

Environmentally friendly coating for aircraft furniture

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A new coating protects business jet interiors against fire. Not only is the agent more environmentally friendly than before; it can also be applied more quickly. Empa is thus helping the Swiss company Jet Aviation to leave its competitors in the dust. This new coating could also be used in textiles and wood-based furnishing and architectural systems.

The customers want business jets to be nice inside; the aviation safety authorities want the furnishings to be fireproof. And the jet must never stand around in the hangar for too long while it is being refurbished as that costs money. Swiss aircraft equipment supplier Jet Aviation, who rearranges the furnishings or gives the interior a makeover, touched down at Empa to ask for some support. Until now, it took several steps to fireproof the individual layers of the lightweight furniture while the expensive business jet remained grounded. This begged a major question: Can't this be done more quickly?

Empa researcher Sabyasachi Gaan and his team subsequently developed a new coating against fire. This new [coating](#) is more [environmentally friendly](#) than the one used thus far – it can do without chlorinated and brominated chemicals and achieves the flame-retardant effect purely due to its especially heavy molecular weight, which gives it another advantage: the flame-retardant material does not evaporate, so the refurbished jet is not filled with any unpleasant odors.

One layer suffices

The Empa team also managed to guarantee the coveted time-saving aspect when handling the expensive machines: the newly developed flame-retardant material only needs to be applied once – instead of in several layers on top of each other – which saves on labor hours and drying time, and enables the new-look jet to roll onto the runway several days earlier. The project was co-funded by the CTI and launched in 2012 within the scope of the special measures to counter the strong Swiss franc. Meanwhile, the research work has been completed and the method is patent pending.

Project leader Gaan is already thinking one step ahead: if the fireproof equipment saves time while refurbishing private jets, it could also be used lucratively in the production of business aircraft. Talks with

business jet manufacturers are already in the pipeline. The production of designer furniture for the flying conference rooms, sitting rooms and bedrooms has thus experienced a small revolution. The method is also suitable for household furniture, where various European countries also demand fireproofing.





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