

CHALLENGE AIRCLOTH

One Design Fabrics Using Super Modulus™ Weaves of PEN



Fabric Properties:

- PEN (Polyethylene naphthalate or pen) has a modulus of 250, vs. 100 for standard polyester. (Polyethylene terephthalate, or PET) (2.5 times lower stretch.)
- “Pounds to stretch 1%” are up to twice those of PET. 200 lb. PEN fill curve is still linear, with as low as ¼ the stretch of PET.
- Sail shape will be retained in far higher loads than PET.
- Racing sails will hold their shape longer than PET.
- PEN fabrics, off white to begin with, will further yellow with age.
- PEN fibers have identical breaking strength to PET yarns. However because of the low stretch, higher point loading of fibers is generated from the inertia of sails flogging. This point loading causes the breaking strength to deteriorate sooner than PET. In other words, the “Flex life” is inferior to PET. **PEN wovens should not be used in cruising sails.**
- For maximum life it is not recommended to go lighter in PEN than one would with PET.
- Our tests show PEN has worse UV resistance than PET.

Wid	Fabric	Approx. Den.	Finish	Applications
54"	3.82	150 x 250	Coated	One Design Mains Jibs: See Melges 24 World Champion Sails in Photo Above
54"	3.91	300 x 150	Coated	Best radial Woven fabric made.
54"	5.52	150 x 300	Coated	Mains, jibs on 20 – 25' Boats
54"	5.82	220 x 250	Coated	Designed specifically for J-24, proportionate to most successful Dacrons, but much stronger
54"	6.12	150 x 500	Coated	High Aspect only: Mains, jibs on 25-35' boats.
54"	7.87	350 x 500	Coated	Medium to High Aspect Mains, jibs, on 35-40 footers

New 3.91 Radial, 100 1%! , 5.82 Balanced, New Super Durable coating available 2002

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