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Fire Risk Assessment – Building Materials Requirement.

As part of the pre-operation fire risk assessment for the visitor centre and laboratory temporary structures within the rotary linhay, which are part of the support facilities for the Hydromet Demonstration plant.

A review of the requirements of Approved Document B (fire safety) volume 2: Buildings other than dwellings, 2019 edition incorporating 2020 and 2022, relating to the materials of construction, layout and number of exists relating to fire safety requirements.

As, the structure being constructed is;

- Less than 11m height from ground (from exit level) and top of built structure less than 18m from ground level at lowest point of the building (entrance).
- Less than 500m²
- Will have a maximum number of 30 people.
- The maxim travel distance within any room to the exit point is 12m.

There are no specified requirements for the internal or external structure or finish to be made of material with a specified fire rating.

As such, the external walls do not need to be treated with fire and smoke resistant coating.

The general requirements of the standard still apply, in that the building should be constructed of

With a satisfactory means of sounding an alarm, which could be visual, and person driven (a shouted warning), and satisfactory means of escape. This requirement can be met with a manual alarm activation system, although a fitted smoke detector would be preferred. The exit route requirements are met by a single point of exit to the outside ground level from the mezzanine.

It is important to note that the laboratory is on the limit of distance of travel (12m to an exit) if rated as a Higher Hazard. However, for the volume of materials stored within the laboratory, this higher hazard threshold should be avoided by storing only minimal volumes of hazardous material within the laboratory stored within suitable containers.

Higher hazard:

In industrial and storage buildings, the appropriate travel distance depends on the level of fire hazard associated with the processes and materials being used. Higher hazard includes manufacturing, processing or storage of significant amounts of hazardous goods or materials, including any of the following.

- Any compressed, liquefied or dissolved gas.
- Any substance that becomes dangerous by interaction with either air or water.
- Any liquid substance with a flash point below 65°C, including whisky or other alcoholic liquor.

- Any corrosive substance.
- Any oxidising agent.
- Any substance liable to spontaneous combustion.
- Any substance that changes or decomposes readily, giving out heat when doing so.
- Any solid substance with a flash point less than 120°C.
- Any substance that is likely to spread fire by flowing from one part of a building to another.

Firefighting equipment.

Suitable fire fighting media (fire extinguishers) must also be provided within the laboratory and the visitor centre.