

technology	product line	D (mm)	t (mm)	d (mm)	rho (g/cc)	c (mm)	A (mm <sup>2</sup> )	Sy (MPa)	Ic (mm <sup>4</sup> )	screw Fs (kN)	Fs (kN)	Mb (Nm)	min sf	Sd (Mpa)	Sb (Mpa)	Sc (Mpa)	sf	link (/m)	total (4m, 6 joints)	link (/m)	/joint	approx cost: /cut		
design force (kN): 3.5	4	target	7	£	70	max	15	£	200	frame	19.0	£	455	frame	9.6	£	201	frame	16.6	£	351			
design moment (Nm): 135.5										bike	25.0	£	555	bike	16.6	£	351							
min safety factor: 2.5																								
ID	characteristics	joint	link	approx weight (kg)	approx cost:																			
item24	industrial building kits																							
Profiles 5	20 - M5 2.7 10 180 195 7200 1 0.20 5 0.037 19.4 188.2 207.6 0.939 0.49 0.081 2.4 £6.99 £16.95 £2.70																							
Profiles 6	30 - M6 2.7 15 467 195 41500 3.5 0.50 10 0.07 7.5 49.0 56.5 3.453 1.26 0.163 6.0 £12.29 £16.84 £2.70																							
Profiles 6 L	30 - M6 2.7 15 343 195 29000 1 0.50 10 0.07 10.2 70.1 80.3 2.429 0.93 0.163 4.7 £9.29 £16.84 £2.70																							
Profiles 6 D30	30 - M6 2.7 15 279 195 16900 3.5 0.50 10 0.07 12.5 120.3 132.8 1.468 0.75 0.163 4.0 £12.12 £12.00 £2.70																							
Profiles 8	40 - M8 2.7 20 916 195 139600 10 0.75 20 0.15 3.8 19.4 23.2 8.393 2.47 0.41 12.4 £17.66 £12.24 £2.70																							
Profiles 8 L	40 - M8 2.7 20 646 195 90000 5 0.75 20 0.15 5.4 30.1 35.5 5.488 1.74 0.41 9.4 £11.17 £12.24 £2.70																							
Profiles 8 E	40 - M8 2.7 20 507 195 73800 3.5 0.75 20 0.15 6.9 36.7 43.6 4.47 1.37 0.41 7.9 £10.71 £12.24 £2.70																							
Profiles 8 D40	40 - M8 2.7 20 545 195 56300 7 0.75 20 0.15 6.4 48.1 54.6 3.574 1.47 0.41 8.3 £19.23 £12.13 £2.70																							
Profiles 10	50 - M10 2.7 25 1331 195 306800 14 1.50 25 0.18 2.6 11.0 13.7 14.26 3.59 0.8 19.2 £34.16 £5.78 £2.70																							
Profiles 10 E	50 - M10 2.7 25 847 195 203400 7 1.50 25 0.18 4.1 16.7 20.8 9.381 2.29 0.8 13.9 £22.90 £5.78 £2.70																							
Profiles 12	60 - M12 2.7 30 2060 195 705000 20 2.00 34 0.25 1.7 5.8 7.5 26.12 5.56 0.14 23.1 £61.90 £13.58 £3.85																							
Profiles 12 L	60 - M12 2.7 30 1450 195 460200 10 2.00 34 0.25 2.4 8.8 11.2 17.34 3.92 0.25 17.2 £45.01 £13.58 £3.85																							
tube and bracket																								
graphit; aluminium hi-load	28.6 3.5 21.6 2.7 14.3 276.0 250 22157.1 - 0.74 - 0.21 12.7 87.5 100.1 2.497 0.75 0.52 6.1 £5.50 £1.50 £0.50																							
steel 27mm light	26.9 2.3 22.3 8 13.45 177.8 195 13563.5 16 14 2500 4.00 19.7 134.4 154.1 1.266 1.42 0.3 7.5 £2.40 £2.04 £0.00																							
steel 34mm light	33.8 2.6 28.6 8 16.9 254.8 195 31225.0 16 14 2500 4.00 13.7 73.3 87.1 2.24 2.04 0.45 10.9 £3.38 £2.50 £0.00																							
steel 42mm light	42.5 2.6 37.3 8 21.25 325.9 195 65131.7 16 14 2500 4.00 10.7 44.2 54.9 3.549 2.61 0.72 14.7 £4.19 £3.08 £0.00																							
steel 27mm medium	27.2 2.6 22 8 13.6 200.9 195 15369.6 16 14 2500 4.00 17.4 119.9 137.3 1.42 1.61 0.3 8.2 £2.55 £2.04 £0.50																							
steel 34mm medium	34.2 3.2 27.8 8 17.1 311.6 195 37835.4 16 14 2500 4.00 11.2 61.2 72.5 2.691 2.49 0.45 12.7 £3.56 £2.50 £0.50																							
steel 42mm medium	42.9 3.2 36.5 8 21.45 399.1 195 79139.6 16 14 2500 4.00 8.8 36.7 45.5 4.286 3.19 0.72 17.1 £4.41 £3.08 £0.50																							
aluminium 33.4mm	33.4 3.38 26.64 2.7 16.7 318.8 250 36364.7 14 12 1500 3.43 11.0 62.2 73.2 3.415 0.86 0.22 4.8 £5.49 £12.00 £0.00																							
aluminium 33.7mm	33.7 3.2 27.3 2.7 16.85 306.6 250 36046.6 14 12 1500 3.43 11.4 63.3 74.8 3.344 0.83 0.22 4.7 £5.48 £12.00 £0.00																							
aluminium 42.2mm	42.16 3.56 35.04 2.7 21.08 431.7 250 81086.8 14 12 1500 3.43 8.1 35.2 43.3 5.769 1.17 0.35 6.8 £16.65 £16.00 £0.00																							
aluminium 42.4mm	42.4 2.6 37.2 2.7 21.2 325.1 250 64644.5 14 12 1500 3.43 10.8 44.4 55.2 4.529 0.88 0.35 5.6 £24.56 £16.00 £0.00																							
aluminium 33.4mm links; steel 34mm clamps	33.4 3.38 26.64 2.7 16.7 318.8 250 36364.7 16 14 2500 4.00 11.0 62.2 73.2 3.415 0.86 0.45 6.1 £5.49 £2.50 £0.00																							
aluminium 1 5/8" SWG 10; steel 42mm clamps	41.27 3.2 34.87 2.7 20.64 382.7 250 69825.8 16 14 2500 4.00 9.1 40.0 49.2 5.08 1.03 0.72 8.5 £8.82 £3.08 £0.50																							
aluminium 1 5/8" SWG 16; steel 42mm clamps	41.27 1.6 38.07 2.7 20.64 199.4 170 39289.1 16 14 2500 4.00 17.6 71.2 88.7 1.92 0.54 0.72 6.5 £4.32 £3.08 £0.50																							
aluminium 42.2mm; steel 42mm clamps	42.16 3.56 35.04 2.7 21.08 431.7 250 81086.8 16 14 2500 4.00 8.1 35.2 43.3 5.77 1.17 0.72 9.0 £16.65 £3.08 £0.00																							
aluminium 42.4mm; steel 42mm clamps	42.4 2.6 37.2 2.7 21.2 325.1 250 64644.5 16 14 2500 4.00 10.8 44.4 55.2 4.53 0.88 0.72 7.8 £24.56 £3.08 £0.00																							
Solid Clamps 30x3 6082T6	30 3 24 2.7 15 254.5 250 23474.8 - 4.8 148 1.09 13.8 86.6 100.3 2.49 0.69 0.344 4.8 £7.66 £31.40 £0.50																							
Solid Clamps 30x2 6060	30 2 26 2.7 15 175.9 150 17329.0 - 4.8 148 1.09 19.9 117.3 137.18 1.09 0.48 0.344 4.0 £5.13 £31.40 £0.50																							
RK Tube Connectors	Solid Clamps 40x3 6082T6	40 3 34 2.7 20 348.7 250 60066.5 - 6 376 1.71 10.0 45.1 55.15 4.53 0.94 0.861 8.9 £10.26 £39.19 £0.50																						
Solid Clamps 40x1.5 6063T6	40 2 36 2.7 20 238.8 170 43215.7 - 6 376 1.71 14.7 62.7 77.368 2.20 0.64 0.861 7.7 £9.24 £39.19 £0.50																							
Solid Clamps 50x3 6060	50 3 44 2.7 25 443.0 150 122811.9 - 12 695 3.43 7.9 27.6 35.48 4.23 1.20 1.166 11.8 £12.97 £42.52 £0.50																							
Solid Clamps 50x1.5 6063T6	50 2 46 2.7 25 301.6 170 87009.6 - 12 695 3.43 11.6 38.9 50.538 3.36 0.81 1.166 10.3 £7.26 £42.52 £0.50																							
30x30	30 - - 2.7 15 363.0 250 33000 - 9.6 61.6 71.233 3.51 0.98 3.9 £1.25 £1.25 £0.50																							
RK Profiles	40x40	40 - - 2.7 20 705.0 250 112000 - 5.0 24.2 29.161 8.57 1.90 7.6 £1.25 £1.25 £0.50																						
40x40 L	40 - - 2.7 20 475.0 250 71000 - 7.4 38.2 45.537 5.49 1.28 5.1 £1.25 £1.25 £0.50																							
box section/ square tube	4off 12.7mm 6063	12.7 1.6 9.5 2.7 6.35 55.8 170 877.2 - 62.7 980.9 1043.6 0.65 0.15 2.4 £5.95																						
4off 25mm 6082T6	25 1.5 22 2.7 12.5 110.7 250 7675.7 - 31.6 220.7 252.27 3.96 0.30 4.8 £5.70																							
polymer rod	Nylon 6 50mm +RK connect.	50 25 0 1.14 25 1963.5 82 306796.2 - 12 695 3.43 1.166 £42.52 43.686 1.88 2.24 1.166 15.9 £38.14 £42.52 £1.25																						

s (£)	shipping	flexibility				inline 3-way joints?	corrosion resistance	score/rank					notes			
		total (4m, 6j, 8c, s)	sizes intercom patible?	adjustable angle?	adjustable length?			S	W	C	F	total				
								weight:								
£25.00	£ 176.26	yes	yes	sliding +	some	yes	0	2	1	2	0					
£25.00	£ 196.80	yes	yes	sliding +	some	yes	0	2	1	2	0					
£25.00	£ 184.80	yes	yes	sliding +	some	yes	0	2	1	2	0					
£25.00	£ 167.08	yes	yes	sliding +	some	yes	0	2	1	2	0					
£25.00	£ 190.68	yes	yes	sliding +	some	yes	0	1	1	2	0					
£25.00	£ 164.72	yes	yes	sliding +	some	yes	0	1	1	2	0					
£25.00	£ 162.88	yes	yes	sliding +	some	yes	0	1	1	2	0					
£25.00	£ 196.30	yes	yes	sliding +	some	yes	0	1	1	2	0					
£25.00	£ 217.92	yes	no	limited	limited	yes	0	0	0	1	0					
£25.00	£ 172.88	yes	no	limited	limited	yes	0	1	1	1	0					
£25.00	£ 384.88	yes	no	limited	limited	yes	0	0	0	1	0					
£25.00	£ 317.32	yes	no	limited	limited	yes	0	0	0	1	0					
£25.00	£ 60.00	some	yes	sliding	yes	yes	0	2	2	2	0					
£6.00	£ 27.86	some	yes	sliding	yes	galvanised	0	1	2	2	0					
£6.00	£ 34.52	some	yes	sliding	yes	galvanised	1	1	2	2	4					
£6.00	£ 41.23	some	yes	sliding	yes	galvanised	1	1	2	2	4					
£10.00	£ 36.46	some	yes	sliding	yes	galvanised	0	1	2	2	0					
£10.00	£ 43.25	some	yes	sliding	yes	galvanised	1	1	2	2	4					
£10.00	£ 50.10	some	yes	sliding	yes	galvanised	2	0	2	2	0					
£35.00	£ 128.96	no	no	sliding	swivel only	yes	1	2	1	1	2					
£35.00	£ 128.92	no	no	sliding	swivel only	yes	1	2	1	1	2					
£35.00	£ 197.60	no	some	sliding	swivel only	yes	2	2	1	1	4					
£35.00	£ 229.22	no	some	sliding	swivel only	yes	2	2	0	1	0					
£20.00	£ 56.96	some	yes	sliding	yes	links:yes; joints:galv.	1	2	2	2	8					
£35.00	£ 92.74	some	yes	sliding	yes	links:yes; joints:galv.	2	1	1	2	4					
£35.00	£ 74.75	some	yes	sliding	yes	links:yes; joints:galv.	0	2	1	2	0					
£35.00	£ 120.06	some	yes	sliding	yes	links:yes; joints:galv.	2	1	1	2	4					
£35.00	£ 151.68	some	yes	sliding	yes	links:yes; joints:galv.	2	1	1	2	4					
£25.00	£ 248.04	yes	yes	yes	no	yes	0	2	0	2	0					
£25.00	£ 237.93	yes	yes	yes	no	yes	0	2	0	2	0					
£25.00	£ 305.20	yes	yes	yes	no	yes	0	1	0	2	0					
£25.00	£ 301.11	yes	yes	yes	no	yes	0	1	0	2	0					
£25.00	£ 336.01	yes	yes	yes	no	yes	2	1	0	2	0					
£25.00	£ 313.16	yes	yes	yes	no	yes	1	1	0	2	0					
	£ -	some	yes	sliding	no	yes	1	2	1	1	2					
	£ -	some	yes	sliding	no	yes	2	1	1	1	2					
	£ -	some	yes	sliding	no	yes	2	2	1	1	4					
£12.50	£ 107.70	yes	no	discreet	no	yes	0	2	1	0	0					
£12.50	£ 103.70	yes	no	discreet	no	yes	1	2	1	0	0					
£15.00	£ 432.68	yes	yes	no	no	yes	0	0	0	1	0					
													what did I expect?			