Table 2: Which material for which application?					
	Shown here	**Advantages**	**Disadvantages**	**Optimum use**	**Good to know**
Polyamide webbing (Nylon, Perlon)	16 mm flat webbing, with 3 marker threads>15 kN, sewn >22 kN	High energy absorption potential (elasticity) increases safety margin. Knots are fairly easy to undo.	Relatively thick, hard to rack on a harness. If used in a ring, use sewn material only (fig. 1).	In multipitch routes as ready made cordelette with a bowline knot eye. As a station clip-in, for example in rappelling For mobile rope arrangements.	
Polyethylene webbing (Dyneema slings)	8 mm, strength > 22 kN, only available sewn.	Light and thin. High edge strength. Good for jamming knots.	Low energy absorption potential (quasi static material). Replace 6 and 8 mm widths after no more than 5 years, earlier if used heavily.	As an 'alpine quickdraw' (fig. 2). For T-anchors and horn slings. For threading rock holes and pin eyes.	
Mixed fibre webbing (polyethylene + polyamide)	12 mm, strength > 22 kN, only available sewn (an all purpose sling).	Compromise between polyamide and polyethylene.	As above.	Since mixed fibre slings combine the advantages of polyamide and polyethylene, they work for all applications. In some cases however the advantages of one of the materials are crucial (e.g. weight, ease of opening knots, see above).	
Polyamide cord (core and sheath in polyamide)	7 mm, strength ≈ 12 kN (commonly used in 5.5 mm).	Best bite as a prusik knot, little core-to-sheath slippage.	Low breaking strength compared to Kevlar and Dyneema. Caution: not for belay station set up, as a clip-in or for running protection.	As a short prusik in rappelling (6 mm is best).	
Dyneema cord (Polyethylene core, polyamide sheath)	5.5 mm, strength ≈ 20 kN (commonly used in 5.5 mm).	High strength. High edge strength.	More core-to-sheath slippage than in pure	To equalize numerous anchors (fig. 4).	Recognizable by its bright white polyethylene core.

		Very light.	polyamide slings. Low energy absorption potential (quasi static material). Caution: do not use in dynamic belays for a leader.	For prusiking, slinging horns and holes. For improvised mountain rescue, e.g. pulley systems. As an accessory cord for rappelling or load hauling in hard multipitch routes.	Permanent connections best made with a double or triple fisherman's knot. Knots in teardrop shape (overhead, figure-8 or reef knot) are acceptable for running belays. When used as accessory cord for rappelling: connect to the rope with an overhead in teardrop shape with sufficiently long tails.
Kevlar cord (aramid core, polyamide sheath)	5.5 mm, strength ≈ 18 kN, also available sewn (commonly used in 5.5 or 6 mm).	High strength. High edge strength.	More core-to-sheath slippage than in pure polyamide slings. Caution: this quasi-static material is not to be used in dynamic belays for leaders.	For threading small holes. For equalizing multiple anchors (fig. 4). For prusiking and slinging horns. For improvised mountain rescue (e.g. for pulley systems). As an accessory cord for rappelling and for hauling in hard multipitch routes.	Stiff compared to polyamide and Dyneema. Recognizable by the brownish aramid core. Permanent connections best with double or triple fisherman's knot. Knots in teardrop shape (overhead, figure-8 or reef knot) are acceptable for running belays. When used as accessory cord for rappelling: connect to the rope with an overhead in teardrop shape with sufficiently long tails.

Table 1: Material properties of various fibres (dry)

	Breaking strength	**Tensile strength (kN/mm²)**	**Decrease of tensile strength through moisture**	**Weight (g/mm³)**	**Cut resistance**	**Melting point (°C)**	**UV damage susceptibility**	**Penetration depth of UV**
Polyamide 6 (Nylon, Perlon)	12-25%	0.7-1	about 10%	1.1-1.15	low	215	high	low
Polyethylene (Dyneema SK 60)	3.5%	2.7	about 0%	0.97	high	135	medium	high
Aramid (Kevlar 49)	2.4%	2.8	about 0%	1.45	high	480	high	low