

6 Performance Laminates



DIAX
PERFORMANCE LAMINATES



BAINBRIDGE
INTERNATIONAL

DIAX

The DIAX range of performance laminates from Bainbridge International has been designed to deliver the ultimate combination of light weight, low stretch and excellent durability that is sought by all racing sailors.

Construction. All DIAX products are based on our scrim component technology. Flat, untwisted ribbons of fibre are formed into a number of scrim that maximise the performance of the yarn. In every DIAX fabric, a zero crimp warp/fill scrim resists primary and secondary loading. This is combined with a unique 45° diagonal axis scrim to reduce bias stretch.

- DIAX improves sail shape retention with diagonal axis fibres forming a buttress, locking together the warp and fill yarns to keep the design shape of the sail.
- DIAX sails are light because bias loading is resisted by low stretch fibres instead of a heavier thickness of film.
- DIAX sails last because durable multi-axis yarns are used instead of less durable film to resist off-threadline loads. The diagonal axis ribbons also support a traditionally weak area in the laminate, reducing degradation from an effect known as 'hinging'.

Fibre Technology. All DIAX laminates use the latest fibre technology to keep you at the leading edge. Bainbridge have unrivalled knowledge and understanding of fibre properties, allowing our designers to combine different fibres to deliver the best possible laminate for the intended application.

- DIAX-P utilises the latest polyester yarns renowned for durability.
- DIAX-LSP features low stretch PEN warp fibres for extra strength but polyester fill yarns to preserve the soft feel of the laminate sought after by top one-design sailors.
- DIAX-OS-HMT styles use HM Twaron primary load bearing yarns.
- DIAX-CFG styles utilise the latest carbon fibre technology in both the warp and fill.
- DIAX-2 is a new generation of laminates that are available in PEN and Twaron/Technora styles.

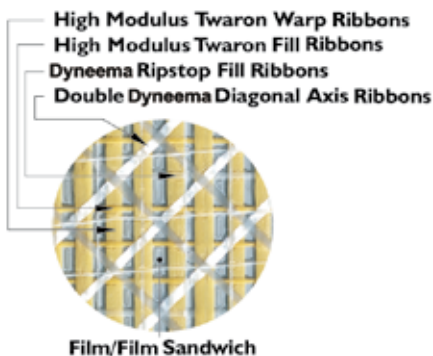
PERFORMANCE

Light, durable and efficient

DIAX-OS-HMT: Twaron

Component fibres are combined in scrims that benefit from the strengths of all the fibres used. High Modulus Twaron warps provide incredible strength in the primary load bearing axis and are used to resist fill loads, while alternate Dyneema fibres add tear strength to the finished laminate. All DIAX-OS-HMT styles include a double Dyneema Diax scrim to provide an unrivalled level of performance and durability.

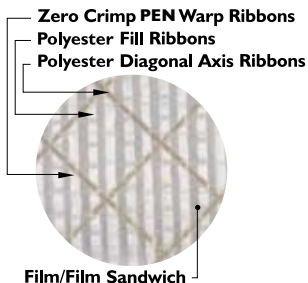
DIAX-OS-HMT laminates are available in film/film.



DIAX-LSP: Low Stretch PEN

DIAX-LSP is a mid range laminate with a higher performance spec compared with DIAX-P, but without the expense of our higher tech constructions.

DIAX-LSP's provide a reduction in warp stretch by utilising PEN, a hybrid polyester fibre with 250% higher modulus (less stretch) than standard polyesters. DIAX-LSP is suitable for a variety of applications including dinghies, sportsboats and club race yachts up to 45ft. It now dominates many small keel boats and sports boat classes having won recent J24 and Melges 24 World Championships.



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DIAX 2

DIAX 2 RACE (Film-on-Film)

Bainbridge International has developed the DIAX 2 Race range of performance laminates specifically for cross cut panel configurations.

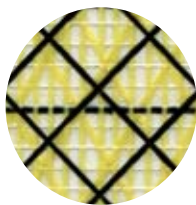
DIAX 2 laminates take the DIAX concept to the next level by incorporating multiple layers of fibre. Two DIAX scrims are combined with a fill orientated 0/90 base scrim to provide six primary thread lines. This allows fibres to be aligned to load paths without the cost or complexity of radial panel design or flipping luff panels.

On average, using DIAX 2 reduces cloth wastage by 15% and reduces the number of panels by up to 70%, allowing the sailmaker to provide durable, reliable and better value performance sails.

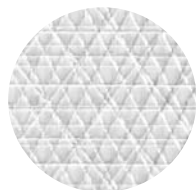
DIAX 2 is available in two distinctive ranges; Aramid, which blends Twaron and Technora to give the ultimate in shape holding performance, and PEN/Polyester for Class rule sensitive and mid-range applications.

DIAX 2 CRUISE

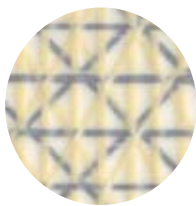
Utilising the same constructions as the DIAX 2 RACE ranges we have added the same double taffetas found in our CL Cruising laminates. These taffetas are tough and durable and have a world renowned reputation for longevity in cruising applications.



DIAX 2 Aramid Clear



DIAX 2 110 Pen



DIAX 2 Aramid Cruise



DIAX 2 110 Pen Cruise

THE DIAX PROMISE

All DIAX fabrics feature the ultimate combination of low stretch, light weight and excellent durability.

- Proven laminating technology: Specially developed adhesives optimise bond strength with minimal weight.
- Ribbon scrim technology: Scrim fibres are laid as flat tapes rather than round yarns to reduce thickness and improve adhesion.
- Zero crimp scrim: All scrim are formed by a bonding process that eliminates the crimp associated with weaving that results in stretch.
- Reduced hinging: The triaxial configuration reduces 'hinging', a known cause of laminate breakdown and shrinkage.
- Reduced film loading: Diagonal axis ribbons resist off threadline loads without relying on film.
- Available with Polyester, Pentex, Twaron and Carbon primary yarns.





Technical Innovation and Service - The Fabric of Our Business

With a full range of sailcloth, sailmakers hardware and a global sales and support network, Bainbridge is uniquely qualified and committed to supplying the world with the finest quality materials. Founded in 1917, Bainbridge International is one of the longest established sailcloth manufacturers in the world with almost a century's experience in developing and supplying the highest quality, highest performance materials to the marine industry.

Bainbridge has always been at the forefront of technical developments within the world of sailcloth. Through the skills of the technical team, we have developed a number of products including AIRX Performance Spinnaker Fabrics, MP Multi-Purpose Spinnaker Fabrics, DIAX Laminated Sailcloth and SAILMAN Full Batten Systems. These have been used by many high profile campaigns including America's Cup, Vendee Globe, Volvo 60 and BT Global Challenge.

Leaflets in the Range

There are 7 other leaflets in the range that offer advice on our other sailcloth ranges and our SAILMAN Full Batten Systems. These are available from your Sailmaker.

www.sailcloth.com - 5 simple steps to better sails

We have developed an easy to use website that offers advice and recommendations about the correct sailcloth for your needs. With 5 simple steps to follow, you can develop an understanding for the benefits of the sailcloth styles we offer and comprehend which one meets your needs.

Partnership

Your Sailmaker is the essential link between our fabric technology and your boat. They offer Bainbridge fabrics because of the inherent trust that the excellence of their workmanship, combined with the quality of our products, will provide you, the Customer, with the best possible value and performance.

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Avery L7160TM