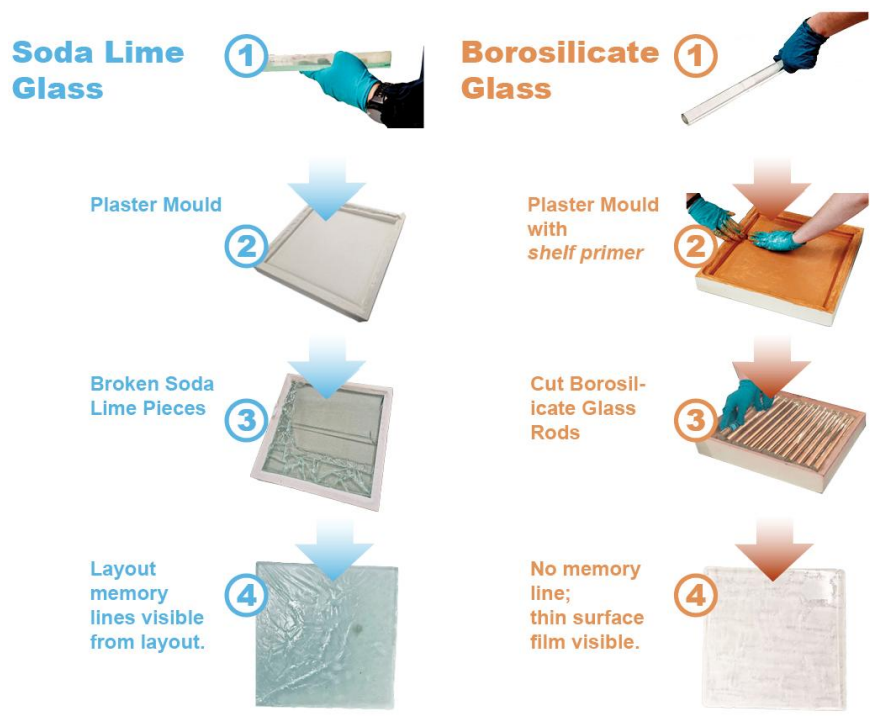
Enhancing Fire-Resistant Glazing with Borosilicate Glass

Author: Katie Sawey, Stijn Blom, Sarah Wagner, Brayden Tang

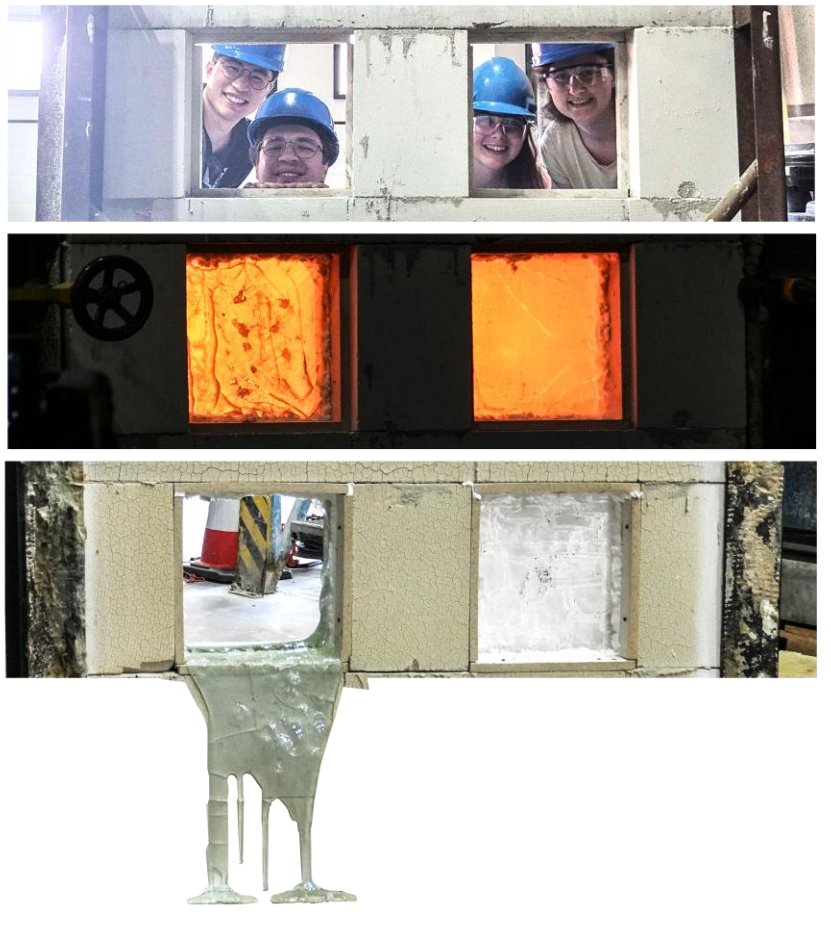
Testing of thermal shock resistance and failure mechanisms for fire-resistant glazing



Borosilicate glass, typically used in cooking appliances like Pyrex dishes, has a higher resistance to thermal shock and a lower expansion coefficient than typical Soda Lime glass. These properties could be harnessed to develop more fire-resistant glazing and make use of under-utilised recycling potential.

To test this hypothesis, one soda lime and one borosilicate pane of glass were prepared. During the fire testing, cracking was observed in both panes, but cracks appeared faster and more frequently in the soda lime glass. The eventual failure mechanism for the soda lime was melting at approximately 1350°C, while the borosilicate remained intact.

After Fire Testing



This fire testing was made possible through a close collaboration with Effects.

OpenFace is an Erasmus+ project