

Basic Rock Climbing Class

Southwest Outdoor Club

Tempe, Arizona

STRENGTH OF EQUIPMENT

Modern Rock Climbing whether Sport or Traditional climbing relies on equipment for the safety of the climbing party. The breaking strength of this equipment varies from a few hundred pounds to several thousand pounds, (The human body may be able to withstand up to 1000 pounds force in just the right conditions, or may be seriously damaged at much less force if stressed in the wrong way.) The strength of modern climbing equipment is tested and well documented. Please refer to the literature for current specifications.

The following list is for illustrative purposes to give the relative strengths, not to be the last word. Please use it in this light.

Dimension / Brand & Model	Description	Breaking Strength
2 inch	Seat Harness Flat Webbing	4000 pounds
11 mm	Climbing Ropes working elongation about 6%	>4000 pounds
	Impact Force up to 2000 pounds	
9 mm	Climbing Ropes, double rope technique	>4000 pounds
	Impact Force up to 1500 pounds	
	working elongation - from 7.5% to 8%	
1 inch x 1/8 inch	Tubular Nylon Webbing, new	4000 pounds
1 inch 1/16 inch	"Rainbow" Tubular Nylon Webbing, new	3000 pounds
9/16 x 1/8 inch	"Chouinard 9/16" Webbing	2500 pounds
1/2 x 1/6 inch	Tubular Nylon Webbing	1500 pounds
Oval	Carabiner, Gate Closed (Open Gate: 1300 to 1600 pounds)	4000 to 6000 pounds
"D"	Carabiner, Gate Closed (Open Gate: 1300 to 2200 pounds)	5000 to 6000 pounds
Locking D	Carabiner, Gate Locked (Open Gate: 1300 to 2200 pounds)	5000 to 6000 pounds
#1 thru #5	Black Diamond Stoppers	720 to 2600 pounds
#1 & #2	Wild Country Wired Rocks	1575 pounds
#3 thru #10	Wild Country Wired Rocks	2700 pounds
#1 thru #3	Black Diamond Wired Hexcentrics	2200 pounds
#4 thru #11	Black Diamond Hexcentrics slung with 8 nun perlon	2400 pounds
#1 thru #4	Wild Country Friends slung with 1 inch tubular webbing	2900 to 3300 pounds
#1 thru #4	Black Diamond Camelots	3600 pounds
5 mm	Perlon (Nylon Kernmantle "cord")	1100 pounds
6 mm	Perlon	1700 pounds
7 mm	Perlon	2200 pounds
8 mm	Perlon	3300 pounds
9 mm	Perlon	3630 pounds
5.5 mm	Blue Water Spectra cord	4500 pounds
5.5 mm	New England Spectra A-cord	4000 pounds