

## Safety Caution of EVA-80: EVA Film Processed at 80 °C DONOT Cross-Link at all

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There is EVA film for laminated glass that it can be processed at 80 degree °C .  
After we made many tests, we proofed that the EVA film processed at 80°C don't cross-link at all.  
If the EVA film don't cross-link at all after heating , how can we trust the laminated glass's safety properties?



We ran TGA (Thermogravimetric analysis) experiments and see what are the results.  
First, we cured a 10x10cm sample of EVA-80 between two glass sheets. The heating profiles were at 80°C-120 minutes.

How do we get the results of gel content test? We weighted a 4x4cm cured EVA and placed in toluene overnight (16 hours). Then the sample was fully dry (one hour in a fume cupboard and one hour in vacuum oven at 100°C) and weighted again. With the weight loss was calculated the amount of gel content.

The first samples we ran (80°C-120minutes) were fully dissolved in the toluene solution overnight. We saw that behaviour before with an EVA thermoplastic, with no cross-linking. So, for our experiments and previous experiences, EVA-80 did not cross-link at all at 80°C during 1.5 and 2 hours.

All our experiments did not show any cross-linking level. After several analyses with different techniques (immersion in toluene and DSC) we got the conclusion that EVA-80 does not cross-link at all. It is just behaving as a thermoplastic. So it is not thermally and chemically stable, both properties are important to safety laminated glass to pass the European certificates for a architectural commercial product.

Hope this is more clear explanation. If you require more information, please feel free to contact us.

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