ARCHITECTURE CIVIL ENGINEERING ENVIRONMENT
The Silesian University of Technology No. 3/2021

doi: 10.21307/ACEE-2021-020

STUDY OF ELECTROCHROMIC (EC) AND GASOCHROMIC (GC) GLAZING FOR BUILDINGS IN ASPECT OF ENERGY EFFICIENCY

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Received: 22.02.2021; Revised: 14.06.2021; Accepted: 7.09.2021

Abstract
The paper analyzes the impact of switchable glazing: electrochromic (EC) and gasochromic (GC) on the energy efficiency of the building. Using the analytical and comparative method, the energy-relevant EC and GC glazing features were defined. Secondly, experimental studies on the energy-saving role of EC and GC glazing in various climatic zones were analyzed. The paper aims to define this role. The analyzes were referred to the thermal and lighting aspects. Comparisons were made between the EC and GC technologies, as well as with traditional – "static" types of glazing. The analysis showed differences in the technical characteristics of both technologies. Despite the differences, the results prove a beneficial effect of EC and GC glazing on the reduction of usable energy consumption in the building. The impact is most significant in terms of relieving the cooling and air conditioning systems. In this field, EC glazing was determined a more favorable technology. Further detailed research is required, focusing mainly on the lighting aspect for moderate and cold climate zones. The research was summarized with a collective evaluation of the energy-related role of EC and GC glazing.

Keywords: **Electrochromic (EC) glass; Energy-efficient buildings; Gasochromic (GC) glass; Smart windows; Solar façades; Solar architecture; Switchable glazing.**