



From
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Subject

Additional information TNO study on solar control glass

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Introduction

This short memo provides additional information on the TNO study quoted in the Glass for Europe brochure “Solar Control Class for Greater Energy Efficiency”.

The effect of solar control glass in general

Solar radiation transmitted through glazing has a substantial impact on the thermal balance of buildings and will in principle increase indoor temperatures.

This in principle causes a decreased heating demand and an increased cooling demand.

Applying solar control glass will decrease the amount of solar energy transmitted through glazing. Applying solar control glass will therefore result in higher heating demands at low temperatures and lower demands for cooling at high temperatures compared to ordinary glazing.

Buildings with relative low heating loads and high cooling loads therefore benefit from solar control glazing compared to ordinary glazing. Buildings with relative high heating loads and low cooling loads may benefit more from low-e glazing.

An additional important aspect to consider with decreased cooling demand is that the required cooling system can be decreased in capacity and size as well, or can be left out completely which may result in substantial cost savings.

The effect in specific cases

The figures in the report indicate overall integrated effects of replacing, for the different building types common glazing, with solar control glazing with low U-values. Depending on the specific building and climate, the net result in terms of energy savings and CO₂ reductions will be positive for many situations. In other situations, the application of low-e glazing may be more beneficial.