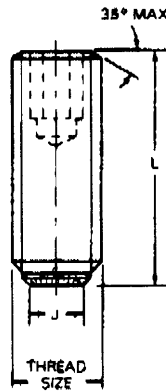


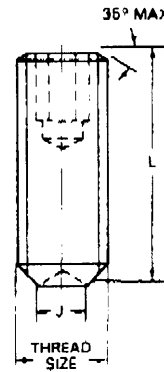
Unbrako.



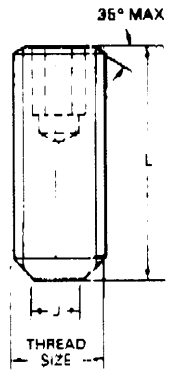
SEE NOTE 1



Knurled Cup Point



Plain Cup Point



Flat Point

Thread Size	Pitch	W Nom.	Knurled Cup Point		Plain Cup		Flat Point	
			J Max.	L Minimum Preferred	J Max.	L Minimum Preferred	J Max.	L Minimum Preferred
M3	0.50	1.5	1.30	3.0	1.4	3.0	2.0	3.0
M4	0.70	2.0	2.10	3.0	2.0	3.0	2.5	3.0
M5	0.80	2.5	2.40	4.0	2.5	4.0	3.5	4.0
M6	1.00	3.0	3.30	5.0	3.0	4.0	4.0	4.0
M8	1.25	4.0	4.30	6.0	5.0	5.0	5.5	5.0
M10	1.50	5.0	5.25	8.0	6.0	6.0	7.0	6.0
M12	1.75	6.0	6.60	10.0	8.0	8.0	8.5	8.0
(M14)	2.00	6.0	8.10	12.0	9.0	10.0	10.0	10.0
M16	2.00	8.0	9.10	14.0	10.0	12.0	12.0	12.0
(M18)	2.50	10.0	10.30	16.0	12.0	14.0	13.0	12.0
M20	2.50	10.0	11.50	18.0	14.0	16.0	15.0	14.0
(M22)	2.50	12.0	12.65	20.0	16.0	18.0	17.0	16.0
M24	3.00	12.0	14.65	20.0	16.0	20.0	18.0	20.0

ALL DIMENSIONS IN MILLIMETRES
SIZES IN BRACKETS ARE NON-PREFERRED STANDARDS

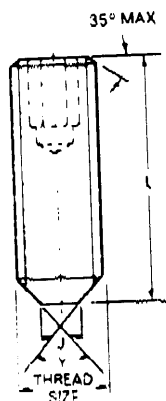
MECHANICAL PROPERTIES

Material Unbrako High Grade Alloy Steel
Hardness Rc 45 Minimum

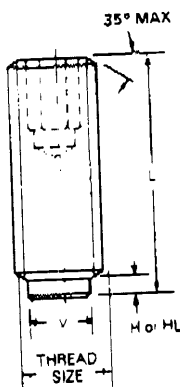
NOTES:

1. Corner of recess must have fillets to minimize stress concentrations.
2. Thread Class — 4g 6g
3. Working Temperature — -50°C .
 $+300^{\circ}\text{C}$.
4. Screws with length L or below will have half dog point H.
Screws with lengths above L will have full dog point HL.
5. Torques calculated at 75% of the torsional shear strength of the respective Unbrako wrenches.
Poor quality keys will fail before these values are generated.
6. For torque and axial holding power see pages 36 and 37.
7. Micro size Plain Cup Point are shown on page 38.

Unbrako.



Cone Point



Dog Point



SEE NOTE 1

J Max.	Cone Point		Dog Point				Maximum Tightening Torque	
	L Minimum Preferred	$\gamma^\circ \pm 2^\circ$ 90° for these Lengths and Over and 120° Under	L See Note 4	H Half Dog Max.	HL Full Dog Max.	V Max.	Nm	lbf. in.
Sharp	4.0	4.00	5.00	1.00	1.75	2.00	0.87	7.7
Sharp	4.0	5.00	6.00	1.25	2.25	2.50	2.20	19.5
Sharp	5.0	6.00	6.00	1.50	2.75	3.50	4.60	41.0
15	6.0	8.00	8.00	1.75	3.25	4.00	7.80	69.0
20	6.0	10.00	10.00	2.25	4.30	5.50	18.00	160.0
25	8.0	12.00	12.00	2.75	5.30	7.00	36.00	320.0
30	10.0	14.00	16.00	3.25	6.30	8.50	62.00	550.0
40	12.0	14.00	20.00	3.80	7.36	10.00	62.00	550.0
40	14.0	18.00	20.00	4.30	8.36	12.00	150.00	1330.0
50	16.0	20.00	25.00	4.80	9.36	13.00	290.00	2570.0
50	18.0	22.00	25.00	5.30	10.36	15.00	290.00	2570.0
60	20.0	28.00	30.00	5.80	11.43	17.00	475.00	4200.0
60	20.0	28.00	30.00	6.30	12.43	18.00	475.00	4200.0

Length 'L' Tolerance (mm)		
Screws Over	Up to and Including	Tolerance
—	Screw Diameter	+0.25 -0.00
Screw Diameter	50	±0.25
50	80	±0.50
80	120	±0.70
120	250	±0.80

Applicable or Similar Specifications:

Flat Point	BS 4168 DIN 913 ISO 4026
Cone Point	DIN 914 ISO 4027
Dog Point	DIN 915 ISO 4028
Plain Cup	DIN 916 ISO 4029