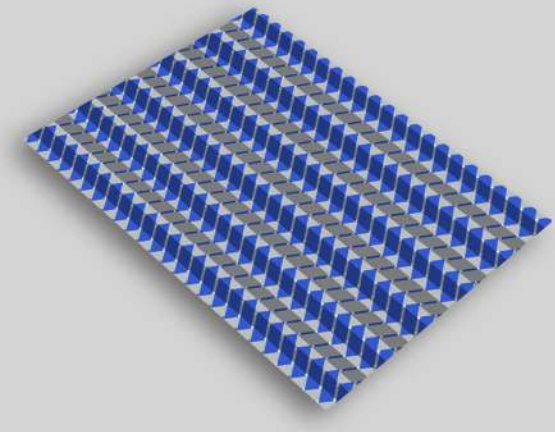
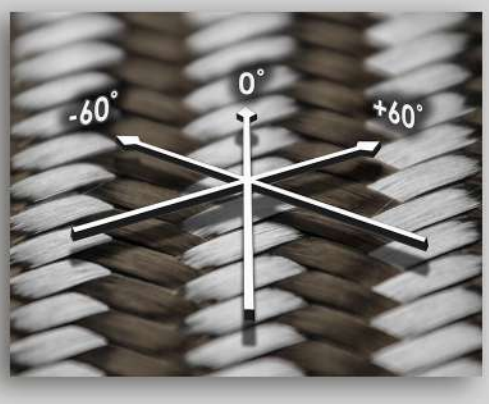
QISO®
Brand Braided Triaxial Fabric

QISO's 0°, +/-60° Fiber Architecture





Pound for pound, QISO is equivalent in costs to standard fabrics and provides additional cost savings due to:

Simple & Efficient Processing

No need to orient plies. QISO has equal amounts of material in every direction, providing uniform stiffness in all directions and enabling easy lay-up.

Reduction in Waste

QISO's uniformity in all directions enables efficient use of the fabric. Pattern cutting is simplified and material usage is optimized.

Superior Performance

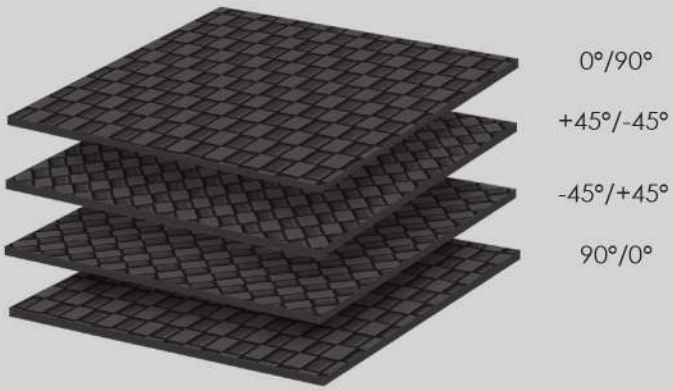
Benchmarked against a comparable woven laminate, QISO outperforms woven fabrics in tension, compression and open hole. In an impact event, interlaminar shear stresses are reduced due to QISO's uniform ply architecture, resulting in better energy absorption and higher impact resistance.

Balance in a Single Layer

Each ply of QISO represents a balanced 0°/+45°/-45°/90° layup

QISO®

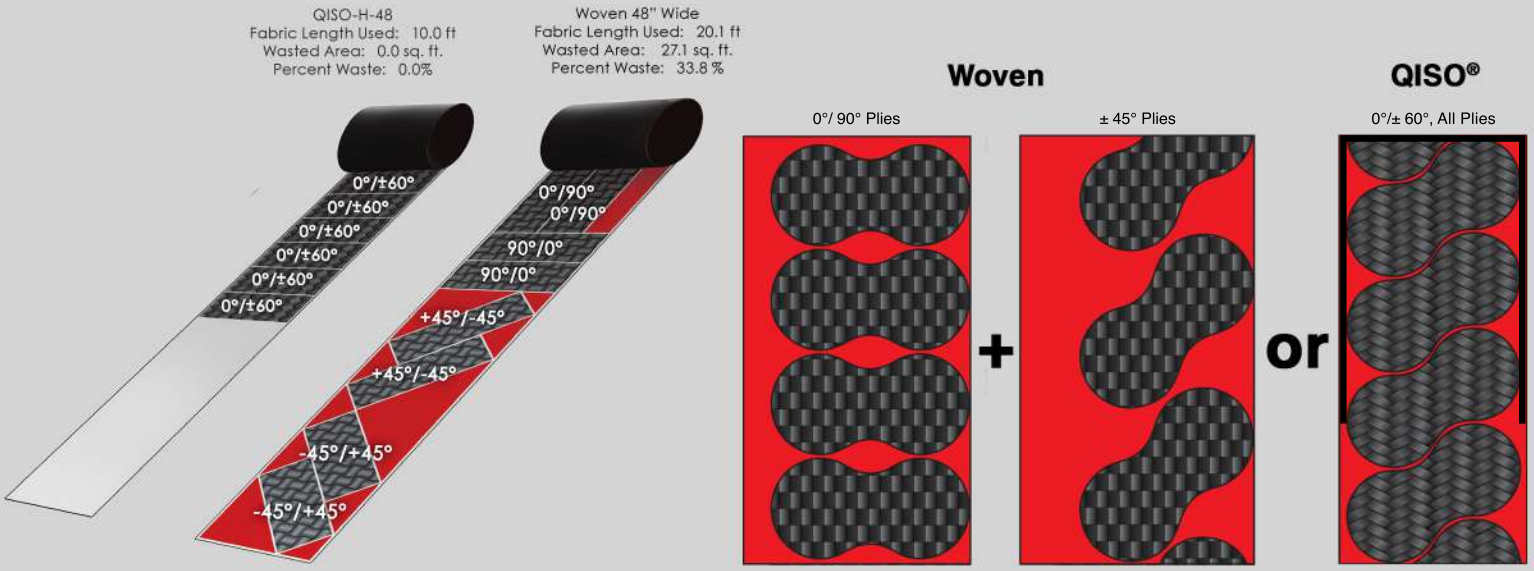
Woven



To achieve a balanced laminate with conventional 0/90 fabrics, four layers or a multiple of four layers is required. QISO is balanced within a single ply, so the fabricator has the design flexibility to use the exact number of plies necessary to meet strength and stiffness requirements. QISO allows the efficient use of material to minimize part thickness and reduce material and labor costs.

Less Waste

QISO® has the same properties in every direction, so there is no need to orient plies. QISO® also allows for simple and efficient nesting of patterns. With woven fabrics, cutting based on fiber orientation results in excess waste.



Better Performance

Testing was performed comparing QISO-H laminates to Plain Weave laminates to the same thickness. The QISO-H laminate was comprised of 6 aligned plies of 536 gsm fabric. The plain weave laminatewas comprised of 8 plies of 400 gsm fabric with a quasi-isotropic lay up ($[0°/+45°]_{2S}$).The fiber for both laminates is Toray T700S 12k, and the resin is TencateTC275-1. All results have been normalized to 55% Vf.

Mechanical Properties	Test Method	QISO-H Laminate	Quasi-isotropic PW Laminate	QISO vs PW
0° Tensile Strength (ksi)	ASTM D3039	134.9	92.5	46%
90° Tensile Strength (ksi)	ASTM D3039 (mod.)*	127.7	100.0	28%
0° Compressive Strength (ksi)	ASTM D6641	82.5	55.2	50%
90° Compressive Strength (ksi)	ASTM D6641	61.4	52.6	17%
0° Open Hole Tensile Stregnth (ksi)	ASTM D5766	98.0	70.2	40%
0° Open Hole Compressive Strength (ksi)	ASTM D6484	61.4	43.0	43%
0° Compression After Impact (ksi)	ASTM D7136/D7137	35.6	29.1	22%

*90° tensile strength measured by industry accepted “notched” coupon modification to the standard ASTM D3039 test method. Please see **braider.com** for additional details.

QISO®
Brand Braided Triaxial Fabric

All A&P products can be tailored to specific widths and weights.
Please contact a sales representative (sales@braider.com 513-688-3200)
to discuss optimizing a braid design to meet your requirements.

Product Code	Width		Angle	Yield		Fabric Weight		Thk @ 55% FV	
	in	mm		yd/lb	m/kg	oz/sqyd	g/sqm	in	mm
QISO-L-20	20.1"	511	0, +/- 60	3.6	7.2	8.0	272	0.011	0.28
QISO-L-52	52"	1321	0, +/- 60	1.4	2.8	8.0	272	0.011	0.28
QISO-L-A-52	52"	1321	0, +/- 60	1.0	2.0	11.6	393	0.016	0.41
QISO-M-48	48"	1219	0, +/- 60	0.8	1.7	11.8	399	0.016	0.41
QISO-MIM-A-48	48"	1219	0, +/- 60	0.9	1.9	12.9	439	0.018	0.45
QISO-MIM-C-48	48"	1219	0, +/- 60	0.9	1.9	12.9	439	0.018	0.45
QISO-H-48	47.9"	1217	0, +/- 60	0.8	1.6	15.8	536	0.021	0.54
QISO-H-59	59.2"	1504	0, +/- 60	0.6	1.3	15.8	536	0.021	0.54
QISO-HW-48	48"	1219	0, +/- 60	0.6	1.2	19.5	661	0.026	0.66
QISO-HHW-59	59.2"	1504	0, +/- 60	0.4	0.8	23.5	793	0.031	0.79
QISO-HH-48	48"	1219	0, +/- 60	0.4	0.7	32.6	1105	0.044	1.13

The values below represent a average of actual test data performed on laminates fabricated with QISO® and standard epoxy resins.

QISO-Light
272 gsm

Mechanical Properties	Average
0° Tensile Str. (ksi)	107
0° Tensile Mod. (Msi)	6.9
90° Tensile Str. (ksi)	95
90° Tensile Mod. (Msi)	6.5
0° Compressive Str. (ksi)	85
0° Compressive Mod. (Msi)	6.1
90° Compressive Mod. (Msi)	6.1
0° In-plane Shear Str. (ksi)	47
0° In-plane Shear Mod. (Msi)	2.4

QISO-Heavy
536 gsm

Mechanical Properties	Average
0° Tensile Str. (ksi)	119
0° Tensile Mod. (Msi)	6.6
90° Tensile Str. (ksi)	110
90° Tensile Mod. (Msi)	6.7
0° Compressive Str. (ksi)	78
0° Compressive Mod. (Msi)	6.1
90° Compressive Mod. (Msi)	6.3
0° In-plane Shear Str. (ksi)	34
0° In-plane Shear Mod. (Msi)	2.4

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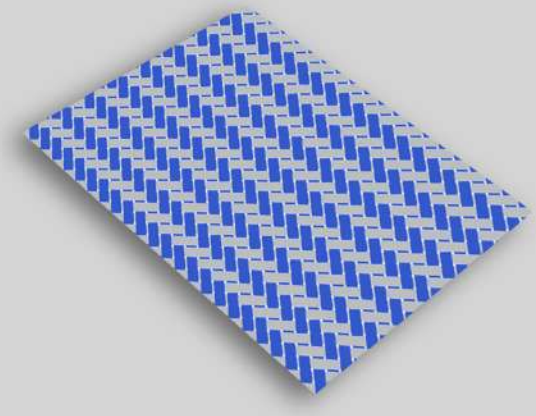
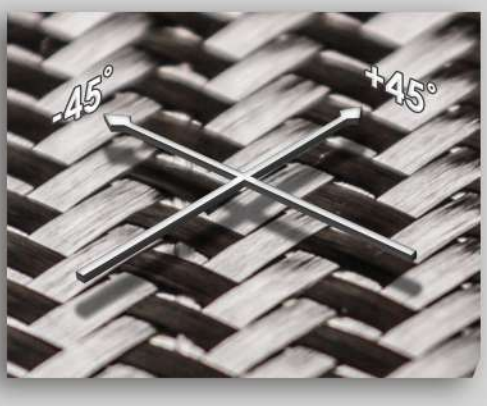
Brand Braided Biaxial Fabric

Bimax's +/-45° Fiber Architecture





Off-the-roll, single layer +/- fabric

Greatly reduces waste & cost compared to traditional weaves

Standard weights -195, 374 & 713 gsm

All A&P products can be tailored to specific widths and weights.
Please contact a sales representative (sales@braider.com 513-688-3200)
to discuss optimizing a braid design to meet your requirements.

Product Code	Width		Angle	Yield		Fabric	Weight	Thk @ 55% FV	
	in	mm		yd/lb	m/kg	oz/sqyd	g/sqm	in	mm
BIMAX-L-20	20.2"	513	+/- 45	5.0	10.1	5.8	195	0.008	0.20
BIMAX-L-36	36"	914	+/- 45	2.8	5.6	5.8	195	0.008	0.20
BIMAX-L-48	48"	1219	+/- 45	2.1	4.2	5.7	194	0.008	0.20
BIMAX-H-48	48"	1219	+/- 45	1.1	2.2	11.0	374	0.015	0.39
BIMAX-HH-52	52"	1321	+/- 45	0.5	1.1	21.0	713	0.028	0.72

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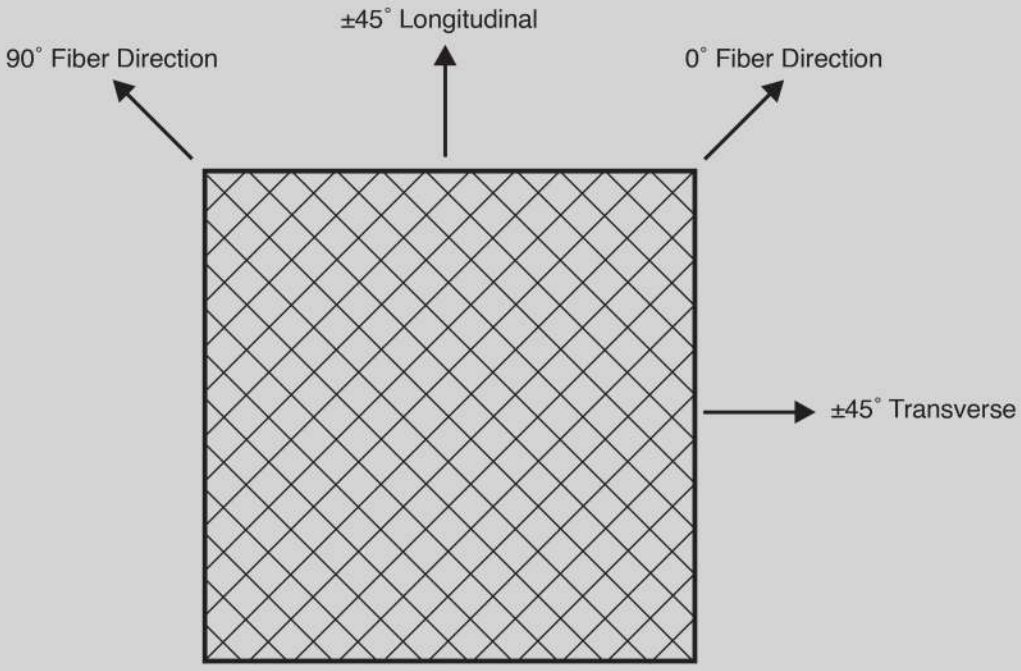
Brand Braided Biaxial Fabric

The values below represent a average of actual test data performed on laminates fabricated with Bimax® and standard epoxy resins.

Bimax-Light
196 gsm

Test Data

Mechanical Properties	Average
0° Fiber Direction Tensile Str. (ksi)	106
0° Fiber Direction Tensile Mod. (Msi)	9.4
45° Tensile Str. (ksi)	38
45° Tensile Mod. (Msi)	2.3
45° Compressive Strength (ksi)	34
45° Compressive Mod. (Msi)	2.0



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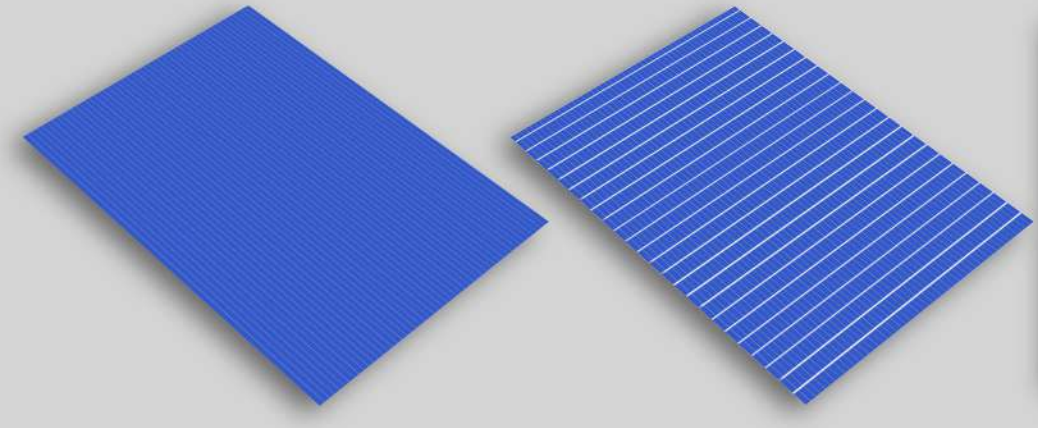
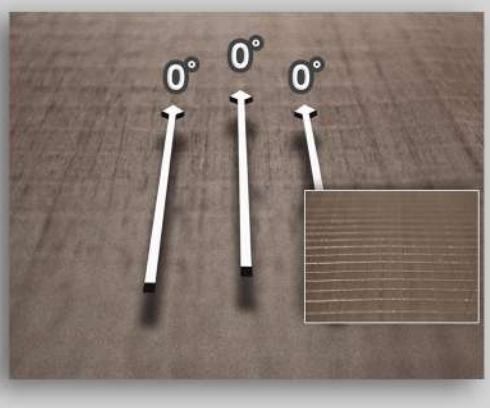
ZERO®

The ultimate zero degree reinforcement

ZERO's 0° Fiber Architecture





Small Elastic Bias on Backside

Low Cost Unidirectional Fabric

Small Stabilizing Binder Yarns on Backside Enable Fast Infusion, Thorough Wet-Out

Standard Weights – 140, 305 & 760

All A&P products can be tailored to specific widths and weights.
Please contact a sales representative (sales@braider.com 513-688-3200)
to discuss optimizing a braid design to meet your requirements.

PRODUCT CODE	WIDTH		YIELD		FABRIC	WEIGHT	Thk @ 55% FV	
	in	mm	ft/lb	m/kg	oz/sqyd	g/sqm	in	mm
UNI-4.0SM	12"	305	35.2	23.7	4.1	139	0.006	0.15
UNI-9.0SM	12"	305	15.9	10.7	9.0	305	0.014	0.36
UNI-Q-22.3SM	12" or 50"	305	6.5	4.3	22.3	757	0.030	0.76

These patent-pending unidirectional products are non-woven textiles that have a very low percentage of binder material. The binder material is applied to only one side of the fabric resulting in virtually no crimp in the fibers. Zero™ is highly efficient and very affordable.

Standard Roll Length - 50 or 100 Yards

Custom Widths Available

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to discuss optimizing a braid design to meet your requirements.

LIGHT

Sleevings braided with standard modulus carbon.

Product Code	Diameter		Angle	Yield		Fabric	Weight	Thk @ 50% FV	
	in	mm		ft/lb	m/kg	oz/sqyd	g/sqm	in	mm
E58L25X	0.25	6.4	+/- 45°	265.2	178	8.3	281	0.013	0.33
J58L50X	0.50	12.7	+/- 45°	132.6	89	8.3	281	0.013	0.33
P58L75X	0.75	19.1	+/- 45°	82.2	56	8.9	302	0.013	0.33
S58L100X	1.00	25.4	+/- 45°	66.3	45	8.3	281	0.013	0.33
T58L125X	1.25	31.8	+/- 45°	55.2	37	8.0	271	0.012	0.30
U58L150X	1.50	38.1	+/- 45°	44.2	30	8.3	281	0.013	0.33
V58L200X	2.00	50.8	+/- 45°	36.8	25	7.5	254	0.011	0.28
V58L225X	2.25	57.2	+/- 45°	36.4	25	6.7	227	0.010	0.25
ZW58L250X	2.50	63.5	+/- 45°	29.9	20	7.4	251	0.011	0.28
W58L300X	3.00	76.2	+/- 45°	25.3	17	7.2	244	0.011	0.28

MEDIUM

Sleevings braided with standard modulus carbon.

Product Code	Diameter		Angle	Yield		Fabric	Weight	Thk @ 50% FV	
	in	mm		ft/lb	m/kg	oz/sqyd	g/sqm	in	mm
H57L50X	0.50	12.7	+/- 45°	82.9	56	13.3	451	0.020	0.51
L57L75X	0.75	19.1	+/- 45°	55.2	37	13.3	451	0.020	0.51
P57L100X	1.00	25.4	+/- 45°	41.1	28	13.3	451	0.020	0.51
S57L125X	1.25	31.8	+/- 45°	33.1	22	13.3	451	0.020	0.51
T57L150X	1.50	38.1	+/- 45°	27.4	18	13.4	454	0.020	0.51
U57L200X	2.00	50.8	+/- 45°	22.0	15	12.5	423	0.018	0.46
V57L250X	2.50	63.5	+/- 45°	18.3	12	11.9	403	0.018	0.46

HEAVY

Sleevings braided with standard modulus carbon.

Product Code	Diameter		Angle	Yield		Fabric	Weight	Thk @ 50% FV	
	in	mm		ft/lb	m/kg	oz/sqyd	g/sqm	in	mm
I56L75X	0.75	19.1	+/- 45°	36.5	25	20.1	681	0.030	0.76
L56L100X	1.00	25.4	+/- 45°	27.6	19	19.9	675	0.030	0.76
P56L125X	1.25	31.8	+/- 45°	20.7	14	21.2	719	0.032	0.81
Q56L150X	1.50	38.1	+/- 45°	18.4	12	19.9	675	0.030	0.76
T56L200X	2.00	50.8	+/- 45°	13.8	9	19.9	675	0.030	0.76
U56L250X	2.50	63.5	+/- 45°	11.0	7	20.1	681	0.030	0.76
V56L300X	3.00	76.2	+/- 45°	9.2	6	19.9	675	0.030	0.76
Z56L400R	4.0	101	+/- 45°	7.7	5.2	18.0	610	0.027	0.69
W56L500R	5.0	127	+/- 45°	6.3	4.2	17.4	589	0.026	0.66
Y56L600R	6.0	152	+/- 45°	4.8	3.2	19.0	644	0.028	0.71
X56L800R	8.0	203	+/- 45°	3.9	2.6	17.6	596	0.026	0.66
M56L900R	9.0	229	+/- 45°	3.3	2.2	18.6	630	0.028	0.71
MM56L1200R	12.0	305	+/- 45°	2.6	1.8	17.4	589	0.026	0.66
XM56L1400R	14.0	356	+/- 45°	2.2	1.5	17.9	596	0.027	0.69
ZM56L1900R	19.0	483	+/- 45°	1.6	1.1	17.6	596	0.026	0.66
XM55L2100R	21.0	533	+/- 45°	1.1	0.7	23.9	810	0.035	0.89
ZM55L2800R	28.0	711	+/- 45°	0.8	0.5	24.6	833	0.037	0.94

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LIGHT

Sleevings braided with E-Glass Roving.

Product Code	Diameter		Angle	Yield		Fabric	Weight	Thk @ 50% FV	
	in	mm		ft/lb	m/kg	oz/sqyd	g/sqm	in	mm
E26L25X	0.25	6.4	+/- 45°	190.9	128	11.5	390	0.012	0.30
J26L50X	0.50	12.7	+/- 45°	95.5	64	11.5	390	0.012	0.30
P26L75X	0.75	19.1	+/- 45°	59.7	40	12.3	417	0.013	0.33
S26L100X	1.00	25.4	+/- 45°	47.7	32	11.5	390	0.012	0.30
T26L125X	1.25	31.8	+/- 45°	39.8	27	11.1	376	0.012	0.30
U26L150X	1.50	38.1	+/- 45°	31.8	21	11.5	390	0.012	0.30
V26L200X	2.00	50.8	+/- 45°	26.5	18	10.4	353	0.011	0.28
V26L225X	2.25	57.2	+/- 45°	26.5	17.8	9.2	313	0.010	0.25
Z26L250R	2.5	63.5	+/- 45°	22.2	14.9	9.9	336	0.010	0.25
W26L300R	3.0	76.2	+/- 45°	18.4	12.3	10.0	339	0.010	0.25
Y26L400R	4.0	101.6	+/- 45°	14.0	9.4	9.8	332	0.010	0.25
X26L500R	5.0	127.0	+/- 45°	11.4	7.6	9.7	329	0.010	0.25
M26L600R	6.0	152.4	+/- 45°	9.5	6.4	9.6	325	0.010	0.25
MM26L700R	7.0	177.8	+/- 45°	7.6	5.1	10.3	348	0.010	0.25
XM26L900R	9.0	228.6	+/- 45°	6.3	4.3	9.6	325	0.010	0.25
ZM26L1200R	12.0	304.8	+/- 45°	4.7	3.2	9.6	325	0.010	0.25

MEDIUM

Sleevings braided with E-Glass Roving.

Product Code	Diameter		Angle	Yield		Fabric	Weight	Thk @ 50% FV	
	in	mm		ft/lb	m/kg	oz/sqyd	g/sqm	in	mm
D29L25X	0.25	6.4	+/- 45°	119.3	80	18.4	625	0.019	0.49
H29L50X	0.50	12.7	+/- 45°	59.7	40	18.4	625	0.019	0.49
L29L75X	0.75	19.1	+/- 45°	39.8	27	18.4	625	0.019	0.49
P29L100X	1.00	25.4	+/- 45°	29.8	20	18.4	625	0.019	0.49
S29L125X	1.25	31.8	+/- 45°	23.9	16	18.4	625	0.019	0.49
T29L150X	1.50	38.1	+/- 45°	19.9	13	18.4	625	0.019	0.49
U29L200X	2.00	50.8	+/- 45°	15.9	11	17.3	586	0.018	0.46
V29L250X	2.50	63.5	+/- 45°	13.3	9	16.6	563	0.017	0.44
Z29L300R	3.0	76.2	+/- 45°	11.1	7.5	16.5	560	0.017	0.44
W29L400R	4.0	101.6	+/- 45°	9.2	6.2	15.0	508	0.016	0.40
Y29L500R	5.0	127.0	+/- 45°	7.0	4.7	15.7	531	0.016	0.42
X29L700R	7.0	177.8	+/- 45°	5.7	3.8	13.8	469	0.015	0.37
M29L900R	9.0	228.6	+/- 45°	4.8	3.2	12.8	434	0.013	0.34
MM29L1100R	11.0	279.4	+/- 45°	3.8	2.6	13.1	444	0.014	0.35
XM29L1300R	13.0	330.2	+/- 45°	3.2	2.1	13.3	451	0.014	0.35
ZM29L1700R	17.0	431.8	+/- 45°	2.4	1.6	13.6	460	0.014	0.36

HEAVY

Sleevings braided with E-Glass Roving.

Product Code	Diameter		Angle	Yield		Fabric	Weight	Thk @ 50% FV	
	in	mm		ft/lb	m/kg	oz/sqyd	g/sqm	in	mm
F22L50X	0.50	12.7	+/- 45°	39.8	27	27.7	939	0.029	0.74
J22L75X	0.75	19.1	+/- 45°	23.9	16	30.7	1041	0.032	0.81
N22L100X	1.00	25.4	+/- 45°	18.4	12	30.0	1017	0.032	0.81
P22L125X	1.25	31.8	+/- 45°	14.9	10	29.5	1000	0.031	0.79
S22L150X	1.50	38.1	+/- 45°	11.9	8	30.7	1041	0.032	0.81
T22L200X	2.00	50.8	+/- 45°	9.9	7	27.7	939	0.029	0.74
U22L250X	2.50	63.5	+/- 45°	8.0	5	27.7	939	0.029	0.74
V22L300X	3.00	76.2	+/- 45°	6.6	4	27.7	939	0.029	0.74
ZY22L400R	4.0	101.6	+/- 45°	5.0	3.4	27.7	938	0.029	0.74
WY22L500R	5.0	127.0	+/- 45°	4.1	2.8	26.7	904	0.028	0.71
Y22L600R	6.0	152.4	+/- 45°	3.5	2.4	26.1	884	0.027	0.69
X22L800R	8.0	203.0	+/- 45°	2.8	1.9	24.2	820	0.025	0.64
M22L1000R	10.0	254	+/- 45°	2.4	1.6	23.0	779	0.024	0.61
MM22L1300R	13.0	330.2	+/- 45°	1.9	1.3	22.2	753	0.023	0.58
XM22L1650R	16.5	419.1	+/- 45°	1.6	1.1	21.0	711	0.022	0.56
ZM22L2200R	22.0	558.8	+/- 45°	1.2	0.8	21.0	711	0.022	0.56

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LIGHT

Sleevings braided with Aramid fibers.

Product Code	Diameter		Angle	Yield		Fabric	Weight	Thk @ 50% FV	
	in	mm		ft/lb	m/kg	oz/sqyd	g/sqm	in	mm
E81L25X	0.25	6.5	+/- 45°	333.5	224	6.6	224	0.012	0.30
J81L50X	0.50	12.7	+/- 45°	166.7	112	6.6	224	0.012	0.30
O81L75X	0.75	19.1	+/- 45°	119.1	80	6.2	210	0.011	0.28
S81L100X	1.00	25.4	+/- 45°	83.3	56	6.6	224	0.012	0.30
T81L125X	1.25	31.8	+/- 45°	69.5	47	6.3	214	0.012	0.30
U81L150X	1.50	38.1	+/- 45°	55.6	37	6.6	224	0.012	0.30
V81L200X	2.00	50.8	+/- 45°	46.3	31	5.9	200	0.011	0.28
Y81L400X	4.00	101.6	+/- 45°	24.5	17	5.6	190	0.010	0.25

MEDIUM

Sleevings braided with Aramid fibers.

Product Code	Diameter		Angle	Yield		Fabric	Weight	Thk @ 50% FV	
	in	mm		ft/lb	m/kg	oz/sqyd	g/sqm	in	mm
H81M50X	0.50	12.7	+/- 45°	104.2	70	10.6	359	0.020	0.51
L81M75X	0.75	19.1	+/- 45°	69.5	47	10.6	359	0.020	0.51
P81M100X	1.00	25.4	+/- 45°	52.1	35	10.6	359	0.020	0.51
S81M125X	1.25	31.8	+/- 45°	41.7	28	10.6	359	0.020	0.51
T81M150X	1.50	38.1	+/- 45°	34.7	23	10.6	359	0.020	0.51
U81M200X	2.00	50.8	+/- 45°	27.8	19	9.9	336	0.018	0.46
V81M250X	2.50	63.5	+/- 45°	23.2	16	9.5	322	0.018	0.46

HEAVY

Sleevings braided with Aramid fibers.

Product Code	Diameter		Angle	Yield		Fabric	Weight	Thk @ 50% FV	
	in	mm		ft/lb	m/kg	oz/sqyd	g/sqm	in	mm
F81H50X	0.50	12.7	+/- 45°	69.5	47	15.8	536	0.029	0.74
I81H75X	0.75	19.1	+/- 45°	46.3	31	15.8	536	0.029	0.74
L81H100X	1.00	25.4	+/- 45°	34.7	23	15.8	535	0.029	0.74
P81H125X	1.25	31.8	+/- 45°	26.1	18	16.9	573	0.031	0.79
Q81H150X	1.50	38.1	+/- 45°	23.2	16	15.8	536	0.029	0.74
T81H200X	2.00	50.8	+/- 45°	17.4	12	15.8	536	0.029	0.74
U81H250X	2.50	63.5	+/- 45°	13.9	9	15.8	536	0.029	0.74
V81H300X	3.00	76.2	+/- 45°	11.6	8	15.8	536	0.029	0.74

A&P Technology

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The Strength is in the Skin™

All A&P products can be tailored to specific diameters and weights.
Please contact a sales representative (sales@braider.com 513-688-3200)
to discuss optimizing a braid design to meet your requirements.

ARAMID/CARBON HYBRID SLEEVINGS

Sleevings braided with Aramid and standard modulus carbon.

Product Code	Diameter		Angle	Yield		Fabric	Weight	Thk @ 50% FV	
LIGHT	in	mm		ft/lb	m/kg	oz/sqyd	g/sqm	in	mm
J81L58L50X	0.5	12.7	+/- 45°	147.1	98.8	7.5	254	0.012	0.30
S81L58L100X	1.0	25.4	+/- 45°	73.5	49.4	7.5	254	0.012	0.30
U81L58L150X	1.5	38.1	+/- 45°	49.0	32.9	7.5	254	0.012	0.30
V81L58L200X	2.0	50.8	+/- 45°	40.8	27.4	6.7	227	0.011	0.28
MEDIUM									
P81M57L100X	1.0	25.4	+/- 45°	46.0	30.9	12.0	407	0.020	0.51
T81M57L150X	1.5	38.1	+/- 45°	30.6	20.6	12.0	407	0.020	0.51
U81M57L200X	2.0	50.8	+/- 45°	24.5	16.5	11.2	380	0.019	0.48
V81M57L250X	2.5	63.5	+/- 45°	20.4	13.7	10.8	366	0.018	0.46
Z81M57L300X	3.0	76.2	+/- 45°	17.1	11.5	10.7	363	0.018	0.46
HEAVY									
G81H56L50X	0.5	12.7	+/- 45°	52.5	35.3	21.0	713	0.034	0.86
L81H56L100X	1.0	25.4	+/- 45°	30.6	20.6	18.0	610	0.030	0.76
Q81H56L150X	1.5	38.1	+/- 45°	20.4	13.7	18.0	610	0.030	0.76
T81H56L200X	2.0	50.8	+/- 45°	15.3	10.3	18.0	610	0.030	0.76
U81H56L250X	2.5	63.5	+/- 45°	12.3	8.3	18.0	610	0.030	0.76
V81H56L300X	3.0	76.2	+/- 45°	10.2	6.9	18.0	610	0.030	0.76

FG/CARBON HYBRID SLEEVINGS

Sleevings braided with E-Glass and standard modulus carbon.

Product Code	Diameter		Angle	Yield		Fabric	Weight	Thk @ 50% FV	
LIGHT	in	mm		ft/lb	m/kg	oz/sqyd	g/sqm	in	mm
J26L58L50X	0.5	12.7	+/- 45°	110.6	74.3	10.0	339	0.012	0.30
S26L58L100X	1.0	25.4	+/- 45°	55.2	37.1	10.0	339	0.012	0.30
U26L58L150X	1.5	38.1	+/- 45°	36.8	24.7	10.0	339	0.012	0.30
V26L58L200X	2.0	50.8	+/- 45°	30.7	20.6	9.0	305	0.011	0.28
MEDIUM									
P29L57L100X	1.0	25.4	+/- 45°	34.6	23.3	15.9	539	0.020	0.51
T29L57L150X	1.5	38.1	+/- 45°	23.0	15.5	15.9	539	0.020	0.51
U29L57L200X	2.0	50.8	+/- 45°	18.4	12.4	15.0	509	0.018	0.46
V29L57L250X	2.5	63.5	+/- 45°	15.4	10.3	14.3	485	0.018	0.46
Z29L57L300X	3.0	76.2	+/- 45°	12.9	8.7	14.2	481	0.018	0.46
HEAVY									
L22L56L100X	1.0	25.4	+/- 45°	23.0	15.5	23.9	810	0.029	0.74
Q22L56L150X	1.5	38.1	+/- 45°	15.4	10.3	23.9	810	0.029	0.74
T22L56L200X	2.0	50.8	+/- 45°	11.5	7.7	23.9	810	0.029	0.74
U22L56L250X	2.5	63.5	+/- 45°	9.2	6.2	23.9	810	0.029	0.74
V22L56L300X	3.0	76.2	+/- 45°	7.7	5.2	23.9	810	0.029	0.74

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