Folienwerk Wolfen GmbH

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Lab report 15-GMe-007

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Betreff / Subject:	Temperature behavior of glass laminates: comparison of PVB vs. evguard
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Background

Some user asked for the melting and ignition point of evguard and the comparison to PVB. For better comparison of PVB and EVA we have had to check out the behavior of the glass laminates at high temperatures over longer time.

Testing and Results

PVB **Evguard**

Before placing the glass laminates in the oven

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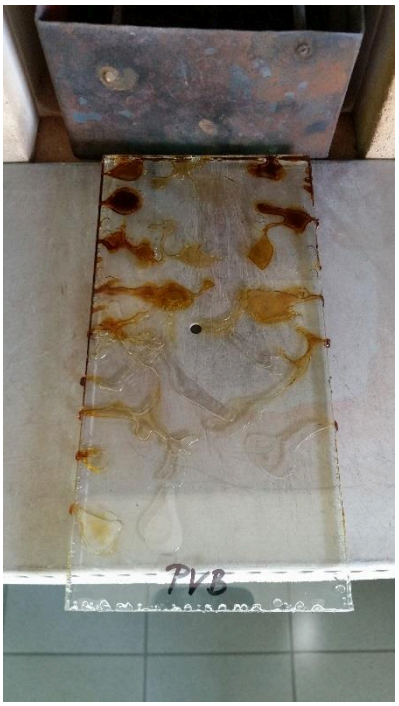
Temperature program:
Starting at 200°C, increasing the temperature step by step. Sample checked after certain period of time:
Already at two hours at 200°C, PVB ist flowing and creatic bubbles, while evguard remains as before. The brown areas (after 2 hours) are from residues outside the laminate, which was already in the oven.

10:00 am, [2 h], 200°C



Temperature was increased to 250°C:
After 4 hours, 250°C yet. PVB becomes significantly brown all over the laminate. Evguard starts to decompose and becomes some bubbles, but function still given.

12:00 am, [4 h], 250°C

Temperature was increased to 300°C:
After 6 hours, 300°C yet. If we increase the temperature further (also time!), evguard is still the same as before. PVB is destroyed for a long time already. PVB has lost any adhesion.

2:00 pm, [6 h], 300°C

Also at 350°C, the evguard holds the laminate together.

3:00 pm, [7 h], 350°C

The cracking glass can be ignored, this was due to the handling of the laminated glass out of the oven.

Summary

Evguard has got the better ignition stability then PVB in high temperatures over long time. Also the function is still given to hold the laminate together. The molten PVB flows between the glasses.