type	Position[m]	Position[m]	Id metall	Id mate	Temperature	f heat p
1	3	rela	100,00	0,50	MIG	6xxx	90,00	3
*	1	abso	0,00	0,00	MIG	3xxx	60,00	3

Drawing

Working method

The training is provided by an experienced engineer from the Customer Service Department of SCIA. To guarantee the interaction between the participants and the trainer, the course is given for a small group of up to 8 people.

Each **participant will use the software** and will put the different topics of the course immediately into practice, under the supervision of the trainer. At the end of the training you will have the necessary knowledge to **use the parts discussed in an autonomous and efficient way**.

At the beginning of the training, each participant will receive a **syllabus**. This includes a detailed explanation of the different functionalities and treated examples.

After the training, the companies who do not have the ability to use all the features discussed in the license of the software, will have the opportunity to request a free try-out license which is valid for 30 days.



TRAINING

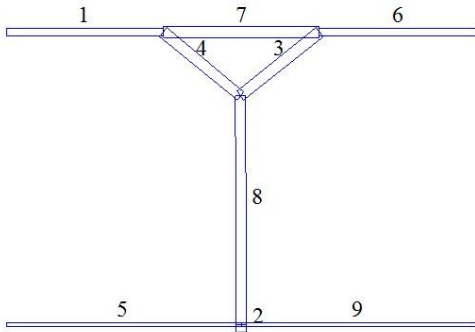
SCIAENGINEER

Prerequisites

This course is adapted to more experienced users with the necessary general knowledge of structural design.

Certificate

Each participant will receive an official SCIA Engineer “Advanced training Aluminium” certificate at the end of the training, signed by the trainer.

Parts		Id	Psi	Sigma Beg [kN/m ²]	Sigma End [kN/m ²]
		1	1,000	-508,058	-508,058
		2	1,000	-508,058	-508,058
		3	1,000	-508,058	-508,058
		4	1,000	-508,058	-508,058
		5	1,000	-508,058	-508,058
		6	1,000	-508,058	-508,058
		7	1,000	-508,058	-508,058
		8	1,000	-508,058	-508,058
		9	1,000	-508,058	-508,058

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