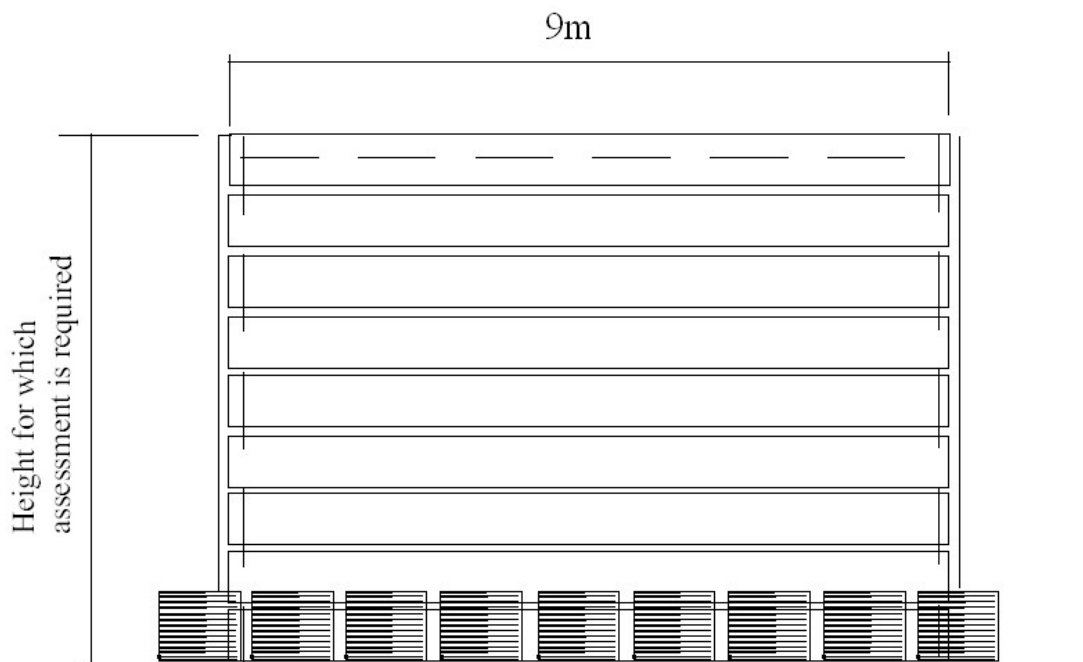


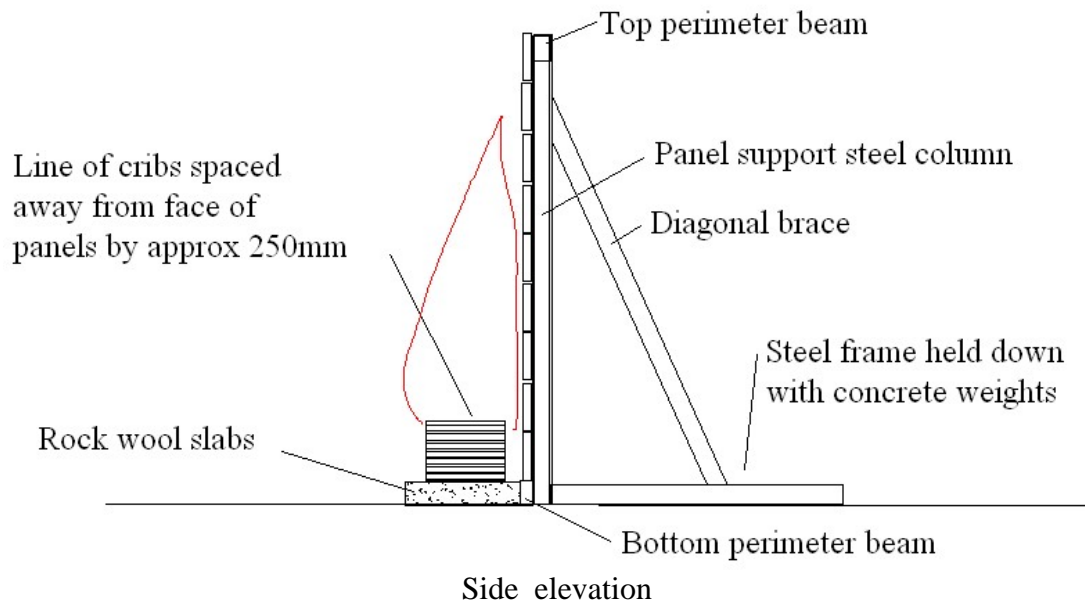
A large scale ad hoc fire test was designed by the author and successfully conducted to examine the effect of a severe fire on the integrity of the unexposed steel face of a 10m high assembly of Eurobond rockwool-cored sandwich panels spanning 9m horizontally. The qualitative and quantitative results of the severe test together with fire safety engineering calculations has enabled an assessment of fire resistance to be made for large span assemblies requiring up to 2 hour fire resistance.

It should be noted that the purpose of the ad hoc fire test was not to attempt to simulate a particular fire, as in practice fires may be more severe at different parts of the assembly depending on a wide range of fire parameters – the fire could be more severe at the top of a fire wall when a ‘crown’ fire occurred as in a high-rack storage building, or the fire could be more severe at the base, as in the case of a local fire on the floor immediately next to the panels as in the case of arson for example. Further, the severity in a fire compartment would be different for different fire load density and ventilation conditions.

The following are some drawings and pictures of the specimen and fire. A report of the tests was published in the journal Fire Safety Engineering (see My Publications)



Front elevation showing row of timber cribs at base



Steel frame with lower panels being erected



Completed specimen



Tall flames near start of test



Delamination of fire-exposed panel faces due to thermal bowing, fire dying away.



View along unexposed face toward end of severe fire test. Note good fire integrity of panel joints despite some bowing near the base.