NEWTEX PERFORMANCE MATERIALS

Z-FLEX® MULTILAYER ALUMINIZED FABRICS

The Z-Flex® Multilayer Aluminization (MLA) process uses the latest aerospace thin film deposition technology to apply fine, highly reflective aluminum particles to both sides of a high temperature polymer film barrier. The resulting Z-Flex® film is then chemically and mechanically bonded to a premium substrate fabric using a proprietary adhesive that is activated with both heat and pressure. The result is a finished fabric with superior bonding that will not delaminate under even the most demanding flexing conditions. Z-Flex® fabrics provide the highest achievable level of radiant reflectivity, chemical and moisture resistance, and thermal protection.

Applications: Fire Protection Systems, Fire & Proximity Suits for Civil & Military Use, Protective Apparel for Emergency Responders, Industrial Safety Apparel, Removable Insulation Systems, Performance Automotive Heat Shields, Forest Fire Shelters & Specialty Applications, Custom Fabrications

Superior Protection

Reflects up to 95% of radiant heat

Z-Flex® aluminization provides protection for a longer period of time than any competitive aluminized fabric, significantly outperforming the leading competitive aluminization during ASTM F1939 radiant heat testing. Z-Flex® protects from radiant temperatures up to 3000°F / 1650°C.

Unmatched Durability

Will not de-laminate under even the most demanding conditions

Z-Flex® features an advanced thermo-set polymer bonding system that is inherently fire retardant. Extensive testing has proven that the Z-Flex® adhesive withstands higher temperatures for longer periods of time than the adhesive used in alternative aluminized fabrics.

Improved Comfort

Bonding system allows for flexibility and range of motion

Newtex's proprietary bonding system allows for greater flexibility between the aluminization and base fabric, permitting for better range of motion and more comfortable and flexible personal protective equipment (PPE).

Testing & Certifications

Radiant Heat	ISO 6942, EN 366, ASTM F1939
Convective Heat	ISO 9151, EN 367
Limited Flame Spread	ISO 15052, EN 532
Molten Metal	ISO 9185, EN 348, ASTM F955
Abrasion & Tear Resistance	ISO 13937, EN 388
Firefighting	Z-Flex® Silver™ P-202 and K-252 fabrics are NFPA component certified

Alternative Z-Flex® Options

Z-Flex® Aluminum Foil (AF) lamination offers the same radiant heat protection as Z-Flex® Multilayer Aluminization (MLA) at a lower cost. Z-Flex® MLA offers greater durability and a better flex-bond, but Z-Flex® AF is typically suitable for applications where the fabric will not be subject to repetitive stretching, twisting, or vibration.

Z-Flex® Air fabrics feature proprietary micro-perforations that combat the risk of heat stress in high temperature environments. These breathable aluminized fabrics offer all of the same benefits and protection as standard Z-Flex® Multilayer Aluminized fabrics.

Available Base Fabrics

Zetex® Texturized Glass: Highly texturized fiberglass fabrics offer great value and superior insulation to protect from extreme heat and to prevent burn-though.

Z-Fil™ Filament Glass: Premium 6 and 9 micron non-texturized fiberglass fabrics are lightweight and flexible. They provide the best value for environments in which radiant heat protection is necessary but convective and conductive heat protection is less of a concern.

Z-Sil™ Silica: Z-Sil is composed of more than 96% silica for superior temperature resistance. Z-Sil is lightweight and flexible and protects from temperatures up to 2300°F (1260°C).

Para-Aramid: Spun aramid is strong and abrasion resistant. It offers superior wear-ability. Core Spun (CS) aramid fabrics are made by covering a fiberglass core yarn with a para-aramid sheath to create a strong and abrasion resistant fabric with added insulation and thermal protection.

O-PAN / Aramid Blends: These fabrics are woven from a unique yarn made from a proprietary blend of oxidized PAN and para-aramid fibers. O-PAN/Aramid fabrics offer excellent fire resistance, high strength and wear-ability, and low shrinkage.

Z-Flex® Silver™: NFPA component-certified Z-Flex Silver fabrics feature a 3D Mock-Knit™ weave structure that provides the comfort of a knit and the strength and insulation of a woven fabric. Z-Flex Silver fabrics were engineered specifically for specialized fire fighting operations.

Rayon: Rayon is a natural, cellulose based fiber. In addition to being a comfortable and wearable fabric, fire retardant rayon offers excellent thermal protection and a flame resistant finish.

Aluminum Foil (AF): Z-Flex® AF is a cost effective substitute for Z-Flex MLA in stagnant applications.

Style	Weight		Thickness	
	oz/yd²	g/m²	mils	mm
Zetex® Texturized Glass				
Z-Flex A-302	13.0	441	23	0.58
Z-Flex A-601	21.0	712	31	0.81
Z-Flex A-801	27.0	915	48	1.22
Z-Flex A-802	27.0	915	40	1.02
Z-Fil™ Filament Glass				
Z-Flex F-407	15.0	509	15	0.38
Z-Flex F-628	8.0	271	8	0.20
Z-Flex F-781	11.0	373	13	0.33
Z-Sil™ Silica				
Z-Flex F-605 Silica	22.0	746	28	0.71
Para-Aramid				
Z-Flex K-270 (Spun)	10.0	339	21	0.53
Z-Flex K-570 (Core Spun)	19.0	644	57	1.45

Style	Weight		Thickness	
	oz/yd²	g/m²	mils	mm
O-PAN / Aramid Blends				
Z-Flex O-310 O-PAN/Aramid	10.0	339	24	0.61
Z-Flex O-440 O-PAN/Aramid	14.5	492	45	1.14
Z-Flex O-440 O-PAN/Aramid Air	14.5	492	45	1.14
Z-Flex O-500 O-PAN/Aramid	16.0	542	42	1.07
Z-Flex® Silver™ (NFPA 1971 Certified)				
Z-Flex P-202 PBI/Aramid	7.4	251	24	0.61
Z-Flex P-202 PBI/Aramid Air	7.4	251	24	0.61
Z-Flex K-252 Para-Aramid	10.0	339	31	0.79
Rayon				
Z-Flex R-480 Herringbone	15.0	509	30	0.76
Aluminum Foil				
Z-Flex AF A-600*	20.5	695	35	0.89
Z-Flex AF A-801	27.0	915	60	1.52

** Z-Flex AF A-600 meets the requirements of Military Specification MIL-C-20079H.*

Note: Z-Flex fabric is sold in full rolls only, 58" in width x 50 linear yards.

NEWTEX

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For more than 40 years, Newtex has been a pioneer and leading global producer of high temperature materials and engineered solutions for thermal management, heat shielding, and fire protection. Headquartered in Rochester, New York, Newtex is an ISO 9001:2015 certified, vertically integrated manufacturer of an impressive portfolio of textiles and fabricated systems for insulation and fire containment. Globally recognized textile brands include ZetexPlus®, Z-Flex®, and Z-Block™. Newtex is a minority owned, veteran-managed business that has served the US Military and leading global industries since 1978. Newtex products are proudly made in the USA.

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