



U650 BARRFLEX™

BarrFlex™ U650 is an advanced para-aramid unidirectional material for soft armor ballistic applications. BarrFlex™ U650 consists of two plies of unidirectional product, cross-plyed in 0°/90° configuration. Our proprietary UD technology aligns the fibers in each layer in a parallel direction. Each layer is individually constructed within a resin matrix.

PHYSICAL PROPERTIES

Characteristic	Lower Limit	Target	Upper Limit
Width	62.99 in 160.0 cm	63.19 in 160.5 cm	63.39 in 161.0 cm
Conditioned Weight	3.13 oz/yd ² 106.0g/m ²	3.30 oz/yd ² 112.0 g/m ²	3.48 oz/yd ² 118.0 g/m ²

FEATURES AND BENEFITS

- Two-ply UD configuration provides improved flexibility for more comfortable armor solutions.
- Optimized v50 and BFD performance in NIJ 06 solutions with increased flexibility
- Excellent performance against steel jacketed projectiles
- Ballistic performance maintained after environmental conditioning
- Patented resin formula allows for exceptional abrasion and solvent resistance

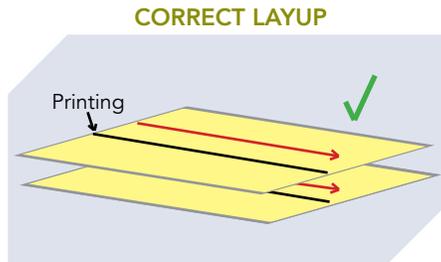
BALLISTIC PERFORMANCE

Threat	Layers	Conditioned Areal Density kg/m ² *	Conditioned Areal Density lb/ft ² *	Average V50 m/s	Average V50 ft/s
9mm FMJ V50C	34	3.81	0.78	≥ 465	≥ 1526

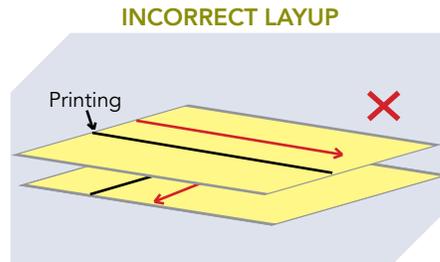
The ballistic data listed here is representative of typical results based on limited data and may be subject to revision.
*Listed values and target areal densities only.

Material performance is dependent on product orientation.
Always ensure the fiber orientation is correct.

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Same fiber direction should
always face up.



UD with different fiber directions
facing up is incorrect.

BarrFlex™ U650 has been tested in accordance with NIJ06 tumbling protocol. Additional accelerated aging tests were conducted on BarrFlex™ U650 using NIJ06 recommended conditions for the duration of twelve months. Please contact Barrday for additional information on both accelerated aging studies. This information does not relieve the user from the responsibility of testing the final ballistic construction.

Material Disclaimer:

In some instances, stitching may decrease ballistic performance when used in a monolithic configuration. If required, please contact Barrday for additional information on stitching.

Aramid Disclaimer:

Prolonged sunlight and UV exposure degrades aramid fibers. Aramid fibers will change color with exposure to sunlight or other UV sources. Do not store in direct light. Do not store near open flame, heat or strong oxidants. Aramid yarn absorbs up to 8% moisture by weight. Caution should be taken if aramid fibers are used at temperature above 149°C for extended periods of time.

Note:

The data presented herein has been developed under controlled manufacturing conditions. No warranty is expressed or implied regarding the accuracy or use of this data or the use of this product. It is the responsibility of the end user to determine suitability for use.