

Work Load / Stress Formula / Load Calculation

The capacity at which our products can be safely used has been established through an accredited testing laboratory. This may be defined as the safe working load limit, or cable rope pulley block load calculation, or a force calculator. The safe working load limit (mechanical advantage) is the maximum load in pounds which should ever be applied, and when the load is applied uniformly and in direct tension to a straight segment of wire rope. By changing the degree of angle between lead and load angle, this also affects the stress on the block. The stress on the eye may be decreased by increasing the angle between the load and the lead angle. See chart and illustration below.

Stress Formula: (L x A = S)

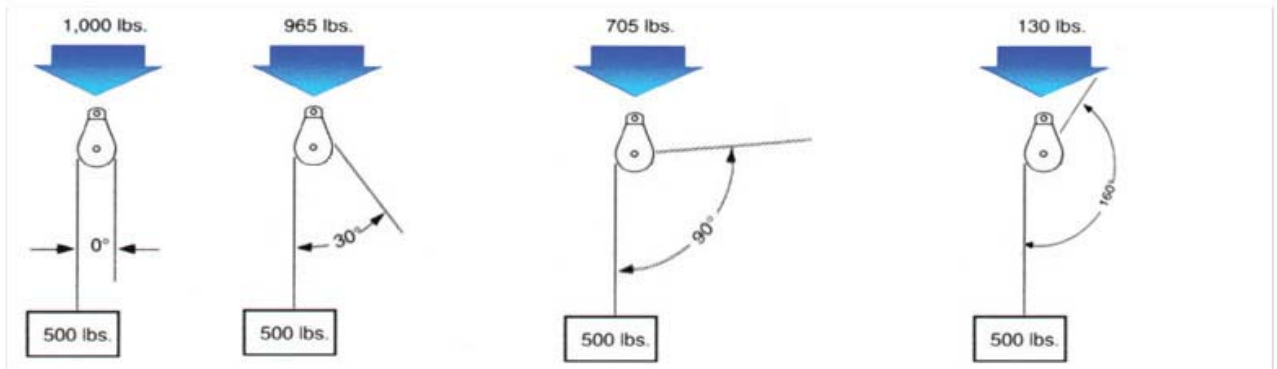
Load in pounds (L) multiplied by the Angle of pull (A) equals the stress generated in lbs on the Block (S).

Safe Work Load Limit: This is the maximum load (in lbs.) which can be applied to the Block and which has been established (Load Capacity).

STRESS FORMULA

$L \times A = S$
 L = Load in lbs.
 A = Angle Factor
 S = Stress in lbs.

Sample: By using a 500 lb. weight the stress exerted on the eye would be 1,000 lbs. $L \times A = S$
 500 lbs. x 2.0 = 1,000 lbs.



ANGLE	FACTOR	ANGLE	FACTOR	ANGLE	FACTOR
0°	2.0	70°	1.64	140°	.680
10°	1.98	80°	1.53	150°	.520
20°	1.97	90°	1.41	160°	.350
30°	1.93	100°	1.29	170°	.170
40°	1.87	110°	1.15	180°	.000
50°	1.81	120°	1.00		
60°	1.73	130°	0.84		