

# Datasheet

RS Stock No: 281653

## High Tensile Steel Black Self-Colour Hexagon Socket Cap Head Screws: Metric Thread



Socket caps have a small cylindrical head with tall vertical sides giving them space-saving advantages as well as greater tensile strength and they require less side room for wrenches..

- Threaded in accordance with DIN 912 Standard
- 12.9 grade heat-treated high tensile alloy steel
- 1200 MPa maximum tensile strength\* compared to just 800 MPa for structural grade 8.8 so can be used in high tensile applications
- 1100 yield strength\*\* compared to 640-660 MPa depending on the size of the screw for structural grade 8.8
- 970 MPa proof load\*\*\* compared to just 580-600 MPa depending on the size of the screw for structural grade 8.8
- Used for applications with limited space in high-tensile applications
- Suitable for use in many industrial applications and similarly medical, construction, electronic and domestic applications
- Requires a Hex Key / Allen Key

**\*Tensile Strength:** The maximum load in tension (pulling apart) which a material can withstand before breaking or fracturing.

**\*\*Yield Strength:** The maximum load at which a material exhibits a specific permanent deformation.

**\*\*\*Proof Load:** An axial tensile load which the product must withstand without evidence of any permanent set.



**ENGLISH**

Please view our full range listing below for all High-Tensile Steel Black Self-Colour Hexagon Socket Cap Head Screws:

<b>Head Shape</b>	<b>Material</b>	<b>Thread Size</b>	<b>Length</b>	<b>RS Part No.</b>
Hex Socket Cap	Steel	M1.4	6 mm	293246
Hex Socket Cap	Steel	M1.6	3 mm	293252
Hex Socket Cap	Steel	M1.6	6 mm	293268
Hex Socket Cap	Steel	M2	4 mm	293274
Hex Socket Cap	Steel	M2	6 mm	293280
Hex Socket Cap	Steel	M2	12 mm	293296
Hex Socket Cap	Steel	M2.5	4 mm	293303
Hex Socket Cap	Steel	M2.5	6 mm	281647
Hex Socket Cap	Steel	M2.5	12 mm	281653
Hex Socket Cap	Steel	M3	6 mm	4679773
Hex Socket Cap	Steel	M3	8 mm	4679789
Hex Socket Cap	Steel	M3	10 mm	4679795
Hex Socket Cap	Steel	M3	12 mm	4679802
Hex Socket Cap	Steel	M3	15 mm	8229063
Hex Socket Cap	Steel	M3	16 mm	4679818
Hex Socket Cap	Steel	M3	20 mm	4679824
Hex Socket Cap	Steel	M3	25 mm	4679830
Hex Socket Cap	Steel	M3	30 mm	4679846
Hex Socket Cap	Steel	M3	35 mm	8229066
Hex Socket Cap	Steel	M3	40 mm	8229060



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<b>Head Shape</b>	<b>Material</b>	<b>Thread Size</b>	<b>Length</b>	<b>RS Part No.</b>
Hex Socket Cap	Steel	M4	6 mm	8229079
Hex Socket Cap	Steel	M4	8 mm	4679852
Hex Socket Cap	Steel	M4	10 mm	4679874
Hex Socket Cap	Steel	M4	12 mm	4679880
Hex Socket Cap	Steel	M4	16 mm	4679896
Hex Socket Cap	Steel	M4	20 mm	4679903
Hex Socket Cap	Steel	M4	25 mm	4679919
Hex Socket Cap	Steel	M4	30 mm	4679931
Hex Socket Cap	Steel	M4	35 mm	8229072
Hex Socket Cap	Steel	M4	40 mm	4679947
Hex Socket Cap	Steel	M4	50 mm	8229076
Hex Socket Cap	Steel	M5	8 mm	8229085
Hex Socket Cap	Steel	M5	10 mm	4679953
Hex Socket Cap	Steel	M5	12 mm	4679969
Hex Socket Cap	Steel	M5	16 mm	4679975
Hex Socket Cap	Steel	M5	20 mm	4679981
Hex Socket Cap	Steel	M5	25 mm	4679997
Hex Socket Cap	Steel	M5	30 mm	4680004
Hex Socket Cap	Steel	M5	35 mm	4680010
Hex Socket Cap	Steel	M5	40 mm	4680032
Hex Socket Cap	Steel	M5	50 mm	4680048



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Head Shape	Material	Thread Size	Length	RS Part No.
Hex Socket Cap	Steel	M6	10 mm	4680054
Hex Socket Cap	Steel	M6	12 mm	4680060
Hex Socket Cap	Steel	M6	14 mm	8229313
Hex Socket Cap	Steel	M6	15 mm	8229085
Hex Socket Cap	Steel	M6	16 mm	4680076
Hex Socket Cap	Steel	M6	20 mm	4680105
Hex Socket Cap	Steel	M6	25 mm	4680082
Hex Socket Cap	Steel	M6	30 mm	4680098
Hex Socket Cap	Steel	M6	35 mm	4680111
Hex Socket Cap	Steel	M6	40 mm	4680127
Hex Socket Cap	Steel	M6	45 mm	4680133
Hex Socket Cap	Steel	M6	50 mm	4680149
Hex Socket Cap	Steel	M6	55 mm	8229082
Hex Socket Cap	Steel	M6	60 mm	4680155
Hex Socket Cap	Steel	M6	70 mm	275018
Hex Socket Cap	Steel	M8	12 mm	529696
Hex Socket Cap	Steel	M8	16 mm	529703
Hex Socket Cap	Steel	M8	20 mm	529719
Hex Socket Cap	Steel	M8	25 mm	529725
Hex Socket Cap	Steel	M8	30 mm	4680161
Hex Socket Cap	Steel	M8	35 mm	4680177
Hex Socket Cap	Steel	M8	40 mm	4680199
Hex Socket Cap	Steel	M8	45 mm	4680206
Hex Socket Cap	Steel	M8	50 mm	4680212
Hex Socket Cap	Steel	M8	55 mm	4680228
Hex Socket Cap	Steel	M8	60 mm	4680234
Hex Socket Cap	Steel	M8	65 mm	8229091
Hex Socket Cap	Steel	M8	70 mm	275052
Hex Socket Cap	Steel	M8	80 mm	4680256
Hex Socket Cap	Steel	M8	100 mm	4680284



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Head Shape	Material	Thread Size	Length	RS Part No.
Hex Socket Cap	Steel	M10	16 mm	4680262
Hex Socket Cap	Steel	M10	20 mm	4680278
Hex Socket Cap	Steel	M10	25 mm	4680290
Hex Socket Cap	Steel	M10	30 mm	4680313
Hex Socket Cap	Steel	M10	35 mm	4680329
Hex Socket Cap	Steel	M10	40 mm	529810
Hex Socket Cap	Steel	M10	45 mm	275096
Hex Socket Cap	Steel	M10	50 mm	529826
Hex Socket Cap	Steel	M10	55 mm	275103
Hex Socket Cap	Steel	M10	60 mm	529832
Hex Socket Cap	Steel	M10	65 mm	4680335
Hex Socket Cap	Steel	M10	70 mm	4680341
Hex Socket Cap	Steel	M10	80 mm	4680357
Hex Socket Cap	Steel	M10	90 mm	275147
Hex Socket Cap	Steel	M10	100 mm	275153
Hex Socket Cap	Steel	M10	120 mm	4680363
Hex Socket Cap	Steel	M12	25 mm	4680385
Hex Socket Cap	Steel	M12	30 mm	4680391
Hex Socket Cap	Steel	M12	40 mm	4680408
Hex Socket Cap	Steel	M12	45 mm	4680414
Hex Socket Cap	Steel	M12	50 mm	4680420
Hex Socket Cap	Steel	M12	55 mm	275181
Hex Socket Cap	Steel	M12	60 mm	529898
Hex Socket Cap	Steel	M12	65 mm	275197
Hex Socket Cap	Steel	M12	70 mm	275204
Hex Socket Cap	Steel	M12	80 mm	275226
Hex Socket Cap	Steel	M12	90 mm	4680436
Hex Socket Cap	Steel	M12	100 mm	4680442
Hex Socket Cap	Steel	M12	120 mm	4680458



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<b>Head Shape</b>	<b>Material</b>	<b>Thread Size</b>	<b>Length</b>	<b>RS Part No.</b>
Hex Socket Cap	Steel	M16	40 mm	4680492
Hex Socket Cap	Steel	M16	50 mm	4680515
Hex Socket Cap	Steel	M16	60 mm	275327
Hex Socket Cap	Steel	M16	70 mm	275349
Hex Socket Cap	Steel	M16	80 mm	275361
Hex Socket Cap	Steel	M16	100 mm	275383
Hex Socket Cap	Steel	M16	120 mm	4680543

**SOCKET HEAD CAP SCREWS DIN 912 / ISO 4762 / ANSI B 18.3.1 M**



Head Diameter d2 max. allows for Knurled Head

<b>Thread Size d1</b>	(M1.4)		M1.6		M2		M2.5		M2.6		M3		M4	
<b>Thread Pitch</b>	0.3		0.35		0.4		0.45		0.45		0.5		0.7	
<b>Thread Length b</b>	14		15		16		17		NA		18		20	
<b>Head Dia. d2</b>	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	2.46	2.74	2.86	3.14	3.62	3.98	4.32	4.68	4.82	5.18	5.32	5.68	6.78	7.22
ISO 4762 (1997)			2.86	3.14	3.62	3.98	4.32	4.68			5.32	5.68	6.78	7.22
ANSI B 18.3.1 M (1986)			2.87	3.14	3.65	3.98	4.33	4.68			5.32	5.68	6.80	7.22
<b>Head Height k</b>	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	1.26	1.40	1.46	1.60	1.86	2.00	2.36	2.50	2.46	2.60	2.86	3.00	3.82	4.00
ISO 4762 (1997)			1.46	1.60	1.86	2.00	2.36	2.50			2.86	3.00	3.82	4.00
ANSI B 18.3.1 M (1986)			1.52	1.60	1.91	2.00	2.40	2.50			2.89	3.00	3.88	4.00
<b>Key Size nominal s</b>	1.3		1.5		1.5		2		2		2.5		3	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	1.32	1.36	1.52	1.56	1.52	1.56	2.02	2.06	2.02	2.06	2.52	2.58	3.02	3.08
ISO 4762 (1997)			1.52	1.56	1.52	1.56	2.02	2.06			2.52	2.58	3.02	3.08
ANSI B 18.3.1 M (1986)			1.520	1.545	1.520	1.545	2.020	2.045			2.52	2.56	3.020	3.071
<b>Key Engagement t</b>	min.		min.		min.		min.		min.		min.		min.	
DIN 912 (1983)	0.6		0.7		1		1.10		1.2		1.3		2	
ISO 4762 (1997)			0.7		1		1.10				1.3		2	
ANSI B 18.3.1 M (1986)			0.8		1		1.25				1.5		2	
<b>Thread Size d1</b>	M5		M6		M8		M10		M12		(M14)		M16	
<b>Thread Pitch</b>	0.8		1		1.25		1.5		1.75		2		2	
<b>Thread Length b</b>	22		24		28		32		36		40		44	
<b>Head Dia. d2</b>	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	8.28	8.72	9.78	10.22	12.73	13.27	15.73	16.27	17.73	18.27	20.67	21.33	23.67	24.33
ISO 4762 (1997)	8.28	8.72	9.78	10.22	12.73	13.27	15.73	16.27	17.73	18.27	20.67	21.33	23.67	24.33
ANSI B 18.3.1 M (1986)	8.27	8.72	9.74	10.22	12.70	13.27	15.67	16.27	17.63	18.27	20.6	21.33	23.58	24.33
<b>Head Height k</b>	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	4.82	5.00	5.7	6.0	7.64	8.00	9.64	10.00	11.57	12.00	13.57	14.00	15.57	16.00
ISO 4762 (1997)	4.82	5.00	5.7	6.0	7.64	8.00	9.64	10.00	11.57	12.00	13.57	14.00	15.57	16.00
ANSI B 18.3.1 M (1986)	4.86	5.00	5.85	6.00	7.83	8.00	9.81	10.00	11.79	12.00	13.77	14.00	15.76	16.00
<b>Key Size nominal s</b>	4		5		6		8		10		12		14	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	4.020	4.095	5.02	5.14	6.02	6.14	8.025	8.175	10.025	10.175	12.032	12.212	14.032	14.212
ISO 4762 (1997)	4.020	4.095	5.02	5.14	6.02	6.14	8.025	8.175	10.025	10.175	12.032	12.212	14.032	14.212
ANSI B 18.3.1 M (1986)	4.020	4.084	5.020	5.084	6.020	6.095	8.025	8.115	10.025	10.127	12.032	12.146	14.032	14.159
<b>Key Engagement t</b>	min.		min.		min.		min.		min.		min.		min.	
DIN 912 (1983)	2.5		3		4		5		6		7		8	
ISO 4762 (1997)	2.5		3		4		5		6		7		8	
ANSI B 18.3.1 M (1986)	2.5		3		4		5		6		7		8	
<b>Thread Size d1</b>	(M18)		M20		(M22)		M24		(M27)		M30		M33	
<b>Thread Pitch</b>	2.5		2.5		2.5		3		3		3.5		3.5	
<b>Thread Length b</b>	48		52		56		60		66		72		78	
<b>Head Dia. d2</b>	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	26.67	27.33	29.67	30.33	32.61	33.39	35.61	36.39	39.61	40.39	44.61	45.39	49.61	50.39
ISO 4762 (1997)			29.67	30.33			35.61	36.39			44.61	45.39		
ANSI B 18.3.1 M (1986)			29.53	30.33			35.48	36.39			44.42	45.39		
<b>Head Height k</b>	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	17.57	18.00	19.48	20.00	21.48	22.00	23.48	24.00	26.48	27.00	29.48	30.00	32.38	33.00
ISO 4762 (1997)			19.48	20.00			23.48	24.00			29.48	30.00		
ANSI B 18.3.1 M (1986)			19.73	20.00			23.70	24.00			29.67	30.00		
<b>Key Size nominal s</b>	14		17		17		19		19		22		24	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	14.032	14.212	17.05	17.23	17.05	17.23	19.065	19.275	19.065	19.275	22.065	22.275	24.065	24.275
ISO 4762 (1997)			17.05	17.23			19.065	19.275			22.065	22.275		
ANSI B 18.3.1 M (1986)			17.050	17.216			19.065	19.243			22.065	22.319		
<b>Key Engagement t</b>	min.		min.		min.		min.		min.		min.		min.	
DIN 912 (1983)	9		10		11		12		13.5		15.5		18	
ISO 4762 (1997)			10				12				15.5			
ANSI B 18.3.1 M (1986)			10				12				15.0			