BOLTARON PERFORMANCE SHEET GRADES BY FIRE RATING

Boltaron film and sheet grades meet stringent fire retardancy standards required for aircraft, rail/mass transit, electrical equipment, cleanrooms, cleanroom equipment, building products and numerous other applications. Of equal importance is that Boltaron film and sheet formulations meet these requirements while offering impact resistance, scratch resistance and other properties that are superior to competitive PVC and PVC/Acrylic sheet products having equivalent fire ratings as detailed below.   The ratings you require — with the properties, colors, textures, sizes and economy that benefit the quality of your product and profitability of your company — only from Boltaron.

	ASTM E-162	ASTM E-662	Class 1A	FM 4910	FAR 25.853 A1, ii	FAR 25.853 D	MVSS Docket 90A	UL Std 94 5V	UL Std 94 V-0	UL Std 723	ABD 0031	BSS 7237	FAR 25.853 A1 F
1050										✓			
1050 E										✓			
1165/ 1165C										✓			
4065MP										✓			
4125										✓			
4205										✓			
4225					✓								
4300						✓				✓			
4325					✓								
4330	✓					✓			✓	✓			
4330M						✓							
4333				✓							✓		
4333W			✓								✓		
4335	✓					✓			✓	✓			
4343/ 4353				✓							✓		
4800	✓	✓						✓					
6530						✓			✓	✓			
6540	✓					✓			✓	✓			
6800	✓					✓				✓			
9200/ 9200C						✓	✓						
9230/ 9230C						✓							
9250/ 9250C						✓							
9815 E						✓	✓						
9815 M						✓	✓						
9915FSTH						✓	✓				✓	✓	✓

Overview of Grades by Fire Ratings (scroll down for materials that meet each specification).

- **ASTM E-162**
- **ASTM E-662**
- **Class 1A**
- **FACTORY MUTUAL (FM 4910)**
- **FAR 25.853 A1, ii**
- **FAR 25.853 D**
- **MVSS Docket 90A**

- **UL Std 94 5V**
- **UL Std 94 V-0**
- **UL Std 723**
- **ABD 0031**
- **BSS 7237**
- **FAR 25.853 A1 F**

ASTM E-162

- **Boltaron 4330**
  Boltaron 4330 is a proprietary, fire retardant, extruded PVC/Acrylic alloy sheet that offers a UL 94 V-0 rating and meets stringent FAA flammability requirements. Boltaron 4330 combines excellent impact strength, abrasion resistance, rigidity, and chemical resistance with superior thermoformability.

- **Boltaron 4330M (Metallic)**
  Boltaron 4330M is a proprietary, dual layer, metallic thermoplastic sheet. Boltaron 4330 offers a UL 94 V-0 rating and meets stringent FAA flammability requirements. Boltaron 4330M combines excellent impact strength, abrasion resistance, rigidity, and chemical resistance with superior thermoformability.

- **Boltaron 4335**
  Boltaron 4335 is a proprietary, fire retardant, extruded Acrylic/PVC Alloy sheet. Boltaron 4335 offers a UL 94 V-0 rating, excellent impact strength, abrasion resistance, chemical resistance, rigidity and thermoformability. Boltaron 4335 is cost competitive with FR ABS but offers superior performance.

- **Boltaron 4800**
  Boltaron 4800 is a proprietary, fire retardant, extruded PVC/Acrylic alloy sheet designed specifically for mass transit interior applications. Boltaron 4800 meets ASTM E-162 and ASTM E-662 stringent requirements for flammability and low smoke emissions and FTA, UMTA and Docket 90A guidelines. Boltaron 4800 offers excellent impact strength, abrasion resistance, stain and chemical resistance, and thermoformability.

- **Boltaron 6540**
  Boltaron 6540 is a proprietary, fire retardant, extruded ABS/PVC Alloy sheet that meets stringent FAA flammability requirements and UL Standard 94 V-0. Boltaron 6540 offers excellent impact strength, abrasion resistance, chemical resistance and thermoformability.

- **Boltaron 6800**
  Boltaron 6800 is a proprietary, fire retardant, press laminated ABS/PVC alloy sheet that meets stringent FAA flammability requirements and UL Standard 94 V-0. Boltaron 6800 offers excellent impact strength, abrasion resistance, stain and chemical resistance, and superior thermoformability.

ASTM E-662

- **Boltaron 4800**
  Boltaron 4800 is a proprietary, fire retardant, extruded PVC/Acrylic alloy sheet designed specifically for mass transit interior applications. Boltaron 4800 meets ASTM E-162 and ASTM E-662 stringent requirements for flammability and low smoke emissions and FTA, UMTA and Docket 90A guidelines. Boltaron 4800 offers excellent impact strength, abrasion resistance, stain and chemical resistance, and thermoformability.

Class 1A

- **Boltaron 4333 (White and Custom Colors)**
  Boltaron's Rigiwall® 4333 is a white, Class 1-A rated, proprietary PVC/Acrylic alloy sheet for protective interior wall covering applications. It offers excellent durability, impact strength, abrasion resistance, and stain and chemical resistance, and is widely used by the world's largest manufacturers and users of cleanrooms for fabricating/surfacing of cleanroom walls, partitions and doors. Custom colors are available for interior applications.

- **Boltaron 4343/4353**
Boltaron Rigiwall 4343/4353 is a proprietary PVC/Acrylic alloy sheet, formulated as a durable, protective, interior wall covering that offers a Class 1-A building code rating and UL Standard 723 listing, Izod impact of 7 to 12 ft-lbs/in (371 to 635 J/m), abrasion resistance, and stain and chemical resistance. White in color, it is available in custom colors in gauges from 30 to 125 mil (7.6 to 31.8 mm), widths to 60 in. (1524 mm), lengths to 120 in. (3048 mm) and in a variety of surface textures. It is widely used by the world's largest manufacturers and users of cleanrooms for fabricating/surfacing of cleanroom walls, partitions and doors.

FACTORY MUTUAL (FM 4910)

- **Boltaron 4225**
A bright white, corrosion resistant CPVC sheet with a smooth polished surface on both sides, Boltaron 4225 is suitable for thermoforming and meets Factory Mutual Global Cleanroom Materials flammability test protocol (Class 4910). It is widely used by the world's largest manufacturers and users of cleanroom equipment for thermoforming and fabricating of wet benches, chemical etching equipment, and other corrosion-resistant products.

- **Boltaron 4325 (Clear)**
A transparent gray/blue, corrosion resistant CPVC sheet with a smooth polished surface on both sides, Boltaron 4325 is the only American made transparent CPVC material that meets Factory Mutual Global Cleanroom Materials flammability test protocol (Class 4910). It is widely used by the world's largest manufacturers and users of cleanrooms for glazing of windows in cleanroom walls, partitions and doors.

FAR 25.853 A1, ii

- **Boltaron 4300 Clear**
Boltaron 4300 is a transparent blue tint, high impact, corrosion resistant Type II PVC sheet that carries FAR 25.853 A1 i, ii, UL Standard 94 V-0 and ASTM D-1784 ratings. It has textured or polished smooth surfaces on both sides and is suitable for flat and thermoformed applications.

- **Boltaron 4330**
Boltaron 4330 is a proprietary, fire retardant, extruded PVC/Acrylic alloy sheet that offers a UL 94 V-0 rating and meets stringent FAA flammability requirements. Boltaron 4330 combines excellent impact strength, abrasion resistance, rigidity, and chemical resistance with superior thermoformability.

- **Boltaron 6530**
Boltaron 6530 is a proprietary, fire retardant, extruded ABS/PVC Alloy sheet that meets stringent FAA flammability requirements and UL Standard 94 V-0. Boltaron 6530 offers excellent impact strength, high tensile strength, abrasion resistance, chemical resistance and thermoformability.

- **Boltaron 6540**
Boltaron 6540 is a proprietary, fire retardant, extruded ABS/PVC Alloy sheet that meets stringent FAA flammability requirements and UL Standard 94 V-0. Boltaron 6540 offers excellent impact strength, abrasion resistance, chemical resistance and thermoformability.

- **Boltaron 6800**
Boltaron 6800 is a proprietary, fire retardant, press laminated ABS/PVC alloy sheet that meets stringent FAA flammability requirements and UL Standard 94 V-0. Boltaron 6800 offers excellent impact strength, abrasion resistance, stain and chemical resistance, and superior thermoformability.

- **Boltaron 9200/9200C**
Boltaron 9200 is a proprietary, extruded thermoplastic sheet, designed for use as aircraft window shades. It offers maximum light blocking characteristics, excellent impact strength, abrasion resistance, stain and chemical resistance, and thermoformability. Boltaron 9200 meets stringent FAA regulations for flammability, smoke generation and heat release as set forth in FAR 25.853 paragraphs (a) and (d), and is available as a single color (9200) or in double-color (9200C) construction.

- **Boltaron 9230/9230C**
Boltaron 9230 is a proprietary, extruded sheet, designed for use as aircraft window shades. Boltaron 9230 offers maximum light blocking characteristics, excellent impact strength, abrasion resistance, stain and chemical resistance, and thermoformability. Boltaron 9230 meets stringent FAA regulations for flammability, and is available as a single color (9230) or in double-color (9230C) construction.

- **Boltaron 9250/9250C**
Boltaron 9250 is a proprietary, high heat distortion, extruded thermoplastic sheet, designed for use as aircraft window shades. It offers maximum light blocking characteristics, excellent impact strength, abrasion resistance, stain and chemical resistance, and thermoformability, and meets stringent FAA regulations for flammability. Boltaron 9250 is available as a single color (9250) or in double-color (9250C) construction.

- **Boltaron 9815E**
  Boltaron 9815E is a proprietary, fire retardant, extruded thermoplastic sheet that meets stringent FAA requirements for flammability, smoke generation and heat release. Boltaron 9815E offers excellent impact strength, abrasion resistance, stain and chemical resistance, and thermoformability.

- **Boltaron 9815M**
  Boltaron 9815M is a proprietary metallic thermoplastic sheet designed to meet stringent FAA requirements for flammability, smoke density and heat release as set forth in FAR 25.853 paragraphs (a) and (d). It is comprised of an opaque cap film with integral metallic coloration, permanently fused to a matching "9815-grade" substrate of a complementary solid color, preventing de-lamination and offering unsurpassed scratch resistance. Unlimited metallic color selection.

FAR 25.853 D

- **Boltaron 9200/9200C**
  Boltaron 9200 is a proprietary, extruded thermoplastic sheet, designed for use as aircraft window shades. It offers maximum light blocking characteristics, excellent impact strength, abrasion resistance, stain and chemical resistance, and thermoformability. Boltaron 9200 meets stringent FAA regulations for flammability, smoke generation and heat release as set forth in FAR 25.853 paragraphs (a) and (d), and is available as a single color (9200) or in double-color (9200C) construction.

- **Boltaron 9815E**
  Boltaron 9815E is a proprietary, fire retardant, extruded thermoplastic sheet that meets stringent FAA requirements for flammability, smoke generation and heat release. Boltaron 9815E offers excellent impact strength, abrasion resistance, stain and chemical resistance, and thermoformability.

- **Boltaron 9815M**
  Boltaron 9815M is a proprietary metallic thermoplastic sheet designed to meet stringent FAA requirements for flammability, smoke density and heat release as set forth in FAR 25.853 paragraphs (a) and (d). It is comprised of an opaque cap film with integral metallic coloration, permanently fused to a matching "9815-grade" substrate of a complementary solid color, preventing de-lamination and offering unsurpassed scratch resistance. Unlimited metallic color selection.

MVSS Docket 90A

- **Boltaron 4800**
  Boltaron 4800 is a proprietary, fire retardant, extruded PVC/Acrylic alloy sheet designed specifically for mass transit interior applications. Boltaron 4800 meets ASTM E-162 and ASTM E-662 stringent requirements for flammability and low smoke emissions and FTA, UMTA and Docket 90A guidelines. Boltaron 4800 offers excellent impact strength, abrasion resistance, stain and chemical resistance, and thermoformability.

UL 94 Std 5V

- **Boltaron 4330**
  Boltaron 4330 is a proprietary, fire retardant, extruded PVC/Acrylic alloy sheet that offers a UL 94 V-0 rating and meets stringent FAA flammability requirements. Boltaron 4330 combines excellent impact strength, abrasion resistance, rigidity, and chemical resistance with superior thermoformability.

- **Boltaron 4330M (Metallic)**
  Boltaron 4330M is a proprietary, dual layer, metallic thermoplastic sheet. Boltaron 4330 offers a UL 94 V-0 rating and meets stringent FAA flammability requirements. Boltaron 4330M combines excellent impact strength, abrasion resistance, rigidity, and chemical resistance with superior thermoformability.

- **Boltaron 4335**
  Boltaron 4335 is a proprietary, fire retardant, extruded Acrylic/PVC Alloy sheet. Boltaron 4335 offers a UL 94 V-0 rating, excellent impact strength, abrasion resistance, chemical resistance, rigidity and thermoformability. Boltaron 4335 is cost competitive with FR ABS but offers superior performance.

- **Boltaron 6530**
  Boltaron 6530 is a proprietary, fire retardant, extruded ABS/PVC Alloy sheet that meets stringent FAA flammability requirements and UL Standard 94 V-0. Boltaron 6530 offers excellent impact strength, high tensile strength, abrasion resistance, chemical resistance and thermoformability.

- **Boltaron 6540**
  Boltaron 6540 is a proprietary, fire retardant, extruded ABS/PVC Alloy sheet that meets stringent FAA flammability requirements and UL Standard 94 V-0. Boltaron 6540 offers excellent impact strength, abrasion resistance, chemical resistance and thermoformability.

UL Std 94 V-0

- **Boltaron 4065MP**
  Boltaron 4065MP is a proprietary, PVC/Acrylic alloy sheet designed for use in membrane pressing (3-D laminating) and flat laminating applications. It combines excellent impact strength, abrasion resistance, rigidity, durability, chemical resistance and fire retardancy, and affords designers the flexibility to incorporate unlimited three dimensional shapes while eliminating the slab-sided shapes, unsightly seams, edge banding and de-lamination associated with high pressure laminates. In addition, it is available in a wider range of thicknesses down to 18 mil (compared with competitive PVC/Acrylic alloys of 22 mil minimum thickness) enabling you to compete price-wise with thermofoil films while providing superior resistance to damage. Boltaron 4065MP carries a UL 94 V-0 fire rating.

- **Boltaron 4125**
  Boltaron 4125 is a normal impact, high temperature, corrosion resistant CPVC sheet with an industrial smooth finish on both sides. Boltaron 4125 conforms to ASTM-1784.

- **Boltaron 4205**
  Boltaron 4205 is a proprietary, high heat distortion, fire retardant, extruded thermoplastic sheet designed to meet stringent FAA flammability requirements and higher in-service temperature applications. Boltaron 4205 offers excellent impact strength, abrasion resistance, stain and chemical resistance, and thermoformability.

- **Boltaron 4300 Clear**
  Boltaron 4300 is a transparent blue tint, high impact, corrosion resistant Type II PVC sheet that carries FAR 25.853 A1 i, ii, UL Standard 94 V-0 and ASTM D-1784 ratings. It has textured or polished smooth surfaces on both sides and is suitable for flat and thermoformed applications.

- **Boltaron 4330**
  Boltaron 4330 is a proprietary, fire retardant, extruded PVC/Acrylic alloy sheet that offers a UL 94 V-0 rating and meets stringent FAA flammability requirements. Boltaron 4330 combines excellent impact strength, abrasion resistance, rigidity, and chemical resistance with superior thermoformability.

- **Boltaron 4335**
  Boltaron 4335 is a proprietary, fire retardant, extruded Acrylic/PVC Alloy sheet. Boltaron 4335 offers a UL 94 V-0 rating, excellent impact strength, abrasion resistance, chemical resistance, rigidity and thermoformability. Boltaron 4335 is cost competitive with FR ABS but offers superior performance.

- **Boltaron 4330M (Metallic)**
  Boltaron 4330M is a proprietary, dual layer, metallic thermoplastic sheet. Boltaron 4330 offers a UL 94 V-0 rating and meets stringent FAA flammability requirements. Boltaron 4330M combines excellent impact strength, abrasion resistance, rigidity, and chemical resistance with superior thermoformability.

- **Boltaron 6530**
  Boltaron 6530 is a proprietary, fire retardant, extruded ABS/PVC Alloy sheet that meets stringent FAA flammability requirements and UL Standard 94 V-0. Boltaron 6530 offers excellent impact strength, high tensile strength, abrasion resistance, chemical resistance and thermoformability.

- **Boltaron 6540**
  Boltaron 6540 is a proprietary, fire retardant, extruded ABS/PVC Alloy sheet that meets stringent FAA flammability requirements and UL Standard 94 V-0. Boltaron 6540 offers excellent impact strength, abrasion resistance, chemical resistance and thermoformability.

- **Boltaron 6800**
  Boltaron 6800 is a proprietary, fire retardant, press laminated ABS/PVC alloy sheet that meets stringent FAA flammability requirements and UL Standard 94 V-0. Boltaron 6800 offers excellent impact strength, abrasion resistance, stain and chemical resistance, and superior thermoformability.

- **Boltaron 1050**
  Boltaron 1050 is a normal impact resistant Type I PVC sheet with an industrial smooth finish on both sides. Boltaron 1050 conforms to ASTM D-1784, and is in stock for immediate shipment in gauges from .031 to 3.00 in (.787 mm to 76.2 mm)

- **Boltaron 1050E**
  Boltaron 1050E is a normal impact, high corrosion resistant, extruded Type I PVC sheet with an industrial smooth finish on both sides. Boltaron 1050E conforms to ASTM D-1784.

- **Boltaron 1165/1165C**
  Boltaron 1165 is a proprietary, fire retardant PVC/Acrylic alloy sheet, black in color, offering a UL Standard 94 V-0 fire rating, excellent impact strength, abrasion resistance, chemical resistance and thermoformability. Manufactured using recycled resin, Boltaron 1165 is a cost effective alternative to other general-purpose flame retardant materials.

UL Std 723

- **Boltaron 4343/4353**
  Boltaron Rigiwall 4343/4353 is a proprietary PVC/Acrylic alloy sheet, formulated as a durable, protective, interior wall covering that offers a Class 1-A building code rating and UL Standard 723 listing, Izod impact of 7 to 12 ft-lbs/in (371 to 635 J/m), abrasion resistance, and stain and chemical resistance. White in color, it is available in custom colors in gauges from 30 to 125 mil (7.6 to 31.8 mm), widths to 60 in. (1524 mm), lengths to 120 in. (3048 mm) and in a variety of surface textures. It is widely used by the world's largest manufacturers and users of cleanrooms for fabricating/surfacing of cleanroom walls, partitions and doors.

ABD 0031

- **Boltaron 9915FSTH**
  Boltaron 9915 FSTH is an aircraft-grade thermoplastic sheet that meets ABD0031, BSS7239 and D6-5137 requirements for flammability, smoke, toxicity and heat release. Comprised of Boltaron PVC/Acrylic alloy and Lexan® XHR6000 thermoplastic, this proprietary composite is offered in numerous colors, textures and stunning decorative effects such as wood-grain, pearlescent and carbon-fiber, eliminating the need to sacrifice aesthetics for compliance. Retains its low-gloss appearance after thermoforming.

BSS 7237

- **Boltaron 9915FSTH**
  Boltaron 9915 FSTH is an aircraft-grade thermoplastic sheet that meets ABD0031, BSS7239 and D6-5137 requirements for flammability, smoke, toxicity and heat release. Comprised of Boltaron PVC/Acrylic alloy and Lexan® XHR6000 thermoplastic, this proprietary composite is offered in numerous colors, textures and stunning decorative effects such as wood-grain, pearlescent and carbon-fiber, eliminating the need to sacrifice aesthetics for compliance. Retains its low-gloss appearance after thermoforming.

FAR 25.853 A1 F

- **Boltaron 9915FSTH**
  Boltaron 9915 FSTH is an aircraft-grade thermoplastic sheet that meets ABD0031, BSS7239 and D6-5137 requirements for flammability, smoke, toxicity and heat release. Comprised of Boltaron PVC/Acrylic alloy and Lexan® XHR6000 thermoplastic, this proprietary composite is offered in numerous colors, textures and stunning decorative effects such as wood-grain, pearlescent and carbon-fiber, eliminating the need to sacrifice aesthetics for compliance. Retains its low-gloss appearance after thermoforming.

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