

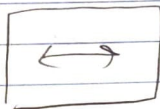
1/18/2021 - 3013C

Video on Fibers

1a) How are the fibers categorized? Compared?

- Cloth 'weight (Coz/yd^2)
 - Mat 'strand direction
 - Roving 'weave
 - Knytex 'fiber composition
- * heavier = stronger

1b) Fiber direction/orientation



anisotropic strength



isotropic strength

2a) Recommend ratio

A 35% resin content target generally yields the best balance of mechanical performance & aesthetic quality. Use a 60/40 ratio by weight which will allow for usage loss factor and insure $< 40\%$ resin content. Greater than 40% resin content laminants yield lower mechanical performance.

2b) Equation:
$$\frac{\text{fabric weight}}{(fw/60\%)} \times (40\%) = \underset{\text{resin needed}}{rh}$$

2c) Reason for dif. ratios

- 22%-27% structural \Rightarrow lower resin content \Rightarrow higher mech. performance
- Aesthetic require higher resin content (35%-45%) for gloss & smoothness