

Fire Performance

General

Formica Limited holds test reports and certificates confirming the fire performance of Formica® products for use in construction, marine and transport applications.

Flame-retardant additives used in Formica flame-retardant grade laminates are not halogen-based and remain effective throughout the service life of the product.

Construction Applications

Reaction to Fire

In Europe, laminate panels intended for construction applications are tested in accordance with EN 13823 (SBI test) and EN ISO 11925-2 (Small-burner test), and the resulting reaction-to-fire performance is expressed in accordance with EN 13501-1.

The following table shows typical EN 13501-1 reaction-to-fire classifications of Formica Compact Grade laminates and composite panels.

Product Type	Typical EN 13501-1 Classification
<ul style="list-style-type: none">• Formica Compact Grade CGF ≥ 6mm thick• Composite panels comprising Formica FR laminate bonded to FR wood-based substrates	B-s2,d0
<ul style="list-style-type: none">• Formica Compact Grade CGF < 6mm thick	C-s2,d0
<ul style="list-style-type: none">• Formica Compact Grade CGS• Composite panels comprising Formica Standard Grade laminate bonded to non-FR wood-based substrates	D-s2,d0

Note 1:

The fire performance levels shown in the above table are typical values. Fire test performance will depend on laminate thickness and construction, substrate type and thickness, and adhesive used. Please contact the Formica Technical Services Department for further information and details of fire test reports and certifications held.

Note 2:

Some specifications may refer to reaction-to-fire classifications based on earlier European national test methods: eg BS 476 parts 6/7 Class 0, 1, etc; AFNOR NFP 92-501 Class M1, M2, etc; DIN 4102-1 Class B1, B2, etc. Please contact the Formica Technical Services Department for further information and details of fire test reports and certifications held.

Fire Resistance

Fire resistance is the ability of a partition or door to prevent the passage of heat and flame for a specified period (eg 1/2-hour or 1 hour). Laminate panels that are intended for end-uses subject to resistance-to-fire regulations are tested in accordance with either BS 476 parts 20 to 23, or EN 1363, and the resulting performance classification is expressed in accordance with prEN 13501-2.

Formica laminates are frequently used on the surfaces of fire resistant doors and panels; but the laminate has no significant effect on the fire resistance of the substrate to which it is bonded, so the core construction selected must itself give the required level of fire resistance.

Marine Applications

Formica HGP grade laminate, bonded to a non-combustible substrate, meets the requirements for flame spread, heat release, smoke generation and toxicity specified in IMO Resolutions A653 (16) and MSC 61 (67). This grade of laminate has been granted Marine and Coastguard Agency (MCA) type approval.

Transport Applications

BS 6853:1999 specifies the fire performance of materials used in railway rolling stock. Three vehicle categories are specified (Ia, Ib, and II) which relate to the type of operating environment, eg single-track tunnel, multi-track tunnel, surface, etc. The limit values for flame spread, heat release, smoke density and toxicity depend on the vehicle category and on the installation, which may be vertical, horizontal face-up or horizontal face-down.

Formica laminates have been tested in accordance with BS 6853 and with the equivalent French and German standards. Please contact the Formica Technical Services Department for further information and details of fire test reports and certifications held.

Formica flame-retardant decorative laminates are available in the following grades:

VFP

Vertical, Flame-retardant, Postforming.

CGF

Compact, General purpose, Flame-retardant.

These grades can be obtained in most ranges and in a variety of sheet sizes.

For more detailed information on the fire performance of Formica laminates, please contact our Technical Services Department:

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