



## Notice

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Saint-Gobain Performance Plastics  
Unit 13, Ball Mill Top Business Park  
Grimley, Worcestershire WR2 6LS  
United Kingdom  
Tel: +44 (0) 1905 640 400  
E-mail: [solargardukinfo@saint-gobain.com](mailto:solargardukinfo@saint-gobain.com)  
[www.solargard.co.uk](http://www.solargard.co.uk)



The Royal Albert Hall is an instantly recognisable, world famous venue. Unfortunately, in the current climate, that also means it has to be protected from any potential terrorist attacks. Key to this is making the venue's 188 windows blast proof, which is why the Hall's management team has installed Armorcoat, an innovative product by Solar Gard that affords protection to all of the venue's internal and external glass.

Having a worldwide reputation as an iconic concert venue can have its downside. That kind of profile can also translate into becoming a potential target for terrorists. "Obviously, as with any public building these days, security is extremely important to us and it's something we take extremely seriously," said the Royal Albert Hall's head of operations, Amanda Squires. "It's always something that's at the top of our agenda. We are totally committed to ensuring the safety of all of our visitors, patrons and employees. The installation of Armorcoat clearly plays a key part in that because, in the case of anything happening, it prevents any injuries by fragments of glass."

The film was installed less than a year ago by one of Solar Gard's accredited installers, Invicta. "If we do our job

right then people don't know what we've done. It's a clear product that just goes straight onto the glass itself," said Solar Gard's sales manager Ian Penfold. "The problem with blasts is that 90% of injuries and damage aren't caused by the blast itself, but by flying glass."

## Meeting Home Office specifications

Armorcoat is an adhesive film that is cut to size by the installer and easy to affix. Last year, the Royal Albert Hall's managers took the decision to remove the existing film from all external windows and replace it with new 175 micron Armorcoat film to meet Home Office specifications for bomb blast protection, as well as replacing all the old film on the internal glass by way of meeting Health and Safety Executive Duty of Care requirements.

"We had originally installed protective film at the Albert Hall about 12 years ago for bomb blast purposes at the time of the IRA's bombing campaign in London," commented Invicta's sales director Steve Thompson. "This was an upgrade to the new Home Office bomb blast standard specification, which is 175 micron film – the old film was 100 micron. We replaced the film on all the external windows and doors and we also went a stage further and put film on all the internal glass in the corridors."

Thompson continued: "If somebody were to bring a bomb into the building, being a contained space that could obviously cause a lot of damage. It's a risk assessment thing. It's less likely these days that you'd get the big vehicle bomb outside – it's more likely to be a case of someone trying to bring in small explosives in a rucksack and explode them inside. Most injuries in a bomb blast are caused by the flying shards of glass and that's something that we can quite easily reduce. The film holds the glass together and stops it spraying around, which is what causes damage. Glass can travel at huge speeds in an explosion and embed itself in walls and furniture, so it's an obvious risk to human life."

## Logistical problems to be overcome

Clearly, installing protective film on this kind of scale was always going to pose logistical problems at a venue as busy as the Royal Albert Hall, but Invicta managed the contract with a minimum of disruption.

"It was a very complex process of planning dates around when the work could be carried out and co-ordinating lots of different departments because we pretty much have a show every day," explained Squires. "By the end of 2007 we had had more than 360 shows, so you can see that we don't get much down time to keep the building looking lovely. Remember that the Albert Hall is not the kind of building you can ever allow to look shabby."

"We worked around their performances, so if they had a matinee for example we'd work to suit their hours," suggested Steve Thompson. "It was all done over a couple of months with no problem at all. The film comes in a roll and it's cut to just over the size of the glass. The glass is then thoroughly cleaned, the liner on the back of the film is pulled off, it's sprayed with water, positioned, trimmed and affixed. It's a fairly easy process but we have to train teams of installers – it's not a DIY job. It doesn't cause any great disruption to the people in the building, unlike if you were re-glazing, which is a major disruption to the day to day workings."

## Work scheduled around performances

"Invicta worked closely with us and came in and did a full reconnaissance beforehand," outlined Squires. "There are 188 windows involved in the project so it's clearly a major job. The work had to be scheduled around performances and meetings, not prove disruptive in any way or interrupt performances or people's enjoyment of the Hall, because we're here to give people a fantastic show experience."

The films have a ten-year warranty, and are tested at the end of that period to see if renewal is necessary. "It means we don't have to worry about it for the next ten years," said Squires. "Once it has been installed – apart from the normal routine of window cleaning – it's very straightforward, so you don't notice it from a maintenance point of view either. It's very easy to maintain – there's no lifting or peeling or anything like that at all. You wouldn't know it was there."

Perhaps unsurprisingly, there's a large and constant demand for Armorcoat at the moment. "The demand is across the board, in London and across the country," outlined Ian Penfold. "That's for both Government buildings and facilities owned and run by other major organisations. In fact, the Government has its own standing order."