Steel design trainings

Winter 2018-2019

Structures for buildings in seismic areas (Eurocode 8)
2 days – December 2018

Fatigue design of steel and composite structures, (Eurocode 3 part 1-9)
3 days – Februar 2019

ECCS
CECM
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info steel

Structures for buildings in seismic areas
6-7/12/2018

Content

Training on Design of Steel Structures for Buildings in Seismic Areas
(Eurocode 8: Design of Structures for Earthquake Resistance Part: 1 General Rules, Seismic Action and Rule for Buildings).

Topics covered :

- Introduction : Content, objectives; Logic of the book and of the lectures; Structures at risk, examples of cracking
- Principle and fundamentals of Seismic Design: Philosophy and contents of EN 1998. Structures located in moderate to high seismic areas. Structures located in low seismic areas
- Conceptual design of seismic resistant structures (i.e. Structural Systems, Ductility Classes, Choice of Material, Ductile Components, Design Overstrength, Fuses and Replaceable Elements)
- Seismic design of MRFs, X-CBF and V-CBFs. Discussion of differences between DCH/DCM/DCL
- Seismic design of EBFs, Dual Frames (with re-centering) and Portal frames. Discussion of differences between DCH/DCM/DCL
- Design Case Studies - 1 :(1) Multistory Building, (2) Single Story Industrial Hall
- Design Case Studies –2: Lightweight Steel Structures (3)Residential and (4) Social Buildings

Practical information

Organiser

ECCS (European Convention for Constructional Steelwork)

Place and dates

6/12/2018 and 7/12/2018 (2 full days)

ECCS – Avenue des Ombrages, 32B – 1200 Brussels

(subject to change depending on the number of participants)

Price

1250€ excl. Vat

(ECCS-organisation / Infosteel membership-discounts do not apply)

Registration

www.infosteel.org/seismicdesign

DIENSTVERLENER VOOR DE
KMO-PORTEFEUILLE

Infosteel Registratienummer: DV.O101635

Fatigue design of steel and composite structures
11-12-13/02/2019

Content

Practical training days on Fatigue Design of Steel and Composite Structures
(Eurocode 3: Design of Steel Structures, Part 1-9 Fatigue 2nd Ed.)

Topics covered :

- Introduction: Content, objectives; Logic of the book and of the lectures; etc
- Basis of fatigue design: Concept of S-N curves, main parameters; S-N curves: experimental determination, definitions of stress range and number of cycles; Terminology (in relation to Eurocodes); Variable amplitude, damage sum and equivalent damage concept (cont.); Verification methods (with stress ranges, with number. of cycles, with damage sum); etc
- Codes of practice: Different existing codes : Eurocodes, IIW, DNV, …; Separation between action effects and resistance; Application and limitation range : materials, corrosion
- Actions and action effects: Fatigue loads, fatigue load models (general); Road bridges load models (FLM1 to FLM5), railroad models (UIC 71, …); Service life, new vs existing bridges; etc
- Determination of stresses and stress ranges: Calculation of stresses: nominal, modified nominal, geometric; Calculation of stress ranges: in bolted, welded connections, multiaxial cases; etc
- Fatigue strength and detail categories: Catalogue of construction details; Classification by identification, by analogy; Fatigue strength modifications: size effect, mean stress and residual stresses; etc
- Safety and design methods: Steel quality choice: link between fatigue and brittle fracture (EN 1993-1-10); Design methods: safe life, damage tolerant; Partial factors for fatigue determination; etc

Practical information

Organiser

ECCS (European Convention for Constructional Steelwork)

Place and dates

11/02/2019, 12/02/2019 and 13/02/2019 (3 full days)

ECCS – Avenue des Ombrages, 32B – 1200 Brussels

(subject to change depending on the number of participants)

Price

1550€ excl. Vat

(ECCS-organisation / Infosteel membership-discounts do not apply)

Registration

www.infosteel.org/fatiguedesign

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