Novel CONnection design and modelling idealisations utilising CATENAry acTION in the disproportionate collapse resistance mechanism of cold-formed steel panelised structures

Fact Sheet

Project Information

ConCatenaTion

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14 August 2025

Funded under
EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions

Total cost
€ 196 590,72

EU contribution
€ 196 590,72

Coordinated by
UNIVERSITY COLLEGE DUBLIN, NATIONAL UNIVERSITY OF IRELAND, DUBLIN
Ireland

Project description

Modern construction methods for safer and sustainable structures

Modern methods of construction (MMC) are highly precise, improve safety and reduce waste due to streamlined manufacturing and construction processes. However, lack of guidelines on the interaction between structural components and

connection behaviour hinders their use worldwide. Panelised, load-bearing, cold-formed steel construction is a MMC that offers several advantages compared to standard construction techniques. However, little is known about the robustness of such structures as testing and modelling data are scarce. The EU-funded ConCatenaTion project plans to develop novel connection prototypes, design guidance and idealisations that should enable robust design of panelised cold-formed steel structures against disproportionate collapse, while using advantageous catenary action as a collapse resistance mechanism.

Keywords

Disproportionate collapse | Cold-formed steel | Catenary action | Large deformations | Connection design | Structural robustness | Numerical analysis | Experimental testing | Modern methods of construction

Programme(s)

H2020-EU.1.3. - EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions MAIN PROGRAMME

H2020-EU.1.3.2. - Nurturing excellence by means of cross-border and cross-sector mobility

Topic(s)

MSCA-IF-2020 - Individual Fellowships

Call for proposal

H2020-MSCA-IF-2020

See other projects for this call

Funding Scheme

MSCA-IF - Marie Skłodowska-Curie Individual Fellowships (IF)

Coordinator

UNIVERSITY COLLEGE DUBLIN, NATIONAL UNIVERSITY OF IRELAND, DUBLIN

Net EU contribution

€ 196 590,72

Total cost

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Address

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Region

Ireland > Eastern and Midland > Dublin

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

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