Reticulated Air Filter Foam
Flammability Information Sheet

Thermal degradation of polyurethane foam starts at 1000°C and varies depending on the mass of the foam; however foams can be exposed, for short periods, up to 1500°C. The foam cannot be produced non-combustible since the material undergoes pyrolysis at elevated temperatures and the pyrolysis products are partly combustible.

However with the use of additives and the use of modified raw materials in foam production it is possible to reduce the combustibility and ignitability, these foams are called FR (Flame Retardant) or CM (Combustion Modified) however once the foam reaches 2500°C the foam will combust.

A further way to reduce flammability is to impregnate the foam, under the action of heat, the non-flammable volatile products escape, but the morphology of the foam is not modified and the mineral skeleton remains in place. This type of foam meets the most stringent of tests.

Therefore it is difficult to state at what temperature the foam will burn or how long the foam will last at certain temperatures. Many tests are made on foam, some examples are given below.

**MVSS 302:** Automotive Specification. Flame behaviour of the foam by measurement of the horizontal propagation of a calibrated flame after 50 seconds ignition. The result is reported in burning rate (mm/min) at a given thickness.

**BS5852 Crib 5:** The Furniture & Furnishings (Fire) (Safety) Regulations 1988 (amended 1989) Schedule 1 part 1. Methods of test for assessment of the ignitability of upholstered seating by smouldering and flaming ignition sources.

**BS5852 Crib 7:** (1990) Section 4 for a crib 7 ignition source. Methods of test for assessment of the ignitability of upholstered seating by smouldering and flaming ignition sources.

**UL94:** Flame behaviour by the horizontal propagation of a calibrated foam after 1 minute ignition. The results are classified in 3 classes. HF1, HF2, HBF. Many other tests exist and only foams appropriate to for the applications / industries are tested to the specific standards.

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