

**FAA-RATED MATERIALS FOR  
AIRCRAFT INTERIORS**

**bolteron**  
A SIMONA COMPANY



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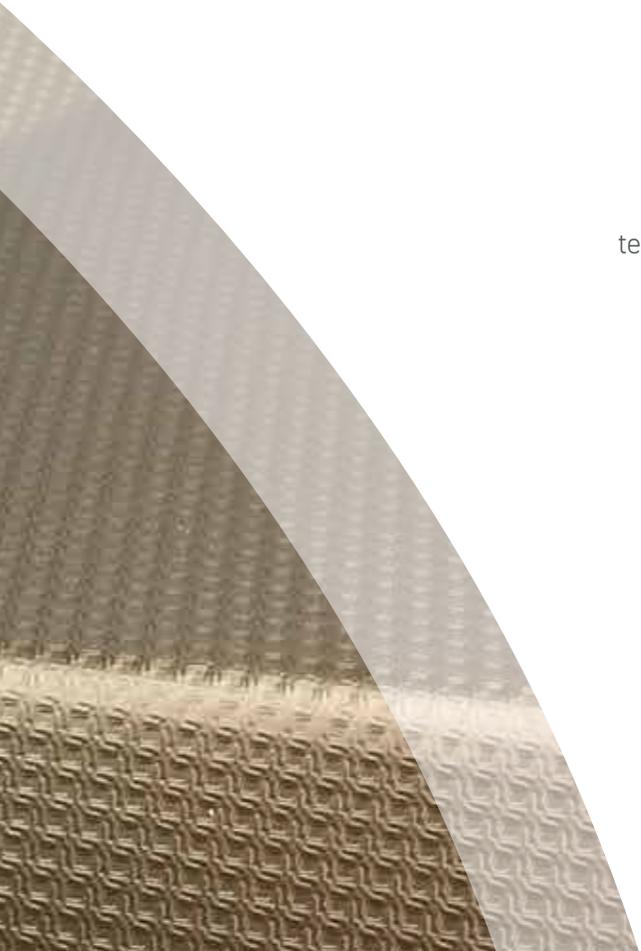




# RELIABILITY MEETS INNOVATION

Quality, reliability, and responsive customer service make Boltaron the FAR-rated thermoplastic sheet supplier of choice for customers around the world.





# UNPARALLELED MANUFACTURING CAPABILITIES

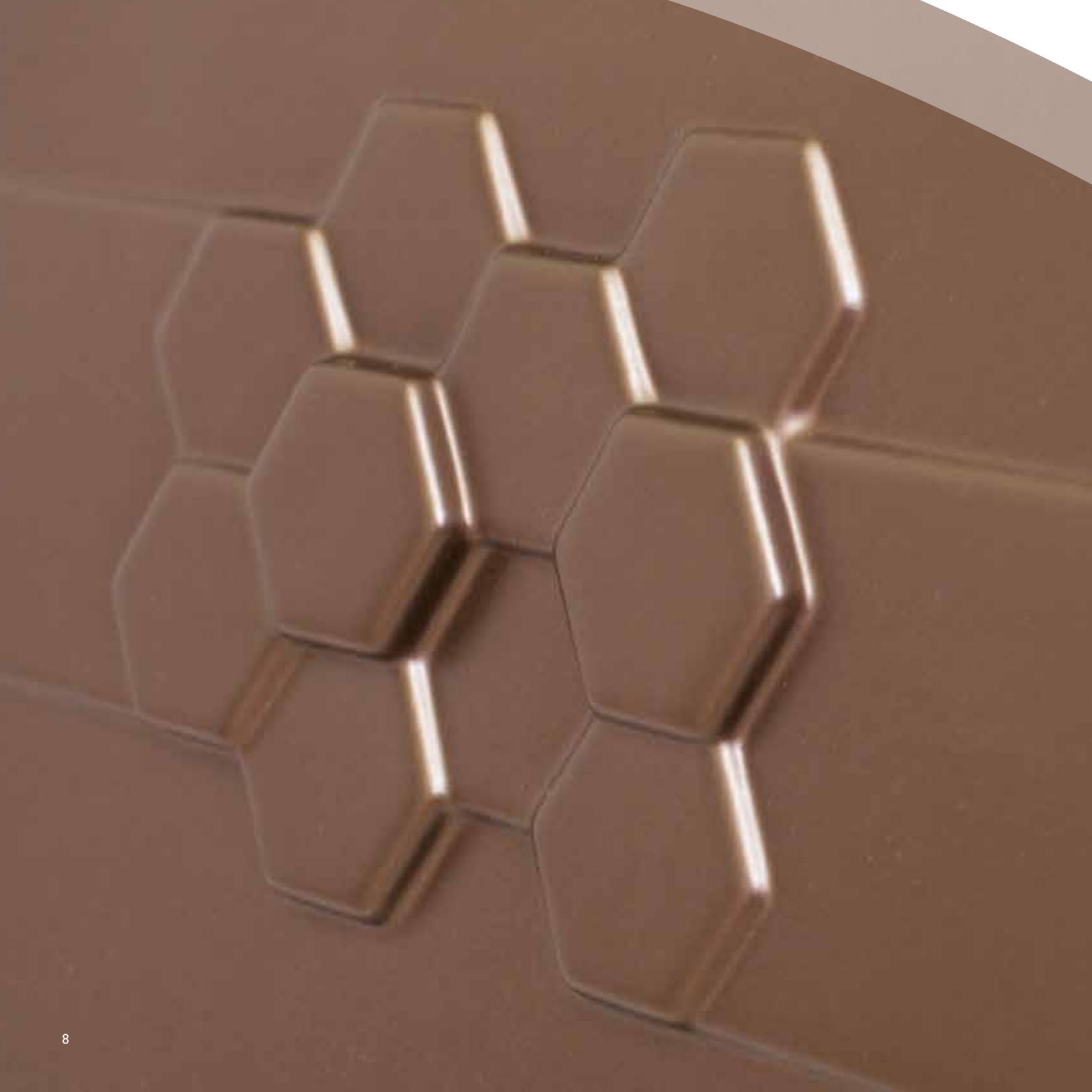
No other film and sheet producer offers calendering, extrusion, and press lamination under one roof. These unmatched production technologies create tailored solutions to meet the needs of a specific application. Materials produced using more than one of these processes can be imparted in-line or off-line with low minimums to create an unlimited selection of ultra-high performance sheet products impossible to achieve using any single production process.

# REGULATORY COMPLIANCE

For quality assurance, Boltaron technicians utilize the latest testing technology to produce comprehensive flammability, smoke, and heat release results directly on site. Boltaron materials are also regularly batch tested at an independent laboratory for consistent compliance.

# SUSTAINABILITY AND LONGEVITY

Boltaron materials are manufactured for durability, long program life cycles, consistency, and the critical performance required for aircraft environments. All materials are made at one site using similar formulations, allowing for internal recycling and environmentally conscious manufacturing practices.





# SUPERIOR THERMOFORMABILITY

All Boltaron grades are manufactured under tightly controlled conditions for consistent behavior during thermoforming. After forming, the materials maintain uniform wall thickness and surface appearance with excellent texture retention and detail.

The material does not require pre-drying before thermoforming, which leads to more flexibility in the forming process and reduces cost by eliminating the need for electric heaters.

In-house Boltaron thermoforming experts are available to provide hands-on support for difficult and unique parts production.





# **SUPERIOR IMPACT RESISTANCE**

Boltaron sheet products exhibit exceptional impact resistance, yielding many advantages in processing and use.

# **DURABILITY AND LONG SERVICE LIFE**

Durable thermoformed parts with excellent long term appearance can be achieved using thinner, lighter sheet, while still offering exceptional impact resistance, looking newer longer, and decreasing replacement costs. These materials are also not notch sensitive. This stress point resistance means increased engineering capabilities, such as stitching, as well as reduced waste from in-process breakage.



# SPECIFICATION PERFORMANCE AND DESIGN

Boltaron materials are specially formulated to meet the exact requirements of the Federal Aviation Administration, as well as major airframe manufacturers. Based on the regulatory requirement, application, part type and size, Boltaron can recommend an exceptional material solution from the 9000 and 4000 Series range of materials. Materials in both series can be customized with a wide range of design possibilities.

## 9000 SERIES

Materials meet the flammability, smoke and heat release requirements specified by **FAR 25.853 (a) and (d)**.

## 4000 SERIES

Materials meet the flammability requirements specified by **FAR 25.853 (a)**.



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E R I E S

# 9 0 0 0 S

THESE MATERIALS MEET THE FLAMMABILITY, SMOKE, AND

**Boltaron®**

**9815**

Top Performing Sheet

**Exceptional  
Impact  
Resistance**



**OSU 65/65**

Izod Impact Strength  
5.0 ft-lb/in. (265 J/m)

**Film and Sheet with Extruded Texture**

Lengths to 120 in. (3048 mm)  
Widths to 60 in. (1524 mm)  
Gauges from 0.010 to 0.250 in.  
(0.250 to 6.35 mm)  
Rolls ≤ 0.040 in. (1.02 mm)

**Sheet with Pressed Texture**

Lengths 99 or 122 in.  
(2514 or 3099 mm)  
Widths up to 50 in. (1,270 mm)  
Gauges from 0.040 to 0.250 in.  
(1.02 to 6.35 mm)

**Applications**

*Seat parts, interior components*

**Boltaron®**

**9850**

**Low Smoke  
and Heat  
Release**



**OSU 55/55**

**Low smoke under 150  
Exceeds OSU and NBS  
smoke requirements**

Izod Impact Strength  
5.0 ft-lb/in (265 J/m)

Lengths to 120 in. (3048 mm)  
Widths to 60 in. (1524 mm)  
Gauges from 0.040 to 0.250 in.  
(1.02 to 6.35 mm)

**Applications**

*Seat parts, interior components*

# E R I E S

## HEAT RELEASE REQUIREMENTS OF FAR 25.853 (A) AND (D)

### Boltaron® 9200

**High  
Temperature,  
Light Blocking**

**OSU 65/65**  
Light opacity



Lengths to 120 in. (3048 mm)  
Widths to 48 in. (1220 mm)  
Gauges from 0.047 to 0.060 in.  
(1.2 to 1.52 mm)

#### **Applications**

*Window shades*

For greater light opacity,  
specify FAR 25.853 (a)  
compliant Boltaron® 9250

### Boltaron® 9916

**Translucent  
Routed  
Parts**

**Clear with a blue tint**  
Routed to user specifications



Gauges 0.079 in. (2 mm)  
0.118 in. (3 mm)  
0.157 in. (4 mm)  
0.197 in. (5 mm)  
0.236 in. (6 mm)

#### **Applications**

*Privacy panels, class dividers*



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E R I E S

# 4 0 0 0 0 S

THESE MATERIALS MEET THE FLAMMABILITY REQUIRE

Boltaron®

**4330**

Top Performing Sheet

Superior  
Impact  
Resistance

Izod Impact Strength  
18.0 ft-lb/in. (953 J/m)



Lengths to 120 in. (3048 mm)  
Widths to 60 in. (1524 mm)  
Gauges from 0.028 - 0.250 in.  
(0.71 - 6.35 mm)

**Applications**

*Seat parts, interior components*

Boltaron®

**4330L**

Light  
Weight

15% Weight Reduction



Lengths to 120 in. (3048 mm)  
Widths to 60 in. (1524 mm)  
Gauges from 0.028 - 0.250 in.  
(0.71 - 6.35 mm)

**Applications**

*Seat parts, interior components*

Boltaron®

**42**

High  
Temperature  
Resistance



# E R I E S

## MENTS OF FAR 25.853 (A)

### 05

**Heat Distortion  
Temperature**  
› 200°F (93°C)

Lengths to 120 in. (3048 mm)  
Widths to 60 in. (1524 mm)  
Gauges from 0.028 - 0.250 in.  
(0.71 - 6.35 mm)

#### **Applications**

*Lavatory or cockpit  
components*

**Boltaron®  
4350**

**Translucent  
Routed  
Parts**



**Rigid, clear with a blue tint**  
Routed to user specifications

Gauges up to 0.250 in. (6.35 mm)

#### **Applications**

*Privacy panels, class dividers*

**Boltaron®  
4800**

**Low Smoke  
& Flame  
Release**



**Meets MVSS Docket 90A,  
ASTM E162 and ASTM E662  
criteria for flammability and  
low smoke emission**

Lengths to 120 in. (3048 mm)  
Widths to 60 in. (1524 mm)  
Gauges from 0.040 - 0.250 in.  
(1.02 - 6.35 mm)

#### **Applications**

*Aircraft and mass transit  
interior components*



light weight



low  
flammability



high temperature  
resistance



impact  
resistant



translucent

# YOU IMAGINE WE INNOVATE

Boltaron's sales and engineering teams have gone to great lengths to bring to life the inspired visions of aircraft interior designers, airline brand managers, and seat manufacturers to challenge the traditional aesthetics of aircraft interiors. The result is a portfolio of custom design capabilities that transcends the standards for opaque thermoplastic sheet with eye catching textures, metallics and decorative prints.

# HANDS-ON FROM DESIGN TO DEVELOPMENT

Boltaron strives to be innovative, adding value to existing products and providing solutions for new, unusual and different sheet parts. Offering specification, design and engineering support from concept to execution, its state-of-the-art multi-faceted thermoforming and parts fabrication facility is capable of producing high-end and decorative formed and fabricated products, specifically for challenging materials and demanding FAA compliance applications.





# PEARLESCENT EFFECTS

Iridescent, integral pearl effects brilliantly capture the light. The material's luster is even further enhanced after thermoforming. Choose a pearlescent hue from natural to faux finish.

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# METALLIC EFFECTS

Permanently integrate a durable metallic cap layer, which uniquely includes a real metal flake, and a color matched substrate for a deep, rich metallic effect. This effect, achieved through press lamination, offers great durability and excellent scratch resistance.

# MATTE OR GLOSS FINISH

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A medium or high gloss surface can provide a dual purpose, offering an aesthetic upgrade while providing a protective coating for scratch resistance and longevity.



# SEE-THROUGH TRANSLUCENT MATERIAL

Translucent materials with unique pressed textures and embedded prints add style and dimension to traditional privacy dividers.





# UNLIMITED COLORS

Boltaron's state of the art color laboratory specializes in producing quality colored sheet from standard gray and blue hues to dynamic, bright accent colors. Expert technicians and in-house technology offers custom color matching in a standard lead time of less than 3 days. Match to a physical sample or to a color reference number such as Pantone, NCS, or RAL.



CF



BS



BF



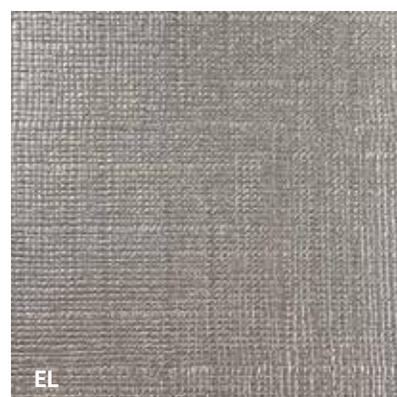
SI



BA



QR



EL



FM



VG



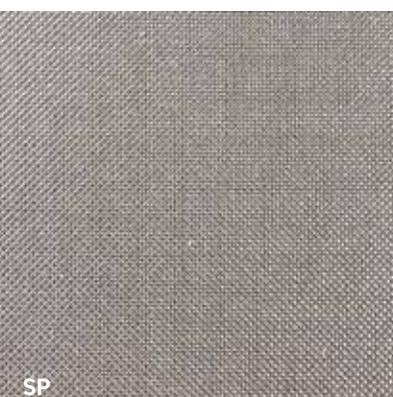
KN



HY



TV



SP



SO



VB



TZ

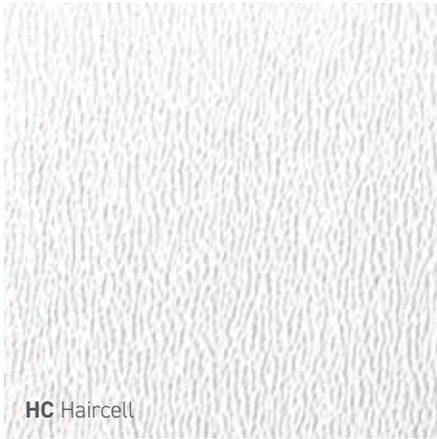
# **PRESSED TEXTURES**

Unlike the extrusion and calendaring processes, in which textures are limited to a relatively small number of embossing rolls, Boltaron's press laminating process uses heat and pressure to emboss an infinite range of textures into thermoplastic sheet offline with low minimums.

Press laminated custom textures can be reproduced from virtually any existing or newly created patterns, including repeated company or brand patterns, providing designers with an unprecedented opportunity to produce environments that are dramatic and sophisticated, as well as unique.

Boltaron supplies the decorative textured sheet ready for forming. This means greater possibilities for imparting texture onto a part at more economic costs and faster production times.

**Choose from a library of unique pressed textures, or provide a physical sample to match in the lab.**



**HC** Haircell



**LV** Levant



**CM** Course Matte



**SA** Sand



**VH** Velour High Gloss



**FT** Felt



**VL** Velour



**MS** Mesa



**SD** Suede

# EXTRUDED TEXTURES

Standard extruded textures are imparted in-line at low cost and low minimums. Boltaron materials with extruded textures are available in medium to heavy gauge sheets suitable for most thermoforming, fabricating and machining applications. This standard range of embossed textures was selected to complement the requirements of the aircraft interiors industry.



Suzhou  
01:29 AM

Caracas  
01:29 AM

Lima  
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São Paulo  
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London  
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Recife  
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Dakar  
06:29 AM

Uganda  
07:29 AM

Harare  
09:29 AM

Capo Town  
09:29 AM

# DECORATIVE PRINTS

Customize material with protected decorative images that mimic interior design finishes such as woodgrain, marble and stone. In-house experts will review the image requirements and make a recommendation for the best method of imaging for a specific application or use.

# CHOOSE YOUR BOLTARON SHEET

## BY SELECTING YOUR PERFORMANCE AND DE



SPECIFICATION	PERFORMANCE	TEXTURE	EFFECT
FAR 25.853 (a) 1 ii	High Heat Distortion	Extruded Texture	Metallic
FAR 25.853 (a) 1 f	Light Weight	SD Suede	Pearlescent
	UV Resistance	SA Sand	
FAR 25.853 (d)	Chemical Resistance	CM Coarse Matte	High Gloss
	Scratch Resistance	FT Felt	
MVSS Docket 90A	High Traffic	VH Velour High Gloss	Medium Gloss
	Soft Touch	VL Velour	
ASTM E162	Flexible	HC Haircell	Matte Finish
	Light Blocking	MS Mesa	
ASTM E662	Stain Resistance	LV Levant	Decorative Print
Other Regulatory Requirement		SI Stipple	
		FM Falmouth	
		Pressed Texture	<b>CLEAR</b>
		SP UB	Translucent
		CO IZ	Routed Part
		BA TV	
		PT MD	
		HT MI	
		VB WR	
		RO SI	
		CF EL	
		Custom Texture	

# SIGN REQUIREMENTS



## COLOR

### Mirage Blues

- 8444 Sapphire
- 8763 Lapis
- 8321 Petrol
- 8426 Topas
- 8784 Aqua Marine
- 8785 Vapour

### The New Neutrals

- 3680 Powder
- 2430 Clay
- 3768 Parchment

### Monochrome Shades

- 1562 White
- 2358 Slate
- 2829 Obsidian
- 2111 Light Silver
- 2042 Pewter

### Mineral Tones

- 2393 Limestone
- 2357 Pumice
- 2191 Dark Silver
- 2380 Concrete
- 3375 Mineral
- 2403 Lava

### Custom Color

### Nordic Forest

- 2396 Celadon
- 7327 Mint
- 7300 Willow
- 7277 Spruce
- 7499 Pine

### Damsons and Plums

- 8540 Nightshade
- 4300 Orchid
- 8787 Plum
- 4928 Amethyst

### Oxidised Reds

- 4428 Peat
- 4427 Garnet
- 4426 Oxide
- 5176 Coral
- 5175 Agate

### Pale Pastels

- 6198 Citrine
- 8783 Pastel Topas
- 7498 Jade
- 8786 Moonstone
- 4929 Zircon

## VALUE ADDED

Specialized Parts  
Production

Technical Thermoforming  
Support

Design Assistance

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Boltaron offers hands-on material selection, specification, design, and production support throughout the life cycle of a project or program from concept to installation for the best possible results.

9000 SERIES  
4000 SERIES

SPECIFICATION				IMPACT	GAUGE	FORM		
PRODUCT	FAR 25.853 (a) ii	FAR 25.853 (a) f	FAR 25.853 (d)	ft lbs/in. (J/m)	in. (mm)	SHEET	FILM	ROUTED PART
9815	●	●	●	5.0 (265)	0.040-0.250 (1.02-6.35)	●	●	
9850	●	●	●	5.0 (265)	0.040-0.250 (1.02-6.35)	●		
9200	●		●	2.0 (106.8)	0.047-0.060 (1.2-1.52)	●		
9916	●	●	●	5.3 (284)	0.079, 0.118, 0.157, 0.197, 0.236 (2, 3, 4, 5, 6)			●
4330	●			18 (953)	0.028-0.250 (0.71-6.35)	●		
4330L	●			—	0.028-0.250 (0.71-6.35)	●		
4205	●			2.0 (107)	0.028-0.250 (0.71-6.35)	●		
4350	●			0.5-1.0 (27-53)	0.062-0.250 (1.57-6.35)			●
4800	●			3.0-5.0 (160-267)	0.040-0.250 (1.02 -6.35)	●		

DESIGN						
PRESSED TEXTURE	EXTRUDED TEXTURE	CLEAR	OPAQUE COLOR	INTEGRAL PEARL EFFECT	INTEGRAL METALLIC EFFECT	DECORATIVE PRINT
●	●		ANY	●	●	●
	●		ANY			
	●		CUSTOM			
LIMITED		●	CLEAR BLUE TINT			●
●	●		ANY	●	●	●
	●		ANY			
●	●		CUSTOM			
LIMITED		●	CLEAR BLUE TINT			●
●	●		ANY			

# DETAILED SPECIFICATIONS

## FAR-rated High Impact Sheet for Aircraft Interior Components

Boltaron's knowledgeable team is ready to help with material selection to help you choose the right grade for a specific application or use.

Additional specialized FAR-rated grades are available.



Formed High  
Gloss Opaque Trim

Frosted Translucent  
Printed Privacy Divider

Curved Woodgrain  
Monitor Housing  
and Formed Trim



Textured Pearlescent  
Headset Frame

Textured Metallic  
Trim and Finish

Textured  
Brushed Metal  
High Gloss Trim

Woodgrain Tray  
Table Laminate

Formed Metallic  
Tray Table

Textured  
Pearlescent  
Seat Shell





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