GPD INDIA 2008

Design of safe glass structures: interaction between glass product, application, calculation and design

Univ.-Prof. Dr.-Ing. Geralt Siebert
Universität der Bundswehr München (University of German Bundeswehr)

Dr.-Ing. Barbara Siebert
Ingenieurbüro Dr. Siebert
Consulting engineers office for civil engineering

Keywords:
1 = safety aspects, 2 = residual resistance, 3 = earthquake test, 4 = point-fixing system

Abstract
Glass is one of the most recognized building materials used in modern architecture. Here it has to fulfil a wide range of different tasks, especially depending on the application and requirements. Safety has to be guaranteed not only for intact but also in case damage occurs – where the latter is more important for structural elements or overhead glazing than e.g. small window. Of course safety has also to do with requirements like earthquake resistance or bomb blast. Only some of the aspects are considered in the few regulations, existing and under development. The presentation gives an overview of different applications like façade, railing, overhead glazing or solar panels and their appropriate design. This is done by using carried out examples of built projects (designed in the consulting engineers office) as well as testing for earthquake or residual strength (carried out at laboratory of University) and actual development of German (DIN 18008) and European Code (EN 13474) (Geralt Siebert is member in both, national and European code working groups). Projects span from residential buildings over shopping mall to high rise buildings as well as structures for infrastructure like subway station buildings or bridges.

Geralt Siebert, born 1966, received his civil engineering degree from TU München. The doctor's thesis about the application of architectural glass as load carrying structural element was accepted 1999. He owns a consulting engineers office. Since 2003 he is professor at Universität der Bundeswehr München.