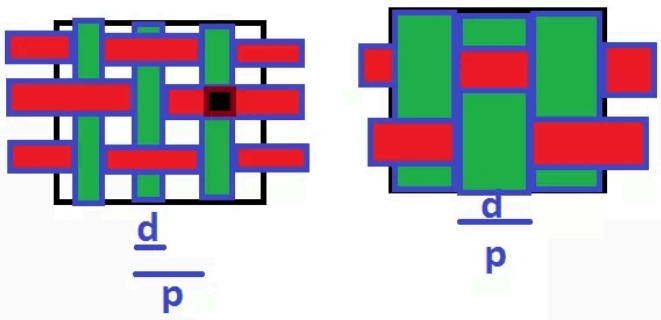
Cloth Cover

$d = 1/28\sqrt{Ne}$ inch

Cover = d/p



P = thread spacing

d = dia of the yarn

p = 1/n

n= thread density

$$\text{Cover} = d/p = \frac{1}{28\sqrt{Ne}} * \frac{}{1/n} = \frac{n}{28\sqrt{Ne}}$$

Warp cover, K1 and Weft Cover, K2

Total Cover = K1 + K2 -K1 * K2

where, $K1 = \frac{n}{\sqrt{Ne}}$

Therefore, Cloth Cover, Kc = K1 + K2 - (K1 * K2 / 28)

GSM Areal Density

1. $GSM = \frac{w * 10000}{A}$

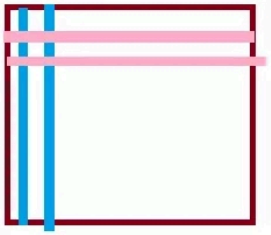
w= weight in gm

A = Area in cm^2

2. $GSM = w * 100$

w = weight of the GSM cutter sample in gm

3. GSM



weight of warp yarn = EPI * (39.37) * 1 * 1.0936 * {1/(840 * Ne)} * 453.6 gm

$= 23.25 \frac{EPI}{Warp\ Yarn\ Ne}$

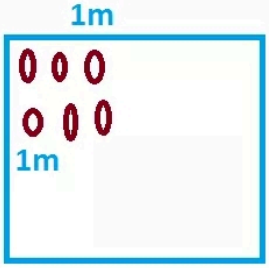
Exactly, $23.25 * \frac{EPI}{Warp\ Ne} (1 + C1\%)$

$$GSM = \left(\frac{EPI * (1 + C1\%)}{Warp\ Ne} + \frac{PPI * (1 + C2\%)}{Weft\ Ne} \right) * 23.25$$

25.50

4. GSM (Knit Fabric)

$$GSM = \frac{wpi * cpi * loop\ lenght\ in\ mm}{Yarn\ count\ in\ Ne} * 0.9158$$



(wpi * 39.37) * (cpi * 39.37) * (l) * 10 * (1/2.54) * (1/36) * {1/(840*Ne)} * 453.6 gm

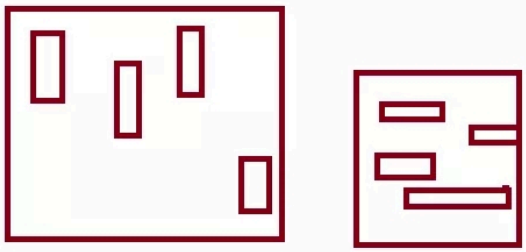
Fabric Strength

Why to Test Fabric Stregth?

How to check fabric Strength?

Tensile Strength Dress Material such as shirting, suiting,
Tearing Strength Ribbon, tapes, bandage cloth, insulating tapes etc
Bursting Strength Parachute cloth, filter cloth, now-wovens, nets and knitted fabrics
Wear and abrasion Workman's cloth

Tensile Strength

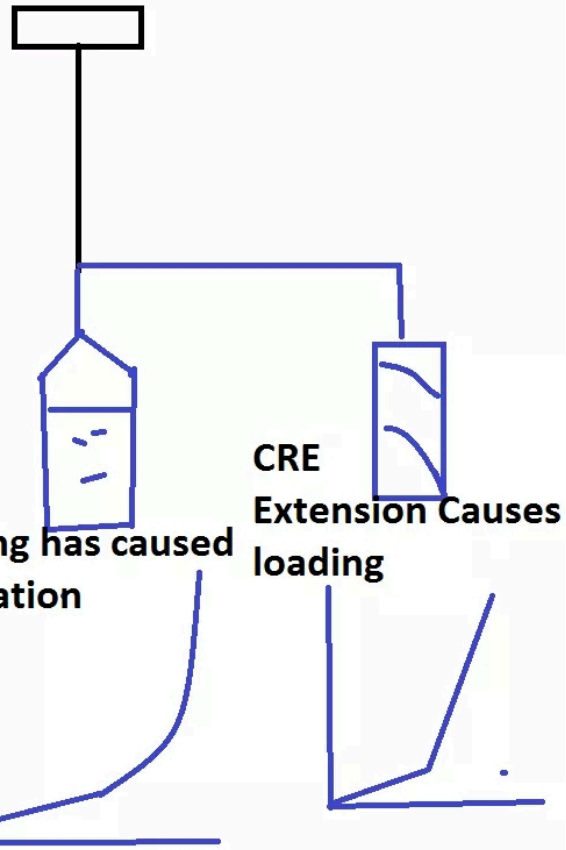


Sample preparation:

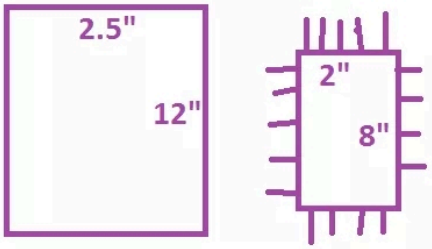
Three tests can be done

1. Ravelled Strip method
2. Cut Strip method
3. Grab method

CRL and CRE

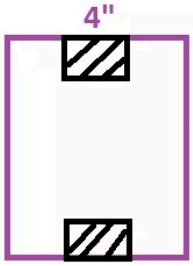


1. Ravelled Strip Method



2. Cut Strip Method

3. Grab Method



12 inches per minute