

ISO 7050

Cross-recessed countersunk head tapping screws



Standard	ISO 7050		
Product Type	ISO 7050:2011 specifies the characteristics of cross-recessed countersunk (flat) head tapping screws with thread sizes from ST 2,2 to ST 9,5 inclusive.		
Material	Stainless Steel, Carbon Steel		
Surface Finish	Passivated, Plain, Zinc Plated, Dacromet, Ruspert, Phosphate		
Size Range	ST2.2 - ST9.5	Length Range	4.5-50 mm
Thread	Tapping screw thread (ST) per ISO 1478		

BASIS OF SPECIFICATION		WHICH STANDARD GOVERNS WHAT
Dimensions to	ISO 7050:2011	
Carbon steel / Alloy steel mechanical properties to	ISO 2702:2022	
Stainless steel mechanical properties to	ISO 3506-4:2025	
Product grade	A	

DIMENSIONAL DATA - SIZES WE SUPPLY										ALL DIMENSIONS PER THE STANDARD			
d	P	a (max)	dk (max)	dk	dk (min)	k	r (max)	Recess	m (ref)	(max)	(min)	m (ref)	(max)
Diameter - mm	Thread Pitch - mm	Thread Runout - mm	Theoretical Head Diameter - mm	Head Diameter - mm	Head Diameter - mm	Nominal Head Height - mm	Radius - mm	Number	Type H Recess Width - mm	Type H Penetration - mm	Type H Penetration - mm	Type Z / Socket Width Penetration - mm	Type Z Penetration - mm
ST2.9	1.1	2.2	6.3	5.5	5.2	1.7	1.2	1	3.2	2.1	1.7	3	2.01
ST3.5	1.3	2.6	8.2	7.3	6.9	2.35	1.4	2	4.4	2.4	1.9	4.1	2.2
ST4.2	1.4	2.8	9.4	8.4	8	2.6	1.6	2	4.6	2.6	2.1	4.4	2.51
ST4.8	1.6	3.2	10.4	9.3	8.9	2.8	2	2	5.2	3.2	2.7	4.9	3.05
ST5.5	1.8	3.6	11.5	10.3	9.9	3	2.2	3	6.6	3.3	2.8	6.3	3.18
ST6.3	1.8	3.6	12.6	11.3	10.9	3.15	2.4	3	6.8	3.5	3	6.6	3.45

d	(min)	y (ref)	y (ref)	y (ref)
Diameter - mm	Type Z Penetration - mm	Point Length - C - mm	Point Length - F - mm	Point Length - R - mm
ST2.9	1.76	2.6	2.1	-
ST3.5	1.75	3.2	2.5	2.7
ST4.2	2.06	3.7	2.8	3.2
ST4.8	2.6	4.3	3.2	3.6
ST5.5	2.73	5	3.6	4.3
ST6.3	3	6	3.6	5

FURTHER SIZES IN THIS STANDARD

ALL DIMENSIONS PER THE STANDARD

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

d Diameter - mm	P Thread Pitch - mm	a (max) Thread Runout - mm	dk (max) Theoretical Head Diameter - mm	dk Head Diameter - mm	dk (min) Head Diameter - mm	k Nominal Head Height - mm	r (max) Radius - mm	Recess Number	m (ref) Type H Recess Width - mm	(max) Type H Penetration - mm	(min) Type H Penetration - mm	m (ref) Type Z / Socket Width Penetration - mm	(max) Type Z Penetration - mm
ST2.2	0.8	1.6	4.4	3.8	3.5	1.1	0.8	0	1.9	1.2	0.9	2	1.2
ST8	2.1	4.2	17.3	15.8	15.4	4.65	3.2	4	8.9	4.6	4	8.8	4.6
ST9.5	2.1	4.2	20	18.3	17.8	5.25	4	4	10	5.7	5.1	9.8	5.64

d Diameter - mm	(min) Type Z Penetration - mm	y (ref) Point Length - C - mm	y (ref) Point Length - F - mm	y (ref) Point Length - R - mm
ST2.2	0.95	2	1.6	-
ST8	4.15	7.5	4.2	6.3
ST9.5	5.19	8	4.2	-

TECHNICAL SPECIFICATIONS

Surface Finish	Passivated, Plain, Zinc Plated, Dacromet, Ruspert, Phosphate
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MARKING
Steel — No marking clause

What	None. Neither the product standard nor ISO 2702 contains a marking clause
Sizes	
Clause	ISO 2702:2011, Clauses 1 to 6 (Scope, Normative references, Materials, Requirements, Acceptance, Test methods), none of which is a marking clause

Stainless steel — Not mandatory on the part; required on the package

What	Marking the part is not mandatory. Where the hardness class symbol is marked, the manufacturer identification mark shall be there as well, as far as technically possible; the mark shall carry the steel group and hardness class, for example A4-20H. On the package, marking is required without exception: manufacturer and/or distributor identification, the steel group and hardness class symbol, and the manufacturing lot number to ISO 16426
Where	On the part where marked, and on the package in every case
Sizes	All sizes
Clause	ISO 3506-4:2009, 3.2.1 to 3.2.4, with 3.3 on delivery condition

- Checked at both ends: the product standard runs only to Clause 5 Designation, and ISO 2702:2011 has no marking clause at all, so steel tapping screws to this standard carry no marking obligation.
- 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.