

Master's Dissertation at the Div. of Structural Mechanics



MECHANICAL PROPERTIES OF INTERLAYERS IN LAMINATED GLASS - Experimental and Numerical Evaluation

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Presentation

Summer 2014

Report

will be published as report TVSM-5198

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The work is performed at
Division of Structural
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In cooperation with
Forserum Safety Glass AB



House made of laminated glass (<http://www.santambrogio milano.it/>)

Background

The architectural and engineering trend leads towards greater use of glass in buildings. Growing safety awareness often requires laminated glass. Laminated glass is formed as a sandwich of two or more sheets of glass and a plastic interlayer. The interlayer is typically soft polymers like PVB, SGP or EVA. When laminated glass shatters, the plastic interlayer keeps the pieces of glass in place. This reduces the risk of cuts caused by splinters.

Today there are many interlayers on the market with a large variation in their properties. For every project, in different areas of use, it is a challenging task to choose the most optimal interlayer.

Objective and method

The main objective of the master thesis is to investigate a variety of interlayers and their mechanical properties. Laboratory tests will be made, as well as FE-models with the software Abaqus. From the laboratory tests and the FE-models, the mechanical properties of the interlayers will be evaluated. Conclusions from the evaluation will lead to determination of properties which are suitable for use in simulation. The conclusions will also be presented as guidelines on suitable interlayers for different field of applications.

