20 de Setembro | 14h30 – 16h30
Faculdade de Ciências e Tecnologia
Universidade Nova de Lisboa
Ed. IX, sala 4.17

palestras
de ENGENHARIA CIVIL na NOVA

Steel Structures - Patch Loading *(20 de Setembro)*

Summary of researches at the FCE UoM.
Centrically patch loaded steel I-girders.
Eccentrically patch loaded steel I-girders.
Artificial Neural Networks application in the analysis of eccentric patch loading.

Biljana Scepanovic, Prof. PhD. Eng.
Associate Professor, University of Montenegro

Patch loading acts locally, over a small area or length of a structural element. Particularly intriguing problem and quite common situation in Structural Engineering is the case when local compression affects the flange of a steel I-profile so that the web, below the loading, is locally pressed. The presentation refers experimental research conducted at the University of Montenegro, with special focus on the problematics of eccentric patch loading.

Patch loading issue is common in engineering practice – particularly in crane and bridge girders. Local instability of web, caused by pure stability problems (in case of centric loading) or by additional web bending (in case of eccentric loading) may lead to the collapse of the whole structure.

Most of eccentrically loaded girders (but not all and always) behave completely different in comparison with centrically loaded girders, having decreased collapse mode, depending on numerous influential parameters. The main problem in this load case is to identify collapse mode type and to make appropriate estimation of collapse load, that might be significantly lower then in case of centric patch load.

UNIC UNL
CENTRO DE INVESTIGAÇÃO EM ESTRUTURAS E CONSTRUÇÃO

CEris
Civil Engineering Research and Innovation for Sustainability

FCT FACULDADE DE CIÊNCIAS E TECNOLOGIA
UNIVERSIDADE NOVA DE LISBOA