Development of Carbon Fiber cushion for aircraft seat

Aviation industry requires more strict regulation for fire-resistant certified by various test than those in other industries and Airlines always demand more durability and light weight .

At present in terms of aircraft seat cushion, urethane foam cushion is used in general due to comfortableness and low price.

Urethane cushion has fire-resistant characteristic and have to put Fire Blocking Layer in order to have higher fire-resistant.

Also Harmful gas is detected while urethane material is burned.

Though durability and weight of urethane cushion has not been well discussed, it is needless to say that superior material is desired.

In environmental point of view, there is possibility that industrial waste such urethane material will have more strict regulation for way of disposal.

Osaka Gas has been manufacturing pitch based carbon fiber, which characteristics are incombustible, no harmful gas , light weight and was successful to develop seat cushion.

The main point of development is comfortable to sit on. It was difficult for pitch based carbon fiber to control comfortableness with desired shape as well as urethane foam cushion. Passenger is accustomed to comfortableness of urethane cushion and it is assumed that they feel incompatibility with new comfortableness.

After trial and error and study deeply the shape of carbon fiber , Osaka Gas was successful to clear the topic by including many small cube proceed by carbon fiber into original pitch based carbon fiber batting.

Osaka Gas are ready to report the process of development of shape and data of cushion flammable test ,durability and light weight.

Also Osaka Gas report the process of development of recycle process, which can recycle old cushion to new cushion, not to recycle to other way(not to burn and dump old cushion)