

ARAMID FABRICS, YARNS, THREADS, TAPES

- Fabrics are used both for the production of soft bulletproof vests with multilayer fabric panels, and hard ones with the inclusion of steel or ceramic plates
- The use of textile solutions from aramid materials for ballistic protection products has a number of significant advantages: functionality, economy, stability, flexibility and ease of handling and processing of the material, the possibility of manufacturing water-repellent and laminated material for a higher level of protection, softness, lightness and comfort of wearing ready-made body armor.



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Fabric number	Warp		Weft			Fabric width, (cm)	Surface density, (g/m ²)	Weave
	Breaking load of a strip of fabric measuring (50x200) mm, kgf/N, not less	Elongation at break of a strip of fabric of size (50X200) mm,%, not less than	Breaking load of a strip of fabric measuring (50x200) mm kgf/N, not less	Elongation at break of a strip of fabric size (50x200) mm,%, not less				
1	2	3	4	5		6	7	8
84298WI	612/6000	4,0	612/6000	4,0		105±2	127±5	twill 2/2
	Water absorption no more than 10.0% Speed of 50% non-penetration of a package of 30 layers, not less than: <ul style="list-style-type: none"> • in the dry state -565m /s • after immersion in water for 1 hour and 5 minutes of draining -565m /s 							



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84200WI	612/6000	3,5	612/6000	3,5		105±2	145±10	twill 3/3
	<p>Water repellent, not less than 70 points.</p> <ul style="list-style-type: none"> • Protective properties, 50% non-penetration rate of a package of 18 fabric layers, not less than: After soaking in water - 500m /s. • Bulletproof resistance of protective structures (18-layer package), 9mm APS pistol, ind. 56-A-126 speed, m /s: After aging in water, at least - (335 + 10). • The protective properties of a 20-layer package should ensure the class of protective structure C (GOST R 50744), bayonet knife ind.6x5 factory sharpening with impact energy (49 + 1) J. • The penetration depth (exit length) of the cold steel blade beyond the back of the protective structure is not more than 5 mm. 							
84197WI	612/6000	3,0	714/7000	3,0		102±2	200±20	canvas
	Water absorption, not more than 12.0%							
8419WI	918/9000	9,0	1020/10000	3,0		102±2	300±20	canvas
	Water absorption, no more than 12%							
84210WT WI	510/5000	7,0	612/6000	2,5		105±3	165±10	canvas
	Water repellent, not less than 80 points.							

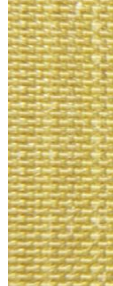


84210PW WI	612/6000	3,0	510/5000	2,5		105 \pm 3	165 \pm 10	twill 2/2
	Water repellent, not less than 80 points							
84320WI	714/7000	5,0	714/7000	3,0		103 \pm 2	265 \pm 10	canvas
	Water repellent 80 points. <ul style="list-style-type: none"> Protective properties of a 16-layer bag, Makarov pistol (PM), 9 mm cartridge 57-H-181C with a bullet Pst., Speed, m /s: in dry form 305-325. The protective properties of the 18-layer package should provide resistance to the effects of a bayonet-knife ind.6x5 factory sharpening with impact energy (49 + 1) J. The penetration depth (entry length) of the cold steel blade beyond the back of the protective structure is not more than 5 mm. <p>Note: testing is carried out at the request of the customer.</p>							
84301F	388/3800	4,0	367/3600	4,0		98 \pm 2	87 \pm 5	satin 8/3
84300F	408/4000	8,5	408/4000	3,5		101 \pm 2	Не более 115	twill 1/2



84299WI	633/6200	4,0	633/6200	4,0		105±2	145±10	satin 8/3
	<p>Water repellent - at least 90 points. Protective properties, speed of 50% non-penetration of a 20-layer package, m / s, not less than:</p> <ul style="list-style-type: none"> • dry state-540 • after exposure to water-540 • 							
84302WI	714/7000	6,0	714/7000	3,0		104±2	not more 190	canvas / twill
	<p>Water absorption,%, not more than 13 points. Protective properties, speed of 50% non-penetration of a package from a 22-layer package, m / s, not less than:</p> <ul style="list-style-type: none"> • dry form-505 • after exposure to water-505 <p>Note: testing is carried out at the request of the customer.</p>							



84134WI	612/6000	4,0	612/6000	4,0		105±2	160±5	canvas
	Water absorption, not more than 10.0% <ul style="list-style-type: none"> • Bulletproof resistance of the protective structure (18-layer bag), 9 mm APS pistol, ind. 56-A-126 speed, m / s: After aging in water, at least - (335 + 10). • The protective properties of a 20-layer package should provide a protective structure class C (GOST R 50744), a bayonet-knife ind.6x5 factory sharpening with impact energy (49 + 1) J. • The penetration depth (exit length) of the cold steel blade beyond the back of the protective structure is not more than 5 mm. • Protective properties, speed of 50% non-penetration (22-layer package), m / s: After exposure to water, not less than -500. 							
Note : «WI»- water repellent impregnation «WT»- weave twill «PW»-plain weave «F»-finished								
KV110	Lightweight plain weave fabric based on a high-strength yarn having a special macromolecule structure and the best mechanical properties compared to the known aramid yarns.					100-150	110±15	canvas
	Finishing Options: <ul style="list-style-type: none"> • finished • washed • water repellent. 							



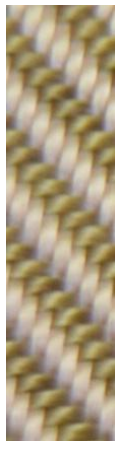

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KV110T	<p>Lightweight twill weave based on a unique microfilament yarn.</p> <p>Lightweight fabric made of special Ruslan® aramid threads, consisting of many of the thinnest filaments, is intended not only for elite protective body armor, but also for laminates for helmets and protective panels.</p> <p>Finishing Options:</p> <ul style="list-style-type: none">• Finished• Washed• Impregnated• laminated.		100-150	110±15	twill
KV125	<p>Medium plain weave fabric based on high strength yarn.</p> <p>Finishing Options:</p> <ul style="list-style-type: none">• water-repellent impregnation• boiled• appropriated• applied with water-repellent impregnation.		105±2	125±10	canvas


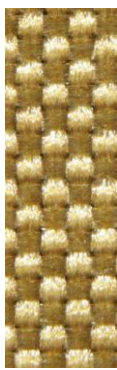


KV125T	<p>Lightweight twill weave fabric based on high strength yarn.</p> <p>Finishing Options:</p> <ul style="list-style-type: none"> • water-repellent impregnation • boiled • microfilament with water-repellent impregnation • dressed • dressed with water-repellent impregnation. 		<p>105±2</p>	<p>125±5</p>	<p>twill</p>
KV130P	<p>Medium plain weave fabric based on high strength yarn.</p>		<p>100-150</p>	<p>130±15</p>	<p>canvas</p>





KV145A	Medium satin weave fabric based on high strength yarn.		98	145±10	satin
KV145T	Lightweight twill weave fabric based on high strength yarn. Designed to provide armor protection from bullets and shrapnel, provides stable ballistic performance, is used for body armor 2-5 class. Finishing Options: <ul style="list-style-type: none"> • boiled • finished. 		105±2	145±10	twill



<p>KV160P</p>	<p>Medium plain weave fabric based on high strength yarn.</p> <p>Finishing Options: water-repellent impregnation.</p>		<p>105±2</p>	<p>160±5</p>	<p>canvas</p>
<p>KV165P</p>	<p>Medium plain weave fabric based on high strength yarn. The fabric has good strength at low density, has high ballistic performance.</p>		<p>105±2</p>	<p>165±5</p>	<p>canvas</p>



<p>KV170P</p>	<p>Medium plain weave fabric based on high strength yarn.</p> <p>Finishing Options:</p> <ul style="list-style-type: none"> • harsh • boiled • water-repellent impregnation. 		<p>105±2</p>	<p>170</p>	<p>canvas</p>
<p>KV220P</p>	<p>Medium plain weave fabric based on high strength yarn</p> <p>Finishing Options:</p> <ul style="list-style-type: none"> • harsh • boiled • water-repellent impregnation. 		<p>105±2</p>	<p>220</p>	<p>canvas</p>



ARAMID THREADS

Aramid thread ARMOS	Linear density, tex:	6,0 11,1 14,3. 29,4. 60,0
	Tensile strength cN / Tex:	sN / Tex: 260-290
	Elastic modulus kgf / mm2 (GPa)	15000-16500
	Elongation,%, not less than:	3,0
	Strength of the thread in microplastic kgf / mm2:	550-600
	Density g/cm3:	1,45

Applicable: in armor protection of equipment, bulletproof vests of various assortment, safety helmets

Aramid Thread Arlan	Linear density, tex:	29,4 58,8
	Breaking load, cN / tex, not less than:	38
	Breaking elongation,%, not less than:	10,0
	Modulus of elasticity, GPa	14-15
	Oxygen Index,%	35-37
	Long-term operating temperature (Celsius)	-196 to 200

Applicable: in heat-resistant protective materials, military uniforms



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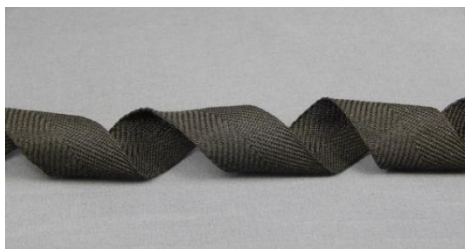
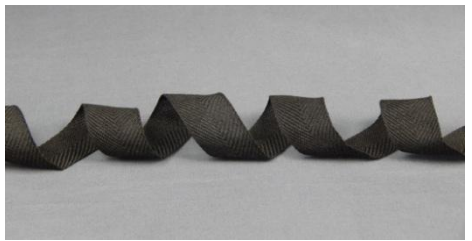

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ARAMID TAPES

Aramid Tape s3164	Width (mm): Thickness (mm): Breaking load (kgf): Linear Density (g / m): Type of:	30 0,74 82 6,96 Inelastic	
Aramid tape s3163	Width (mm): Thickness (mm): Breaking load (kgf): Linear Density (g / m): Type of:	25 0,75 72 5,72 Inelastic	
Aramid Tape s3025	Width (mm): Thickness (mm): Breaking load (kgf): Linear Density (g / m): Type of: Ultimate tensile strength:	45+1 2,5 2500 75 Inelastic 7%	



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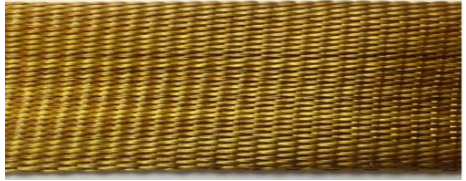

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Aramid tape s2272	Width (mm): Thickness (mm): Breaking load (kgf): Linear Density (g / m): Type of:	25 ± 2 1,2 1000 13,0 Inelastic	
Aramid tape s2273	Width (mm): Thickness (mm): Breaking load (kgf): Linear Density (g / m): Type of:	4 +2/-1,5 1,2 600 7,0 Inelastic	
Aramid Tape s2125	Width (mm): Thickness (mm): Breaking load (kgf): Linear Density (g / m): Type of:	48 ± 2 2,0 6000 50,0 Inelastic	
Aramid Tape s850	Width (mm): Thickness (mm): Breaking load (kgf): Linear Density (g / m): Type of:	14 +2 / -1,5 1,2 600 7,0 Inelastic	



Aramid Tape s736	Width (mm): Thickness (mm): Breaking load (kgf): Linear Density (g / m): Type of:	<p style="text-align: center;">25 ± 2 1,8 1600 18,0 Inelastic</p>	
Aramid Tape s225	Width (mm): Thickness (mm): Breaking load (kgf): Linear Density (g / m): Type of:	<p style="text-align: center;">48 ± 2 2,5 6000 50,0 Inelastic</p>	
Aramid Tape s1723	Width (mm): Thickness (mm): Breaking load (kgf): Linear Density (g / m): Type of:	<p style="text-align: center;">14 +2 / -1,5 1,0 450 5,2 Inelastic</p>	