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BIM GATHERING 2019

Using Technology as a means of Verifying the Positioning of Cavity Barriers in a Building Wall Envelope

Michael Daly[1] David Comiskey[2] and Rori Millar[3]

[1 & 2] Belfast School of Architecture & the Built Environment, Ulster University, Jordanstown Campus, Newtownabbey, County Antrim

[3] Head of Digital Construction, Felix O'Hare & Co. Ltd.

Research Justification

- Industry experience gained whilst working within a regulatory body.
- Deviation from original design intent without due process or consideration.
- The reliance on visual inspection was not suffice in verifying key construction details.
- Significant flaws in the regulatory process within construction industry in the UK and Republic of Ireland.

Life Safety & Ventilated Rainscreen Systems

- To the right, an animation demonstrating the Installation of a horizontal cavity barrier and how it bridges the ventilated gap within rainscreen cladding.
- Fire legislation has been periodically revised however there persists a continued reliance on visual inspection.
- Priory Hall Apartments in Dublin.
- Site negligence and material substitution.
- The Hackitt report called for a golden thread of information.

The Changing Construction Site Environment

- Unbroken information flow, enhanced coordination and safer working environments.
- Lack of focus on the use of this technology as a means of checking positioning of vital minor components on site.
- Critical construction details which have a profound impact on life safety.
- Facilitate automated clash detection to take place between 3D point cloud surveys and a BIM model.

Professional Insight

- Focus group conducted with 5 industry professionals all building control surveyors.
- Building control surveyors only see a snapshot in time when performing their inspections.
- Designers may not specify a material therefore it is left up to the contractor to decide.
- Tradesmen unaware as to why specific components are critical to detail integrity and life safety.
- It was made evident that a technological approach to assist with verification of on-site detailing would be welcome.

Conclusion

- The research suggested visual inspection is not adequate for ensuring the in-built performance of fire safety measures.
- Increased supervision on construction sites or other means which can verify the veracity on construction details.
- There is a need for a non-intrusive and non-destructive test method for assessing passive fire protection.
- With the fast-paced technological advancements of the construction sector it could be an ideal time to promote and utilize digital technologies and processes to help improve construction quality.

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Thank you

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for Irish Construction