

ISO 14583

Hexalobular socket pan head screws



Standard	ISO 14583		
Product Type	ISO 14583:2011 specifies the characteristics of hexalobular socket pan head screws of product grade A and with thread sizes from M2 up to and including M10.		
Material	Stainless Steel, Carbon Steel		
Property Class	A2-70, A4-80 (ISO 3506-1) · 8.8 (ISO 898-1)		
Surface Finish	Passivated, Plain, Blackened, Zinc Plated		
Size Range	M2 - M10	Length Range	6-60 mm
Thread	ISO metric coarse pitch		

BASIS OF SPECIFICATION

WHICH STANDARD GOVERNS WHAT

Dimensions to	ISO 14583:2011
Carbon steel / Alloy steel mechanical properties to	ISO 898-1:2013
Stainless steel mechanical properties to	ISO 3506-1:2020
Product grade	A

MECHANICAL PROPERTIES

REQUIRED VALUES PER ISO 3506-1

Class	Rm min.	Yield requirement	Elongation requirement	Hardness	Source
A2-70	700 MPa	Rp0.2 min. 450 MPa	0,4d mm	-	ISO 3506-1
A4-80	800 MPa	Rp0.2 min. 600 MPa	0,3d mm	-	ISO 3506-1

MECHANICAL PROPERTIES

REQUIRED VALUES PER ISO 898-1

Class	Rm min.	Yield requirement	Elongation requirement	Hardness	Source
8.8	800 MPa	Rp0.2 min. 640 MPa	A min. 12 %	250 - 320 HV	ISO 898-1 (d ≤ M16)

DIMENSIONAL DATA - SIZES WE SUPPLY

ALL DIMENSIONS PER THE STANDARD

d	P	dk	dk (min)	k	k (min)	r (min)	rf (ref)	Recess Number	A (ref)	t (max)	t (min)
Diameter - mm	Thread Pitch - mm	Head Diameter - mm	Head Diameter - mm	Nominal Head Height - mm	Head Height - mm	Radius - mm	Head Radius - mm		Hexalobular Socket A - mm	Socket Depth - mm	Socket Depth - mm
M3	0.5	5.6	5.3	2.4	2.26	0.1	5	10	2.8	1.27	1.01
M4	0.7	8	7.64	3.1	2.92	0.2	6.5	20	3.95	1.66	1.27
M5	0.8	9.5	9.14	3.7	3.52	0.2	8	25	4.5	1.91	1.52
M6	1	12	11.57	4.6	4.3	0.25	10	30	5.6	2.42	2.02
M8	1.25	16	15.57	6	5.7	0.4	13	45	7.95	3.18	2.79
M10	1.5	20	19.48	7.5	7.14	0.4	16	50	8.95	4.02	3.62

FURTHER SIZES IN THIS STANDARD

ALL DIMENSIONS PER THE STANDARD

Not held in stock. Available to order; minimum order quantity applies.

d	P	dk	dk (min)	k	k (min)	r (min)	rf (ref)	Recess Number	A (ref)	t (max)	t (min)
Diameter - mm	Thread Pitch - mm	Head Diameter - mm	Head Diameter - mm	Nominal Head Height - mm	Head Height - mm	Radius - mm	Head Radius - mm		Hexalobular Socket A - mm	Socket Depth - mm	Socket Depth - mm
M2	0.4	4	3.7	1.6	1.46	0.1	3.2	6	1.75	0.77	0.63
M2.5	0.45	5	4.7	2.1	1.96	0.1	4	8	2.4	1.04	0.91
M3.5	0.6	7	6.64	2.6	2.46	0.1	6	15	3.35	1.33	1.07

MARKING

Steel — Not usual - marked only if the purchaser requires it

What	If the purchaser requires marking, the system of 10.3 applies: manufacturer identification mark and property class symbol
Where	Where the head shape allows it
Sizes	All sizes
Clause	ISO 898-1:2013, 10.3.3.5 Other types of bolts and screws

"Marking is not usual for screws with flat countersunk head, oval countersunk head, cheese head, pan head or similar head shapes that are slotted, cross-recessed, or with socket or other internal driving feature."

Stainless steel — Required

What	Stainless steel grade (Clause 6), property class symbol (Table 13, or Table 14 with a leading zero for reduced loadability) and manufacturer identification mark
Where	For cap screws and cheese head bolts and screws, preferably on the top of the head, indented or embossed, or on the side of the head, indented; other head shapes on the head
Sizes	d ≥ 5 mm
Clause	ISO 3506-1:2020, 10.3.2 Hexagon socket or hexalobular socket bolts and screws

"Hexagon socket bolts and screws and hexalobular socket bolts and screws of nominal thread diameter d ≥ 5 mm shall be marked for all stainless steel grades and all property classes, with the stainless steel grade in accordance with Clause 6, with the property class symbol in accordance with Table 13 (fasteners with full loadability) or Table 14 (fasteners with reduced loadability that can be tensile tested with b ≥ 3d in accordance with 9.1), and with the manufacturer's identification mark in accordance with 10.2."

ISO 14583:2011 has no marking clause of its own: Table 2 is followed directly by Clause 5 Designation.

Steel and stainless pull in opposite directions here. A steel hexalobular socket pan head screw normally carries no marking under ISO 898-1 10.3.3.5, while a stainless one of d ≥ 5 mm must be marked under ISO 3506-1 10.3.2, which covers all hexalobular socket bolts and screws.

Property classes printed in Table 2 are narrower than ISO 14580: steel 4.8 only; stainless A2-70 and A3-70 only; non-ferrous metal as agreed.

Confirm the ordered property class before production.

INSPECTION DOCUMENTS WE CAN ISSUE

EN 10204 3.1 material certificate	Can be included when agreed in the order.
Dimensional inspection report	Can be provided for the agreed inspection scope.
Certificate of conformity	Can be issued against the confirmed order requirements.
Mechanical test report	Available when the required tests are agreed before production.
Chemical analysis report	Available when the material verification scope is agreed.
Coating inspection report	Can record the coating checks agreed for the order.

REFERENCES & NOTES

Note: Dimensional values follow the selected execution standard. Material properties and batch test results are included only when declared or supported by the applicable certificate or test report.