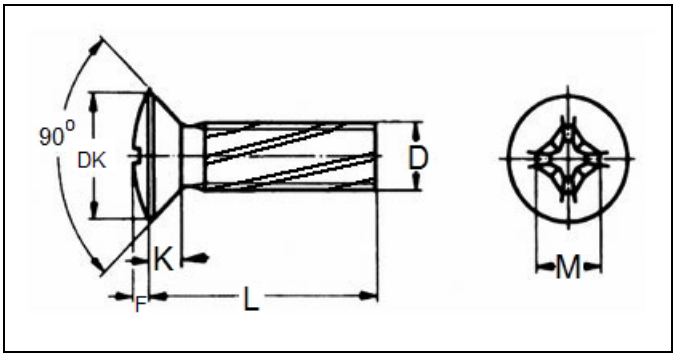
*a Division of Nissen Fasteners Florida LLC

Product Dimensions and Weights **DIN 7516E Specifications**

Metric DIN 7516E Raised Countersunk Head (Oval) Phillips Thread-Cutting Screws



D	M 2.5	M 3	M 4	M 5	M 6	M 8
K	1.50	1.65	2.20	2.50	3.00	4.00
F	0.60	0.75	1.00	1.25	1.50	2.00
DK	4.7	5.6	7.5	9.2	11.0	14.5
M	2.8	3.1	4.5	5.3	6.8	9.0
Recess Size	1	1	2	2	3	4
Pilot Hole Size	2.2	2.7	3.6	4.5	5.5	7.4

All measurements are in mm

Metric DIN 7516 Type E is a raised countersunk head (oval head) cross recessed (Phillips) drive thread-cutting screws which are self-tapping screws that have a blunted tip and specialized grooves in their threads that are designed to help remove material from the pilot hole in the substrate. This feature enhances the ability of the DIN 7516D raised countersunk head (oval head) Phillips thread cutting screws to tap its own thread. A slightly smaller core pilot hole diameter can be used for thin-walled substrates made from softer materials. The ideal diameter of the pilot hole should be determined on the basis of adequate testing. The depth of engagement should not exceed 2 X diameter. Raised countersunk heads are countersunk heads with a rounded domed top surface and a cone-shaped bearing surface having a head angle of approximately 90°. They are preferred over standard flat countersunk heads in applications when a more decorative finished look is desired. Aspen Fasteners offers over 500,000 unique fastener products from stock in inch and metric standard in a variety of materials and finishes. The following sizes DIN 7516 Type E is a raised countersunk head cross recessed (Phillips) drive thread-cutting screws are available for immediate shipping from stock: Diameters ranging from M3 to M6 up to 30mm long in zinc plated steel. View parts by clicking on the following link: Metric DIN 7516 Type E is a raised countersunk head cross recessed (Phillips) drive thread-cutting screws

Aspen Fasteners 4807 Rockside Road, Suite 400, Independence, OH 44131 USA
www.aspenfasteners.com | aspensales@aspenfasteners.com | 1-800-479-0056

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DIN (**D**eutsches **I**nstitut für **N**ormung - German Institute for Standardization) standards are issued for a variety of components including industrial fasteners as Metric DIN 7516 Type E is a raised countersunk head (oval head) cross recessed (Phillips) drive thread-cutting screws. The DIN standards remain common in Germany, Europe and globally even though the transition to ISO standards is taking place. DIN standards continue to be used for parts which do not have ISO equivalents or for which there is no need for standardization. As in the case of DIN 7516 Type E is a raised countersunk head cross recessed (Phillips) drive thread-cutting screws.

1) Mechanical properties of stainless steel for DIN 7516 Type E raised countersunk head (oval head) cross recessed (Phillips) drive thread-cutting screws

Stainless steels can be divided into three groups of steel - austenitic, ferritic and martensitic. Austenitic steel is by far the most common type (>90% of commercial fasteners). The steel groups and strength classes are designated by a four-digit sequence of letters and numbers (eg A2-70) as shown in the following table. DIN EN ISO 3506 governs screws and nuts made from stainless steel.

Steel group	Steel grade	Strength class	Screws, Nuts and Bolts			
			Tensile strength N/mm^2	Tensile strength PSI	Dia range	Nut Load N/mm^2
Austenitic	A2 and A4	50	500	70,000	<=M39	500
		70	700	100,000	<=M20	700
		80	800	118,000	<=M20	800

The tensile stress is calculated with reference to the tensile stress area (see DIN EN ISO 3506-1979). Nuts to be paired with same grade of stainless steel screws

Steel group	Property Strength class	Made From	Characteristics
Austenitic	50	A1, A2	Soft; cold worked, turned and soft pressed fasteners
	70	A2, A4	Cold worked, normal strength formed fasteners
	80	A2, A4	Extreme cold worked, high strength, special applications

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2) Chemical composition of stainless steel metric DIN 7516 Type E raised countersunk head (oval head) cross recessed (Phillips) drive thread-cutting screws

Grade	USA Grade	**Material designation**	**Material no.**	**C %**	**Si ≤ %**	**Mn ≤ %**	**Cr %**	**Mo %**	**Ni %**
A 2	**304**	X 5Cr Ni 1810	1.4301	≤ 0.07	1.0	2.0	17.5 to 19.5	-	8.0 to 10.5
		X 2 Cr Ni 1811	1.4306	≤ 0.03	1.0	2.0	18.0 to 20.0	-	10 to 12.0
		X 8 Cr Ni 19/10	1.4303	≤ 0.07	1.0	2.0	17.0 to 19.0	-	11.0 to 13.0
A 4	**316**	X 5 Cr Ni Mo 1712	1.4401	≤ 0.07	1.0	2.0	16.5 to 18.5	2.0 to 2.5	10.0 to 13.0
		X 2 Cr Ni Mo 1712	1.4404	≤ 0.03	1.0	2.0	16.5 to 18.5	2.0 to 2.5	10 to 13

3) Chemical composition of steel metric DIN 7516 Type E raised countersunk head (oval head) cross recessed (Phillips) drive thread-cutting screws

PROPERTY CLASS	MATERIAL AND TREATMENT	CHEMICAL COMPOSITION LIMITS %				TEMPERING TEMP ºC MIN.
		C		P	S	
		min.	max.	max.	max.	
4.6, 4.8, 5.8, 6.8	Low or medium carbon steel	-	0.55	0.05	0.06	-
8.8	Medium carbon steel quenched, tempered	0.25	0.55	0.04	0.05	425
9.8	Medium carbon steel quenched, tempered	0.25	0.55	0.04	0.05	425
10.9	Medium carbon steel additives e.g. boron, Mn, Cr or Alloy steel - quenched, tempered	0.20	0.55	0.04	0.05	425
12.9	Alloy steel - quenched, tempered	0.20	0.50	0.035	0.035	380

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4) Mechanical properties of steel for metric DIN 7516 Type E raised countersunk head (oval head) cross recessed (Phillips) drive thread-cutting screws

MECHANICAL PROPERTY			PROPERTY CLASS								
							8.8				
			4.8	5.6	5.8	6.8	Up to M 16	Over M 16	9.8	10.9	12.9
Tensile Strength (Rm, N/mm²)	nom.		400	500		600	800		900	1000	1200
	min.		420	500	520	600	800	830	900	1040	1220
Vickers Hardness	min.		130	155	160	190	250	255	290	320	385
	max		250				320	336	360	380	435
Brinell Hardness	min.		124	147	152	181	319	242	266	295	353
	max.		238				385	319	342	363	412
Rockwell Hardness	min.	HR	71	79	82	89	-				
		HRC	-	-	-	-	20	23	28	32	39
		HR	95			99	-				
	max.	HRC	-	-	-	-	32	34	37	39	44
Yield Stress ReL. N/mm²	nom.		320	300	400	480	-				
	min.		340	300	420	480	-				
Stress at permanent set limit N/mm²	nom.		-				640		720	900	1080
	min.		-				640	660	720	940	1100

Disclaimer

Dimensional data and technical information for Metric DIN 7516 Type E raised countersunk head **(oval head)** cross recessed (Phillips) drive thread-cutting screws was obtained from publicly available sources and not acquired through standards agencies. It has been completed and compiled for reference purposes only; where discrepancies are found they are subject to change without notice. Aspen Fasteners makes no warranties or representations regarding the accuracy and validity of the compiled information and data. Contact the relevant standards authorities for accurate and detailed information.