Auto Asylum's workshop is spotlessly clean – essential when fitting SecureGlass and other window tints if you want to achieve a perfect result

Smoke screen

Car crime is an ever-increasing problem, and one of the commonest ways for a thief to gain access to your vehicle is by smashing a window. Which is why Philip Raby took his 911 Carrera 4 to Auto Asylum to have its glass made just that little bit more secure. Photographs by the author and Stingray Media Solutions

I guess I've been lucky. In 22 years of car ownership I've only once suffered at the hands of thieves. And that was when the complete leather interior was pinched out of a Peugeot 205 1.9 GTi. Which was annoying, to say the least.

The little Pug was a great car, but an obvious target for criminals, and I often pondered the provenance of the replacement second-hand interior I had to buy. I like to think I've moved on to better things with my current car, a 964-model 911 Carrera 4, and also to a machine which is rather less appealing to the boy-racer brigade.

But that's no reason to be complacent, which is why the car is fitted with a state-of-the-art alarm system (see *Safe and sound* in the July 2002 issue). Even so, brazen thieves are known to break into a car and make off with valuables, such as the stereo system, before anyone takes heed of the wailing alarm. And an easy way in to most cars is to smash a window, and then to reach in and unlock the door. Indeed, around 50 per cent of all break-ins are said to be carried out in this manner.

Which is why I'm at the Berkshire premises of Auto Asylum, watching my 911's windows being removed, one at a time, by company boss Paul Jeffreys.

The object of the exercise is to coat the inside of each pane with SecureGlass, an ultra-tough plastic film which offers a range of benefits, says Jeffreys. 'SecureGlass is thicker than standard window tints, which makes it about 40 times harder to break through the glass. It also holds shards of broken glass in place, which is good news in the event of an accident.

'Unlike some films, SecureGlass isn't dyed to create its tint,' he continues. 'Instead, it's metallised. In other words, the surface is coated with tiny particles of metal. This reflects heat 30 times better than dyed films, thus keeping the car's interior cooler on sunny days, and practically eliminating dam-

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All glass that can be taken out is removed (left). This ensures that the SecureGlass film is applied right to the very edge of each surface, offering maximum security and avoiding unsightly gaps. It's particularly important to remove wind-down windows, the edges of which are exposed (below). Our 911 is different to most modern cars in that the frame can be lifted out, and it has quarterlights

Paul Jeffreys uses a hot-air blower and squeegee to form the SecureGlass to the shape of the glass (left). At this stage the film has a protective covering. Once the glass is out of the car it's squirted with water and a sheet of SecureGlass laid on the outer surface and cut roughly to size (below). This is the rear windscreen from our 911

Smoke screen

Auto Asylum

Auto Asylum was formed six years ago by Paul Jeffreys, a self-confessed car nut who owns an immaculate 1992 3-series BMW. 'I originally sold and fitted office furniture,' he tells us, 'but started Auto Asylum when I saw what I thought was a gap in the market for window tinting.'

Jeffreys sources his raw material from Bekaert Speciality Films, a Belgium-based company that produces both SecureGlass and thinner tints. 'I work closely with Bekaert so that I'm in touch with the latest developments,' he says.

Watching Paul Jeffreys at work, it's clear that he's a perfectionist – he works slowly and methodically, more concerned with the quality of the job than the time it takes. For this reason he's reluctant to take on any staff, other than a secretary who looks after the admin side of the business. 'I'll have to employ someone else soon,' he admits, 'but that's likely to be a windscreen fitter rather than a tinter – I'd rather do that side of the job myself.'

To treat an air-cooled 911 (such as our 964) with SecureGlass costs £600 (all prices exclude VAT). But a current 996-model 911 with its bonded glass and no quarterlights is somewhat cheaper at £450. If you've a Cayenne on order (a car that's crying out for a tint, with that huge amount of glass) you're looking at around £600 again. If you just want to have your glass tinted, and aren't concerned about security, the cost is £450 for an air-cooled 911, £250 for a current 911 and £270 for a Cayenne. ■

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The film is finally applied to the inside of the glass, pushed gently into place, and then trimmed to size. Note the amount of water trapped beneath the surface at this stage – the film is porous until fully cured

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aging ultra-violet rays. Also, it won't fade as dyed films are apt to do.' All of which has to be good news in a dark-coloured 911 with no air-conditioning! A further security advantage of a tinted film is that it goes some way toward protecting valuables from prying eyes. Oh, and it looks the business, too.

SecureGlass is available in a range of tints, or else you can opt for a perfectly clear version if you want your Porsche to maintain its original appearance. I'm keen to have a subtle tint, though, so Paul recommends the so-called Medium film, which is claimed to reject up to 47 per cent of solar energy.

Jeffreys freely admits that the majority of his installations are in brand-new cars, so my 13-year-old 911 makes a refreshing change. 'Most new cars have bonded-in rear windows,' he tells me, 'whereas yours is in a rubber seal. It's far better to remove the glass where possible, so that the film can run right up to the edge, for maximum security.'

Once Paul has removed the wiper arm the rear window comes out remarkably easily, using windscreen fitter's tools and more than a little pressure from the inside. The rear side windows, too, present no problem. It's with the front windows that the fun really starts...

'You have to remove any wind-up windows from the car, because if you don't run the film right to the edge of the glass you'll see it when the window's wound down,' Jeffreys explains. This means removing the door panels ('It's nice to see a car with screws rather than push-fit clips') and then unbolting and lifting the entire window frame out of the door. With some judicious wiggling Paul is then able to extract the main glass from inside the door. The small quarterlight, which Jeffreys says he rarely sees on new cars these days, is finally removed from the frame and put to one side.

The windscreen isn't treated with SecureGlass. Not only is it illegal in the UK to drive a car with a tinted windscreen (apart from so-called top tints, which my car has), this glass is laminated, anyway, so it's much harder to break than the less expensive toughened glass in the side windows.

Once the glass is out of the car the next stage is to cut the SecureGlass roughly to size. Paul squirts the glass with water, lays the film on the outer surface (the water holds it in place) and then cuts it to the shape of the glass, leaving a small overlap. I'm surprised at the relatively rough way Jeffreys seems to be handling the film, but he puts my mind at rest by explaining that it has a protective coating, which is removed later.

Now for the clever bit. Jeffreys warms the SecureGlass with a hot-air blower and gently teases it to shape over the glass; again over the outer surface, not the inner to which the film will finally be bonded. 'This is the only way you can get the film to follow the curve of the window without creasing,' he explains. Even glass with a very slight

curve, such as the 911's front side windows, is treated in this way.

Paul then lifts the shaped film off the glass and puts it to one side. The next stage is to ensure that the window is spotlessly clean. 'Any grease or dirt will stop the film from adhering to the glass,' he says. 'And that means you won't get a professional finish.' He obviously takes this part of the job very seriously, indeed, because the water he uses has been filtered twice using domestic filter jugs. 'I filter the water myself so I know it's clean,' he claims. 'I like to clean the glass by hand so I can feel for any dirt or stickiness.' For the same reason his spacious workshop is kept spotlessly clean and free of junk *(just like mine, then... – Ed)*.

He then removes the protective coating from the SecureGlass and lays the film on the wet glass. Yes, that's right. The bonding process requires water, and plenty of it. Paul uses a squeegee to push the film into place and then towels it dry. Yet there's still water visible under the surface, which is rather disconcerting to an onlooker. 'That's perfectly normal,' says Paul reassuringly. 'The film is porous until it's fully cured, and sometimes you can see pockets of water for up to three

We were understandably reluctant to try the effectiveness of SecureGlass on our 911, but Auto Asylum had recently carried out a demonstration with a Vauxhall Vectra equipped with the safety film. Repeated hits with a club hammer shattered the glass (above), but the safety layer behind (and, sadly, the rest of the car) remained intact

Reassembly takes time. Here (below) Paul Jeffreys is replacing a front side window, taking great care not to scratch the still soft film on the inner surface

Replacing door furniture in our 911 takes time (above), although it's all screws, unlike the clips found in new cars. Entire job took about 10 hours start to finish

days. It then takes up to 30 days to cure fully after that, depending on conditions.'

In the meantime, though, Paul hurries along the curing process to a stage where the glass can be handled by leaving the window under a heater for a few minutes. This is critical – too little heat and the film simply won't bond. Too much heat and it'll crinkle and lift away from the glass.

Once the rear screen and the rear and front side windows and two quarterlights are treated, it's time to put the car back together. Which is rather harder than taking it apart. The rear screen is a very tight fit, and access is limited from inside the car. Jeffreys uses a cord inside the rubber seal to pull the window into place – an impressive technique to watch as the window pops into position.

The rear side windows prove the hardest to replace. They have a slight curve front to back, and getting the rubber seal to seat properly at the narrow rear edge is an absolute pig of a job. Once again Jeffreys uses a cord to help pull the seal into place.

The front windows and quarterlights fit back together without problem, although it takes time to reassemble the frames and put back the various bits of door furniture. Indeed, the entire job, from start to finish, takes Paul Jeffreys some 10 hours. By his own admission he likes to work slowly and methodically. And that's just what I like to hear when my own pride and joy is involved.

Once it's all back together Paul puts masking tape over my window switches and gives me strict instructions not to lower the windows for three days, until the SecureGlass is part-cured. Once fully cured, 30 days later, he says I can treat the windows as I would normally, using an ammonia-free cleaner and soft cloth to wash the surface. Indeed, he says I can treat it just like normal glass.

The result looks superb. The tint subtly enhances the appearance of the car, and certainly cuts the glare from the then low winter sun. I've yet to experience the benefits on a hot summer day, but I'm sure I'll notice a difference. I just hope I never get to find out the security benefits of SecureGlass! ■

SecureGlass is available in a range of colours and densities. When it's on a roll like this (above) you're aware of the metallised surface (see text)

Finished result (below) subtly alters the appearance of the 911, should keep the cockpit cooler in the summer, and ought to make it a lot more difficult for a would-be thief to break in to the car