

Thank you for your interest in Skandia's Products and Services!

Enclosed is our unique products and upholstery supplies binder which includes detailed technical specifications, sample cards, and pricing information.

IMPORTANT: PLEASE NOTE THAT ALL PRICES ARE SUBJECT TO CHANGE; VERIFY PRICING AT TIME OF ORDER.

Skandia's sister company, Willow Tex, Inc. is the maker of the finest man-made leather in the world, including IZIT Leather Enhanced:

- Aviation Ready
- No Treatment Required
 - Two-Way Stretch
- Authentic Appearance •
- Lightweight, Soft Hand

Please call Willow Tex for memo samples, for any additional information or to place an order call 800-221-1537 or 815-399-4048.

With our combination of products, services and experience, we hope to exceed your expectations and look forward to serving you soon!

Five convenient ways to contact us!



Phone

800.945.7135 815.393.4600



Fax

815.393.3501



E-Mail

Info@SkandiaInc.com



Online

www.SkandiaInc.com



Mail

5000 N. Highway 251 Davis Junction, IL 61020







Thermal Acoustic Insulation
Radiant Panel Certified

SK-7000

(components may be purchased separately)

AeroTherm-in-a-Box

Skandia's Radiant Panel AeroTherm provides thermal/acoustic insulation. Products can be provided to specified widths, lengths, and thicknesses.

Our reinforced film resists abrasion, moisture, and contaminants.

The fiberglass thermal/acoustic insulation material is lightweight, water-repellent and fire-retardant.

EASE Thermal Insulation Systems provide superior thermal insulation and acoustic attenuation of high frequencies in the important dBSIL range (Speech Interference Level).

Repair/sealing tape available.

- Radiant Panel Certified
- In Stock, Can Ship Same Day!
- Lightweight
- Direct Replacement for OEM insulation
- Certified for all Part 25 and Part 23 Aircraft
- High Frequency Attenuation
- Custom Fabrication is available to meet specialized applications
- Skandia's AeroTherm Strip Blankets reduce cost by allowing interior/airframe technicians to fabricate and install blankets at the point of use (utilizing SK-TX series of insulation sealing tape).





Thermal Acoustic Insulation Radiant Panel Certified

SK-7000 Encapsulated Fiberglass Aircraft Insulation

TYPICAL PHYSICAL PROPERTIES

Thickness	1, 2, 3 in
WIDTH	7, 9, 10, 11, 12, 15, 16, 20, 22 in
Length	1" thick x 50' roll
	2" thick x 50' roll
	3" thick x 25' roll
WEIGHT	1 in thick: 0.07 lb/ft²
	2 in thick: 0.12 lb/ft ²
	3 in thick: 0.17 lb/ft²
Color	Dull Grey
FLAMMABILITY	7
14 CFR 25.853(a) 12-Second Vertical	Passes
14 CFR 25.853(a) 60-Second Vertical	Passes
14 CFR 25.856(a) Radiant Panel	Passes
FIBERGLASS DENSITY	0.6 pcf
Vapor Barrier Film Thickness	0.5 mil
THERMAL CONDUCTIVITY, ASTM C518	0.242 BTU in/F/ft • h/@75°F
Transmission Loss, ASTM E90 @ 1 in thick:	
1000 Hz	11 dB
2000 Hz	19 dB
4000 Hz	29 dB

ADDITIONAL SPECIFICATIONS/COMPLIANCE

BMS 8-48W, ASTM C8000-94, Sikorsky SS 9518-2, DMS 1967E, DMS 2151D, DMS 2450

SK-7001-I INSULATION MATERIAL

CORROSION Boeing BMS 8-48

SK-7000-F2 Barrier Film

Compliance with BMS 8-377, Type II, Class 1



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Thermal Acoustic Insulation .6 pcf Radiant Panel Certified

SK-7001-I Lightweight, Water-Repellent Insulation Material

Typical Physical Properties

I I PICAL P HI SICAL P	KOPEKIIES		
THICKNESS		1.00 + .025 in	
WIDTH		72.0 ± 0.5 in	
WEIGHT		0.050 + 0.005 - 0.004 lb/ft ²	
DENSITY		0.60 lbs./ft ³	
Color		Yellow	
BINDER CONTENT		17.5 ± 2.5%	
Water Repellency	ASTM C800-94	20 g, max	
WICKING	ASTM C800-94	0.25 in, max	
Temperature Limit		450°F	
Corrosion	Boeing BMS 8-48	None	
Transverse Airflow	ASTM C522	560 MKS Rayls, min	

FLAMMABILITY

Radiant Panel 14 CFR 25.856(a) **Passes** Vertical Test Boeing BSS 7230 and Extinguish Time: 10 sec, max 14 CFR 25.853(a), Passes (60-second ignition) Burn Length: 4 in, max 12-Second Vertical 14 CFR 25.853(a), Passes Drip Extinguish Time: No Drips 45-Degree Angle Test Boeing BSS 7230 and Extinguish Time: 5 sec, max 14 CFR 25.855(d) Afterglow Time: 10 sec, max

Flame Penetration: None Punking Test Boeing BSS 7230 No Punking

ACOUSTICAL PROPERTIES

Transmission Loss ASTM E90 1000 Hz Oct. Band: 11.5 dB, min (using three 1" layers of .6 PCF insulation) 2000 Hz Oct. Band: 18.5 dB, min 4000 Hz Oct. Band: 26.5 dB, min

THERMAL CONDUCTIVITY (ASTM C-518 (BTU-in/OF • h • ft²)

DENSITY lb/ft ³	THICKNESS	MEAN T	EMP of (Be	TWEEN HC	OT AND CO	LD SURFAC	CE)	
0.60	1"	50	<i>7</i> 5	100	200	300	400	
		0.226	0.242	0.258	0.332	0.428	0.556	

Compliance with OEM and Industry specifications per:

Boeing BMS 8-48W

ASTM C800-94

• DMS 2151 D

• Mexmil 20015-01-C

• Sikorsky SS 9518-2

• Baer 6035-2

• Douglas DMS 1967E

• Lockheed STM 26-701D

• Grumman GB 100V-C





Thermal Acoustic Insulation Vapor Barrier Film Radiant Panel Certified

SK-7000-F2 Lightweight, High Strength Vapor Barrier Film

TYPICAL PHYSICAL PROPERTIES	
WEIGHT	1.0 oz./yd²
THICKNESS	0.0005 in
Thread Adhesion	3.5 (lbs./1.5")
HEAT SEAL (T-PEEL)	
Warp	4.0 (lbs./in)
Fill	3.7 (lbs./in)
Heat Sealing Instructions	Heat-sealing of SK-7000F can be done by hand iron, impulse, and ultrasonic methods. Heat-sealing is done with yarn-side to yarn-side. Use a heat setting between 375° to -400°F. Always keep a hand iron in motion to prevent shrinkage of the film.
Flammability	
14 CFR 25.853(a) 12-Second Vertical Test	Passes
14 CFR 25.853(a) 60-Second Vertical Test	Passes
14 CFR 25.856(a) Radiant Panel	Passes
Moisture Permeance	0.88 grains/ft²/24 hrs/in of Hg
Reinforcement	20 x 10 Leno Scrim
Burst Strength	64 PSI
Color	Dull Grey
Fabrication Methods	May be sealed with heat, tape, stitching, or ultrasonically
Taping	For sealing, repairs, and local reinforcements of SK-7001, SK-T3 or SK-T2 tapes are recommended. These tapes are lightweight, reinforced, and pressure sensitive.
Packaging	, , , , , , , , , , , , , , , , , , , ,
Roll Length	Up to 350 yards
Width	52" ± 1"
Custom Cuts	Available upon request
Storage and Shelf Life	SK-7000F has a shelf life of one year from the date of shipment when stored in the original container at 75% relative humidity and between 50°F and 90°F.

Compliant with BMS 8-377, Type II, Class 1



AeroTapes

Insulation and Utility Tape w/PSA
Radiant Panel Certified



SK-T2

AeroTapes

Radiant Panel Certified tapes for aircraft, suitable for a wide variety of applications, including insulation sealing, closing out window/avionic spaces, or attaching adjacent materials.

Note: Meets 14 CFR 25.856(a) Radiant Panel by itself. Must be tested in composite form if using any other materials

- Radiant Panel Certified
- Widths from 2" 4"
- High Tack and Peel Strength
- Reinforced FR Scrim
- Will Not Support Corrosion





AeroTape

Radiant Panel Certified

SK-T2 • SK-T3 • SK-T4

Used in the fabrication, installation, and repair of insulation blankets

TYPICAL PHYSICAL PROPERTIES	SK-T2 • SK-T3 • SK-T4	
Size	2" x 60 yard roll • 3" x 60 yard roll • 4" x 60 yard roll	
WEIGHT	2.5 oz/yard ²	
Color	Dull Grey	
Construction	5 mil metallized tedlar, F/R acrylic PSA	
TOTAL THICKNESS	6 mil	
FLAMMABILITY		
14 CFR 25.853(a) 12-Second Vertical	Passes	
14 CFR 25.853(a) 60-Second Vertical	Passes	
14 CFR 25.856(a) Radiant Panel	Passes	
BMS 5-157 Type I, III, IV Grade A & B	Passes	
TENSILE STRENGTH, PSTC-31	28 lbs/avg. inch width	
PEEL STRENGTH, PSTC-1	> 120/in. avg; 3 day	
SHELF LIFE	Maximum of 12 months in cool, dry storage	

UTILITY TAPES • DO NOT PASS RADIANT PANEL

TYPICAL PHYSICAL PROPERTIES	P-225-3FR	P-108-2-N
Size	3" x 60 yard roll	2" x 25 yard roll
WEIGHT	10.5 oz/yard ²	14 oz/yard ²
Color	White	White
Construction	PE Coated cloth,	PE Coated cloth,
	F/R acrylic PSA	F/R acrylic PSA
TOTAL THICKNESS	20 mil	15 mil
FLAMMABILITY		
14 CFR 25.853(a) 12-Second Vertical	Passes	Passes
Tensile Strength, PSTC-31	28 lbs/avg. inch width	28 lbs/avg. inch width
PEEL STRENGTH, PSTC-1	> 120/in. avg; 3 day	> 120/in. avg; 3 day
SHELF LIFE	Maximum of 12 months	Maximum of 12 months
	in cool, dry storage	in cool, dry storage



AeroLite cellular foams are excellent for headliner and trim panel applications and also provide acoustic absorption. They combine superior compression set resistance at a variety of firmnesses while creating a quieter cabin environment.



HIGHLY RESISTANT TO COMPRESSION SET

EXCELLENT ACOUSTICAL PERFORMANCE

COLOR-CODED TO IDENTIFY FIRMNESS

SOFT, MEDIUM AND FIRM GRADES

SANDABLE

AVAILABLE IN 0.125" OR 0.25" THICKNESSES, 54" x 25' AND 54" x 50' ROLLS

AL70 Soft



AL73 Medium

AL75 Firm

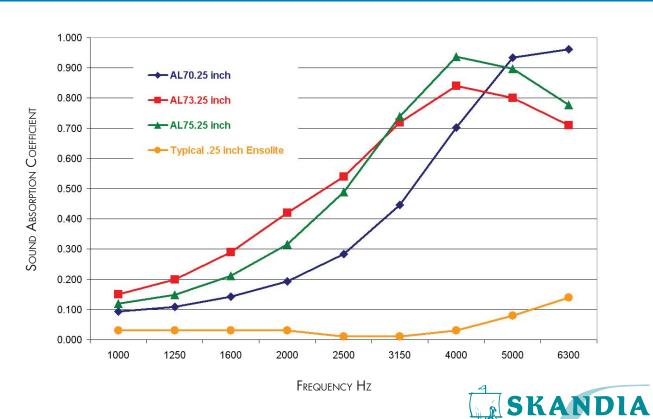
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AeroLite

Typical Physical Properties	AL70	AL73	AL75
ROLL SIZES	54" x 25'	54" x 25'	54" x 25'
	54" x 50'	54" x 50'	54" x 50'
THICKNESS	.125 in, 0.25 in	.125 in, 0.25 in	.125 in, 0.25 in
Color	Charcoal	Beige	Light Grey
FEEL/TOUCH	Soft	Medium	Firm
25% Compression Deflection			
FORCE (PSI) ASTM D1056	3.9	5.5	21.1
**50% COMPRESSION SET			
(%) ASTM D1056	4.9	9.3	15.1
DENSITY (PCF) ASTM D1056	8.8 ± 1.0	9.5 ± 1.0	9.4 ± 1.0
TENSILE (PSI) ASTM D412	59.1	70.1	114.4
ELONGATION (%) ASTM D412	105	95	70
FLAMMABILITY			
14 CFR 25.853(a) 12-Second Vertica	l Passes	Passes	Passes
MVSS302	Passes	Passes	Passes

**THE LOWER THE NUMBER, THE HIGHER THE RESISTANCE TO COMPRESSION SET.



Skandia, Inc. • 815.393.4600 • Info@SkandiaInc.com



Acoustical Carpet Pad Needled to Foam Dimensionally Stable

INSTALLATION: Install with the foam side up and the Nomex fibers down. It can be secured using Skandia's Double-Sided Tape: P-108-2-N or Hook fastener (attaches directly to fiber; Loop not required).

AeroLite Carpet Pad

SK-7328 • SK-7338 • SK-7348 • SK-7348-80W

AeroLite Carpet Pad is a synergistic family of foam and felt composite used for a durable pad and it provides both thermal and acoustic floor level insulation. The padding is available in various thicknesses, providing increasing levels of acoustic absorption, sound transmission loss, thermal insulation and cushioning effect.

The composite pad delivers the advantages of both foam and felt paddings while eliminating their disadvantages when used alone, e.g. will not wrinkle, improved resistance to compression set, excellent durability. Additionally, it has very low electrostatic discharge potential.

AeroLite Carpet Pad is a versatile material, which can be manufactured as a carpet pad and in combination with AeroBarrier as an effective floor level acoustical barrier.

AeroLite Carpet Pad is available in 1/4", 3/8" and 1/2" thicknesses x 52" wide by the linear yard; also available 1/2" thick x 80" wide x linear yard. Additionally, custom fabrication is available to meet specialized applications.

- Provides a Plush Feel Underfoot
- More Durable than a Fiber Pad
- Low Thermal Conductivity Value
- Excellent Frequency Absorption
- Low Static Propensity
- Available in a Variety of Thicknesses and Configurations
- 80" width accommodates wide body biz jets without seaming (1/2" thickness only)





Acoustical Carpet Pad Needled to Foam Dimensionally Stable

SK-7328 • SK-7338 • SK-7348 • SK-7348-80W

Typical Physical Properties

Size	52" ± .25" x linear yard;
	80" ± .50" x linear yard, 0.50" thickness only
THICKNESS	0.25 in, 0.375 in, 0.50 in
WEIGHT	24, 39, 42 oz/sq yard
Color	Dark Grey and Beige

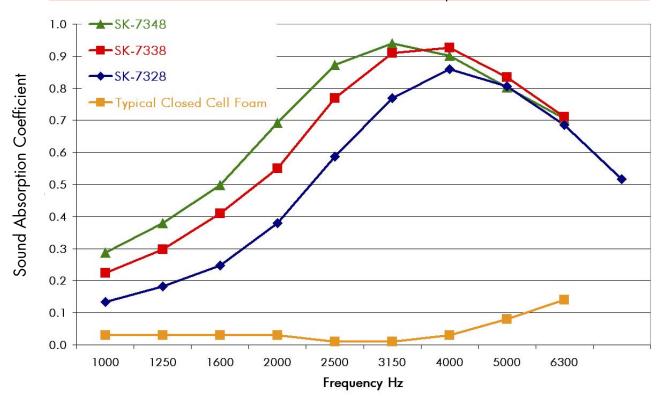
FLAMMABILITY

14 CFR 25.853 12-Second Vertical

Passes

THERMAL CONDUCTIVITY

<.254 BTU-IN/Hr -°F/sq ft @ 0.50 in



BUILD-UP	FOAM	NOMEX
SK-7328	0.125"	0.125"
SK-7338	0.25"	0.125"
SK-7348	0.25"	0.25"





Acoustical Carpet Pad Needled to Foam w/Sound Barrier

AeroLite Carpet Pad w/Barrier

SK-7348-D32

AeroLite Carpet Pad with Sound Barrier provides acoustic absorption, sound transmission loss, thermal insulation and a comfortable cushioning effect.

The composite pad delivers the advantages of both foam and felt padding while eliminating disadvantages when used alone. For instance, it will not wrinkle, provides improved resistance to compression set, excellent durability and has very low electrostatic discharge potential.

The addition of the integral sound barrier layer reduces underfloor noise entering the cabin.

- Provides a Plush Feel Underfoot
- Blocks Underfloor Noise
- More Durable than a Fiber Pad
- Low Thermal Conductivity Value
- Excellent Acoustic Absorption
- Low Static Propensity
- Dimensionally Stable





Acoustical Carpet Pad
Needled to Foam w/Sound Barrier
Dimensionally Stable

SK-7348-D32

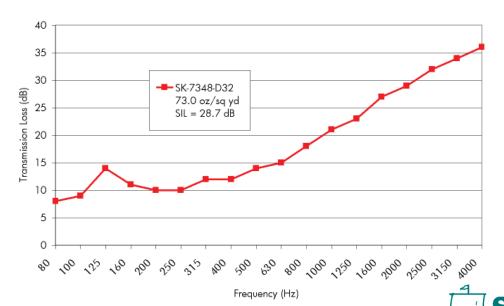
INSTALLATION: Install with the barrier side up and the Nomex fibers down. It can be secured using Skandia's Double-Sided Tape: P-108-2-N or Hook (attaches directly to fiber; Loop not required).

TYPICAL PHYSICAL PROPERTIES

Size	48" x linear yard
WEIGHT	73 oz/sq yard
THICKNESS	0.50 in
Color	Dark Grey
FLAMMABILITY	·
14 CFR 25.853(a) 12-Second Vertical	Passes
THERMAL CONDUCTIVITY	<.279 BTU-IN/Hr -°F/sq ft @ 0.50 in

BUILD UP

FOAM THICKNESS	.25"
Nomex Thickness	.25"
Sound Barrier	30 oz



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AeroDamp

AeroDamp is a lightweight polymer with a high-tack, pressure sensitive adhesive, used for vibration damping. When constrained with an aluminum facing, the composite damping sheet is very effective at reducing the airborne sound generated by the vibration of honeycomb floorboards, aluminum fuselage, bulkheads, cabinet structures, and trim panels.

AeroDamp is provided in standard 24" x 48" sheets.

- Radiant Panel Certified
- Excellent Damping Performance-to-Weight Ratio
- Available in a Variety of Weights and Thicknesses





AeroDamp

High Performance Vibration
Damping Sheet w/PSA
Radiant Panel Certified

SK-8240PSA • **SK-8240FPSA** Damping Material w/PSA

TYPICAL PHYSICAL PROPERTIES	SK-8240PSA	SK-8240FPSA
Size	24" x 48"	24" x 48"
WEIGHT	5.0 oz/sq ft	6.4 oz/sq ft
FTM 5041	2.5 lb/sheet	3.2 lb/sheet
THICKNESS		
FTM 5030	0.04 in	0.04 in
Color	White	Silver
FLAMMABILITY		
14 CFR 25.853(a) 12-Second Vertical	Passes	Passes
14 CFR 25.853(a) 60-Second Vertical	Passes	Passes
14 CFR 25.856(a) Radiant Panel	Passes	Passes
Barrier	40 oz/sq yd	40 oz/sq yd
Operating Temperature		
Min Application Temp	50°F	50°F
Max Continuous Operating Temp	200°F	200°F
Max Intermittent Operating Temp	250°F	250°F

SHELF LIFE

One year when stored at 70°F/50% R.H. out of direct sunlight.



Controls Both Airborne Noise and Structural-Borne Vibrations

E-A-R ADC SPECIALTY COMPOSITES



ADC-005



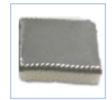
ADC-006



ADC-122



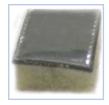
ADC-124



ADC-126



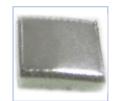
ADC-152



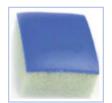
ADC-156



ADC-224



ADC-226



ADC-252

Materials in Stock and Ship the Same Day!

Temperature and Frequency Sensitive Materials for Pressurized and Non-Pressurized Aircraft

Demonstration of Compliance with Material Flammability Requirements per 14 CFR 25.853(a) 12-Second Vertical and 60-Second Vertical and 14 CFR 25.856(a) Radiant Panel.

All products meet 12-Second Vertical/60-Second Vertical/Radiant Panel with the exception of ADC-122 and ADC-152 which only meets 12-Second Vertical and Radiant Panel.



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E-A-R SPECIALTY COMPOSITES

Skandia stocks E-A-R Damping, Absorption, and Barrier materials to reduce cabin noise levels. When the right combination of these materials is installed in the specified location in an aircraft, both airborne acoustic energy and structural-borne vibration energy are reduced.

COMPOSITE	DESCRIPTION II	WEIGH os/ft² and kg/m²	HT Per sheet	DIMENSIONS
ADC-005	Structural Damping .04" Thick	.37 lbs/ft ² 2.00 kg.	3.69 lbs. 1.67 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-006	Structural Damping .05" Thick	.44 lbs/ft ² 2.44 kg.	4.50 lbs. 2.04 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-122	Acoustical Barrier/Absorber .310" Thick	.60 lbs/ft ² 2.93 kg.	5.40 lbs. 2.45 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-124	Low Temperature Damping .255" Thick	.22 lbs/ft ² 1.27 kg.	2.34 lbs. 1.06 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-126	Low Temperature Damping 0.300" Thick	.59 lbs/ft ² 2.93 kg.	5.40 lbs. 2.45 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-152	Acoustical Barrier/Absorber .560" Thick	.72 lbs/ft ² 3.27 kg.	6.03 lbs. 2.74 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-156	Low Temperature Damping .550" Thick	.72 lbs/ft ² 3.61 kg.	6.66 lbs. 3.02 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-224	Mid Temperature Damping .258" Thick	.22 lbs/ft ² 1.27 kg.	2.34 lbs. 1.06 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-226	Mid Temperature Damping 0.300" Thick	.59 lbs/ft ² 2.93 kg.	5.40 lbs. 2.45 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-252	Acoustical Barrier/Absorber .560" Thick	.59 lbs/ft ² 3.27 kg.	6.03 lbs. 2.74 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.



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Acoustic Insulation
Radiant Panel Certified

SK-8013 • SK-8014

AeroBlanket

AeroBlanket consists of one layer of AeroBarrier bonded to one layer of Radiant Panel Certified, water repellent Nomex fiber. The barrier is available in various weights, providing increasing levels of sound transmission loss.

AeroBlanket is an "overframe" blanket, which is used to closeout the insulation and prevent a direct path for sound and cold into the aircraft cabin. The AeroBarrier component of the blanket is highly effective in reducing sound levels and the fiber is very effective at reducing high frequency sound levels.

AeroBlanket is also available with barrier sandwiched between two layers of fiber. All AeroBlankets are provided 48" wide, at custom lengths on a roll. Custom fabrication is also available to suit specialized applications.

- Radiant Panel Certified
- Excellent Transmission Loss Performance
- Inherently Water Repellent



TECHNICAL DATA SHEET



AeroBlanket

High Performance Barrier w/
Lightweight, Low Density
Water Repellent Fiber Blanket
Radiant Panel Certified

SK-8013 • **SK-8014** Water Repellent Overframe Blanket

TYPICAL PHYSICAL PROPERTIES	SK-8013	SK-8014
Size	48" x linear yard	48" x linear yard
WEIGHT	40 oz/sq yard	50 oz/sq yard
Thickness	0.14 in	0.14 in
Color	Dark Grey/White	Dark Grey/White
FLAMMABILITY		
14 CFR 25.853(a) 60-Second Vertical	Passes	Passes
14 CFR 25.856(a) Radiant Panel	Passes	Passes
Barrier	Cast Polymer	Cast Polymer
Weight	30 oz/sq yard	40 oz sq/yard
Fiber	One Layer of 0.125" thick	One Layer of 0.125" thick
	Radiant Panel Nomex	Radiant Panel Nomex
Weight	10 oz/sq yard	10 oz/sq yard
Thermal Range	-55°F to 450°F	-55°F to 450°F
Water Repellent	Meets BMS 8-42W	Meets BMS 8-42W





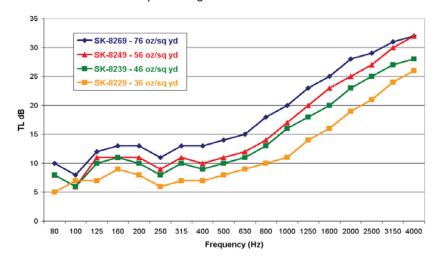
SK-8229 • SK-8239 • SK-8249 • SK-8269

AeroBlanket consists of one layer of AeroBarrier laminated between two layers of lofted, Radiant Panel Certified, water repellent fiber. The barrier is available in various weights, providing increasing levels of sound transmission loss. Each layer of fiber is nominally 0.30" thick. The AeroBlanket can be compressed to an installed thickness of 0.10".

AeroBlanket is an "Overframe" blanket, which is used to closeout the insulation and prevent a direct path for sound and cold into the aircraft cabin. The AeroBarrier component of the blanket is highly effective in reducing the low frequency sound levels and the high loft fiber is very effective at reducing high frequency sound levels.

All AeroBlankets are provided 48" wide, at custom lengths on a roll. Custom fabrication is also available to suit specialized applications.

- High Performance Barrier w/Lightweight Low Density Fiber Blanket
- Radiant Panel Certified
- Excellent Transmission Loss Performance
- Inherently Water Repellent
- Available in a Variety of Weights & Thicknesses







High Performance Barrier w/Lightweight, Low Density Fiber Blanket Radiant Panel Certified

Two Layers of 0.3" thick Radiant Panel Nomex

SK-8229 • SK-8239 • SK-8249 • SK-8269 Overframe Blanket

18" x linear yard

TYPICAL PHYSICAL PROPERTIES (additional weights/thicknesses also available)

SIZE	46 X linear yara
WEIGHT	36, 46, 56, or 76 oz/sq yard nominal
THICKNESS	0.6 in nominal, 0.1 in compressed
Color	Dark Grey
FLAMMABILITY	
14 CFR 25.853(a) 60-Second Vertical	Passes
14 CFR 25.856(a) Radiant Panel	Passes
Barrier	Polymer-based film
Weight	20, 30, 40 or 60 oz/sq yard

with Scrim Facing

Weight 8 oz/sq yard (per layer)

Thermal Range -55°F to 450°F

Water Repellent Meets BMS8-242

FASTENERS

SIZE

FIBER



A wide variety of fasteners are available to attach AeroBlankets to the fuselage. Please contact Skandia's Acoustics department for additional fastener recommendations by e-mailing Info@SkandiaInc.com or calling 800-945-7135.





Acoustic Insulation
Radiant Panel Certified

SK-8160

AeroBlanket

AeroBlanket consists of one layer of AeroBarrier bonded between two layers of Radiant Panel Certified, water repellent Nomex fiber.

AeroBlanket is an overframe blanket, which is used to close-out the insulation and prevent a direct path for sound and cold into the aircraft cabin. The AeroBarrier component of the blanket is highly effective in reducing sound levels and the fiber is very effective at reducing high frequency sound levels.

All AeroBlankets are provided 48" wide, at custom lengths on a roll. Custom fabrication is also available to suit specialized applications.

- Radiant Panel Certified
- Excellent Transmission Loss Performance
- Inherently Water Repellent



TECHNICAL DATA SHEET



AeroBlanket

High Performance Barrier w/Lightweight, Low Density Fiber Blanket Radiant Panel Certified

SK-8160 79 oz. Overframe Blanket

TYPICAL PHYSICAL PROPERTIES

Size	48" x linear yard
WEIGHT	79 oz/sq yard
THICKNESS	0.3 in
Color	Dark Grey
FLAMMABILITY	
14 CFR 25.853(a) 60-Second Vertical	Passes
14 CFR 25.856(a) Radiant Panel	Passes
Barrier	Vinyl Barrier
Weight	60 oz/sq yard
FIBER	Two Layers of 0.125" thick
	Radiant Panel Nomex
Weight	9.5 oz/sq yard (per layer)
Thermal Range	-55°F to 450°F
THERMAL CONDUCTIVITY DIN EN 12664	0.291 BTU in/ft ² • hr • °F @73.4°F



Aerocoustic Absorption Foam

A combustion-modified polyether polyurethane foam developed to resist hydrolytic degradation



SK-9220.25 • SK-9220.50 • SK-9220.75 • SK-92201.0

Aerocoustic Absorption Foam

Skandia's SK-9220 series was developed primarily as a noise-absorbing foam. It has a fine pore structure, 65 pores-per-lineal-inch, which provides better noise-absorbing performance than conventional foams. It is also a more consistent absorber and has a narrower range of variance than conventional foams, especially in the SIL range.

- Resists degradation from hot, humid environments, non-air-conditioned environments or intermittently air-conditioned environments
- Excellent high- and low-temperature features
- Excellent High Frequency Attenuation (dB(SIL))





Aerocoustic Absorption Foam

A combustion-modified polyether polyurethane foam developed to resist hydrolytic degradation

SK-9220.25 • SK-9220.50 • SK-9220.75 • SK-92201.0

TYPICAL PHYSICAL PROPERTIES	
THICKNESS	.25, .50, .75, 1.0 in
WIDTH	54 in max
Length	72 in max
Tensile Strength (PSI)	14
Tensile Strength, Autoclaved (PSI)	12
Color	Black
FLAMMABILITY	
14 CFR 25.853(a) 12-Second Vertical	Passes
14 CFR 25.853(a) 60-Second Vertical	Passes
DENSITY (PCF)	1.7 pcf
Compression Force Deflection (PSI)	
25%	0.5
65%	0.7

-40° - 250°F

RECOMMENDED TEMPERATURE RANGE

1.0 **ABSORPTION COEFFICIENT** 0.9 8.0 0.7 0.6 0.5 0.4 0.3 0.2 0.1 0.0 125 250 500 4000 1000 1400 2000 **FREQUENCY - HERTZ**

> *ASTM C 384-77, material in contact with backing plate. Normal incidence converted to random incidence.

Note: Offers high acoustical absorption. The thickness can be optimized to provide maximum absorption at the frequency desired. Random incident acoustic absorption tested in mini-reverberation room.*



AeroBarrier

High Performance Sound Barrier



SK-D20 • SK-D30 • SK-D40 • SK-D60

AeroBarrier

AeroBarrier is a flexible sheet material used for noise control applications in aircraft.

Meets 14 CFR 25.853(a) 12-Second Vertical requirements and delivers excellent acoustic performance at any desired weight level.

Sold by the linear yard.

- Excellent Transmission Loss at High Frequencies
- Available in weights ranging from 20–60 oz/yd².





AeroBarrier

20, 30, 40, 60 oz. Sound Barrier

SK-D20 • SK-D30 • SK-D40 • SK-D60 High Performance Barrier

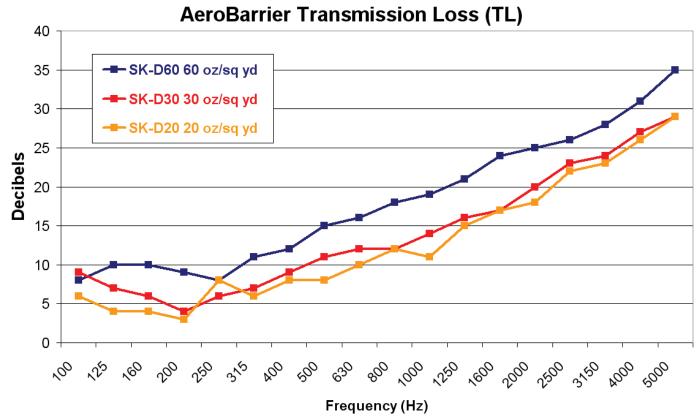
TYPICAL PHYSICAL PROPERTIES

Size	50" x linear yard
WEIGHT, FTM 5041	20, 30, 40 or 60 oz/sq yard
THICKNESS, FTM 5030	0.02 – 0.03 in
Color	Black/White

FLAMMABILITY

14 CFR 25.853(a) 12-Second Vertical

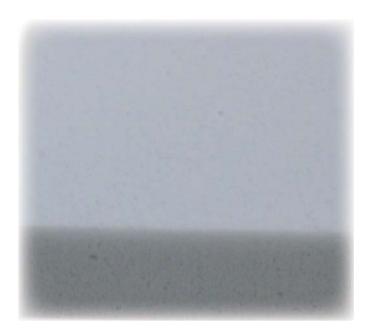
Passes





AeroCell Foam

High Performance
Absorption and Insulation,
Radiant Panel Certified



SK-13000 • SK-13200 • SK-13200PSA

AeroCell Foam

AeroCell is a very lightweight, open cell melamine foam which has exceptional sound absorption properties. AeroCell exhibits very good thermal properties and contains no fibers.

AeroCell is provided in sheets in a variety of thicknesses. This foam can also be custom cut to suit specific acoustical or thermal requirements.

- Radiant Panel Certified
- Excellent High Frequency Sound Absorption
- Lightweight
- Fiber-Free
- Excellent Thermal Insulation Properties
- OSU Certified (SK-13000 only)
- Hydrophobic (SK-13200 only)



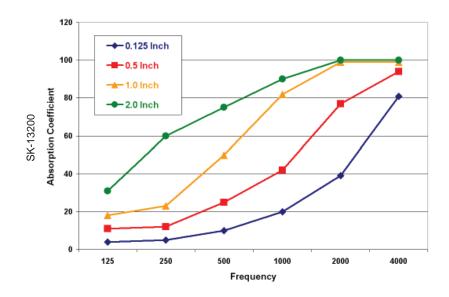


AeroCell Foam

High Performance Absorption and Insulation, Radiant Panel Certified

SK-13000 • SK-13200 • SK-13200PSA Open Cell Foam

TYPICAL PHYSICAL PROPERTIES	SK-13000	SK-13200*
DENSITY ASTM D3574	0.62 pcf	0.63 pcf
SHEET SIZE	24" x 48"	23" x 46"
THICKNESS	0.125", 0.25"	0.25", 0.50"
	0.375", 0.50"	1.00", 2.00"
	0.75", 1.00"	
	2.00"	
Color	Grey	Grey
FLAMMABILITY		
14 CFR 25.853(a) 12-Second Vertical	Passes	
14 CFR 25.853(a) 60-Second Vertical	Passes	Passes*
14 CFR 25.853(d) OSU	Passes	
14 CFR 25.856(a) Radiant Panel	Passes	Passes
THERMAL CONDUCTIVITY ASTM C518	.30 BTU-in/hr/ft ³ -°F@77°F	0.23 BTU-in/ft ² -hr-°F@50°F,
		0.26 BTU-in/ft ² -hr-°F@75°F
TENSILE STRENGTH ASTM D3574	8 psi	15 psi
ELONGATION ASTM D3574	8%	39% nominal
WATER REPELLENCY		35% average weight gain, max
Additional Tests		
Boeing DSS 9739, Toxic Gas Generation	Passes	Passes
UL181, Microbial Growth	Passes	
TM G21, Fungus Resistance	Passes	



*SK-13200 is available with or without Pressure Sensitive Adhesive.

AeroCell Foam with PSA must be tested in composite to meet flammability requirements.





AeroFasteners

A wide variety of fasteners are available for installation of AeroBlankets, AeroBarriers, etc. Please contact Skandia's Acoustics department for additional fastener recommendations by e-mailing Info@ Skandialnc.com or calling 815-393-4600.

ITEM #	DESCRIPTION
SK-IS-1.5PSA*	Insulation Stud, Self-Adhesive
SK-IS-3.4PSA*	Insulation Stud, Self-Adhesive
2380003	Insulation Stud, Self-Adhesive
SK-IS*	Insulation Stud
SK-IS-2.5*	Insulation Stud
SK-ISR-2	Insulation Stud Retainer

*Use with SK-ISR-2



Sharp tip allows for quick and easy installation of SK-CT fasteners into overframe blankets and barrier

AeroFasteners

For Installation of Blankets & Barrier



- 11.50" Nylon Cable Tie used for securing blankets and barriers to the frame, quickly and simply!
- Fire-Retardant; handles temperatures from -40° to +203°F
- Meet UL 94V0 flammability requirements

SK-IW Insulation Retainer Washer

- Tensile strength: 50 lbs.
- Sold in 50 ct. pack
- Sold separately: SK-IW: Insulation Retainer Washer



2390011



2310025

- 2390011 (plastic) and 2310025 (stainless steel) are used to temporarily (removeable) hold overframe blankets in position while SK-CT fasteners are installed
- 2310025 can be used to attach overframe blankets when other means are not possible

ITEM #	DESCRIPTION
Hemostat	Installation Tool
SK-CT**	F/R Nylon Cable Tie, 11.50"
SK-IW	Insulation Retainer Washer
2310025	Spring Clip Insulation Clamp
2390011	Insulation Clamp, Nylon

^{**}Use with SK-IW

Flame Barrier

Polymer Coated, Woven Fiberglass Fabric Radiant Panel Certified

SK-15004

Flame Barrier

Flame Barrier is a lightweight, polymer-coated fiberglass fabric with which is certified to 14 CFR 25.856(a) Radiant Panel. Flame Barrier utilizes woven fiberglass as the reinforcement for the flexible polymer coated flame barrier. The fiberglass makes the material extremely flame resistant, with high tensile strength to weight, and superior dimensional stability.

Flame Barrier is used in aerospace applications such as a pipe, hose or ducting wrap, and as edge binding for Skandia's quilted blanket, SK-QB2RP.

Available in 4.0 oz. per square yard weight, Flame Barrier is provided in 50" wide rolls at custom lengths.

- Radiant Panel Certified
- Excellent Strength-to-Weight Ratio
- Suitable for Many Applications





Flame Barrier

Polymer Coated, Woven Fiberglass Fabric* Radiant Panel Certified

SK-15004 • Utility Fabric

Can be used in a wide variety of covering and/or facing applications, including edge binding for quilted insulation blanket, SK-QB2RP

TYPICAL PHYSICAL PROPERTIES

Roll Size	50" x linear yard	
WEIGHT	4.0 oz/sq yd	
THICKNESS .01"		
Color	Dark Grey	
FLAMMABILITY		
14 CFR 25.853(a) 12-Second Vertical	Passes	
14 CFR 25.853(a) 60-Second Vertical	Passes	
14 CFR 25.856(a) Radiant Panel	Passes	
BMS 8-370	Meets	
NBS Smoke	D _s < 50	
Breaking Strength, FTM 5100	> 110 lbs/in	
Tear Strength, ASTM D1117	> 12 lbs.	
FED-STD-191	Tensile (grab) Warp/Fill 145/119 lb	





Hook & Loop

Radiant Panel Certified*

PRPBGE1.00H + PRPBGE1.00L + PRPBGE2.00H + PRPBGE2.00L

Pressure Sensitive Adhesive Hook & Loop Fastener

BENEFITS The Pressure Sensitive Adhesive Hook & Loop fastener can be used for quick attach/detach applications that require compliance with the Radiant Panel Certification test for thermal/acoustic insulation. Its improved fire-retardancy helps to reduce the risk of failure in oil burn test results for Part 25 seat cushions.

|--|

ITFICAL I III SICAL I ROPLRILES		
Roll Sizes	1" x 50 yards, 2" x 50 yards	
Color	Beige	,
FLAMMABILITY		
14 CFR 25.853(a) 12-Second Vertical	Passes	
14 CFR 25.856(a) Radiant Panel	Passes*	
BMS 8-372	Passes	
FMVSS-302	Passes	
TYPICAL SHEAR VALUE	INITIAL	AFTER 100 CYCLES
In pounds per square inch	10.6	8.1
TYPICAL PEEL VALUE	INITIAL	After 100 Cycles
In pounds per inch width	1.1	0.8
TYPICAL TENSION STRENGTH	Initial	After 100 Cycles
In pounds per inch width	7.3	4.6
PSA Properties		
Temperature Range	–30° to 200°F (–34° to 93°C)	
Shelf Life	One year from manufacturing date, when stored in original packaging at 70°F(21°C), 50% relative humidity.	

^{*}When tested with other Radiant Panel compliant materials per FAA Advisory Circular AC-25.856-1 paragraph 5C.





Hook & Loop

Radiant Panel Certified*

SRPBGE1.00H + SRPBGE1.00L + SRPBGE2.00H + SRPBGE2.00L

Sew-On Hook & Loop Fastener

BENEFITS The sew-on Hook & Loop fastener can be used for quick attach/detach applications that require compliance with the Radiant Panel Certification test for thermal/acoustic insulation. Its improved fire-retardancy helps to reduce the risk of failure in oil burn test results for Part 25 seat cushions.

Typical Physical Properties

Roll Sizes	1" x 50 yards, 2	" x 50 yards
Color	Beige	
FLAMMABILITY		
14 CFR 25.853(a) 12-Second Vertical	Passes	
14 CFR 25.856(a) Radiant Panel	Passes*	
BMS 8-372	Passes	
FMVSS-302	Passes	
TYPICAL SHEAR VALUE	INITIAL	AFTER 100 CYCLES
In pounds per square inch	10.6	8.1
Typical Peel Value	Initial	After 100 Cycles
In pounds per inch width	1.1	0.8
Typical Tension Strength	Initial	AFTER 100 CYCLES
In pounds per inch width	7.3	4.6

^{*}When tested with other Radiant Panel compliant materials per FAA Advisory Circular AC-25.856-1 paragraph 5C.



5000 N. Highway 251 • Davis Junction, IL 61020 800.945.7135 • 815.393.4600 • 815.393.3501 fax Acoustics@Skandialnc.com • Skandialnc.com





SK-AWCC.125 • SK-AWCC.25

AeroWrap

Skandia's Radiant Panel AeroWraps are utilized for both thermal and acoustical insulation. Available with foam insulation and a durable facing to meet your specifications.

Product is available in sheets.

BENEFITS

- Radiant Panel Certified
- Provides Thermal/Acoustic Insulation
- Abrasion and Water Resistant Facing
- Easily Removed and Reinstalled





AeroWrap

Closed Cell Duct Wrap Radiant Panel Certified

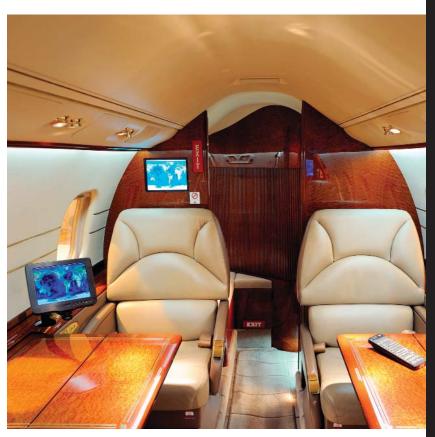
SK-AWCC.125 • SK-AWCC.25

TYPICAL PHYSICAL PROPERTIES	SK-AWCC.125	SK-AWCC.25
Size	24" x 48"	24" x 48"
WEIGHT	0.8 lb/0.125"	1.2 lb/0.25"
THICKNESS	0.125"	0.25"
Color	Black	Black
FLAMMABILITY		
14 CFR 25.853(a) 60-Second Vertical	Passes	Passes
14 CFR 25.856(a) Radiant Panel	Passes	Passes
FOAM		
Thickness	0.125 in	0.25 in
Density	$3.5 \text{ to } 5.0 \text{ lb/ft}^3$	$3.5 \text{ to } 5.0 \text{ lb/ft}^3$
Tensile Strength	50 psi	50 psi
Elongation	75%	75%
FIBERGLASS BARRIER		
Weight	4.5 oz/sq yd	4.5 oz/sq yd
Thickness	.01"	.01"
Color	Black	Black





FLAMMABILITY TESTING & CERTIFICATION SERVICES



Skandia strives to create value for our customers through innovation and continuous improvement. Skandia announces the Federal Aviation Administration's approval of our "Method of Compliance (MOC), Flammability Testing for Aircraft Seats, 14 CFR 25.853(c) and 14 CFR 25.853(a)," Revision B. The MOC minimizes testing requirements while maintaining our strong commitment to safety. Contact Skandia for more information.





5000 N. Highway 251 ■ Davis Junction, IL 61020 815.393.4600 ■ 800.945.7135 www.SkandiaInc.com

October 2008

Dear Valued Skandia Customer:

This manual is designed to give guidance and understanding of FAA Regulations 14 CFR 25.853 (a) and (c) dealing with Part 25 aircraft seat flammability requirements in layman terms. This manual is considered guidance material; if you have regulatory questions, please refer them to your local FAA Office. Keep in mind that any materials going into an aircraft will have to meet some form of flammability requirement and that the materials have to be tested in the "as installed state."

Sincerely,

Gary K. Palmer President

THE RULES

14 CFR 25.853 Compartment Interiors

For each compartment occupied by the crew or passengers, the following apply:

- (a) Materials (including finishes or decorative surfaces applied to the materials) must meet the applicable test criteria prescribed in part I of appendix F of this Part, or other approved equivalent methods, regardless of the passenger capacity of the airplane.
- (b) Reserved
- (c) In addition to meeting the requirements of paragraph (a) of this section, seat cushions, except those on the flight crew member seats, must meet the test requirements of Part II of appendix F of this Part, or other equivalent methods, regardless of the passenger capacity of the airplane.

CLASSIFICATION

SEATS: Seats are manufactured to either the Aircraft Type Certificate (TC), Supplemental Type Certificate (STC) or to a Technical Standard Order (TSO). The data tag on the seat should clarify which.

TSO C-39 is for 9g seats and the TSO generally only certifies the seat frame.

TSO C-127 is for 16g seats and the TSO certifies the completely upholstered seat and must have 14 CFR 25.853 (c) testing to meet the TSO. TSO C-127 was created by the addition of 14 CFR 25.562 in amendment 25-64. Any Part 25 aircraft certified after 6/16/88 requires either 16g seats that meet TSO C-127 or seats meeting 14 CFR 25.562 that are TC to the aircraft.

AIRCRAFT OPERATION: Part 91 Aircraft do not require 14 CFR 25.853 (c) if they were type certificated before 6/16/88.

Part 135 Aircraft do require that the seats in these aircraft meet 14 CFR 25.853 (c).

GUIDANCE MATERIAL

- 14 CFR 25.562
- 14 CFR 25.853
- 14 CFR Part 25 Appendix F Part I and Part II
- Aircraft Materials Fire Test Handbook DOT/FAA/AR-00/12
- Advisory Circular AC 25.853-1 Flammability Requirements for Aircraft Seat Cushions
- Advisory Circular AC 25-17A Transport Airplane Cabin Interiors Crash Worthiness Handbook
- Advisory Circular AC 21-25A Approval of Modified Seating Systems Initially Approved under a Technical Standard Order

CONTACTS

For TSO Seats:

B/E Aerospace (305) 459-7000

Decrane Aerospace (715) 582-4517

Ipeco Holdings (310) 783-4700 Spares@Ipeco.co.uk

For TC/STC Seats:

Contact the aircraft manufacturer

HIGHLIGHTS

All materials going into an aircraft interior must be tested in the "as installed state".

Seat armrests, base shrouds, wraparounds, etc. also require flammability testing which Skandia can also perform.

On aircraft seats that have to meet 14 CFR 25.562, flammability testing is just part of the overall process when reupholstering these seats. It is the modifier's responsibility to ensure that the seats comply in all aspects before reinstalling the seats into the aircraft.

Skandia's suggestion is that the modifier first contact the TSO holder for TSO seats or the Aircraft Manufacturer if TC/STC.

WHAT IS A 16G SEAT AND WHICH AIRCRAFT HAVE THEM?

Any Part 25 Transport category aircraft certified after 1988 is required to have passenger seats that meet TSO-C127a or be Type Certificated with seats that meet SAE AS 8049A and 14 CFR 25.562.

All 16g aircraft seats are certified for use in aircraft as a complete upholstered seat. Any changes to the seat including upholstery will affect the aircraft's certification.

Even minor changes such as changing the leather color, are considered a modification to the seat and its certification.

HOW DO YOU REUPHOLSTER 16G SEATS?

First, Skandia suggests that the shop planning on reupholstering 16g seats contact either the seat manufacturer if the seat has TSO or the aircraft manufacturer if the seat is part of the aircraft type design.

If neither is willing to help, then the FAA Advisory Circular 21-25A "Approval of Modified Seating Systems Initially Approved Under a Technical Standard Order" would need to be used.

You may want to contact your FAA FSDO (Flight Standards District Office) or FAA ACO (Aircraft Certification Office) for guidance.

Flammability testing will always be required when changing materials, but this is not the only requirement. It is the modifier's responsibility to ensure that the modified article is approved by the FAA.

KEY STATEMENT FROM ADVISORY CIRCULAR AC 21-25A

AC 21-25A 4c Modified Seating System Approvals. "Many aircraft owners and operators choose to alter seating systems by incorporating such features as different upholstery. Any changes to these articles constitutes a modification that must be approved by the FAA, regardless of whether the original article had a TSO approval or was approved as part of the aircraft type design. It is the modifier's responsibility to ensure that the modified article is approved by the FAA. It should be emphasized that replacement of a component of a seat cushion system with a component of a different design constitutes a modification requiring further approval. The local FAA Engineering or Flight Standards Office should be contacted regarding approval of the modified article and the basis for the approval."

AIRCRAFT SEATS ARE EITHER MANUFACTURED AND APPROVED BY TECHNICAL STANDARD ORDER OR TYPE CERTIFICATED OF AIRCRAFT (check seat data tag)

BOMBARDIER Challenger CL300 (Continental), Global Express, Global 5000

CESSNA Citation seats are covered under the aircraft TCDS

(Type Certificate Data Sheet)

Mustang, Model 510 (Normal Category Part 23)

(see TCDS note 4)

Citation Excel/XLS, Model 560 (S/N 560-5001 and up)

Citation Sovereign, Model 680

Citation X, Model 750

Citation Columbus, Model 850

DASSAULT 2000/2000EX

(2000EX EASy, and 2000DX are still 2000EX with additional mod packages for marketing designation)

7X

GALAXY Astra/Galaxy

AEROSPACE

GULFSTREAM G100, G150, G200

Gulfstream V, G450, G550

HAWKER 4000

BEECHCRAFT

LEARJET 40, 45

CAPABILITIES

Skandia's in-house Flammability Testing is performed by highly trained technicians utilizing state-of-the-art equipment. Rapid turnaround times result from our in-house staff of DERs and DARs with the authority to perform conformity inspections and issue 8110-3 flammability certification.

14 CFR 25.856(a)

Radiant Panel Testing with DER Certification

14 CFR 25.853(c)

Total Fireblocking Test Program

14 CFR 25.853(a)

- Vertical and Horizontal Testing
- 45° Degree Panel Testing
- 60° Degree Wire Testing
- 12- and 60-Second Composite Panel Testing
- Test to Boeing Specifications

PLUS

- Experienced Staff DERs and DARs
- State-of-the-Art Testing Equipment
- Re-qualify Existing Foam Cushions with New Dress Covers
- Test Plan Generation
- Test Specimen Fabrication
- Conformity Inspection
- 8110-3 Approval
- Similarity Approvals

OSU AND SMOKE EMISSION TESTING

 Skandia will write the test plan and the specimens are sent to outside labs for testing. Skandia will need a completed Composite Panel Checklist with all appropriate paperwork and test specimens.

FEATURES & BENEFITS

Skandia's experience as an aircraft interiors specialist has enabled our insider's understanding of the aircraft refurbishing industry. From this foundation, Skandia has emerged as a high quality supplier delivering products and services in an ASAP environment.

QUALITY ASSURANCE

Our commitment to quality ensures services are performed accurately and products arrive at our customer's dock on time with the required documentation.

FLAMMABILITY TESTING

Quick turnaround with FAA-approval for flammability testing of aircraft interior materials is achieved by Skandia's staff and sophisticated testing equipment. Full-time personnel include: experienced technical writers, lab personnel, staff DERs and DARs with the authority to perform in-house conformity inspections and issue FAA-approval for a broad range of tests. Flammability certification is performed quickly and efficiently.

Skandia offers a wide range of Flammability Testing Services and Consultation for all aviation needs.

RADIANT PANEL FOR THERMAL/ACOUSTIC INSULATION FREQUENTLY ASKED QUESTIONS

As of September 2, 2005, the new FAA standard for Thermal/Acoustic materials used in Transport Category Airplanes went into effect per www.fire.tc.faa.gov/pdf/handbook/00-12_ch24new.pdf. See page 16 of 16.

From Part 91—General Operating and Flight Rules, §91.613 Materials for Compartment Interiors. For transport category airplanes type certificated after January 1, 1958:

- For airplanes manufactured before September 2, 2005, when thermal/acoustic insulation materials are installed in the fuselage as replacements after September 2, 2005, those materials must meet the flame propagation requirements of 14 CFR Part 25.856(a), referred to as Radiant Panel.
- For airplanes manufactured after September 2, 2005, thermal/acoustic insulation materials installed in the fuselage must meet the flame propagation requirements of 14 CFR Part 25.856(a), effective September 2, 2003.

From Part 121—Operating Requirements: Domestic, Flag and Supplemental Operations, §121.312 Materials for Compartment Interiors:

 For airplanes with a passenger capacity of 20 or greater, manufactured after September 3, 2007, thermal/acoustic insulation materials installed in the lower half of the fuselage must meet the flame penetration resistance requirements of 14 CFR Part 25.856, which was later postponed to September 2, 2009. SUMMARY The FAA extended, by 24 months, the date for operators to comply with the fire penetration resistance requirements of thermal/acoustic insulation used in transport category airplanes manufactured after September 2, 2007. This extension was from September 2, 2007 to September 2, 2009. This action was necessary to allow airframe manufacturers enough time, after getting an acceptable certification test facility, to select and certificate appropriate installations.

For additional information: http://www.epa.gov/EPA-IMPACT/2007/January/Day-12/i338.htm

25.856(a) THERMAL/ACOUSTIC INSULATION MA-

TERIALS Thermal/acoustic insulation material installed in the fuselage must meet the flame propagation test requirements of Part VI of Appendix F Part 25, or other approved equivalent test requirements. This requirement does not apply to "small parts", as defined in Part I of Appendix F Part 25.

SUMMARY The FAA has upgraded flammability standards for thermal/acoustic insulation materials used in transport category airplanes. These standards include new flammability tests and criteria that address flame propagation and entry of an external fire into the airplane. This action was necessary because current standards did not realistically address situations in which thermal/acoustic insulation materials contributed to the propagation of a fire.

WHAT KIND OF TEST IS IT? Think of it as a vertical burn test in a toaster oven. Flame is applied for 15 seconds down on the sample which is under a radiant heat source. This test is more demanding than the 12- and 60-second verticals and measures both flame propagation and after flame time.

Per the Advisory Circular, under certain conditions, we are given the latitude to apply the burner flame for 30 or 60 seconds.

As with any test method, there will be good material that for some unknown reason has a slight after flame and does not meet the pass/fail requirements. To reach passing criteria, should any of the initial three specimens fail; a minimum of seven additional specimens may be tested. None of the additional specimens can fail either criterion. In addition, the average of all of the specimens,

including the original failed specimen, must meet the pass/fail criteria as called out in AC25.856-1.

WHAT MATERIALS HAVE TO BE TESTED? Thermal/ acoustic insulation in the aircraft that cannot be accessed in-flight (entry curtains, under carpet pads do not have to meet this requirement).

Any fiberglass insulation, bagged or not, tapes used to assemble or repair insulation bags, skin damping materials, hook and loop fasteners (Velcro) used in the assembly and installation of insulation, sound blankets, or any other materials in the fuselage for thermal/acoustic insulating.

WHAT ABOUT HAVING TO MEET 14 CFR 25.853(a)

and (d)? Thermal/acoustic materials may have to meet additional testing requirements dependent on hand what they are attached to.

If thermal/acoustic material is glued, adhered, or attached to something that must meet the requirements of 14 CFR 25.853, then it will need to be tested as a complete (composite) build-up as installed to 14 CFR 25.853(a) and (d).

14 CFR 25.853(a) is the Vertical Burn requirement. If the aircraft has 20 or more seats, then it would also have to meet 14 CFR 25.853(d) is the Heat Release and Smoke and Toxicity requirement.

DOES EXISTING MATERIAL HAVE TO BE RE-

PLACED? No, only new materials being installed after September 2, 2005 have to meet this requirement. Aircraft do not have to be retrofitted.

WHAT AIRCRAFT ARE AFFECTED? Aircraft that were built to CFR Part 25 requirements (includes commercial airliners, larger corporate aircraft, etc.).

WHAT INFORMATION IS NEEDED FOR TESTING

TO 14 CFR 25.856(a)? A checklist can be downloaded from our web site at Skandialnc.com in the Forms and Checklists section. Specimen size is 12.5" x 23" for flexible materials; 11.5" x 23" for rigid materials and 4" x 12" for hook and loop fasteners. Three specimens are required for each test.

TESTING OF TAPE A separate procedure has been developed to show compliance for the use of tape.

Each type of tape requires qualification on each material on which it is used.

If tape is to be tested, please follow specimen fabrication of draft Advisory Circular 25.856-1 on the Fire Tech Center web site www.fire.tc.faa.gov and later revisions.

TESTING OF HOOK AND LOOP FASTENERS

A test procedure has been developed to simplify the certification process for hook and loop fasteners (Velcro).

Hook and loop specimens are tested as mated components.

Specimen sizes are 4" x 12" and three each are required.

If hook and loop fastener (Velcro) is to be tested, please follow specimen fabrication of draft Advisory Circular 25.856-1 on the Fire Tech Center web site www.fire.tc.faa.gov and later revisions.

WHO HAS TO COMPLY?

Anyone installing or changing thermal/acoustic insulation after September 2, 2005 and aircraft manufacturers building new aircraft after September 2, 2005

CAN I GET AN FAA 8110-3 FORM FOR THIS TEST?

An FAA form 8110-3 can be issued aircraft specific for U.S. registered or U.S. State of Design aircraft. Many of the thermal/acoustic insulation materials are used in combinations and must in tested in a composite build-up form. In this case Skandia can provide a test plan for the materials or accept customer conformed specimens for testing.

COMPOSITE PANEL TESTING FREQUENTLY ASKED QUESTIONS

COMPOSITE PANEL BURN TESTING AND WHY IT

IS REQUIRED Single element vertical burn tests do not meet all the requirements for installing materials in aircraft or on aircraft seating. The following is a look at the rule and details on what is required, though each FAA Flight Standard District Office or Aircraft Certification

Office may have slight variations or interpretation. This information is for guidance only and any specific questions should be directed to your local FAA FSDO or ACO office. Additional reference materials are Advisory Circulars AC 25.853-1, AC 21-25A, AC 23-2 and Aircraft Materials Fire Test Handbook DOT/FAA/AR-00/12.

THE RULE § 25.853 COMPARTMENT INTERIORS

For each compartment occupied by the crew or passengers, the following apply: Materials (including finishes or decorative surfaces applied to the materials) must meet the applicable test criteria prescribed in Part I of Appendix F of this part, or other approved equivalent methods, regardless of the passenger capacity of the airplane.

WHAT AND HOW IS IT TO BE COMPLIED WITH Appendix F to Part 25

Part I—Test Criteria and Procedures for Showing Compliance with §25.853, or §25.855 (a) Material test criteria—(1) Interior compartments occupied by crew or passengers.

(i) Interior ceiling and wall panels, partitions, galley structure, large cabinet walls, structural flooring, and materials used in the construction of stowage compartments (other than under-seat stowage compartments and compartments for stowing small items such as magazines and maps) must be self-extinguishing when tested vertically in accordance with the applicable portions of Part I of this appendix. The average burn length may not exceed 6 inches and the average flame time after removal of the flame source may not exceed 15 seconds. Drippings from the test specimen may not continue to flame for more than an average of 3 seconds after falling. (60-second burn)

(ii) Floor covering, textiles (including draperies and upholstery), seat cushions, padding, decorative and non-decorative coated fabrics, leather, trays and galley furnishings, electrical conduit, air ducting, joint and edge covering, liners of Class B and E cargo or baggage compartments, floor panels of Class B, C, D, or E cargo or baggage compartments, cargo covers and transparencies, molded and thermo-formed parts, air ducting joints, and trim strips (decorative and chafing), that are constructed of materials not covered

in subparagraph (iv) below, must be self-extinguishing when tested vertically in accordance with the applicable portions of Part I of this appendix or other approved equivalent means. The average burn length may not exceed 8 inches, and the average flame time after removal of the flame source may not exceed 15 seconds. Drippings from the test specimen may not continue to flame for more than an average of 5 seconds after falling. (12-second burn)

- (iv) Clear plastic windows and signs, parts constructed in whole or in part of elastomer materials, edge lighted instrument assemblies consisting of two or more instruments in a common housing, seat belts, shoulder harnesses, and cargo and baggage tie-down equipment, including containers, bins, pallets, etc., used in passenger or crew compartments, may not have an average burn rate greater than 2.5 inches per minute when tested horizontally in accordance with the applicable portions of this appendix. (horizontal)
- (v) Except for small parts (such as knobs, handles, rollers, fasteners, clips, grommets, rub strips, pulleys, and small electrical parts) that would not contribute significantly to the propagation of a fire and for electrical wire and cable insulation, materials in items not specified in paragraphs (a)(1)(i), (ii), (iii), or (iv) of part I of this appendix may not have a burn rate greater than 4.0 inches per minute when tested horizontally in accordance with the applicable portions of this appendix. (horizontal)
- (b) Test Procedures (2) Specimen configuration Except for small parts and electrical wire and cable insulation, materials must be tested either as section cut from a fabricated part as installed in the airplane or as a specimen simulating a cut section, such as a specimen cut from a flat sheet of the material or a model of the fabricated part. The specimen may be cut from any location in a fabricated part; however, fabricated units, such as sandwich panels, may not be separated for test. Except as noted below, the specimen thickness must be no thicker than the minimum thickness to be qualified for use in the airplane. Test specimens of thick foam parts, such as seat cushions, must be 1/2-inch in thickness. Test specimens of materials that must meet the requirements of Paragraph (a)(1)(v) of Part I of this appendix must be no more than 1/8-inch in thickness.

Electrical wire and cable specimens must be the same size as used in the airplane. In the case of fabrics, both the warp and fill direction of the weave must be tested to determine the most critical flammability condition. Specimens must be mounted in a metal frame so that the two long edges and the upper edge are held securely during the vertical test prescribed in subparagraph (4) of this paragraph and the two long edges and the edge away from the flame are held securely during the horizontal test prescribed in subparagraph (5) of this paragraph. The exposed area of the specimen must be at least 3 inches wide and 12 inches long, unless the actual size used in the airplane is smaller. The edge to which the burner flame is applied must not consist of the finished or protected edge of the specimen but must be representative of the actual cross-section of the material or part as installed in the airplane. The specimen must be mounted in a metal frame so that all four edges are held securely and the exposed area of the specimen is at least 8 inches by 8 inches during the 45° test prescribed in subparagraph (6) of this paragraph.

I THOUGHT THAT 14 CFR 25.853 (c) "THE OIL BURN TEST" TOOK CARE OF THE FLAMMABILITY TESTING FOR AIRCRAFT SEATS? 14 CFR 25.853

(c) is for the seat cushions (backrest, bottom cushion, footrest, and headrest). It was developed for what was considered large volumes of foam. Seat armrest, base shrouds, back shell, etc. have to meet 14 CFR 25.853 (a)(ii) or the 12-second vertical burn requirements as installed in the aircraft.

SO FOOTRESTS AND HEADRESTS HAVE TO MEET 14 CFR 25.853 (C) EVEN IF THEY HAVE NO FOAM OR A VERY SMALL AMOUNT? Footrests and headrests that are made up of substrate and dress cover only would have to be tested to 14 CFR 25.853 (a)(ii) as a composite assembly. If there are any other components, the assembly would have to be burned to 14 CFR 25.853 (c).

DO ARMRESTS, BASE SHROUDS, BACK SHELLS, ETC. HAVE TO BE TESTED EVEN THOUGH I HAD THE TEST DONE ON THE DRESS COVER MATERIAL? Seat components that are upholstered such as armrests, shrouds, back shells, etc. have to be tested in the "as installed state" which includes substrate, foams, glues, dress cover material, etc. to the test

requirements of 14 CFR 25.853 (a)(ii), which are the 12 -second vertical burn requirements.

I'M JUST REPLACING THE DRESS COVER
MATERIAL ON THE HEADLINER SO CAN'T I JUST
USE SINGLE ELEMENT VERTICAL BURN TEST
RESULTS FOR THAT? No, you will need to test the
completed build-up in the "as installed state" which
would include all materials that make up the headliner
panel such as the dress cover, foam, glue and substrate
material that makes up the headliner.

Some FSDO will let you fabricate surrogate panels to replicate the substrate panel or foam, some will not. Those that won't may require samples to be cut from the part to be tested. You will have to get guidance from your FSDO. Headliners, window liners, and sidewalls all have to be to 14 CFR 25.853 (a)(i) 60 second vertical tested.

WHAT IF I CANNOT PROVIDE THE SUBSTRATE AND THE FSDO/ACO WON'T LET ME USE A SURROGATE? You would need to cut enough material from existing panels to perform the testing and then make a repair to replace what was used. Flammability testing would then be required for the repair.

WHAT IF I HAVE THE SAME MATERIAL COMBINATIONS BUT IN DIFFERENT THICKNESSES, DO I HAVE TO TEST THEM ALL? Per 14 CFR

Appendix F Part 1(b)(2) "Except as noted below, the specimen thickness must be no thicker than the minimum thickness to be qualified for use in the airplane. Test specimens of thick foam parts, such as seat cushions, must be 1/2-inch in thickness. Test specimens of materials that must meet the requirements of Paragraph (a)(1)(v) of Part I of this appendix must be no more than 1/8-inch in thickness. Electrical wire and cable specimens must be the same size as used in the airplane. In the case of fabrics, both the warp and fill direction of the weave must be tested to determine the most critical flammability condition." (This is only for Part I burns.)

WHAT ABOUT CABINETRY AND BULKHEADS?

Cabinetry, bulkheads, and any large structure have to meet the requirements of 14 CFR 25.853 (a)(i) 60-second vertical testing. This would include the cabinet structure, along with decorative finish as installed in the aircraft.

WHAT HAS TO BE TESTED IF WE'RE JUST

CHANGING THE FINISH? Any time you are refinishing cabinetry, composite testing is required. This testing would have to include the cabinet structure, materials being added, glues used to attach, any finish material such as stains, paints, clear coat, etc. We would need to know the process specifications and material used, plus the mixing ratios for paints and stains. Some FSDO will let you fabricate surrogate panels to replicate the substrate panel or foam, some will not. Those that won't may require samples to be cut from the part to be tested. You will have to get guidance from your FSDO.

WHAT ABOUT SIMILARITY TESTING FOR CABINETRY IN DIFFERENT AIRCRAFT? Skandia's policy is not to do any similarities for different aircraft as substrate material, mix ratios and veneers can vary.

CAN I JUST GET AN FAA 8110-3 FOR STOCK SO THAT I CAN USE THE MATERIAL OR COMPOSITE IN MANY DIFFERENT AIRCRAFT? No, an FAA form 8110-3 can only be issued aircraft specific for U.S. registered or U.S. State of Design aircraft. An authorized DER must know how the material or part will be installed on an end product and identify that use on the FAA form 8110-3.

FLAMMABILITY CERTIFICATION OF DYNAMIC CERTIFIED SEATS FREQUENTLY ASKED QUESTIONS

Seats manufactured to meet Dynamic test criteria have additional requirements or restrictions. These seats would have been manufactured to either TSO C127A or 14 CFR 25.562. It is the responsibility of the upholsterer/fabricator to ensure that the work performed is compliant with the original certification. These seats are dynamically certified as an assembly which includes the detailed foam construction and dress cover. Any changes can affect the certification.

HOW DO I KNOW IF A SEAT IS DYNAMICALLY CERTIFIED? In order to determine what the seat is certified to, we suggest you inspect the seat frames for TSO tags and also review the aircraft Type Certificate Data Sheet (TCDS).

WHAT IF THERE IS NO TSO TAG ON THE SEAT?

You should review the TCDS and/or aircraft equipment list to verify the correct seat is installed. Some aircraft manufacturers include the dynamic seat approval on the aircraft Type Certificate (TC). In this case, there may not be a TSO tag on the seat, however the seat could by dynamic certified and you should contact the aircraft manufacturer for guidance.

Additionally, Advisory Circular AC21-25A provides guidance utilizing a DER with 14 CFR 25.562 authorization to generate acceptable data that the work can be performed in accordance with.

HOW DO I PERFORM RE-UPHOLSTERY AND SHOW FAA-COMPLIANCE? In general, FAA-compliance can be separated into two categories:

- 1) Upholstery Practices and Build-ups. The upholstery/foam build-ups must be performed in accordance with approved data. Contact the TSO holder or aircraft manufacturer for guidance.
- 2) Flammability. Flammability Testing and Certification is similar to non-dynamic seats and can be performed by Skandia. Skandia DERs are authorized to generate acceptable data for Flammability only.

Skandia, Inc. tests combinations of materials to show compliance for 14 CFR 25.853 (c). Skandia does not approve production.

Additional testing of seat components is required to show compliance when seat armrest, wraparound shrouds, base shroud, etc. are upholstered. These items need to comply with 14 CFR 25.853 (a) Appendix F Part I (a)(I)(ii) per the installed configuration, i.e., composite panels.

Headrests and leg rests are required to meet the requirements of 14 CFR 25.853 (c) as called out in Advisory Circular AC 25.853-1.

For Flammability testing that is not performed under an FAA Project (FAA Project Number) or has FAA Request for Conformity, Skandia's Quality department will perform a company conformity inspection.

Additional reference material:

- Advisory Circular AC 25.853-1
- Advisory Circular AC 21-25A
- Advisory Circular AC 25-17
- Technical Standard Order TSO-C127A
- Technical Standard Order TSO-C39B
- Aircraft Materials Fire Test Handbook DOT/FAA/AR-00/12

This information can be found either on the FAA web site, www.faa.gov or the FAA Fire Tech Center at www. fire.tc.faa.gov.

Skandia, Inc. offers this information only as guidance.

TSO-127A DYNAMIC SEATS

CFR 25.562 became effective May 17, 1988 (Amendment 25-64) requiring dynamic testing of seats. These requirements incorporate the foam cushion build-ups and dress cover materials as an integral part of the seat certification. Upholstery and foam build-ups cannot deviate from the original configuration without an approval process, typically controlled by the TSO holder or aircraft manufacturer.

TSO-C39c NON-DYNAMIC CERTIFIED SEATS

The certification for TSO C39 seats is limited to the seat structure and does not incorporate the foam build-up and dress cover materials. These seats can be reupholstered without interaction of the TSO holder or aircraft manufacturer.

FIREBLOCKING CHECKLIST: LONG VERSION

The following is the Long Version Fireblocking Checklist and completion details. Select the **LONG VERSION** if you have TSO-C127a seats (16g). Or if you have TSO-C39 seats (9g), you can find the **SHORT VERSION** on page 17. All information is very important for the development of a Flammability Test Plan. Please take the time to review each section as you are completing the checklist so that we receive complete and correct information.

- 1. Company Name requesting the work.
- 2. Contact Name: Point of contact for this project.
- 3-5. Phone/Fax/E-mail to use to contact.
- 6. Date Sent: Date checklist is completed and sent.
- 7. P.O.#: Purchase Order that Skandia is to reference for this work.
- 8. A/C Completion Date: The date the aircraft is delivered.
- Aircraft Make: Enter the aircraft make as listed on the type certificate data sheet. (If the aircraft in not United States registered or United States State of Design, an 8110-3 can not be issued if not an FAA project).
- Model: Enter either the aircraft model series or the specific aircraft model number, as appropriate and as listed on the type certificate data sheet.
- 11. S/N#: Aircraft serial number
- 12. Tail #: The registration number of the aircraft. (If the aircraft in not United States Registered or United States State of Design, an 8110-3 can not be issued unless it is an FAA project).
- 13. Test Data is in support of how the aircraft is being returned to service.
- 14. FAA Project #: If testing is performed for either a Supplemental Type Certificate or Designated Airworthiness Station, we require the FAA Project number and FAA Aircraft Certification Office involved with the project.

- 15. Name and contact information for your FAA Flight Standards District Office: Skandia is required by our Aircraft Certification Office to notify the customer's FSDO that the testing we are performing to support aircraft under Part 43 or Repair Station will use Skandia Quality Assurance company conformity to conform test specimens. This procedure allows us to support repairs and alterations and issue FAA form 8110-3.
- 16. If Skandia is fabricating the test specimens, an FAA form 8130-9 will need to be issued and signed. Authorization from you, the customer, giving us this authorization will allow Skandia to sign the Statement of Conformity on your behalf.
- 17. Skandia needs to know how many seats/divans/lav/ jumpseats are being produced for inclusion in this test plan.
- 18. Please list the seat manufacturer as this helps us to better understand the testing that may be required.
- 19. We need to understand if the seats are being tested to comply with a TC/STC, a TSO or neither.
- If the seats are being tested to support TSO C-127, we need the model number and serial number of each seat. This information can be found on the seat's data tag.

Seat Fireblo	cking C	hecklist		LONG VERSION
Company Name:	1			
Contact Name:	2			
Phone:	3	Fax:	4 E-I	Mail: 5
Date Sent:	6	P.O. #:	7	
A/C Completion Dat	e: 8			
Aircraft Make:	9	Model: 1	.0	
S/N #:	11	Tail #:	<mark>2</mark>	
Test Data is in suppor 1) Supplemental 3) Technical Stan FAA Project # (if app Name and contact in	Type Certificat dard Order (TS licable):	O)	AS Designated Airworthiness Sther: for your FAA Flight Standards	
	e your permis	sion to fabricate test	use of FAA Form 8130-9 for confor specimens and issue FAA	
Number of: Single	Passenger Sea	ts Double	Passenger Seats	Divans
	Lav Se	at	Jump-seat	
affect its certifica	ntion basis. The upholstering the	modifier of the seats shoe seats. The modifier m	pe Certificate or to a TSO. Re- lould check with either the Ty lay be required to do addition	pe Certificate or the TSO
		Type Certificate	TSO C-39B	TSO C 127A
IF SEATS ARE BEING THE INFORMATION:	ESTED TO 14 CF	R 25.853 (c) IN SUPPORT	OF TSO C-127A, WE WILL THE	N NEED THE FOLLOWING
Seat Part Numbers	Seat S	erial Numbers	Seat Part Numbers	Seat Serial Numbers
				_

- 21. All components of a seat must also meet the requirements of 14 CFR 25.853 (a)(ii) 12-second vertical burn test as a composite representing the actual buildup. Skandia can perform this additional testing.
- 22. Copies of all packing lists or invoices are required for each material used within the seat upholstery. Without traceability, conformity can not be performed and test specimens will not be burned.
- 23. Skandia requires production drawings or a sketch of what the production cushion foam buildup will be in each of the different components including: back, bottom, headrest, or legrest.
- 24. Dress cover material is needed for each fireblock test. In some cases we may have to perform multiple tests with the same dress cover material.
- 25. We need to know if you padding or batting is attached to the dress cover or if you have batting placed between the dress cover and the foam cushion as well as how it is attached. If this is different for various cushions (seat back, bottom, headrest, or legrest) we also need to know this.
- If a fireblocking material is being used, we need to know how.
- 27. Skandia may require you to provide us with your adhesive if we are fabricating your burn specimens. Skandia tries to maintain inventory of many common adhesives.
- 28. This section deals with how you are closing the dress cover after it is installed on the foam cushion in order to ensure we are testing the seat correctly.

SEA	AT COMPOSITE TESTS:	TO BE	TESTED?		IS SKANDIA	FABRICATING?
,	ARMREST	YES	NO		YES	NO
	SEAT SHROUDS	YES	NO		YES	NO
5	SEAT BASE	YES	NO		YES	NO
r	TEMS REQUIRED TO CO	OMPLETE FIR	EBLOCKING:			
Т	EST PLAN PROCESS DOE	S NOT BEGIN	UNTIL ALL MATER	IALS AND PAP	ERWORK HAY	/E BEEN RECEIVED.
1.	Copies of INVOICES OR production including: d materials used in produ	ress cover(s), f	oam(s), glue, threa			
2.	Sketch or production di	rawing of eac	h different cushion	assembly.		
3.	For each different dress	cover or cush	85 s 80 s FABRI	q. ft. window p q. ft. fully enca C: 40" - 48" 49" - 53" 54" - or mor	ane with leath psulated with 6 yards 5 yards e 4 yards of additional fa	er close-out; or 2* hook and loop abric for window par
	Extra leather or fabric	may be requir	ed for composite p	anel testing.		
4.	Is padding or batting/m	nuslin used on :	seating surfaces?	Yes	☐ No	
	If so, how is it held in pl					
	Glued Place	ced	Stitched at S	eams	Quilted	to Dress cover
5.	If fireblocking material i	s being used, h	now is it used?			
	Glued on seating surface only	Pi SL	laced on seating			
	Fully Encapsulated with stitched seams	-	di Carana da karal		Fully Enca	psulated led to foam
6.	You may be required to every effort to stock you		quantity of your ac	lhesive if it is no	t stocked at Si	kandia. We will make

	blocking Che	cklist		LONG VERSION
BRICATING	S PROCEDURES			3 of 7
ase check	the following as they a	apply to production b	ack and bottom cu	ushions:
the cus	w Pane is a type of clos shion and a separate pi nt, closes out the cush	iece of material, whicl	h may be the same a	
1. Single Pa	assenger Seat Seam Cl	losure:		
Back:	Hand Sewn	Fastened	Glued	Window Pane
Bottom:	Hand Sewn	Fastened	Glued	Window Pane
If "window pa	ane", what is the close-o	ut material?		
If "window pa	ane", is there fastener or	all four sides?	Yes	No
2. Double F	Passenger Seat Seam C	Closure:		
Back:	Hand Sewn	Fastened	Glued	Window Pane
Bottom:	Hand Sewn			Window Pane
If "window pa	ane", what is the close-o			
If "window pa	ane", is there fastener or	all four sides?	Yes	No
3. Divan Se	eat Seam Closure:			
Back:	Hand Sewn	Fastened	Glued	Window Pane
Bottom:	Hand Sewn	Fastened	Glued	Window Pane
If "window p	ane", what is the close-o	ut material?		
If "window pa	ane", is there fastener or	all four sides?	Yes	No
4. Lav Seat	Seam Closure:			
Back:	Hand Sewn	Fastened	Glued	Window Pane
Bottom:	Hand Sewn		Glued	
If "window pa	ane", what is the close-o	ut material?		
If "window pa	ane", is there fastener or	all four sides?	Yes	No
5. Jump Se	at Seam Closure:			
Back:	Hand Sewn	Fastened	Glued	Window Pane
Bottom:	Hand Sewn			Window Pane
f "window pa	ane", what is the close-or	ut material?		

- 29. If Skandia is performing flammability testing of armrests and shrouds, we need the same information as required for seat cushions. B/E Aerospace requires that these items are all tested for their 16g seats.
- 30. Again, invoices or packing lists for each component that comprise the armrests, shrouds, seat base, etc. are required. Some of these items may need to have several tests if different combinations of material are used.
- 31. As with the seat cushion, we require a production drawing or sketches of each component (armrests, shrouds, etc.).
- 32. If you are supplying Skandia with fabricated test specimens, we require an original completed FAA form 8130-9.
- 33. When performing FAA flammability testing, three samples for each test are needed. However, if the material is woven, we need to burn six (three fabricated with the warp of the material and three with the fill. Warp is up the roll, fill is across the roll.).
- 34. We need to know what the substructures of the armrest, shrouds, etc. (B/E Aerospace and Decrane Aerospace can provide a substrate list for their seats.) When we are testing armrests, shrouds, and seat bases we need to know everything that makes up the component.
- 35. On this chart please list all materials used and where. Any special notes should be listed in the comment area.

		LONG VE	RSION _
S	eat	t Fireblocking Checklist	4 of 7
	6. 5	Single Headrest Type:	
		Seam Closure:	
		Hand Sewn Fastened Glued Window Pane	
	lf "w	vindow pane", what is the close-out material?	
	lf "w	vindow pane", is there fastener on all four sides? Yes No	_
7	. Do	ouble Headrest Type:	
		Seam Closure:	
		Hand Sewn Fastened Glued Window Pane	
lf	"wir	ndow pane", what is the close-out material?	
If	"wir	ndow pane", is there fastener on all four sides? Yes No	
	8. L	Leg-rest Type:	
		Seam Closure:	
		Hand Sewn Fastened Glued Window Pane	_
		vindow pane", what is the close-out material?	_
	lf "w	vindow pane", is there fastener on all four sides? Yes No	_
		S REQUIRED TO COMPLETE SEAT COMPOSITE PANEL BURN TESTS FOR BUILD-UPS (RESTS, SHROUDS, SEAT BASE, CABINETRY, ETC.:	ON
30	1.	Copies of <i>INVOICES OR PACKING LISTS</i> providing traceability for all fabricating compor including panels (Nomex, wood, aluminum, fiberglass, etc.), laminates, veneers, foam, finispoly coats, leather, fabric, vinyl, mirror, adhesives, flame retardants/treatments and all omaterials used in production.	shes,
31	2.	Sketch, production drawing or Composite Panel Production Build-up form of each different production assembly.	erent
32	3.	Original FAA form 8130-9 for each set of fabricated test specimens submitted.	
33	4.	Vertical Burn Test, 12 second: Three (3) panels fabricated to represent production usage; parents be 3" x 12". If panels have a woven surface (i.e., fabric, carpet, etc.), three panels earboth warp and fill are required.	
34	5.	Provide substructure material information. (What is the armrest or wrap around, etc. strumade of?)	cture
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								10	ONG VERS	SION
	SEAT FIREBLOCKING CHECKLIST MATRIX FOR PRODUCTION ARTICLES									
35									5 of 7	
select the	арргорпате і	boxes, mark wit	nan-x-,a	ina tab		CK APPI	IC ADII II	rv		
					CHE	JK AFFL	ICABILII			
	VENDOR	PART NUMBER	INVOICES or PACKING SLIPS ENCLOSED	PAX SEATS	DIVAN	JUMP SEAT	LAV SEAT	HEAD REST	FOOT REST	FLAME TRMT
DRESS COVER										
DRESS COVER										
DRESS COVER										
FOAM										
FOAM										
FOAM										
SCRIM-BACKED FOAM										
BATTING										
MUSLIN										
FIRE-BLOCKER										
ADHESIVE										
THREAD										
FASTENER										
FASTENER										
CLOSE-OUT FABRIC										
ADHESIVE/ FASTENER										
Other:										
Other:										
COMMENTS:										
FL 106-06 Rev. K Sk	kandia, Inc. • 5000) N. Highway 251 • [Davis Junction	, IL 61020	815-393-4	1600 • 815-	393-3205 fa	ax • Info@S	kandialnc.	com

36. This is a simplified sketch that you may use if you don't have production drawings or sketches. If you use this template, please identify on the drawing the various layers of materials utilized and identify them in the table below. One of these would be needed for each cushion (back, bottom, headrest, legrest) for all seats, divans, lavs, and jumpseats.

37. This information is the same as required for the cushion drawing and needs to be completed for each component armrest, seat shroud, seat base, etc. Some components may require several tests for one armrest; in many cases there are different buildups or the substrate will change the combination. For example; in armrests there are frequently different build-ups or changes in the substrate that will require multiple tests.

		B 1				
36		Produ Please complete	ction Cust e one sheet for e	nion Build-U ach different cush	Jp ion build-up.	LONG VERSIO 6 of 7
		Air	craft S/N			
Single B	Back Do	ouble Back	Divar	Back	Headrest Jump-	Lav Leg-
Single Bo	ottom Do	ouble Bottom	Divar	Bottom	seat	rest
						(72222222
		<u>Length</u>			н —	+[
	14	Length	->	า	В —	;; → ;;
	~				В	ack view of back cushion and
					wh	ttom view of bottom cushions en dress cover fastens, bonds
		Α			or	is stitched to the close out in window pane style.
<u>H</u>	leight					
				J		
	1					
<u>v</u>	<u>Vidth</u>					
	Length	Не	eight		Width	
Please	insert lines to the cuntification purposes.	ushion drawing	above to indi	cate various bu	ild-up layers,	and use letters below
	eat Cushion Build-u			er and Part Nur		
-	ress Cover	۲	mariuractur	o and Fall Nul	imei	Dimensions
ВС	lose-out Material					
	oam					
	oam					
	oam				-	
	oam look Fastener					
HL L	oop Fastener					
	fuslin lylon Pack Cloth					
	atting					
	luminum/Honeycomb/	Other Stiffener				
Adhesi	other ives:					
FL 106-06	Rev. K Skandia, Inc. • 500					05 fax • Info@SkandiaInc.com
FL 106-06			Panel Pro	oduction Bu	ild-Up	LONG VERSIO
37		Composite se complete one she	Panel Pro	oduction Bu	1600 • 815-393-32 111d-Up sts and shrouds.	LONG VERSIO
37	Pleas	Composite se complete one she	Panel Pro	oduction Bu	1600 • 815-393-32 111d-Up sts and shrouds.	LONG VERSIO
37 Ai	Pleas ircraft S/N lowing information is	Composite e complete one she	Panel Property Proper	oduction Bu location for armre	ild-Up sts and shrouds.	LONG VERSIO
Ai The foll Descrip	Pleas ircraft S/N lowing information is ption:	Composite se complete one she	Panel Property Proper	oduction Bu location for armre Double	ild-Up sts and shrouds.	LONG VERSIO 7 of 7 Divan ud
Ai The foll Descrip What is	Pleas ircraft S/N lowing information is	Composite se complete one she	Panel Protect per build-up Single e of (check or	oduction Bu location for armre Double ne): Armrest	ild-Up sts and shrouds.	LONG VERSIO 7 of 7 Divan ud
Ai The fol Descrip What is substra	Pleas ircraft S/N lowing information is bition: s the location description at list, such as inne	Composite se complete one sho	Panel Protest per build-up Single e of (check or nel? Please power, front, re	Double Double Armrest use same desear, etc.	ild-Up sts and shrouds. Shro	LONG VERSIO 7 of 7 Divan ud
Ai The foll Descrip What is substra	Pleas ircraft S/N lowing information is bition: s the location description at list, such as inne	Composite e complete one she se representative ption for this pa r upper, outer le erial wrap aroun	Panel Property Proper	Double Do	ild-Up sts and shrouds. Shro	LONG VERSIO 7 of 7 Divan Und Other at manufacturer's
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FIREBLOCKING CHECKLIST: SHORT VERSION

The following is Skandia's Fireblocking Checklist and details of how to complete it. All this information is very important to the development of the Flammability Test Plan. Please take the time to review each section as you are completing the checklist to be able to give us the most complete and correct information.

- 1. Company Name requesting the work.
- 2. Contact Name: Point of contact for this project.
- 3-5. Phone/Fax/E-mail to use to contact.
- Date
- 7. P.O.#: Purchase Order that Skandia to reference for this work.
- Aircraft Make: Enter the aircraft make as listed on the type certificate data sheet. (If the aircraft in not United States registered or United States State of Design an 8110-3 can not be issued if it is not an FAA project).
- 9. Model: Enter either the aircraft model series or the specific aircraft model number, as appropriate and as listed on the type certificate data sheet.
- 10. S/N#: Aircraft serial number
- 11. Tail #: The registration number of the aircraft. (If the aircraft in not United States Registered or United States State of Design an 8110-3 can not be issued unless it is an FAA project).
- 12. If Skandia is fabricating the test specimens, an FAA form 8130-9 will need to be issued and signed. Customer authorization allows Skandia to sign the Statement of Conformity on your behalf.
- Skandia needs to know how many seats/divans/lav/ jumpseats are being produced for inclusion in this test plan.
- 14. Please list the seat manufacturer as this helps us to better understand the testing that may be required.
- 15. We need to understand if the seats are being tested to comply with 9g or 16g requirements.

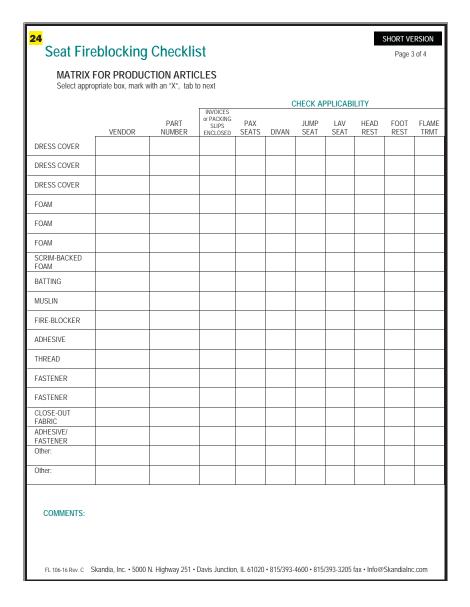
- 16. If the seats are being tested to support 16g, Skandi needs the model number and serial number of each seat. This information will be found on the seat's data tag.
- 17. All components of a seat must also meet the requirements of 14 CFR 25.853 (a)(ii) 12-second vertical burn test as a composite representing the actual buildup. Skandia can perform this additional testing.
- 18. Copies of all packing lists or invoices are required for each material used in the seat upholstery. Without this traceability conformity can not be performed and the test specimens will not be burned.
- Skandia requires either a sketch, production drawing or pictures of what the production cushion foam buildup will be in each of the different back, bottom, headrest, or legrest.
- 20. Dress cover material needed per each fireblock test. In some cases we may have to perform multiple tests with the same dress cover material.
- 21. Skandia may require you to provide us with your adhesive if we are fabricating your burn specimens. Skandia tries to maintain inventory of many common adhesives.
- 22. We need to know if you padding or batting is attached to the dress cover or if you have batting placed between the dress cover and the foam cushion as well as how it is attached. If this is different for various cushions (seat back, bottom, headrest, or legrest) we also need to know this.

	Sea	t Fireb	olocking (Checl	klist					SHORT VERSION Page 1 of 4
										. ago . o
	Compan	y Name: 1				Con	tact Name:	2		
	Phone:	3			Fax: 4			Е	-Mail: 5	
	Request	ed Completic	on Date: 6		P.O. #: 7					
	Aircraft N	Make: 8		Model:	9	S/N #:	10	Tail #:	11	
<mark>12</mark>	Does Sk	andia have	your permission to	o fabricate	e test specimens a	nd issue FA	A 8130-9 for	ms on you	r behalf?	Yes No
13		G CONFIGU								
	Number	of:	Single Passenge	_	D	ouble Passen	nger Seats		Diva	ns
				Seats		J	lumpseats —			
			EXISTING in the ai	rcraft? —						
14	Seat M	anufacturer:			15 /	re the seats	being tested p	per: 9g	∐ 16	g 📙
16	SEAT (COMPOSITE	TESTS:	IS SKAN	DIA FABRICATING	G AND TEST	ING AS PAR	T OF THIS	PLAN?	
			ARMREST	YES		NO				
			SEAT SHROUDS	YES		NO				
			SEAT BASE	YES		NO				
			quire flammability te 4 CFR 25.853(a).	sting for al	I components of the	e seat (armre	st, shrouds, c	close-out, di	rawers, etc.) te	ested in the "as
	ITEMS F	REQUIRED T	O COMPLETE FIR	EBLOCKII	NG:					
	TEST PI	AN PROCE	SS DOES NOT BE	GIN UNTII	ALL MATERIALS	AND PAPFI	RWORK HAV	/F BFFN R	FCFIVED.	
17	1.	Copies of IN	NVOICES OR PACI	KING LIST	S providing traceab	ility for all fat	bricating com	ponents us	ed in productio	
			am(s), glue, thread,					s usea in pi	oduction cush	ion assembly.
18	2.	Sketch, pro	oduction drawing or	pictures of	<i>each</i> different cusl	nion assembl _y	y.			
19	3.	For each di	fferent dress cover	or cushion		85 sq. ft. w 80 sq. ft. fu 40" – 48", 6 49" – 53", 5 54" – or mo	indow pane w illy encapsula o yards o yards ore, 4 yards	ted with 2"	hook and loop	ane dress cover
<mark>20</mark>			a leather or fabric n sive if it is not stock						e required to s	send a small
21	4.		or batting/muslin us s it held in place?] Placed	_		Yes d at Seams	No	Qı	uilted to Dress	Cover
	FL 106-16	Rev. C Ska	ndia, Inc. • 5000 N.	Highway 2	251 • Davis Junction	n, IL 61020 • 8	815/393-4600) • 815/393-	.3205 fax • Info	@SkandiaInc.com

- 22. If a fireblocking material is being used, we need to know how.
- 23. This section deals with how you are closing the dress cover after it is installed on the foam cushion in order to ensure we are testing the seat correctly.

5.		ocking Checkli material is being used, how is it				
J.	3	•			_	
	Glued or	on seating surface only		ing surface only		
		Fully encapsulated with stitched seams		ly encapsulated ith glued seams	Fully encapsulate and bonded to foar	
6.	. Seam Closure:	:				
	A. Passeng	ger Seat Seam Closure:				
	Back:	Hand Sewn	Fastened	Glued	Window Pane	
	Bottom:	Hand Sewn	Fastened	Glued	Window Pane	
	If "window pa	ane", what is the close-out mate	erial?			
	If "window pa	ane", is there fastener on all fou	ur sides?	Yes	No	
	B. Divan Se	eat Seam Closure:				
	Back:	Hand Sewn	Fastened	Glued	Window Pane	
	Bottom:	Hand Sewn	Fastened	Glued	Window Pane	
	If "window pa	ane", what is the close-out mate	erial?			
	If "window pa	ane", is there fastener on all fou	ur sides?	Yes	No	
	C. Lav Seat	t Seam Closure:				
	Back:	Hand Sewn	Fastened	Glued		
	Bottom:	Hand Sewn	Fastened	Glued	Window Pane	
	If "window pa	ane", what is the close-out mate	erial?			
	If "window pa	ane", is there fastener on all fou	ur sides?	Yes	No	
	D. Jump Se	eat Seam Closure:				
	Back:	Hand Sewn			Window Pane	
	Bottom:	Hand Sewn	Fastened	Glued	Window Pane	
	If "window pa	ane", what is the close-out mate	erial?			
	If "window pa	ane", is there fastener on all fou	ur sides?	Yes	No	
F	AA CONTACT:					
	required to co	ontact your FAA Flight Standa	lards District Office (F	FSDO) regarding	sued an FAA Project Number, S g our use of FAA Form 8130- fress preferred) below for your F	9 for test
	Name:			E-mail Address:		
P	LEASE NOTE:					
	certification ba	asis. The modifier of the seats the seats. The modifier may be	ts should check with	either the Type (Reupholstering of a seat can Certificate or the TSO holder lor gain additional approvals to	before re-

24. On this chart please list all materials used and where. Any special notes should be listed down in the comments section.



 Lastly, please provide a sketch, production drawing, or pictures of each different cushion assembly.

Seat Fireblocking Checklist

Page 4 of 4

PLEASE PROVIDE SKETCH, PRODUCTION DRAWING, OR PICTURES OF EACH DIFFERENT CUSHION ASSEMBLY





All types of materials can be treated:

Wool

Silk

Cotton Blends

Leather

Headliner Materials

Synthetics

Vinyl

Many different types of treatment:

Non-Corrosive Chemicals

Roll Coating

Latex Back Coating

Stain Protection

Saturant Dip & Squeeze (Padding)

Topical Back Spray

Softeners





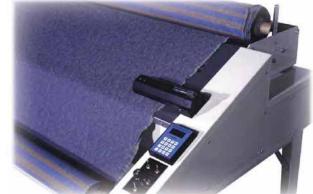
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Skandia's professionals act as your in-house quality inspection receivers

Our computerized, automated inspection equipment can mean the difference of thousands of dollars! You know how expensive material can be—getting the exact amount you've ordered is imperative. We ensure this accuracy and are happy to report that we have saved our customers thousands of dollars in the process.

Save precious time by having your materials drop-shipped directly to Skandia. In addition to Skandia's rigorous quality inspection procedures, we can also provide additional services to meet your demanding scheduling requirements.

By documenting all of our procedures, we are able to treat the same fabric, the same way every time. Further, we're able to provide you with any documentation you may require for your records.



Skandia can accommodate your requests for samples so that your design group has the current cutting status and for post-treatment comparisons.

For fireblocking certification, Skandia can retain any required testing yardage or leather square footage and ship your treated production materials.

With our state-of-the-art equipment, knowledge and many years of experience *TREATING*, *TESTING*, and *CERTIFYING*, Skandia will exceed your expectations with our high quality and fast service.

Our Flame Treating facility utilizes custom-manufactured equipment with a controlled drying process to ensure consistent results with quick turnaround time.

We use only non-corrosive chemicals, and perform only non-hygroscopic leather treatments. Call Skandia to treat your materials today!

For more information, including Check Lists and Pricing, call Skandia's Flame Treatment Services specialists today!





COMFORTABLE FIREHARD FOAM IN FIVE DENSITIES

ALL FOAMS IN STOCK, READY TO SHIP!

DAX

SCRIM COATINGS AVAILABLE IN ALL FOAM DENSITIES

CUSTOM SIZES AND FABRICATION AVAILABLE

COLOR-CODED FOR EASE OF IDENTIFICATION



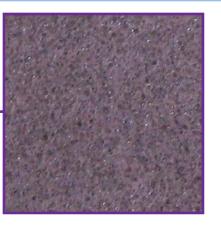




DAX 55

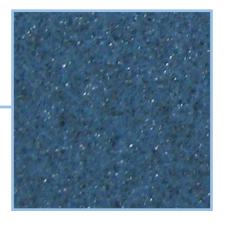


DAX w/ SCRIM













Demonstration of Compliance with Material Flammability Requirements per 14 CFR 25.853(a) Amendment 25-116 Appendix F Part I (a)(1)(ii)

	DAX 20	DAX 26	DAX 47	DAX 55	DAX 90
DENSITY (pcf)	3.20±0.20	3.10±0.30	3.20±0.20	3.20±0.20	5.0±0.50
ILD					
(Indentation Load Deflection on 4" Thickness)					
25%	15-25	20-30	40-50	50-60	80-100
Support Factor 65/25	2.4 min				
RESILIENCE (% Rebound)	36-60	57-63	54-62	54-62	35-45
TEAR RESISTANCE (lb/in)	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0
STATIC FATIGUE					
Test Method ASTM D3574-81					
Procedure A (75% Deflection, 22 hrs.)					
% Loss in 25% ILD	Less than 25				
% Loss in Thickness	Less than 5				
DYNAMIC FATIGUE BY CONSTANT					
FORCE POUNDING ASTM D3574					
(80,000 cycles - final measurement					
24 hours after test completed)					
% Loss at 40% ILD	Less than 15				
FLAMMABILITY					
California Technical Bulletin 117	Pass	Pass	Pass	Pass	Pass
14 CFR 25.853(a) Amendment 25-116					
Appendix F Part I (a)(1)(ii)					
12-Second Vertical	Pass	Pass	Pass	Pass	Pass
14 CFR 25.853(c) Appendix F Part II					
Oil Burn Test*	Pass	Pass	Pass	Pass	Pass
SMOKE AND TOXICITY					
Airbus Industrie					
ATS 1000.001/ABD 0031	Pass	Pass	Pass	Pass	Pass

*WHEN CONSTRUCTED USING APPROVED COVERING MATERIALS.



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COMFORTABLE FIREHARD FOAM IN FIVE DENSITIES ALL FOAMS IN STOCK, READY TO SHIP!



Improved flammability test performance

Feels better to the hand

Looks smoother under dress cover materials

Retains comfort and durability characteristics

Enables usage of lightweight foams in combination

	with 1	DAX to reduce o	verall cushion w	eight	
	E	co-friendly altern	ative to Deca		
	DAX 20S	P	DAX 265	SP	DAX 47SP
WITH SCRIM					
SC					
É					
>					
	DAX 20SR	SP	DAX 26SF	RSP	DAX 47SRSP
		DAY EEG	<u> </u>	DAY 000	
		DAX 55S	P	DAX 905	P

DAX SP TYPICAL PHYSICAL PROPERTIES DAX 20SP DAX 20SP DAX 26 DAX 26SP DAX 26 DAX 26SP **DAX 47** DAX 47SP **DAX 47** DAX 47SP DAX 55 DAX 90 DAX 20 DAX 90 **FOAM** SP w/SCRIM w/SCRIM SP w/SCRIM SP w/SCRIM SP w/SCRIM SP w/SCRIM SP SP SP **DENSITY** (pcf) $4.3 \pm .3$ $5.1 \pm .3$ $5.2 \pm .3$ $3.5 \pm .3$ $3.9 \pm .3$ $3.7 \pm .3$ $4.2 \pm .3$ $4.7 \pm .3$ $4.6 \pm .3$ $4.7 \pm .3$ $4.7 \pm .3$ $4.6 \pm .3$ $6.8 \pm .5$ $6.9 \pm .5$ **THICKNESS** .25" .25" .50" .25" .25" .50" .50" .25" .25" .50" .50" .25" .125" .25" **ILD** (Indentation Load Deflection on 4" Thickness) 15-25 20-30 20-30 40-50 40-50 40-50 40-50 15-25 15-25 20-30 20-30 50-60 80-100 80-100 Support Factor 65/25 4.0 min 2.7 min 2.7 min 2.7 min 2.7 min 3.7 min 4.0 min 4.0 min 2.5 min 2.5 min 2.5 min 2.5 min 2.6 min 3.7 min TEAR RESISTANCE* (lb/in) ** 3.0 - 4.03.0 - 4.0 3.0 - 4.0 3.0 - 4.03.0 - 4.03.0 - 4.0 3.0 - 4.03.0 - 4.0FLAMMABILITY California Technical Bulletin 117 Pass 14 CFR 25.853(a) 12-Second Vert Pass 14 CFR 25.853(c) Oil Burn Test*** Pass SMOKE AND TOXICITY Airbus Industrie Pass AITM 3.0005 (supercedes ATS 1000.001/ABD 0031)



^{*} TESTED AT 1" THICKNESS PER ASTM D3574-95.

^{**} THE TENSILE OF SCRIM EXCEEDS THAT OF THE FOAM WHICH IT IS ADHERED TO AND THUS NEGATES TESTING OF FOAM WITH SCRIM.

^{***} WHEN CONSTRUCTED USING APPROVED COVERING MATERIALS.

Physical Comfort/Impact Protection Foams

CF 42

Confor

With excellent energy absorption characteristics, Confor® foams offer a range of impact protection and isolation for dynamic loads while maintaining consistent static load performance.

Confor foams unique combination of slow recovery and high energy absorption allows the material to offer effective damping and vibration isolation. This means less fatigue for occupational seating and increased comfort.

CF 40



CF 45

CF 47



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Confor Foam

Confor is a medium density, open-celled polyurethane foam providing a unique combination of physical characteristics, high energy absorption properties and temperature-softening behavior.

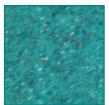
Confor foams exhibit unusually low compression set for their low rebound, highly damped properties and provide excellent energy absorption --up to 97% without bottoming out.

Confor foams soften on contact with a warm surface--allowing uniform pressure distribution and firm yet fluid support. Because the open-celled foams are breathable, non-irritating in dermal contact, and help dissipate moisture and perspiration away from the body, they are ideal for body contact cushioning applications.

Properties	Test Method	CF-47 GREEN	CF-45 BLUE	CF-42 PINK	CF-40 YELLOW
Flammability		Meets	Meets	Meets	Meets
FMVSS 302		Meets	Meets	Meets	Meets
14 CFR 25.853(a) Appendix F		Meets	Meets	Meets	Meets
Part I(a)(1)(ii)(12 sec)					
UL94 RATING @ (min 0.25 in)		Listed HBF	Listed HBF	Listed HBF	Listed HBF
California Flame 117		Meets	Meets	Meets	Meets
Dielectric Strength	ASTM D149 (V/mil)	27	27	27	27
Ball Rebound (%)	ASTM D3574	<u>≤</u> 1	<u>≤</u> 1	<u>≤</u> 1	≤1
Thermal Conductivity, K	ASTM C177	0.28	0.28	0.28	0.28
(BTU-in/hr-ft ² F)					
Volume Resistivity	ASTM D-257, (Ohms-cm)	1.6 x 10\13	1.6 x 10\13	1.6 x 10\13	1.6 x 10\13
Impact Absorption	ASTM F355 Modified 11 lb missile,	70	58	58	75
	3.4 m/sec, 24" drop				
G Max Hardness					
15 Sec Impact:	ASTM D2240, Shore 00				
4C		91	86	83	79
10C		88	80	77	70
16C		71	46	21	
21C		20	8	4	
27C		12	5	2	
32C		10	4		
38C		8	4		
Dimension Stability	ASTM D1204	0%	0%	0%	0%
	GM 6098M	Meets	Meets	Meets	Meets
Tensile Strength (psi)	ASTM D3574, @ 20 in/min 72F	25.2	22.3	18.1	14.6
Elongation	ASTM D3574, @ 20 in/min 72F	98	108	109	135
Tear Strength (lbf/in)	ASTM D3574, @ 20 in/min 72F	5.5	4.6	3.4	1.6
Compression Set (%)	ASTM D3574				
22 hr at 70C (158F)	Compressed 25%	0.3	0.4	0.9	0.6
	Compressed 50%	0.6	0.6	1.0	2.4

Skandia's graphite foams provide all properties of high grade polyurethane foam









Lightweight • High Tear Resistance • Resilient • Flexible

MP Graphite modified foam represents a significant breakthrough in fireblocking technology. Designed specifically for aircraft seating applications, graphite modified foam is recognized as the ultimate in fire retardant foams.

Graphite flakes in the foam expand up to 200 times their original thickness, thereby providing a low density, non-burnable layer that reflects radiant heat. As a result, this layer dramatically reduces mass loss, heat release, smoke, and toxic gas emission.

Graphite modified foams provide this advancement in safety without loss of design integrity resulting from the use of heavier more costly, fireblocking layers.

Available in three grades of density and firmness, color-coded for instant identification, MP Foam achieves highest level of comfort, safety and weight savings.

SKANDIA'S MP FIREHARD FOAM MEETS THESE SPECIFICATIONS:

Bunsen Burner Test 14 CFR 25.853(a)
Oil Burner Test 14 CFR 25.853(c)
Smoke Density and Toxicity Airbus Industrie ATS 1000.001/ABD 0031





A cost-effective alternative to DAX — providing the same superior qualities at a competitive price!

- Highest Level of Safety and Comfort
- Part 135 Airworthiness Compliant
- Increases Aircraft Resale Value
- Meets or Exceeds all Required Laboratory Safety Testing
- In-Service Reliability and Proven Industry Leader
- Unlike conventional fireblock cushions, MP cushions are inherently flame retardant
- No additional expensive, heavy fireblocking layer needed



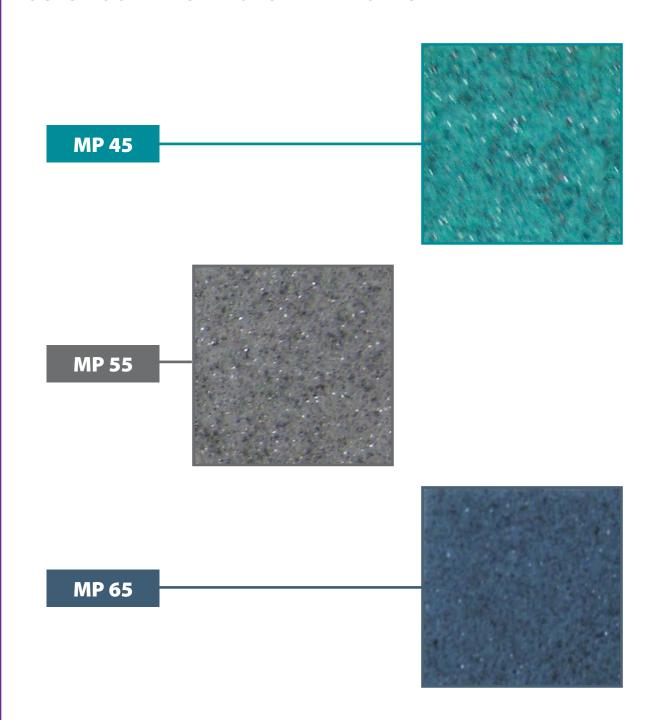


Comfortable firehard foam in three densities



ALL FOAMS IN STOCK, READY TO SHIP!

COLOR-CODED FOR EASE OF IDENTIFICATION



Demonstration of compliance with material flammability requirements per 14 CFR 25.853(a)

FIREHARD FOAM PHYSICAL PROPERTIES

	MP45	MP55	MP65
DENSITY (pcf) ± 0.20	2.81	3.54	4.07
ILD (Indentation Load Deflection on 4" Thickness) 25% 65%	27-36 104.6	38-47 137.0	42-52 238.1
SUPPORT FACTOR 65/25	2.83	3.04	3.17
RESILIENCE (% Rebound)	47	37	42
TEAR RESISTANCE (lb/in)	1.03	0.97	1.03
STATIC FATIGUE Test Method ASTM D3574-81 Procedure A (75% Deflection, 22 hrs.) % Loss in 25% ILD % Loss in Thickness	< 27 < 5	< 27 < 5	< 27 < 5
DYNAMIC FATIGUE TEST			
1.* 2.*	30% 5%	30% 5%	22% 5%
SMOKE AND TOXICITY Airbus Industries ATS 1000.001/ABD 0031	PASS	PASS	PASS
FLAMMABILITY California Tech. Bulletin 117	PASS	PASS	PASS
14 CFR 25.853 (a) Appendix F Part I (12-second vertical)	PASS	PASS	PASS
14 CFR 25.853 (c) Appendix F** Part II (oil burn test)	PASS**	PASS**	PASS**

NOTE: 1/4" DOES NOT PASS FLAMMABILITY



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^{*1.} Hardness loss measured in maximum percentages.

^{*2.} Height loss measured in maximum percentages.

^{**}When constructed using approved covering materials.

ALL FOAMS IN STOCK, READY TO SHIP!

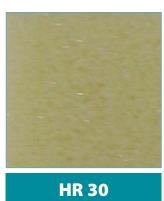
WIDE VARIETY OF DENSITIES

HR PolyFoam

CUSTOM SIZES AND FABRICATION AVAILABLE

DEMONSTRATION OF COMPLIANCE WITH MATERIAL FLAMMABILITY REQUIREMENTS PER 14 CFR 25.853(a) APPENDIX F PART I (a)(1)(ii)





















HR PolyFoam

PHYSICAL PROPERTIES

	HR 14	HR 23	HR 30	HR 46	HR 55	HR 70	HR 150	HR 150KC
DENSITY (pcf)	1.80 +/- 0.10	1.80 +/- 0.05	2.60 +/- 0.10	2.00	2.80	3.20 +/- 0.20	4.60 +/- 0.30	6.92 +/- 0.30
ILD (Indentation Load Deflection on 4" Thickness)								
25%	15–18	20–22	32–38	40–48	51–59	69–79	130–170	130–170
65%	39-47	48–62	65–86	105–120	120–156	136–170		
SUPPORT FACTOR	2.6	2.6	2.6	2.6	2.4	2.4	2.4	2.4
RESILIENCE (% Rebound)	59-66	59-66	50	50-60	57-63	50-60	50–60	50-60
TEAR RESISTANCE (in.)	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0	1.0–2.0	1.0-2.0
TENSILE STRENGTH (psi)	>10	11	15	15	15	15	15	15
ULTIMATE ELONGATION %	>150	140	100	100	100	100	100	100
COMPRESSION SET % MAX 90% 22 hrs @ 157°F	<10	10	10	10	10	10	10	10
FLAMMABILITY								
California Tech. Bulletin 117	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
14 CFR 25.853(a) Appendix F Part I (a)(1)(ii) 12-Second Vertical	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

HR POLYFOAMS WILL PASS FIREBLOCKING ONLY WHEN ENCAPSULATED WITH A FIREBLOCKING LAYER.

MEETS FAA 12-SECOND VERTICAL, SELF-EXTINGUISHING.



Controls Both Airborne Noise and Structural-Borne Vibrations

E-A-R ADC SPECIALTY COMPOSITES



ADC-005



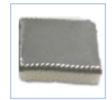
ADC-006



ADC-122



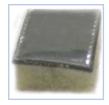
ADC-124



ADC-126



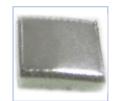
ADC-152



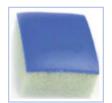
ADC-156



ADC-224



ADC-226



ADC-252

Materials in Stock and Ship the Same Day!

Temperature and Frequency Sensitive Materials for Pressurized and Non-Pressurized Aircraft

Demonstration of Compliance with Material Flammability Requirements per 14 CFR 25.853(a) 12-Second Vertical and 60-Second Vertical and 14 CFR 25.856(a) Radiant Panel.

All products meet 12-Second Vertical/60-Second Vertical/Radiant Panel with the exception of ADC-122 and ADC-152 which only meets 12-Second Vertical and Radiant Panel.



5000 N. Highway 251 = Davis Junction, IL 61020 815.393.4600 = 800.945.7135 = www.Skandialnc.com

E-A-R SPECIALTY COMPOSITES

Skandia stocks E-A-R Damping, Absorption, and Barrier materials to reduce cabin noise levels. When the right combination of these materials is installed in the specified location in an aircraft, both airborne acoustic energy and structural-borne vibration energy are reduced.

COMPOSITE	DESCRIPTION II	WEIGH os/ft² and kg/m²	HT Per sheet	DIMENSIONS
ADC-005	Structural Damping .04" Thick	.37 lbs/ft ² 2.00 kg.	3.69 lbs. 1.67 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-006	Structural Damping .05" Thick	.44 lbs/ft ² 2.44 kg.	4.50 lbs. 2.04 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-122	Acoustical Barrier/Absorber .310" Thick	.60 lbs/ft ² 2.93 kg.	5.40 lbs. 2.45 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-124	Low Temperature Damping .255" Thick	.22 lbs/ft ² 1.27 kg.	2.34 lbs. 1.06 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-126	Low Temperature Damping 0.300" Thick	.59 lbs/ft ² 2.93 kg.	5.40 lbs. 2.45 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-152	Acoustical Barrier/Absorber .560" Thick	.72 lbs/ft ² 3.27 kg.	6.03 lbs. 2.74 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-156	Low Temperature Damping .550" Thick	.72 lbs/ft ² 3.61 kg.	6.66 lbs. 3.02 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-224	Mid Temperature Damping .258" Thick	.22 lbs/ft ² 1.27 kg.	2.34 lbs. 1.06 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-226	Mid Temperature Damping 0.300" Thick	.59 lbs/ft ² 2.93 kg.	5.40 lbs. 2.45 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.
ADC-252	Acoustical Barrier/Absorber .560" Thick	.59 lbs/ft ² 3.27 kg.	6.03 lbs. 2.74 kg.	27" x 48", 9 sq. ft. 69 cm x 122 cm, .836 sq. m.



5000 N. Highway 251 = Davis Junction, IL 61020 815.393.4600 = 800.945.7135 = www.Skandialnc.com AeroLite cellular foams are excellent for headliner and trim panel applications and also provide acoustic absorption. They combine superior compression set resistance at a variety of firmnesses while creating a quieter cabin environment.



HIGHLY RESISTANT TO COMPRESSION SET

EXCELLENT ACOUSTICAL PERFORMANCE

COLOR-CODED TO IDENTIFY FIRMNESS

SOFT, MEDIUM AND FIRM GRADES

SANDABLE

AVAILABLE IN 0.125" OR 0.25" THICKNESSES, 54" x 25' AND 54" x 50' ROLLS

AL70 Soft



AL73 Medium

AL75 Firm

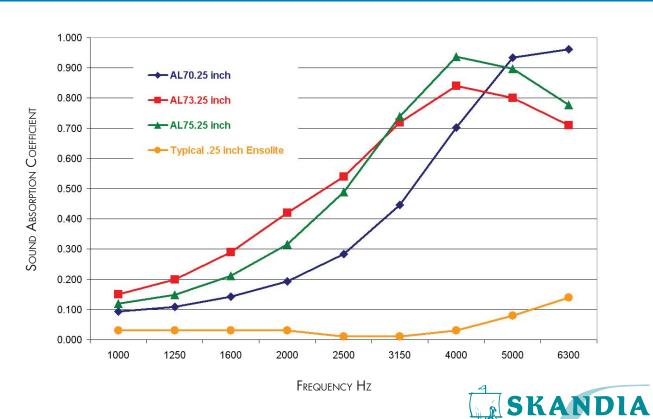
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AeroLite

Typical Physical Properties	AL70	AL73	AL75
ROIL SIZES	54" x .25'	54" x .25'	54" × .25'
	54" x 50'	54" x 50'	54" x 50'
THICKNESS	.125 in, 0.25 in	.125 in, 0.25 in	.125 in, 0.25 in
Color	Charcoal	Beige	Light Grey
FEEL/TOUCH	Soft	Medium	Firm
25% Compression Deflection			
FORCE (PSI) ASTM D1056	3.9	5.5	21.1
**50% COMPRESSION SET			
(%) ASTM D1056	4.9	9.3	15.1
DENSITY (PCF) ASTM D1056	8.8 ± 1.0	9.5 ± 1.0	9.4 ± 1.0
TENSILE (PSI) ASTM D412	59.1	70.1	114.4
ELONGATION (%) ASTM D412	105	95	70
FLAMMABILITY			
14 CFR 25.853(a) 12-Second Vertica	l Passes	Passes	Passes
MVSS302	Passes	Passes	Passes

**THE LOWER THE NUMBER, THE HIGHER THE RESISTANCE TO COMPRESSION SET.



Skandia, Inc. • 815.393.4600 • Info@SkandiaInc.com

DURUG® Air Stair Flooring

Flexible

Anti-Slip/Anti-Skid

Resists Scuffs

Resists Abrasion

Resists Water

Resists Most Oils

Resists Chemicals

Resists Grease

Resists Rot

Resists Mildew

DURUG is an excellent flooring choice for air stairs, entryways, galleys and wet areas. It meets 14 CFR 25.853 flammability requirements and is available in six popular colors, 54" x 1 linear yard (minimum order). For added comfort, it may be glued to Skandia closed cell foam, SK-F6231.

In addition, **DURUG** is available by special order with foam backing that also meets various Boeing and Lockheed Martin specifications.

Also for your consideration, our **Air Stair Curtain Liner**, SK-D30, sews into the entrance door curtain to reduce wind noise and creates a quieter cabin environment.

As always, order today and it ships today!



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Blue Marble



Grey Marble



Tan Marble



Grey



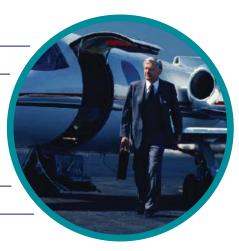
Tan



Black



ITEM #	COLOR	
2277/2499/2486	Blue Marble	
2277/0918/0972	Grey Marble	
2277/5227/5224	Tan Marble	
2265/9801	Black	
2265/2983	Grey	
2265/2273	Tan	





Closed Cell Foams

TYPICAL USES INCLUDE: HEADLINER, SIDEWALL, CARPET PAD, ARMREST

ALL FOAMS IN STOCK, READY TO SHIP!

STOCK SIZES INCLUDE 1/8" • 1/4" • 1/2"

ADDITIONAL SIZES UPON REQUEST, SUBJECT TO AVAILABILITY





MC















DOES NOT PASS:

ALC.06

SKIV1.06 SKIV3.06 SKIV3.125 SKIV3.25 SKAHC.06 SKAHC.125 SKAHC.25







Ensolite Closed Cell Foams

Typical Physical Properties

STYLE	ALC	SKAPC	MC	SKIV1	SKIV3	MLC	SKAHC	SK-F6231	LD45FR
Roll Size	56" x 75'	56" x 75'	56" x 25'	54" x 25'	54" x 25'	56" x 10'	56" x 48'	42" x 54"	40" x 80"
Thicknesses	.06" *	.125"	.125"	.06" *	.06" *	.125"	.06" *	SHEET .125"	.125"
	.125"	.25"	.25"	.125"	.125" *	.25"	.125" *	.25"	.25"
	.25"	.50"	.50"	.375"	.25" *	.40"	.25" *	.50"	.50"
	.50"			.50"	.375"		1.00"	.75"	1.00"
				1.00"	.50"			1.00"	
					.75"				
					1.00"				
Color	Beige	Beige	Beige	Black	Black	Black	Light Grey	Beige	Charcoal
25% Compression Deflection Force	4.0-6.0	4.0-6.0	1.5–3.0	2.0-5.0	9.0–13.0	2.0-3.5	7.0–9.0	4.0-8.0	2.0-5.0
(psi) ASTM D1056									
**50% Compression Set (%)	25	40	30	40	40	30	30	25	11
ASTM D1056									
Density (pcf)	6.0-8.5	4.0-5.5	3.5-5.0	3.0-5.5	7.0–9.5	3.5-5.0	6.5-8.5	5.0-9.0	2.8
Tensile (psi)	90	50	30	50	100	30	90	80	82
Elongation (%)	125	100	125	100	100	150	100	200	150
FLAMMABILITY									
14 CFR 25.853(a)	Pass	Pass	Pass						
12-Second Vertical									
MVSS302	Pass	Pass	Pass						

^{*} DOES NOT PASS FLAMMABIILITY REQUIREMENTS



^{**} NOTE: THE LOWER THE NUMBER, THE HIGHER THE RESISTANCE TO COMPRESSION SET. FOR BETTER PERFORMANCE, COMPARE TO SKANDIA'S AEROLITE

GUARDIAN

UPHOLSTERY BATTING FOR AIRCRAFT

FOR UNEQUALED FIREBLOCK PROTECTION

Skandia's unique manufacturing process means that fibers are interlocked to provide flawless, consistent performance

Improved fire-retardancy in Oil Burn Testing

So advanced it can be certified to 14 CFR 25.856(a) Radiant Panel

It really is that good!





800-945-7135 • 815-393-4600 • Info@Skandialnc.com



FOR UNEQUALED FIREBLOCK PROTECTION

- Interlocked multiple times for maximum performance
 - Improved fire-retardancy in Oil Burn Testing •
 - Passes 14 CFR 25.853 12-Second Vertical Burn Test •
- So advanced it can be certified to 14 CFR 25.856(a) Radiant Panel •



PHYSICAL SPECIFICATIONS

WIDTH	40 in.
LENGTH	20 yards
WEIGHT	8 oz/yd²
THICKNESS	.375 in. loft
COLOR	Charcoal



815.393.4600 = 800.945.7135 = www.Skandialnc.com





Woven fasteners are made of 100% nylon with acrylic polymer backcoating

Skandia maintains a maximum selvedge width of 3/32" on these woven products

TYPICAL SHEAR VALUES INITIAL AFTER 15000 CYCLES

Pounds per Square Inch 12.0 lbs. 10.0 lbs.

TYPICAL PEEL VALUES INITIAL AFTER 5000 CYCLES

Pounds per Square Inch 1.4 lbs. 1.1 lbs.

CERTIFICATIONS

All prices include demonstration of compliance with material flammability requirements per 14 CFR 25.853(a) 12-Second Vertical. Also passes MIL-Spec AA55126A and FMVSS 302.





SEW-ON HOOK & LOOP Beige or Black, 50 Yard Rolls

BEIGE: HOOK / LOOP ITEM #	BLACK: HOOK / LOOP ITEM #	SIZE
SABGE0.58H / SABGE0.58L	SABLK0.58H / SABLK0.58L	5/8"
SABGE0.75H / SABGE0.75L	SABLK0.75H / SABLK0.75L	3/4"
SABGE1.00H / SABGE1.00L	SABLK1.00H / SABLK1.00L	1"
SABGE2.00H / SABGE2.00L	SABLK2.00H / SABLK2.00L	2"

	Weight oz/yd ²	Density lbs/ft ³		Weight oz/yd ²	Density lbs/ft ³
3/4" HOOK	10.14	9.905	3/4" LOOP	10.06	9.756
1" HOOK	7.99	7.901	1" LOOP	9.47	7.216
2" HOOK	8.96	9.028	2" LOOP	9.88	7.672

PSA HOOK & LOOP Beige or Black, 25 Yard Rolls

BEIGE: HOOK / LOOP ITEM #	BLACK: HOOK / LOOP ITEM #	SIZE
PBGE0.58H / PBGE0.58L	PBLK0.58H / PBLK0.58L	5/8"
PBGE0.75H / PBGE0.75L		3/4"
PBGE1.00H / PBGE1.00L	PBLK1.00H / PBLK1.00L	1"
PBGE2.00H / PBGE2.00L	PBLK2.00H / PBLK2.00L	2"

MUSHROOM HEAD HOOK Black, 50 Yard Rolls, Sew Only with Scrim Backing (self-adhesive not available), Fastens to any other Skandia Loop, Passes 14 CFR 25.853(a) 12-Second Vertical

BLK1.0 MUSHRM SEW 1" 2" BLK1.5 MUSHRM SEW 1.50" 3"	ITEM#	TYPE	SIZE	OVERALL WIDTH	
BLK1.5 MUSHRM SEW 1.50" 3"	BLK1.0 MUSHRM	SEW	1"	2"	444
	BLK1.5 MUSHRM	SEW	1.50"	3"	

HOOK & LOOP XTRA WITH SCRIM BACK FASTENER

XTRA Wide, XTRA Surface Area, XTRA Secure Bond, Works with Contact Adhesive, works where PSA does not, Beige, 50 Yard Rolls, Sew Only

ITEM #	TYPE	SIZE	OVERALL WIDTH
BGE1.00HS	HOOK	1"	2"
BGE1.00LS	LOOP	1"	2"
BGE2.00HS	HOOK	2"	3"
BGE2.00LS	LOOP	2"	3"







BGE1.00LS

XTRA Wide XTRA Surface Area XTRA Secure Bond





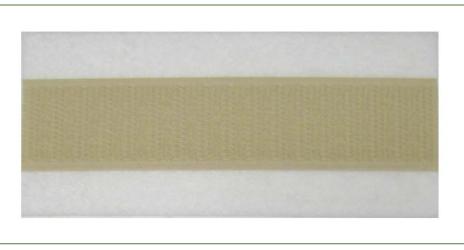
HOOK & LOOP WITH SCRIM BACK FASTENER Beige, 50 Yard Rolls

ITEM#	TYPE	SIZE	OVERALL WIDTH
BGE1.00HS	HOOK	1"	2"
BGE1.00LS	LOOP	1"	2"
BGE2.00HS	HOOK	2"	3"
BGE2.00LS	LOOP	2"	3"

NOTE: All prices include demonstration of compliance with material flammability requirements per 14 CFR 25.853(a) Appendix F Part I (a) (1) (ii).



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BGE1.00HS



BGE1.00LS

MUSHROOM HEAD FASTENER "HOOK"



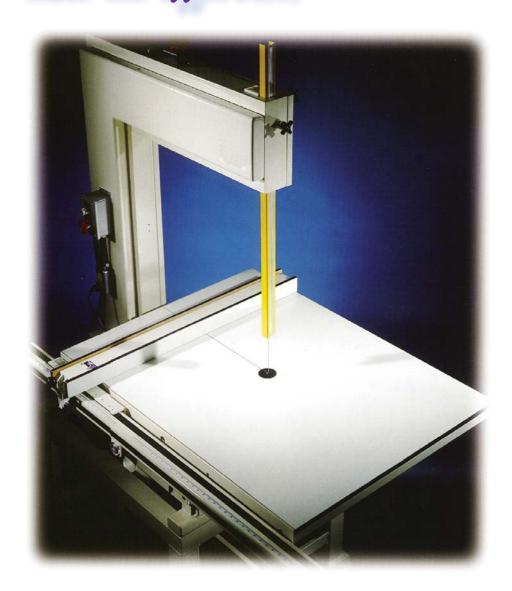
BLK1.0MUSHRM

- Sew Only with Scrim Backing (self-adhesive not available) Black, 50 Yard Rolls •
- Fastens to any other Skandia Loop Passes 14 CFR 25.853(a) 12-Second Vertical •

ITEM#	TYPE	SIZE	OVERALL WIDTH
BLK1.0 MUSHRM	SEW	1"	2"
BLK1.5 MUSHRM	SEW	1.50"	3"

WIRE PIN SAW

Skandia's design features make the difference!



The easiest, most cost-effective tool for achieving high precision, repeatable foam pattern cutting



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WIRE PIN SAW

Easier to Use

- Skandia's exclusive Wire-Pin Saw's unique feature combination makes once-difficult tasks remarkably simple.
- Engineered for peak versatility, changes and set-ups take just minutes—significantly reducing costly production time.
- Our design eliminates imprecise and tedious hand work typically associated with conventional foam cutting tools.
- Conveniently sized, with a manageable 36" x 54" work surface, comfortably positioned 40" from the floor. Its small footprint takes no more space than necessary.

Design features make the difference

Four main design features help make the Skandia Wire-Pin Saw the best overall tool:

- An omni-directional cutting wire blade and patented guide pin throat plate give the operator complete control in detailed pattern cutting and repeatability, while minimizing foam waste.
- A tilt table can be adjusted and locked between a 0° and 45° angle for accurate wedge and bevel cutting.
- A Biesemeyer T-square guide fence can be precisely positioned on the tilt table for the most exacting cut possible.
- There is 25" of cutting width inside the blade and 27" of cutting height.





Designed for foam cutting in small production runs, the Skandia Wire-Pin Saw makes all other saws and tools used for this purpose obsolete!

Unsurpassed repeatability and precision pattern-making

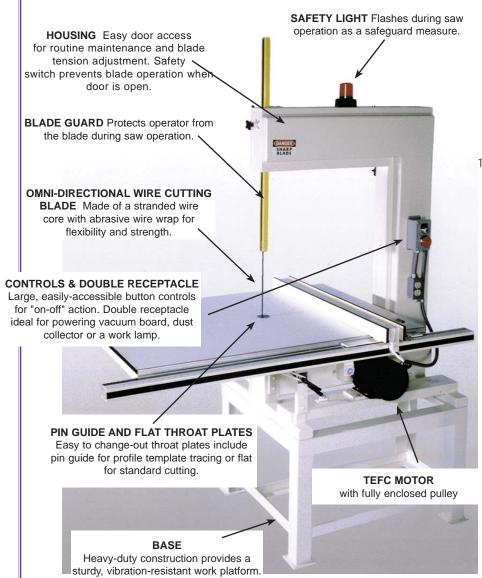
- Trace and create consistent patterns again and again, with the assistance of the T-25's easy-to-use guide pin.
- Achieve the closest possible tolerances, resulting in the highest quality products.
- Cut in and out of tight corners with ease using the omni-directional cutting wire blade.

Less Expensive to Operate

- Costs a fraction of what you'd pay for traditional wire-cutting saws.
- Creates considerably less waste than conventional cutting methods.
- Provides a quick pay-back, and keeps on earning with maximum productivity.

WIRE PIN SAW

SPECIFICATIONS





BIESEMEYER T-SQUARE FENCE

Optimizes precision cutting. Adjustable to 1/16". Positive lock for tight parallel positioning to blade. An optional fence extension facilitates cutting of larger pieces.



VACUUM BOARD

Skandia's Vacuum Board improves speed and efficiency by holding the work piece in place. For vertical profiling applications only.



TILT TABLE

Positioned at a comfortable 40" from the ground, the table is lockable and adjustable from 0° to 45°. Reinforced steel frame for durability.

Specifications

Overall Dimensions—66"W x 66"D x 84"H

Cutting Specifications—cutting width inside blade 25", cutting height 27" **Shipping Weight**—700 lbs.

Tilt Table—40" high, positive lock, angle adjustment from 0 to 45 degrees **Biesemeyer T-Square Fence**—Removable, positive lock, adjustable to 1/16" **Speed**—4500 fpm

Head Assembly Balanced Wheels—10" diameter with molded Urethane Elastomer tire

Dust Collector Vacuum—for convenient removal of cutting dust **Motor**—1 HP Pulley Drive

Electric—Single Phase, 100V, thermal motor protection with manual reset.



Our Design Features Make the Difference!

DESCRIPTION	PRICE
Pin Saw with Vacuum Board	\$6,660.00
Cleaning Stick	\$7.25
Cleaning Tool (for wheel groove)	\$24.99
Fence Extension 18" x 36"	\$185.00
(attached to the standard fence, it facilitates accurate cutting of larger pie	ces)
Wire Blade Replacement	\$155.00
LACEMENTS	
Custom 7% Angle (for angle profile tracing)	\$20.00
Standard Flat	\$9.50
Standard Pin Guide	\$14.50
	Pin Saw with Vacuum Board Cleaning Stick Cleaning Tool (for wheel groove) Fence Extension 18" x 36" (attached to the standard fence, it facilitates accurate cutting of larger pie Vacuum Board 24" x 24" (also sold separately) Wire Blade Replacement





SK158



5000 N. Highway 251 = Davis Junction, IL 61020 815.393.4600 = 800.945.7135 = www.Skandialnc.com





Making Aircraft Quieter, Safer, Comfortable.

FIREBLOCKING FABRICS

SOUTHERN MILLS S/757NW

Aramid Batt With Aramid Scrim Item # SM-S757NW

1-49 yards \$40.43 50+ yards \$38.41

TEX TECH 4759R

6.9 oz. PBI, Basofil, Aramid with Scrim Item # TT-4759R

1-49 yards \$33.09 50+ yards \$31.49

FIRE-RESISTANT FABRICS*

THERMABLOCK

DuPont Kevlar Item # DU-Z-11

Cut Price/yard \$9.29 Roll Price/yard \$8.39

FLAMESTOP

Nomex Fabric Item # FS-5646-2200 Price/yard \$68.00

MUSLIN

Item # MUS

Cut Price/yard \$5.60

Don't forget to order Kevlar thread--see page 5!

- Aircraft industry standard fireblocking fabric for full encapsulation of polyfoam cushions to meet 14 CFR 25.853 fireblocking requirements
- · Non-woven needled Aramid batt with Aramid scrim
- Weight = 8.5 oz./sq. yd.
- Thickness = 0.104—0.138"
- Width = 60"
- Passes 14 CFR 25.853(a) 12-Second Vertical
- Free of Formaldehyde and Formaldehyde-based fibers
- 50 Yard Rolls



- Basofil 38%, Aramid 52%, PBI 10%
- Weight = 5.6—6.8 oz./sq. yd.
- Thickness = 0.048—0.068"
- Width = 60"
- Supported Construction
- · Passes 14 CFR 25.853(a) 12-Second Vertical
- Scrim—100% Nomex fiber content
- 50 Yard Rolls

*Thermablock and FlameStop are not recommended for full encapsulation of polyfoam cushions to meet aircraft fireblocking requirements.

- Fire-resistant yellow spun-laced sheet
- 100% Kevlar
- Weight = 2.0 oz./sq. yd.
- Thickness = 0.015"
- Width = 56"
- Passes 14 CFR 25.853(a) 12-Second Vertical
- Compliant with CAL 133
- Sold by the yard or in 50 yard rolls
- FlameStop is a flexible flame barrier used underneath marginally performing dress cover materials. Its unique knitted construction with two-way stretch allows it to be glued directly to the foam without compromising cushion comfort.
- 100% Nomex
- Weight = 6.0 oz./sq. yd.
- Width = 38" when laid flat; 76" in circumference;
 NOTE: this material stretches and can extend up to 8% in length, 20% in width
- Passes 14 CFR 25.853(a) 12-Second Vertical
- Sold by the yard
- 3.6 oz. Fire-Resistant Muslin
- 40" width x linear yard
- · Lightweight, durable 100% cotton fabric
- Manufactured to meet CAL 117 and 14 CFR 25.853(a) 12-second Vertical



CANVAS

Item # Canvas/Natural Cut Price/yard \$10.00

PACK CLOTH

Item # SK-400D/1 Cut Price/yard \$7.00

ETHAFOAM®, DOW 4101

Item # ETHA41012.0

Price/Sheet \$62.58

NAUGAHYDE® VINYL

Spirit Millennium Line

1-29 yards \$18.36 \$17.36 30+ yards

Ordering Requirements:

- 5-yard minimum on all orders
- 15-yard minimum order on non-stock colors
- Contact us for availability

WEBBING

Item # TC-N0015 Black \$42.39 Item # BR-8962* Red \$95.59

- 7 oz. Fire-Resistant Canvas
- 62" width x yard
- Aircraft Grade
- Self-Extinguishing
- Excellent as a bottom cushion close-out in fire blocking applications
- Passes 14 CFR 25.853(a) 12-Second Vertical
- Color: Natural
- 5.1 oz./sq. yd.
- 60" width x yard
- 100% nylon, 400 denier
- Passes 14 CFR 25.853(a) 12-second Vertical
- Color: Beige
- Highly buoyant; used in flotation cushions
- Lightweight, Strong, Resilient, and Durable
- Ideally Suited as Component Material
- Passes 14 CFR 25.853(a) 12-Second Vertical
- Sheet Size: 2" x 24" x 36"
- arms and backrests

Great for reshaping

- 54" Roll Width
- Superior Tear Strength
- Advanced BeautyGard Protective Finish
- Contemporary High Styled Surfaces
- **Environmentally Friendly Materials**
- Mildew Resistant
- Made in the USA

Naugahyde Spirit Millennium line meets these flammability test requirements:

- Passes 14 CFR 25.853(a) 12-Second Vertical
- California Fire Regulation (Bulletin 117 Sec. E)
- Automotive (MVSS-302)
- **BIFMA Class I**
- Boston Fire Code (BFD IX-1)
- Fed. Spec CID A-A-2950-A
- Port Authority of NY and NJ
- Great for cargo straps, backpacks, luggage, and unlimited applications for restraining and reinforcements
- COML-SPEC-MIL-W-17337 (Black)
- COML-SPEC-MIL-W-4088K Type II Class 1 (Red)
- Nylon
- Passes 14 CFR 25.853(a) Horizontal (Red Only)*
- 1" wide x 100 Yard Roll



1" BUCKLE

Item # Y-LBR-25 Price/10 \$5.00 Price/100 \$45.00



1" LADDER LOCK

Item # Y-LKE-25
Price/10 \$2.20
Price/100 \$19.00



1" CAM BUCKLE

Item # AN-40880-21 Price/ea \$4.07



FOOTMAN LOOP

Item # AU-7771
Price/box \$11.75

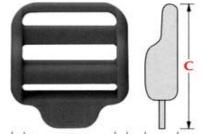


Y-LBR-25

A = 1.02" (26 mm) B = 1.34" (34 mm)

C = 2.60" (66 mm)

D = 0.43" (11 mm)



Y-LKE-25

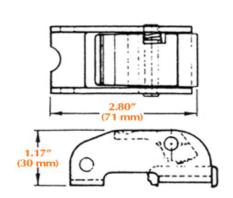
A = 1.02" (26 mm)

B = 1.26" (32 mm)

C = 1.38" (35 mm)

D = 0.35" (9 mm)

- · Great for cargo restraint
- 1800 lbs. breaking strength capacity
- 1.00" web size
- Zinc-plated
- Rated Strength = 2500 lbs.



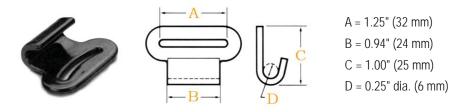
- Chrome finish
- 2-5/8" overall length
- 2-1/8" hole center to hole center
- 25 pieces/box



1" FLAT HOOK

Item # AN-40065-12 Price \$2.02

- For use with our footman loops (see previous page)
- · Vinyl coated
- 1" cargo strap attachment
- Breaking strength = 1000 lbs.



ELASTIC

Item # ELASTIC 1" 1-49 yards \$3.76 50+ yards \$3.55

- 1" wide
- Passes 14 CFR 23.853(a) Horizontal



KEVLAR THREAD

Item # SK-T50 Spool \$50.40

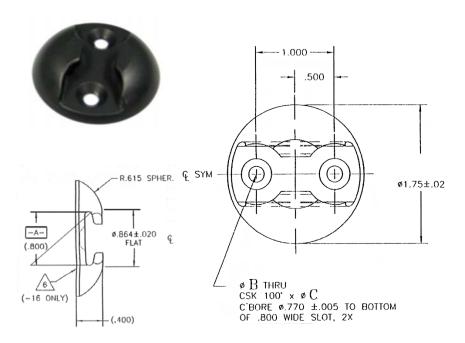
- Kevlar's superior strength and fire resistance makes it the thread of choice when being used in high stress operations being exposed to extreme heat
- Spun Kevlar has a high speed coating to prevent sewing problems
- Self-extinguishing
- Begins to decompose at about 800°F, 427°C in air by oxidation
- · Does Not Melt
- Odorless
- · Color: Yellow (Natural)
- Approx. Yards/Lbs: 8000
- · Approx. Breaking Point: 11.2 lbs.
- 1 lbs/tube



ANCHOR PLATE

Item # AN-40000-11 Price \$7.99

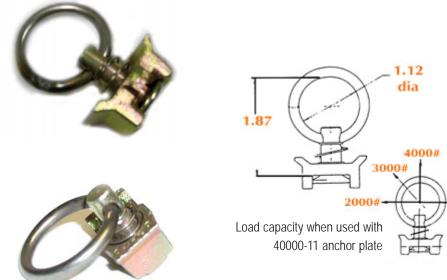
- · Heavy tumble deburr
- Finish: Anodize per Mil. A-8625 Type II, Class 2, Color: Gray #16099
- Suggested mounting hardware is MS24694-S (screw) of appropriate length for proper installation and MS21044-N (nut). Use 10-32 UNF size for this anchor plate.



TIE-DOWN FITTING

Item # AN-40340-20 Price \$4.59

- Full penetration weld after assembly weld to be free of burrs and sharp edges,
 .06 max. gap before weld
- Rated loads for all configurations, in pounds, installed In seat track or anchor plate (ultimate loads).
- Dimensions shown for reference only
- · Not adjustable



TWINE

Bonded Nylon Tufting Twine Item # LT-8-350, 350 yards, boxed

1-5 \$7.35 6+ \$6.79

Item # LT-16-700, 700 yards, tube

1-5 \$15.29 6+ \$12.00







LT-16-700

VENTILATORS, 2-PIECE

Item # CS-V-134 3/4"

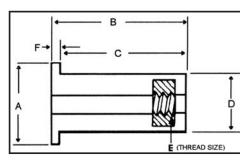
1 dozen \$3.50



WELL NUTS

Neoprone with Captive Brass Nut





(E) THREAD	HOLE			(A) HEAD	(B) OVERALL	(C) SHANK	(D) SHANK	(F) HEAD
SIZE	SIZE	ITEM#	PRICE	DIA.	LENGTH	LENGTH	DIA.	THICK
#8-32	5/16"	AU-13005	\$12.75/25 pk	.750	.575	.500	.312	.062
#6-32	5/16"	AU-13006	\$7.00/25 pk	.452	.499	.437	.312	.062
#10-32	3/8"	AU-13007	\$8.50/25 pk	.500	.554	.518	.377	.036
#10-32	3/8"	AU-13008	\$4.67/10 pk	.562	1.051	1.000	.375	.051
#10-32	3/8"	AU-13009	\$4.58/10 pk	.562	.665	.625	.377	.040
#10-32	3/8"	AU-17586	\$7.08/15 pk	.750	.703	.625	.375	.078
#6-32	1/4"	AU-16236	\$7.75/25 pk	.554	.981	.946	.240	.035
#8-52	5/16"	AU-16237	\$7.83/25 pk	.438	.499	.447	.312	.052
#10-24	3/8"	AU-16240	\$10.83/25 pk	.562	.767	.580	.375	.187
#10-32	3/8"	AU-16244	\$10.08/25 pk	.750	.807	.620	.375	.187
#10-32	3/8"	AU-16246	\$10.83/25 pk	.510	.400	.341	.375	.059

PHILLIPS OVAL HEAD TAPPING SCREWS

High quality chrome plated trim screws

COUNTERSUNK WASHERS

All nickel on brass



SIZE	PART #	PRICE/100
4x3/8"	AU-3067	\$6.10
4x1/2"	AU-3068	\$4.87
4x5/8"	AU-5604	\$5.38
4x3/4"	AU-3069	\$5.18
6x5/8"	AU-1793	\$5.00
6x3/4"	AU-1794	\$5.65
6x1"	AU-1796	\$5.55
6x1-1/4"	AU-1797	\$6.90
8x5/8"	AU-2709	\$5.50



SCREW SIZE	I.D.	O.D.	ITEM #	PRICE/100
#4	9/64"	3/8"	AU-612	\$4.51
#6	11/64"	7/16"	AU-614	\$3.90
#8	13/64"	1/2"	AU-616	\$4.60
#10	1/4"	19/32"	AU-618	\$5.95

FLANGED COUNTERSUNK WASHERS

All nickel on brass



SCREW SIZE	I.D.	O.D.	ITEM #	PRICE/100
#6	5/32"	1/2"	AU-3469	\$7.59

TINNERMAN'S



ITEM #	DESCRIPTION	PRICE/100
EFC-C7000-4	Flat-Type Tinnerman's 4A or 4B	\$6.98

RIVNUTS Aluminum



ITENA "	THREAD	GRIP	HEAD	PRICE
ITEM #	SIZE	RANGE	TYPE	/100
MM-A6-75	6-32	.010075	Flat	\$20.00
MM-A6-120	6-32	.075120	Flat	\$20.00
MM-A8-75	8-32	.010075	Flat	\$20.00
MM-A8-120	8-32	.075120	Flat	\$20.00
MM-A10-80	10-32	.010080	Flat	\$25.00
MM-A10-140	10-32	.080140	Flat	\$33.00
MM-A6K-75	6-32	.010075	Flat Keyed	\$20.00
MM-A6K-120	6-32	.075120	Flat Keyed	\$22.00
MM-A8K-75	8-32	.010075	Flat Keyed	\$22.00
MM-A8K-120	8-32	.075120	Flat Keyed	\$22.00
MM-A10K-80	10-32	.010080	Flat Keyed	\$22.00
MM-A10K-130	10-32	.080130	Flat Keyed	\$27.00
MM-A10K-140	10-32	.080140	Flat Keyed	\$30.00
MM-A6-106	6-32	.065106	100° CS	\$20.00
MM-A8-106	8-32	.065106	100° CS	\$20.00
MM-A6K-106	6-32	.065106	100°CS Keyed	\$20.00
MM-A8K-106	8-32	.065106	100°CS Keyed	\$22.00

TOOLS



ITEM#	DESCRIPTION	PRICE/EA	
CS-746	Flexible Tucking Tool	\$20.60	
CS-747	Rigid Tucking Tool	\$18.99	
CS-18	All-Purpose Angle Awl	\$8.00	
W		CS-18	

The bent awl is a varied-purpose tool:

- Can assist in many places that are hard to reach
- Tough tool with an easy grip handle

9

- Can also be used as a cotter pin remover or adjusting hard to reach shims
- Tempered plated hook and amber translucent handle

FOAM RUBBER CUTTER

Versatile - will cut all types of foam and carpeting

· Quick blade change, no tools required

Long, paddle-type switch and slim motor housing are easy to grip



KITS

ITEM #	DESCRIPTION	PRICE/EACH
SB-1575KIT-12	12" Foam Rubber Cutter Kit	\$475.00
Includes 12" Blade Pair, 12	" Guide, Rubber Cutter, and Foot Plate	
SB-1575KIT-8	8" Foam Rubber Cutter Kit	\$461.50
Includes 8" Blade Pair, 8" G	Guide, Rubber Cutter, and Foot Plate	

ACCESSORIES

ITEM #	DESCRIPTION	PRICE/EACH
SB-1575A	Foam Rubber Cutter	\$369.00
SB-2607018011	8" Blade Pair	\$28.00
SB-2608135021	8" Guide	\$63.00
SB-2607018012	12" Blade Pair	\$36.98
SB-2608135022	12" Guide	\$68.79
SB-2608000908	Foot Plate	\$40.00



SHEARS





ITEM#	DESCRIPTION	SIZE	EACH
CS-20W	Upholstery and Carpet Raised Blade Hot Drop-Forged Heavy Duty Inlaid Polished Blade/Patented Set-Easy Pives	10" ot	\$36.00
CS-22	Bent Trimmer Inlaid Polished	12"	\$37.00
CS-22W	Upholstery and Carpet Raised Blade Hot Drop-Forged Heavy Duty Inlaid Polished Blade	12"	\$43.95

SPECIALTY SHEARS





ITEM #	DESCRIPTION	EACH
CS-TC-1	Industrial Thread Clips	\$15.90

- Hot drop-forged fine cutlery steel blades for sharper and longer cutting life
- · Positive action, self-opening spring action assures fast, effortless cutting
- Steel and nylon lock screw for twice the main screw holding power
- Easily disassembled for re-sharpening
- Fully nickel-plated
- Sharp points

POLYKEN TAPES DOUBLE-SIDED



P-105-2-C*

SEAMING

- Conformability Accommodates Irregular Surfaces
- Tearability Ease of Installation
- · High Quick Stick Immediate Carpet Bond
- · High Adhesion Retains Bond Integrity
- Passes 14 CFR 25.853(a) 12-Second Vertical Burn[†]



P-108-2-N

ITEM #	DESCRIPTION	SIZE	EACH
P-108-2-N [†]	Fire-Retardant Tape	2" x 25 yard roll	\$29.09
P-105-2-C*	Cloth Double-Faced Tape (for carpeting)	2" x 25 yard roll	\$21.99
*Does NOT pass	14 CFR 25.853(a)		

- Flame retardant polyethylene coated waterproof tape
- Exceptionally aggressive adhesive to a variety of substrates
- Exhibits outstanding handling characteristics and conforms well to duct systems
- Passes 14 CFR 25.853(a) 12-Second Vertical Burn



		P-225-3 FR	
ITEM #	DESCRIPTION	SIZE	EACH
P-225-3 FR	Fire-Retardant Tape	3" x 60 yard roll	\$43.39

UPHOLSTERY PEN

- These pens move smoothly over vinyl and leather
- Wipes off without leaving a residue
- · Easily seen on most colors



ITEM #	DESCRIPTION	EACH	DOZEN
WK-SSB-BB	Broad Point Silver Marking Pen	\$3.55	\$36.60

SILICONE LUBRICANT

Item # UV-13862

Price \$9.50/13 oz.

- Reduces sticking problems and eliminates drag on cutting tables and at sewing machines, drills, etc.
- · Prevents buildup of static electricity
- · Will not damage cloth, leather, rubber or plastic
- · Rust resistant to machinery
- Lets materials pass through sewing operations with the greatest of ease
- Ideal for all cutting operations.
- · Lets cutting machines run free and cut with minimum effort

