Burn Behaviour

Burn behaviour of the Omnia panel, unpainted

2014

The burn behaviour of the Omnia Panel originates mainly from the polypropylene material content and the glass content that slows the burning down.

Building Industry

The classification for the building industry has been tested according to Din 4102. For a 20 mm panel a B2 classification has been achieved. This is probably the best achievable classification without the use of flame retardants. Class B2 according DIN 4102 is described as "normally flammable".

Automotive

In the automotive industry the FMVSS standard or DIN 752001 are used. The procedures are the same in this case. Normally a burn rate of less than 100 mm/min is necessary to pass the test. The Omnia panel showed a burn rate of 8 mm/min BR according FMVSS/DIN752001.

Aircraft Industry

According IATA regulation materials for aircraft containers must comply with burning rate of less than 2.5 in/min in a horizontal burning test. The results of the Automotive test and more severe internal tests showed that this burn rate can be met.

General testing of plastics

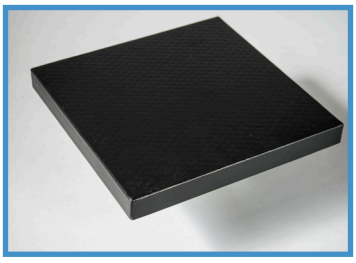
DIN 53438-1 can be used to classify the burn behaviour of plastics. The testing is the same as for B2 according DIN 4102. The results of the B2 test can be classified as F2 according DIN 53438-1.

The results can be improved with the use of the standard paint system to F1 according DIN 53438-1.

Improved fire rating: special coating

Burn behaviour of Omnia panel can be improved with a fire protective coating, e.g. intumeiscent coating.
The highest official rating achieved so far is class B1 according DIN 4102-14.

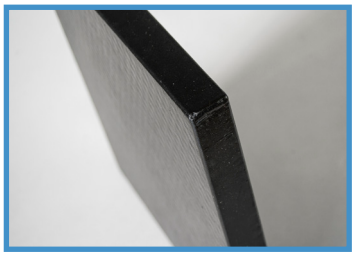
Special formulations of the coating start with the protection at comparatively low temperatures to maintain the structural properties of the thermoplastic panel as long as possible.



How do these classifications compare to the British or European Standards

A direct comparison of the DIN 4102 and the BS 476 classifications is not possible. However an approximate indication can be given. Usually B1 class material can be classified as Class 1 BS 476, and B2 complies with Class 2.
In some cases B2 materials can meet Class 1 specification, Class 3 can occur as well.

Testing according the required specification is necessary to meet the regulation for a specific application.



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