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# ON THE DESTRUCTIVE AND NON-DESTRUCTIVE ASSESSMENT OF STRENGTH OF THERMALLY TOUGHENDED GLASS PANELS

Siim Hödemann<sup>1</sup>, Jaak Kikas<sup>1</sup>, Andrei Errapart<sup>2</sup>, Hillar Aben<sup>2</sup>, Johan Anton<sup>2</sup>,  
Helina Klaassen<sup>1</sup>, Marko Lamp<sup>3</sup>

<sup>1</sup> Institute of Physics, University of Tartu, Riia 142, 51014 Tartu, Estonia

<sup>2</sup> GlasStress Ltd, Akadeemia tee 21, 12618 Tallinn, Estonia, info@glasstress.com

<sup>3</sup> SGG Estonia AS, Baltiklaas, Ringtee 58B, 51014 Tartu, Estonia

e-mail: siimh@ut.ee

A portable scattered light polariscope SCALP has been developed, which permits measurement of the residual stress profile through the thickness of glass panels.

At a glass factory strength assessment of glass panels of different thermal treatment was carried out using both residual stress measurement with SCALP and the traditional four point bending stress. Linear correlation between the residual surface stress and the bending strength was observed.



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At another glass factory residual stress in glass panels was measured before performing the traditional fragmentation test. The results of the fragmentation test were extremely scattered and had almost no correlation with the values of the residual stress.

It is concluded that most reliable assessment of the strength of glass panels is obtained by measuring the residual stress at the surface.

## References

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