



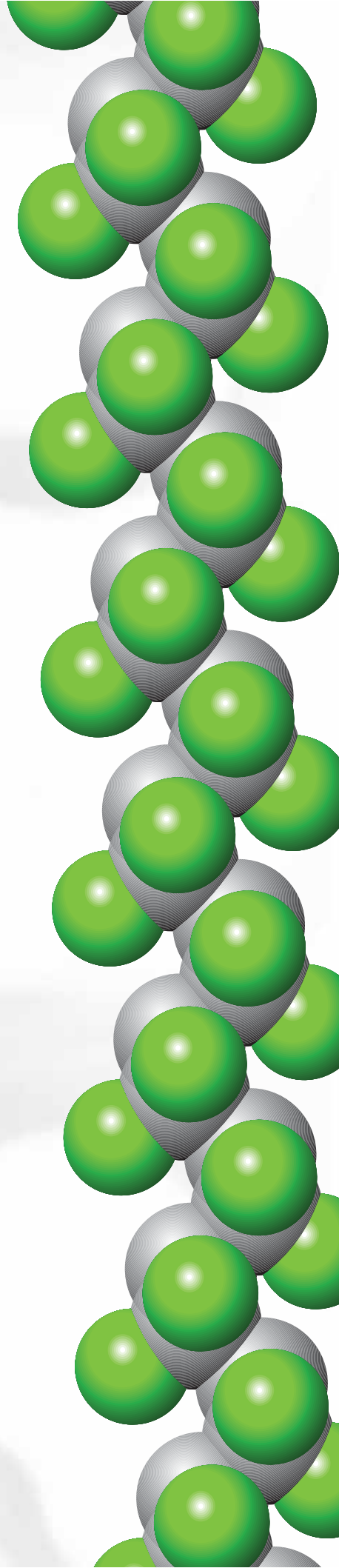
ZOTEK® F
HIGH PERFORMANCE PVDF FOAMS
For Aviation and Aerospace



Taking
foam
technology
to a
new level



ZOTEFOAMS





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HIGH PERFORMANCE PVDF FOAMS

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ZOTEK® F, ZOTEK® F HT and ZOTEK® F HT LS are a range of lightweight, cross linked, closed cell foams based on Kynar® PVDF Fluoropolymer (poly vinylidene fluoride) with densities ranging from 30 kg/m³ (1.9 pcf) upwards.

ZOTEK F 30, ZOTEK F 38 HT, ZOTEK F 40 HT, ZOTEK F 40 HT LS and ZOTEK F 74 HT are intended for use in the commercial, business and military aircraft and aerospace industries. Several OEM approvals (e.g. BMS 8-371C, NATO and NASA) have been gained.

The ZOTEK F HT and ZOTEK F HT LS grades offer an additional operational temperature limit of 160°C, an improvement of +50°C over the ZOTEK F range. They also offer enhanced chemical and solvent resistance combined with higher levels of structural rigidity.

The combination of smoke, toxicity and flame performance makes ZOTEK F an ideal material for a wide selection of thermal and acoustic insulation, damping, soft-touch interior trim, sealing and light-weight structural components and composite applications in the aerospace and aviation industries.

FIRE, SMOKE & TOXICITY (FST)

All ZOTEK F foams are inherently fire retardant, low smoke, low heat release materials.

They have been successfully subjected to testing using several aviation standards including the Radiant Heat Panel Test, both alone and in combination with adhesive. ZOTEK F 40 HT LS exhibits exceptionally low OSU, which in combination with leather, adhesive and decorative laminates helps with compliance to OSU 65/65.

MOISTURE RESISTANT

Many foams with good FST characteristics have open cell structures and must be used either with process skin intact or sealed within other materials to prevent moisture ingress. Being closed cell, ZOTEK F foams are highly resistant to moisture ingress and do not need to be hermetically sealed before use.

LOW WEIGHT

The majority of closed cell foams that have acceptable FST properties are of high density, preventing their use in aircraft

FST PERFORMANCE*

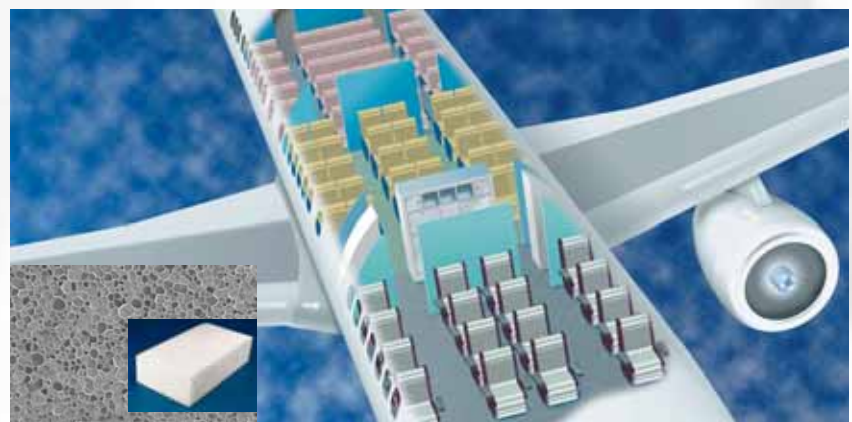
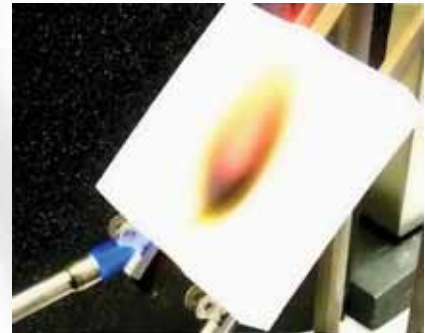
Property	Test Method	ZOTEK F 30	ZOTEK F 40 HT	ZOTEK F 38 HT	ZOTEK F 74 HT
Heat Release	FAR/CS 25.853(d) Appendix F Pt IV	Pass (a)	Pass (a)	Pass (a)	Pass (a)
Smoke Density	FAR/CS 25.853(d) Appendix F Pt V	Pass (a)	Pass (a)	Pass (a)	Pass (a)
Smoke Density	ABD0031 para. 7.3.2	Pass (a)	Pass (a)	Pass (a)	Pass (a)
Toxic Gas Emission	ABD0031 para. 7.4	Pass (a)	Pass (a)	Pass (a)	Pass (a)
Vertical Bunsen Burner	FAR/CS 25.853(a) App F Pt I (a), (1), (i)	Pass (c)	Pass (c)	Pass (c)	Pass (c)
Radiant Heat Panel	FAR 25.856(a) App F Pt VI	Pass (b)	Pass (b)	Pass (b)	Pass (b)

(a) tested at 13mm (1/2")

(b) tested at 3mm and 25mm (1/8" and 1")

(c) tested at 25mm (1")

*Test reports are available upon request



applications. ZOTEK F foams are available at densities down to 30kg/m³ (1.9 pcf), 1/60th of the solid resin.

UV STABLE

All ZOTEK F foams are unaffected by UV light and can be used in exposed areas of

the aircraft and cockpit without fear of degradation.

VERSATILE

ZOTEK F foams are suitable for uses including thermal & acoustic insulation, sealing, soft touch, damping and packaging.

EASY TO PROCESS

ZOTEK F foams can be bonded to other soft-touch surface materials used in aviation and can be coated to improve scratch resistance in overt applications such as seat arms. It can be easily fabricated by conventional foam fabrication techniques, can be converted into self adhesive tapes and, being cross-linked, can be readily thermoformed into simple or complex shapes such as tubes and complex 3D components for insulation and moisture control.



Materials supplied by E&H Laminating & Slitting

ZOTEK F, used in single component foam structures provides many benefits over multi-component systems such as weight and cost reduction.

TEST RESULTS

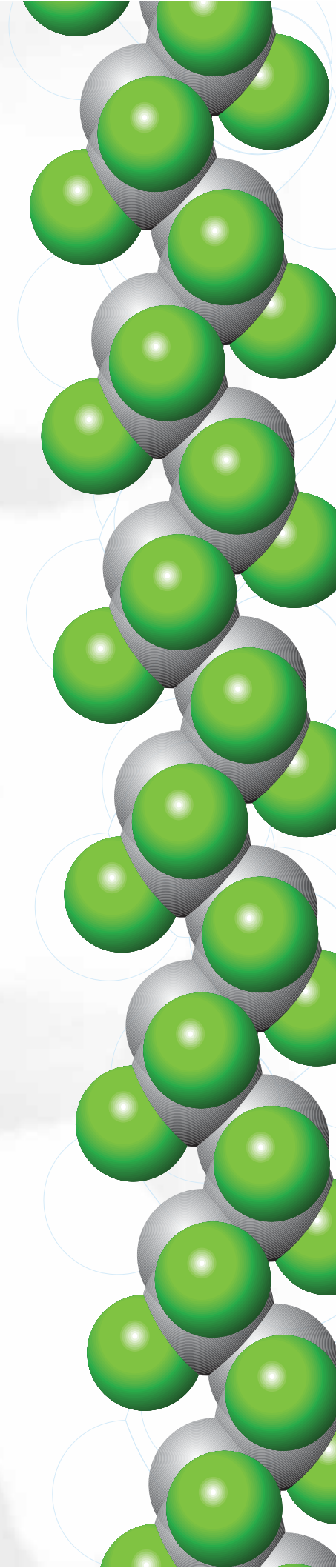
- **Fluid susceptibility test** according to RTCA DO 160 D, Category F, Section 11. ZOTEK F 30, ZOTEK F 38 HT and ZOTEK F 40 HT pass the fluid susceptibility test. ZOTEK F HT grades offer enhanced chemical, oil & solvent resistance.
- **Fungus resistance test** according to RTCA DO160D, Category F, Section 13. There is no sign of mould growth on the sample surface of ZOTEK F 30, ZOTEK F 38 HT and ZOTEK F 40 HT.

- **Heat release test** according to FAR/JAR/CS 25.853(d) App.F Pt. IV(g).

	ZOTEK F 30	ZOTEK F 40 HT LS
OSU Total (kWmin/m ²)	16.2 at 13mm (1/2") 39.9 at 25mm (1")	14.0 at 13mm (1/2") 30.2 at 25mm (1")
OSU Peak (kW/m ²)	32.4 at 13mm (1/2") 49.1 at 25mm (1")	12.2 at 13mm (1/2") 35.0 at 25mm (1")



- **Humidity and water resistance test** according to RTCA DO 160D, Section 6, Category A and Section 10, Category W. ZOTEK F 30, ZOTEK F 38 HT and ZOTEK F 40 HT show no signs of visual damage, discolourisation, delamination, permanent deformation, crack or tear. Both products pass these humidity and water resistance tests.
- **Temperature variation test** according to RTCA DO-160D Section 5 category B and Section 4 category A2. ZOTEK F 38 HT and ZOTEK F 40 HT pass the temperature variation test without incident or signs of damage or degradation.
- **Salt spray test** according to RTCA DO-160D Section 14 category S. ZOTEK F 38 HT and ZOTEK F 40 HT pass the salt test without incident or signs of damage or degradation.





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Moulded valve cover - Picture provided by Technifab



Window reveal insulation - Picture provided by Technifab

Applications for ZOTEK F foams in the aviation industry

- Foam tapes
- Water diverters
- Door seals and door insulation
- Pipe and ducting insulation
- Insulation on interior linings and side panels
- Insulation pads (airstair and main deck cargo)
- ECS liquid system insulation.
- Thermal insulation for galley
 - Chiller ducts and water line insulation
 - Oven and refrigerator insulation
- Cargo insulation
- Gap fillers
- Heat-exchanger insulation
- Cock-pit insulation
- Damping materials
- Window reveal insulation
- Carpet underlay insulation

Aerospace Industry

- Scientific tool box packaging

ZOTEK F HT grades

- Ducting – new concept
- Military aviation insulation - NATO approved



Tube insulation - Picture provided by Technifab



Valve and Tube insulation - Picture provided by Rudolf Wulfmeyer Aircraft Interior GmbH & Co.KG



ZOTEFOAMS

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