



CLASP Buildings and their Increased Fire Risk

A recent roof fire which destroyed a school in Long Eaton, Nottinghamshire has highlighted concern of the fire performance of lightweight system-built schools, particularly in CLASP¹ schools.

CLASP (Consortium of Local Authorities Special Programme) ran from the 1950s until the 1980s with the purpose of developing a method of building, which did not rely on traditional building skills, to provide fast and efficient permanent buildings. System buildings are particularly widespread throughout the public sector, the majority of them are school buildings.

In the UK there are more than 1,400 sites with CLASP built-schools distributed among 81 Local Education Authorities, Children's Services Departments and Scottish Local Authorities. There are also a number of CLASP buildings owned by independent schools and across other areas of the public sector including local government, police, fire, MOD, health and railways.



Figure 1

CLASP schools are normally quite easily identifiable from the lightweight walling that have very narrow internal load bearing steel columns and flat roofs. The steel frame allowed easy re-configuration, but this means that there is often an open void above the ceiling which can potentially span the entire building. Once a fire starts, they tend to result in a fairly rapid total building loss, because of this we have to accept that a higher fire risk is present due to the type of structure. The school in *figure 1* above shows the damage that a roofing fire can cause to a building, the fire started in an adjacent section and spread.

Although many schools would have seen some fire compartmentation retro-fitted above classroom partitions, any fire that develops would cause expansion and distort the lightweight steel frame making the fire stopping ineffective causing the fire to spread above a ceiling void which could lead to early collapse, making the firefighting challenging.

Fortunately, there haven't been any fatalities to date caused by fires in this type of building design within schools in the United Kingdom, but a fire on a CLASP school in Paris resulted in 20 deaths including 16 school children. The consequences of property losses are devastating and can have a huge impact on the pupil's education, the surrounding schools which have to cope with accommodating extra classes not to mention to the lives of parents and to the children themselves. There is also the economic impact of having to rebuild the school to consider.

It is therefore essential when planning roof works to recognise the risks involved and mitigate the fire risk.

All duty holders, including the client, designer and contractor need to have an understanding of the factors that contribute to fire risks and the safeguards available for reducing them and it is essential that the Principles of Prevention are implemented throughout the design and construction phase by all the relevant duty holders.

ACTION: CLASP SCHOOLS!

- 1. Avoid the risk: use flame-free alternatives**
- 2. Reduce the risks: strictly follow the Safe2Torch guidelines**
- 3. Select flame-free alternatives in high-risk areas**

Due to the close proximity of the roof lights and the windows in *figure 3* means the probability of fire breaching into the building increases. Therefore, a flame-free waterproofing solution should be selected for this area of roof; other areas of concern highlighted within the Safe2Torch checklist include:

- Expansion joints
- Abutments to roof tiles
- Tiled or cladded walls
- Plastic fascia
- Changes in roof levels
- Existing kitchen extraction plant
- Roof penetrations e.g. vents and ducting

Once this assessment has been completed, it may demonstrate in many cases to the client that a flame-free option must be selected. Even if a torch applied solution could be applied in specific areas, the use of flame-free methods should always be prioritised.



Figure 2



Figure 3

There is also a need to investigate and understand what renovation work has been undertaken over the lifespan of the building. Renovations such as the cladding detail highlighted in *figure 2*, could conceal the original construction which may also include combustible insulation.

When such high fire risks to the building fabric are present the duty holders should always ensure that they have access to professional roofing contractors who have the skills, knowledge, training and experience to identify and control fire risks during the installation or repair of the roof on buildings of this type of design.

Insurance companies may also have specific requirements regarding hot work on buildings with this design. Clients should therefore be requested to contact their insurance company before any hot work takes place.



Safe2Torch has a [dedicated webpage](#)² where anyone can download the guidance, the safe system of work and pictorial checklist.

For more information on the benefits of selecting an NFRC member to carry out your roof works, visit the [NFRC website](#)³.



Further information

¹ CLASP is one type of consortia school construction, along with others such as SCOLA, ROSLA, MACE, SEAC and many more, which are often referred to as CLASP or consortia schools.

² NFRC Safe2Torch website:
<https://www.nfrc.co.uk/safe2torch>

³ Why choose an NFRC contractor:
<https://www.nfrc.co.uk/why-you-should-choose-an-nfrc-contractor>

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