

ARCLIN
Tensylon®

Arclin® Tensylon® HA T160

TECHNICAL DATA SHEET

PRODUCT DESCRIPTION

- Tensylon® HA T160 is a 4-ply, high-strength, bidirectional, tape-reinforced laminate for hard-armor applications. It is based on Arclin® Tensylon® patented high-strength thin-tape technology, enabling high ballistic performance. As a bidirectional, 4-ply crossplied [0|90|0|90] tape based construction, it provides excellent mechanical properties.
- Tensylon® HA T160 is coated with a proprietary adhesive resin on each ply, enabling ease of manufacturing into a variety of hard armor applications.

PRODUCT APPLICATIONS AND PROCESSING

- Tensylon® HA T160 is particularly suited for helmets, vehicle armor liners, ceramic backings, and other hard-armor applications where the improved ballistic performance is further complemented by the mechanical characteristics of the material to improve the overall performance of the end product. Tensylon® HA T160 has excellent trauma performance and very good structural rigidity. When used as vehicle armor liners, the excellent ballistic properties allow for light weight durable panel solutions. When used in ceramic backings, the ballistic properties of the material enable a light weight rigid product, providing exceptional support the ceramic upon impact. When used in higher performance helmet shells, the improved ballistic performance enables higher performance shells at traditional weights.
- Tensylon® HA T160 can be consolidated in a wide variety of equipment for a wide variety of applications. Please consult the Arclin® Tensylon® HA T160 processing guidelines for proper consolidation recommendations. Please note the final properties of the consolidated product may be dependent upon the conditions under which the articles are consolidated.



TECHNICAL DATA

PROPERTY	NOMINAL VALUE
Roll width, cm	160
Roll length, m	200
Areal density, g/m^2	165

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PRODUCT DETAILS



- Arclin® Tensylon® products are based on ultra high molecular weight polyethylene tape-reinforced composite laminates. The tape structure of Arclin® Tensylon® offers a unique balance of high ballistic performance and excellent mechanical properties. This balance of properties enables Arclin® Tensylon® products to be particularly well suited to high performance solutions for a variety of hard armor applications.
- Arclin® Tensylon® products also have a very broad processing window. This processing window enables processing of these materials into a variety of sizes and shapes, including large-sizes and complex-shapes common of ballistic protective articles. This processing window also enables processing to be performed in a variety of processes and equipment, including but not limited to presses and autoclaves.
- Arclin® Tensylon® materials are unidirectionally reinforced within each single layer, and cross-plied into rolled good composite form. Arclin® Tensylon® materials contain an adhesive resin on one side, with the other side not containing an adhesive resin. These rolled good characteristics make it important during sample layup to stack layers in the same direction and orientation in order to achieve optimal performance.
- Arclin® Tensylon® products are released to an internal quality control test protocol. It is the responsibility of the armor manufacturer to design and test suitable products and obtain the relevant certifications before releasing end products using Arclin® Tensylon® to end users.

ADDITIONAL HANDLING RECOMMENDATIONS

- Product is generally shipped on pallets. Individual rolls can be >50 kg gross shipping weight. Make sure to follow local regulations regarding handling such properties.
- Store product in dry temperate area, avoiding storage conditions exceeding 60˚C (140˚F), and avoiding direct exposure to sun or UV light.
- Avoid tearing and crushing the product. Do not stack pallets on top of each other, and keep rolls in supported shipping boxes until ready for use.
- Occasional defects are flagged on the roll and indicated in a corresponding roll map. Customers are not charged for potentially performance defective areas if present. As such, Arclin® recommends to ensure such flagged defects are removed during final article production.

Product safety information is available upon request. This information is provided in good faith as technical guidance based on our current product knowledge and may be updated as new information becomes available. It is for experimental purposes only and does not replace independent testing to determine suitability for varied applications. Arclin is unable to anticipate all manufacturing, processing, handling, application or end-use conditions and therefore MAKES NO EXPRESS OR IMPLIED REPRESENTATIONS OR WARRANTIES AND ASSUMES NO LIABILITY IN CONNECTION WITH ANY USE OF THIS INFORMATION. Nothing herein shall be construed as a license or recommendation to infringe any patent or other intellectual property rights.

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