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Tough composite ceramic material for aircraft: Interior, cargo compartment and unit load device (fire and explosion container ULD)

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Fire is a dramatic issue in aircraft nowadays, especially with composite air crafts. An additional issue is the dangerous use of flammable Li-Ion batteries in a lot of appliances. we propose in order to avoid dramas to produce aircraft interiors, fire doors, cargo bay walls, as well than cargo container able to contain a fire inside them, with our ceramic composite called TOUGH CERAM[®]. We have developed a low-cost, ceramic, damage tolerant, this ceramic is flexible between minus 100°C and plus 350°C. TOUGH CERAM[®] poly-crystalize between 20°C and 110°C and can be reinforced with fibbers (carbon or basalt). TOUGH CERAM[®] survive 90 minutes to a propane 1900°C torches. TOUGH CERAM[®] does not burn, nor smoke. In this paper we will explain how it is possible to develop a fully mineral ceramic offering such unique mechanical, fire and blast containment properties.

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