

## **A NOVEL HIGH TEMPERATURE AND FLAME RESISTANT TWARON ARAMID FOAM**

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Para-aramid fibers (e.g. Twaron) are well known for their high strength, high heat and flame resistance. The newly developed aramid syntactic foam consists of a Twaron para-aramid matrix and hollow glass spheres. It shows an excellent heat stability up to 450 °C. In heat resistance tests at 1200 °C there was virtually no smoke development and a good form retention. Fire protection tests showed that aramid foam is nearly non-combustible and that even a non-combustible grade can be made. The density of the foam ranges typically from 200 to 300 kg/m<sup>3</sup>, depending on the aramid-glass ratio. It also has a low moisture absorption of only 1.5% at 70 °C and 85% relative humidity. The high temperature resistance and good form retention of the aramid foam makes it a suitable candidate to use as a core for sandwich structures with thermoplastic facings, e.g. PEEK/carbon. The foam can also be applied for fire protection, e.g. in fire retardant doors, bulkheads or hatches in naval or industrial applications.

