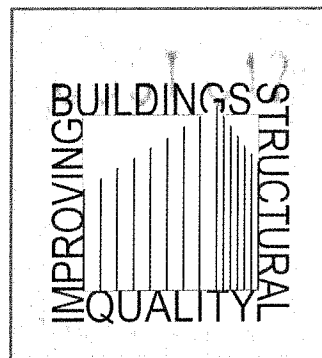


European cooperation in the field of scientific and technical research

**Urban Civil Engineering**

# **Improvement of Buildings' Structural Quality by New Technologies**

Edited by Christian Schaur, Federico Mazzolani, Gerald Huber, Gianfranco De Matteis,  
Heiko Trumpf, Heli Koukkari, Jean-Pierre Jaspart and Luis Bragança



*COST C12 Final Conference Proceedings  
January 2005*

**COST Action C12**

PROCEEDINGS OF THE FINAL CONFERENCE OF COST ACTION C12, 20-22 JANUARY,  
2005, INNSBRUCK, AUSTRIA

# Improvement of Buildings' Structural Quality by New Technologies

*Edited by*

Christian Schaur  
*Austria*

Federico Mazzolani  
*Italy*

Gerald Huber  
*Austria*

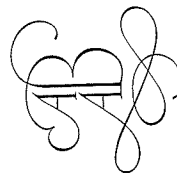
Gianfranco de Matteis  
*Italy*

Heiko Trumpf  
*Germany*

Heli Koukkari  
*Finland*

Jean-Pierre Jaspart  
*Belgium*

Luis Bragança  
*Portugal*



A.A. BALKEMA PUBLISHERS LEIDEN / LONDON / NEW YORK / PHILADELPHIA / SINGAPORE

Improving the performance of buildings <i>H. Koukkari &amp; P. Huovila</i>	425
Effective use of cold-formed steel structures for low-story urban buildings <i>E.L. Airumyan, O.I. Boiko &amp; S.V. Kamynin</i>	431
 <i>Session 8: Research and development concerning mixed building technologies</i>	
On design of composite beams with concrete cracking <i>J. Bujnak &amp; J. Odrobinak</i>	441
Design methodology of profiled steel sheets for composite slabs by FEM <i>M. Ferrer, F. Marimon &amp; F. Roure</i>	447
Crack propagation at headed shear studs in composite beams <i>M. Feldmann &amp; H. Gesella</i>	455
Load-carrying capacity of anchor plates with welded studs <i>U. Kuhlmann &amp; M. Rybinski</i>	463
An experimental study of the strength and stiffness of concrete-filled steel tubular column connections with weld and stiffener angles <i>S. De Nardin &amp; A.L.H.C. El Debs</i>	473
Load-deformation and vibration-behaviour of new types of composite slim-floor slabs <i>C. Butz, O. Hechler &amp; H. Trumpf</i>	481
 <i>Session 9: Urban design 2</i>	
Sustainable design in construction sector <i>L. Bragança, R. Mateus &amp; H. Koukkari</i>	495
Aesthetics in urban design seen from the perspective of sustainability <i>C.M. Ravesloot, L. Apon &amp; E.M. Boelman</i>	503
Social demands and stakeholders participation in Dutch sustainable housing policy <i>C.M. Ravesloot</i>	511
Energy neutral retrofitting of apartment flats – modelling and detailing with consent of inhabitants <i>C.M. Ravesloot, L. Apon &amp; E.M. Boelman</i>	519
Sustainability assessment of new construction technologies: a comparative case study <i>H. Gervásio, L.S. da Silva &amp; L. Bragança</i>	527
Aluminium – a sustainable building material? <i>C. Radlbeck, D. Kosteas &amp; M. Schlinz</i>	537
Sustainability by LCCA of aluminium structures <i>E. Dienes, C. Radlbeck &amp; D. Kosteas</i>	547
Functional assessment of lightweight construction solutions in view of sustainability <i>L. Bragança &amp; P. Mendonça</i>	555
Comparative assessment of exterior walls construction solutions' sustainability <i>L. Bragança &amp; R. Mateus</i>	565