



Gypsum Products Development Association

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## **Statement on the fire performance contribution of plasterboards manufactured in accordance with EN520 and used in system constructions/build-ups**

Plasterboard lined partitions, wall linings, ceilings and encasement systems are often required to offer fire performance characteristics in accordance with respective national Building Regulations, sector guidance or specific project requirements.

There are two key, and very different, types of fire performance that plasterboard contributes to:

- **Reaction to Fire** – A performance characteristic of the individual plasterboard product itself related to the product’s combustibility and behaviour in the early stages of a fire. This attribute is a fundamental requirement of the harmonised manufacturing standard for plasterboards BS EN 520:2004+A1:2009 (EN 520) and is stated on a product’s declaration of performance (DoP). Most plasterboard products are able to fulfil the requirements of the standard to declare a default reaction to fire of A2-s1,d0, representing a very limited level of potential combustibility.
- **Fire Resistance**– A performance characteristic in respect of fire compartmentation. This performance is not a measure of a product itself, but of a system or build-up of which the plasterboard layer(s) form only a component part and the fire resistance performance is achieved by the combined system. Where and how the plasterboards are used, the method by which they are supported, fixed, and finished, can all have a bearing on the apparent contribution of the plasterboard(s). For example, plasterboards fixed horizontally in ceilings are subject to different loads and heating conditions than those fixed in the vertical plane. Fire resistant systems could also include plasterboard encasements that can maintain fire protection to structural steel elements which are assessed under different criteria to typical separating elements.

Different manufacturers of plasterboard market a range of types of plasterboards. The relevant manufacturing standard EN 520 sets out minimum baseline criteria upon which different plasterboard products can be labelled to indicate their potential suitability to assist with varying end use performance requirements. This labelling is in the form of single letter ‘Type’ notation such as Type ‘A’, ‘F’, ‘D’, ‘I’ etc, it is also possible for a plasterboard to combine numerous Type notations to demonstrate a range of characteristics.

It is important to note that Type notations cannot be treated as a direct indicator of either a plasterboard products reaction to fire classification, or its contribution to a systems overall fire resistance performance.

EN 520 is explicitly clear that the standard does not include performance characteristics associated with fire resistance, and states that for fire resistance “tests should be done on assembled systems simulating the end use conditions.”

EN 520 only determines the minimum baseline criteria upon which different plasterboard products can be labelled. This allows for variation in material sourcing and engineering processes, providing that strict quality control standards demonstrate compliance with the product standard.

Due to the potential variation in excess of the threshold, 'Type' classifications cannot be interpreted as identical products, and therefore do not serve as a generic market indicator of how an individual product (or combination of) will perform in an overall system. It is therefore imperative that any performance substantiation claims are based on appropriate test evidence of a representative end use system using the relevant plasterboard product(s), where the other materials, method of supporting, fixing and finishing the plasterboards all form part of the performance justification. Tests should be conducted to the appropriate British or European test standards in accordance with requirements of building regulations or any specific project requirement.

Individual GPDA plasterboard manufacturers have a wealth of knowledge, substantiated by relevant test evidence, regarding the fire performance contributions made by their respective products in given applications. Individual manufacturers provide literature and technical advice to guide specification teams in their task of selecting appropriate solutions to meet their needs; please do not hesitate to contact them for further specific information and advice.

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Gyproc Ireland	<a href="http://www.gyproc.ie">www.gyproc.ie</a>	ROI 1800 744480 NI 0845 3990159
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## **GPDA**

The role of the Gypsum Products Development Association (GPDA) is to develop and encourage the understanding of gypsum based building materials and systems. The Association provides a cohesive package of advice and information on all developments affecting the gypsum industry, and communicates it to all aspects of the construction industry. Issues include the latest technical and product developments as well as training opportunities in the industry.

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