

Fire - Airside Apartments, Swords, Co. Dublin

Fire caught hold in a block of apartments in Airside, Swords recently when a maintenance man inadvertently set fire to a first floor balcony roof, while repairing a leak. Naked flame got into the balcony roof space and spread to the adjacent timber frame walls. Initially, the maintenance man tried to put out the fire with buckets of water. Realising this was not successful, he phoned the fire brigade who spent well over an hour hosing the balcony and the area where the fire had entered the wall. As they were preparing to leave the scene, the fire took hold and entered the roof space where it spread to six adjacent properties. It would appear that at least 4 apartments will have to be completely demolished.

Concrete Today Comment

One of the defects of timber frame construction, in its current configuration, is the introduction of additional cavities, particularly to the party wall. Cavities allow fire and hot gasses to travel, often into the roof space, where timber trusses catch fire. It is notable that in Airfield, Swords, the cavity barriers failed to prevent fire spread.

The Swords incident is a typical example of a timber frame fire. When fire enters the walls, the breather membrane acts as a wick to transfer the fire both upwards and downwards from its place of origin. On reaching the roof space, fire quickly spreads to adjoining properties. In the case of Swords, it is notable that the fire stop at the top of the party wall did not work and that fire was able to spread to the adjoining property without the collapse of the roof trusses. With specialist detailing materials (not evident in this instance), the roof trusses can be made to collapse in isolation,



without the tiling battens acting as a fulcrum to open the way for fire spread to adjoining properties. The Irish Concrete Federation is in favour of the use of such isolating materials / systems in the case of both concrete and timber frame construction and we believe that the absence of such systems is an anomaly under the current Building and Fire Regulations.

An additional weaknesses in timber frame party walls, is that they are erected in several stages and that they are not continuous in the vertical plane from the foundation to the underside of the roof covering, as per the required purpose group, as set out in the regulations. The party wall spandrel within the roof space is

unsupported both in the cold state and in the hot state and therefore lacks the required structural stability required under B.S. 476 part 20. The absence of the appropriate structural stability threatens early collapse and the spread of fire to adjoining properties. Timber frame party walls do not conform to BS 476 part 20 and therefore do not comply with mandatory Building and Fire Regulations. In addition, the absence of an effective fire stop between the underside of the roof covering and the top of the party wall (prevalent in both timber frame and concrete built homes) further exacerbates the situation, albeit to a lesser extent where concrete party walls are concerned, since they have the required fire resistance.



Fire consultant, Noel Manning



Attic space



Party Wall

It is a further anomaly under the regulations that party walls must be of 215mm solid block masonry construction and that 2 x 100mm leaves of (incombustible) masonry are deemed to be non-compliant. However, 2 x 100mm leaves of (combustible) timber studs are presumed to be compliant with the regulations, without any testing or relaxation of the regulations.

What is particularly disturbing in the case of Airside Swords, is that it is pure chance that the repair man realised that the fire had spread into the timber frame wall cavity. Had it gone unnoticed and, had the embers smouldered until later that evening when the occupants were sleeping, the result would almost certainly have been serious loss of life. Ironically, such a loss of life would have occurred virtually in the

shadow of the Stardust itself, where 25 years on, parents are looking for a second enquiry into the loss of their loved ones. There should be no need for an enquiry into deaths which will inevitably occur from defective timber frame construction. As the governments own slogan so succinctly puts it – ‘accidents don’t happen, they are caused’.

Since the introduction of timber frame to Ireland over 10 years ago, timber frame manufacturers have taken a cavalier approach to building construction and mandatory building and fire regulations. As one leading timber frame ‘impresario’ recently put it, in relation to the ‘Colindale fire in London’ – ‘the public will have forgotten about it in a year’. This in an appalling situation, to which the relevant authorities must bring closure in the public interest.



Party Wall burns from the inside outwards



Party Wall



Cantilever Balcony