



ARCHITECTURAL AND SPECIALIST DOOR MANUFACTURERS ASSOCIATION

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Explanatory Note

For general information

What is a composite door?

The term “composite door” is used by the replacement door and window industry to describe a generic type that is substantially fabricated using plastic materials, originally as alternatives to pvc-u doors (i.e. poly-vinyl chloride plastic doors). They are intended to be more robust with enhanced characteristics (e.g. for security and insulation) for front door residential applications.

The term “composite” comes from the use of various plastic materials, different constructions and finishes compared with typical all pvc-u doors. Main features as follows:

- Door leaf cores made out of a range of materials - typically polyurethane (PU) insulating dense foam but also timber-based cores or even mineral-based cores in some special cases. It is also possible that re-cycled and re-constituted pvc-u core slab material containing metal can be used.
- Commonly plastic moulded surface skin facings based on thermoplastic (e.g. pvc-u, ABS) or thermoset GRP materials (perhaps in some cases also steel facing) including moulded sheet board.
ABS = Acrylonitrile Butadiene Styrene (i.e. Lego brick plastic)
GRP = Glass-fibre reinforced plastic matrix, e.g. polyester (typically using chopped borosilicate glass fibre)
The term “non-cellulosic” can be used instead of “plastic”, which distinguishes the doors from timber doors.
- Typically a steel-reinforced plastic door frame (such as pvc-u).
- Surface special paint finishes in various colours, perhaps several coatings, including textured and woodgrain effect finishes (for enhanced weathering resistance and better aesthetic appearance).
- Benefits are variously quoted as low maintenance, added resilience, security and strength compared with standard plastic pvc-u doors, improved thermal performance, enhanced UV-durability resistance to fading and more environmentally friendly than pvc-u with use of CFC-free polyurethane foam.

It should be noted that composite doors were not originally developed specifically as fire-resistant doors though manufacturers have subsequently undertaken fire resistance testing. Where fire resistance is claimed there should be relevant and applicable fire test data – which should be provided as applicable and appropriate source evidence from the responsible supplier.

ASDMA requires that system tests of timber door designs should be backed by independent third-party product certification that is based on a number of valid and applicable test reports, combined with technical evaluation assessments based on applicable test evidence. It is also normal to use main components - such as glass, leaf cores and hardware – that have their own validating test evidence.

**Please Note: Timber fire doors are based on various natural sustainable timber-based materials, as leaf cores, veneers, architraves, door frames, internal frame constructions and edge finishes. They are a distinct door type, produced by manufacturers in the traditional timber and carpentry trade sector. Timber doors are not classified as composite doors and should not be confused with composite doors.*

This summary is provided as general information on a best of intents basis, from industry knowledge, information provided by composite door providers, the Composite Door Network site and the Association for Composite Door Manufacturers. ASDMA believes it represents the current state of knowledge from sources in the public domain. But in specific cases individuals are always advised to make their own searches and to ask their own questions of responsible suppliers. That particularly applies where claims are made for fire resistance.