

Sail Selection

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Fabric Glossary

Cross cut - main & jib

Threadlines parallel to leech for greatest strength where loads are greatest, fill-oriented fabric

Radial - main, jib, & spinnaker

Long narrow triangular panels of warp-oriented fabrics to get threadlines along load paths, can use different weight cloths throughout sail.

Load Path - main & jib

Threadlines follow load direction and magnitude, reefs are incorporated into load path.

Fiber & Fabric Guide - Cloth Samples

Manufactures: Contender (www.contendersailcloth.com), Challenge, Bainbridge, Dimension, North, Hood.
Sailmakers yard: 36" X 28.5"

Dacron: 2.0 oz - 12 oz.+ (warp weight x fill weight)

Woven polyester, extremely durable, high UV resistance, relatively inexpensive.

Quality/cost factors

Yarn quality: breaking strength, stretch resistance.

Yarn content: weave orientation and thread count.

Weave tightness: tighter weaves have stronger bias.

Finish: dingy sails-light weight cloth w/ heavy resin, main sail-heavy cloth w/ light resin.

Spinnaker cloth: .4 oz - 2.2 oz

Nylon: least expensive, more porous, stretches, absorbs moisture.

Polyester: most expensive, less porous, resists stretch (explodes), low absorbency.

AIRX: mid priced, coated nylon (stretches) with polyester characteristics.

Silicon coated: slippery, aids in gibing Asymmetric spinnakers.

Laminates: (film-on-film) lighter, less stretch, combine material characteristics

Kevlar/ Twaron: light, strong (tenacity), low stretch (modulus), poor UV resistance.

Pentex: better than Dacron for stretch & weight, cheaper than Kevlar.

Spectra: better properties than Kevlar, but creeps, very expensive.

Vectran: better than Kevlar, more expensive, very durable.

Taffeta: added to film-on-film for abrasion, UV, and flex fatigue protection. Adds weight.

MATRIX (D4, 3DL, Tape Drive,): lighter than laminates, stronger, more expensive.

Rig Measurements & Considerations

Mainsail: P, E, leech length, tack up & back distance, reef hook, feeder height, clew pin up measurement, mast hardware, loose foot vs. flattener, lazy jacks or Dutchman system, full length battens

Headsail: I, J, luff length excluding R/F hardware, tack set back, leech length to track front & back, spreader height & length, luff attachment.