

Pyrosec 19 -

a force to be reckoned with

The necessity of having a robust fire resistant glass installed in an institution such as a hospital, has become an increasingly important issue in recent times.

If an emergency evacuation due to a fire was imminent, to extend the timespan in which patients could exit safely would be crucial in saving lives. This is particularly vital for patients who are elderly or unable to move from their beds, to give them and staff the extra minutes to escape from the building.

But what if the hospital was a secure institution that housed patients with severe mental problems? This type of hospital would not only require a robust fire resistant glass, but also a glass that stands up to repeated physical attack.

Traditionally, Georgian Wired Glass combined with polycarbonate has been used in hospitals and secure institutions. However, it has a number of flaws which limit the benefits from using this type of glass. Polycarbonate is easily scratched and could emit poisonous fumes when it is exposed to fire. The disadvantages of using this type of glass can often outweigh the benefits in an emergency.

A new product, designed and developed by Securiglass Company Limited, has proved to be excellent in offering superior fire resistance, whilst giving outstanding protection against physical attack.

Pyrosec 19 is a modified toughened 19mm glass that not only withstands sustained attack from

qualities. In the unlikely event of **Pyrosec 19** being smashed, it would shatter into small pieces and contain no sharp edges.

In fact, the original idea for **Pyrosec 19** arose from discussions between Securiglass and managers at a secure unit in Nottinghamshire. The Estates Department there, identified a problem with fire doors within the unit. They needed a physical attack resistant glass that also had a fire rating.

This unit, like many others, had used Georgian Wired Glass that because it breaks easily, was encapsulated between two panels of polycarbonate. The polycarbonate was then screwed into the door with the screw heads removed. However, despite attempts to inhibit patients from removing or destroying the glass, patients could still undo the headless screws and remove the polycarbonate.

Pyrosec 19 was developed by Securiglass shortly after the discussions, and was installed within the

action that even the most disturbed of patients is capable of taking.

In-situ testing has taken place at a number of secure institutions throughout England. Working closely with the Authorities, **Pyrosec 19** was repeatedly attacked with objects that are readily available to a mental patient. For example, chairs, tables, bed parts and cabinets were all thrown at the glass. The tests showed that **Pyrosec 19** performed remarkably against these objects.

Another test showed **Pyrosec 19** remain intact throughout testing, only yielding after being subjected to sustained blows from a sledgehammer, an item not likely to be available to most secure institution patients!

It is important to note that despite the outstanding capabilities of **Pyrosec 19**, it can only perform as specified if the framing system or door it is glazed into is tested and approved to the same performance



objects likely to be on hand, but, depending on panel size, can achieve a fire rating of 30 or 60 minutes when tested to BS476 Part 22. Panels measuring 400mm x 2000mm are fire resistant for 30 minutes. The resistance is increased to 60 minutes for panels of 200mm x 600mm in size.

As the capabilities of **Pyrosec 19** continue to be expanded, recent testing now allows for widths of up to 980mm to be glazed safely.

Pyrosec 19 can be used as vision panels in doors, side screens and walls and is now categorised as an A Class Safety Glass to BS6206. This glass does not inherit the problems associated with polycarbonate. There are no noxious fumes emitted in a fire, and it is difficult to scratch.

Often mental patients in particular, not only attempt to injure other people by whatever means are available to them, but also try to harm themselves through self-inflicted wounding. One common way they do this, if given the chance, is to break a window or a glass and use the shards of glass as a tool in which to cut into flesh. **Pyrosec 19**, being a modified toughened glass, has non fragmentary

Nottinghamshire unit. It has proved to be a resounding success and, to date, the unit has not encountered any of the problems that were faced previously.

The glass has since proved popular amongst other secure institutions and Securiglass has just finished an installation at a secure unit in York.

Despite **Pyrosec 19's** main objective of providing physical attack/fire protection for secure units, it is also becoming sought after at many non-secure hospitals. This is particularly due to violence becoming increasingly commonplace in many non-secure hospitals. The need for a glass that is both physical attack and fire resistant is greater than ever before.

Perhaps one of the greatest strengths of **Pyrosec 19** lies in the robust test evidence showing it to be a formidable fire and attack resistant glass. Stringent testing for fire stability/integrity at Warrington Fire Research, North England has proved resistance of 30 and 60 minutes (size dependant). Testing against physical attack has been done in a variety of ways on numerous occasions, by means that far surpass any

level. Timber systems designed particularly for a 60 minute fire life, must be tested or have existing test evidence supporting their use.

Correct installation of **Pyrosec 19** is also vital in ensuring that the glass performs as it should. A comprehensive technical advice and support service is provided by Securiglass, including design and installation services if required. The highly trained specialists will advise on the correct system for a given situation and guarantee it is installed to the highest standards.

Increasingly, architects and specifiers are now recognising the advantages of **Pyrosec 19** as a product that provides unsurpassed protection against fire and physical attack.

For more information on **Pyrosec 19**, please contact the Securiglass Sales Office.