NEW FRONTIER FOR FLAMMABILITY TESTING

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Airplane cabin interiors are designed to be safe, comfortable for passengers and to comply with EASA/FAA requirements of 25.561 and 25.562 concerning crashworthiness and 25.853 concerning flammability. These conditions must be continuously respected during the entire life of the aircraft, thus whenever a part is replaced due to rupture or worn-out.
While an aircraft and a seat structure average life is between 20 and 30 years, the seat system is weak on the cosmetics aspects since the seat covers and the seat cushions are prone to deterioration mainly due to use and passengers' abuses and are linked to airline logo's and/or marketing campaigns and are the easiest and cheapest parts to be replaced.
Like all cabin interior components, also seat covers need to be certified for each specific seat and cushion model, and must prove being flame-retardant, upon a vertical flammability test on the cover materials, and an Oil Burn Test performed on the seat cover applied to the original cushion, according to FARCS 25.853. Their renovation, especially for aircrafts aged more than 10 years (~ 65% of circulating airplanes), can be quite expensive since technical and testing problems related to the traceability of the original flammability are very often faced by the design organizations.
Grasping the market needs TAS has discussed with EASA an innovation-driven solution to the retrofit problem, which will drastically reduce flammability certification time and costs for aircraft seat leather covers, and will break the deadlock imposed by the outdated flammability test regulation (AC25.853) issued in 1986 and never upgraded, to keep pace with innovations in leather material production and finishing processes.
The idea is to validate leathers of the most used colours installed on the most used cushions, produced by major world leather and cushions providers and assess their "similarity" for flammability certification allowing production and installation without the need of OBT.
At present no such processes have been validated nor are EASA/FAA certified for different leathers and different airplane seat cushions.
TAS has already verified the proposed approach in the frame of more than 150 flammability tests performed since 2014 to fulfil client's urgent orders, under the umbrella of EASA approved "prototyping" procedure, allowing a pre-production of seat covers in parallel to flammability test. The so defined innovative process will open new market opportunities for both aircraft interiors retrofit companies and leather producers.
With this project Testori Aero Supply addresses this market need and proposes a new certification process allowing the replacement of all types of seat covers compliant to FAA/EASA safety regulation FAR CS 25.853, without the need of flammability testing (OBT)