Milliken®

Crystalflex™ Fabric

Milliken's Crystalflex™ fabric is a uniquely engineered knit suspension fabric designed specifically for use in aircraft seating support diaphragms. It has remained the industry standard since its debut in 1996. Over the past two decades it has enabled the continual evolution of aircraft seat system design towards maximizing passenger comfort and reducing weight and fuel costs, while optimizing seat system and assembly economics. Crystalflex fabric is lightweight, flame retardant, highstrength, breathable, recyclable, reliable, durable and proven.



- Reduce weight up to hundreds of pounds per aircraft (fuel savings)
- Save space without compromising passenger comfort
- Design more seats per aircraft

ERGONOMIC

- Simple, breathable, sleek & safe
- Provide comfort in all the right places
- Reduce pressure points & allow for a more comfortable passenger experience



PROVEN

- Used in over 1 million aircraft seats
- Trusted by the industry leaders
- Unmatched quality & durability

INNOVATIVE

- Engineered specifically for aircraft fabric diaphragms
- Optimal FR chemistry for maximum safety & performance
- Unique warp knit structure provides best-in-class strength & stretch recovery
- Passes stringent crash dynamic testing & fully complies with aircraft flammability standards

Milliken has been solving everyday problems with innovative solutions for over 150 years. An unwavering commitment to ethics guides our research, design and manufacturing expertise of performance and protective textiles, specialty chemicals and floor coverings. In aerospace, our passion for problem solving and manufacturing of innovative products enables us to deliver industrial reliability in an ever changing and evolving aircraft seating industry.



Crystalflex™ Fabric

CRYSTALFLEX™ PRODUCTS & SPECIFICATIONS	BLACK	NATURAL	LIGHTWEIGHT
Color	Black	Light Gray	Black
Weight	11.4 osy	11.4 osy	8.2 osy
	388 gsm	388 gsm	278 gsm
Fabric Width	74 in	74 in	74 in
	1880 mm	1880 mm	1880 mm
Tensile Strength - machine direction ASTM D5034	175 lbf	171 lbf	126 lbf
	778 N	761 N	560 N
Tensile Strength - cross machine direction ASTM D5034	318 lbf	324 lbf	192 lbf
	1415 N	1441 N	854 N
Tear Strength - machine direction ASTM D5587	70 IBF	75 lbf	51 lbf
	311 N	334 N	227 N
Tear Strength - cross machine direction ASTM D5587	81 IBF	72 lbf	62 lbf
	360 N	320 N	276 N
Elongation at Break - machine direction ASTM D5034	73%	62%	43%
Elongation at Break - cross machine direction ASTM D5034	26%	28%	25%
Ball Burst ASTM D3787	292 lbf	314 lbf	223 lbf
	1300 N	1397 N	992 N
Recommended Pre-Stretch	5-7%	5-7%	5-7%

- Crystalflex[™] fabric is treated to meet automotive and aircraft flammability standards fmvss302 (15 sec horizontal burn) and 14cfr 25 appendix f part i (a)(1)(ii) (12 sec vertical burn).
- This 100% polyester based fabric is heat set and a flame retardant finish is added.
- This fabric uses elastomeric yarns in the machine or warp (length) direction. It can be used as a support system replacing springs and existing decking fabrics. It is designed to be pretensioned during installation.
- The fabric will be on tubes and wrapped in polyethylene sheeting.
- The yards per roll and actual shipping is customized for each customer (standard roll length is 75 yards).

