

Product grade A cross recessed
pan head screws with collar

DIN
967

Einserkopfschrauben mit Bund und Kreuzschlitz, Produktklasse A

In keeping with current practice in standards published by the International Organization for Standardization (ISO), a comma has been used throughout as the decimal marker.

Dimensions in mm

1 Scope and field of application

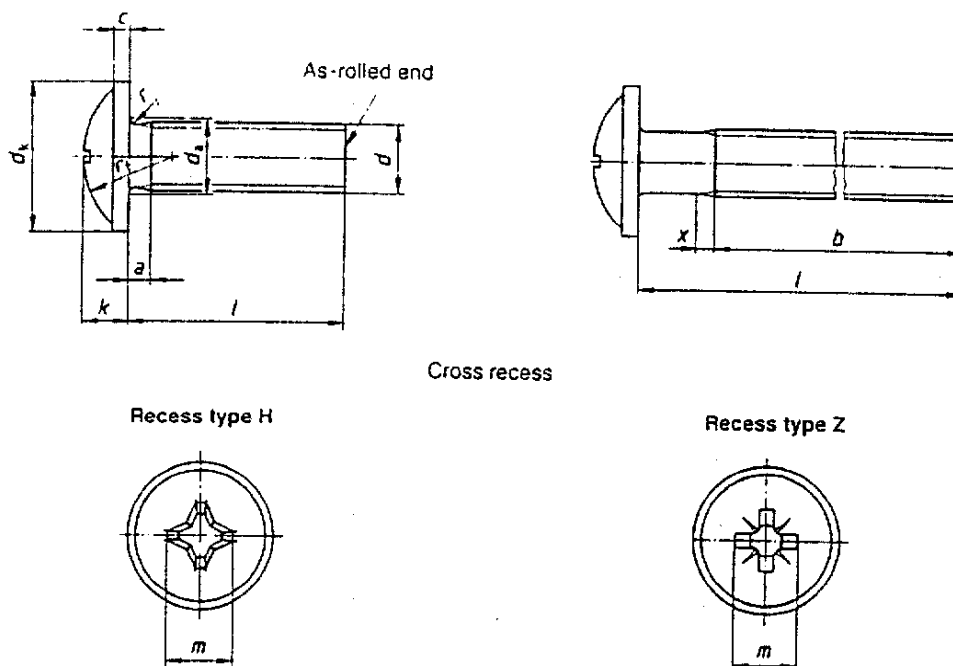
This standard specifies requirements for M3 to M8 cross recessed pan head screws assigned to product grade A. See DIN 962 (or the standards referred to therein) for special screw types or finishes.

If, in special cases, screws are to comply with specifications other than those given in this standard (e.g. regarding property class or material), these shall be selected in accordance with the relevant standards.

2 Dimensions

See figure 1 and table 1.

NOTE: See DIN EN 20 225 for notation.



Cross recess

Recess type H

Recess type Z

The diameter of the unthreaded shank is equal to the thread diameter or approximately equal to the pitch diameter.

Figure 1

Continued on pages 2 to 4.

Table 1

| Thread size (d) ¹⁾ | | | M 3 | (M 3,5) | M 4 | M 5 | M 6 | M 8 | |
|-----------------------------------|---------------------------|----------------------|-------|--|------|------|------|-------|------|
| $l^{2)}$ | | | 0,5 | 0,6 | 0,7 | 0,8 | 1 | 1,25 | |
| a | max. | | 1 | 1,2 | 1,4 | 1,6 | 2 | 2,5 | |
| h | min. | | 25 | 38 | 38 | 38 | 38 | 38 | |
| d_b | max. | | 3,6 | 4,1 | 4,7 | 5,7 | 6,8 | 9,2 | |
| d_k | Nominal size = max. | | 7,5 | 9,0 | 10,0 | 11,5 | 14,5 | 19,0 | |
| | min. | | 6,92 | 8,42 | 9,42 | 10,8 | 13,8 | 18,16 | |
| k | Nominal size = max. | | 2,35 | 2,6 | 3,05 | 3,55 | 4,55 | 5,9 | |
| | min. | | 2,10 | 2,35 | 2,75 | 3,25 | 4,25 | 5,6 | |
| c | max. | | 0,8 | 0,9 | 1,1 | 1,35 | 1,8 | 2,2 | |
| | min. | | 0,6 | 0,7 | 0,9 | 1,05 | 1,4 | 1,8 | |
| r | min. | | 0,1 | 0,1 | 0,2 | 0,2 | 0,25 | 0,4 | |
| r_f | ≈ | | 3,8 | 4,6 | 5,8 | 6,6 | 8,2 | 11,0 | |
| x | max. | | 1,25 | 1,5 | 1,75 | 2 | 2,5 | 3,2 | |
| Cross recess | Size | | 1 | 2 | | | 3 | 4 | |
| | m (auxiliary dimension) | | 3,0 | 4,2 | 4,6 | 5,0 | 7,1 | 9,0 | |
| | Type H | Penetration depth | min. | 1,35 | 1,4 | 1,8 | 2,26 | 3,0 | 4,18 |
| | | | max. | 1,8 | 2,03 | 2,46 | 2,87 | 3,66 | 4,68 |
| | m (auxiliary dimension) | | 2,9 | 3,9 | 4,3 | 4,7 | 6,7 | 8,8 | |
| | Type Z | Penetration depth | min. | 1,58 | 1,47 | 1,88 | 2,28 | 3,02 | 4,06 |
| | | | max. | 1,83 | 1,93 | 2,34 | 2,74 | 3,48 | 4,52 |
| | $l^{1), 3)}$ | | | Approximate mass ($\rho = 7,85 \text{ kg/dm}^3$) per 1000 units, in kg | | | | | |
| Nominal size | min. | max. | | | | | | | |
| 4 | 3,76 | 4,24 | 0,648 | | | | | | |
| 5 | 4,76 | 5,24 | 0,693 | 1,03 | 1,53 | | | | |
| 6 | 5,76 | 6,24 | 0,737 | 1,09 | 1,60 | 2,51 | | | |
| 8 | 7,71 | 8,29 | 0,825 | 1,21 | 1,75 | 2,75 | 5,04 | | |
| 10 | 9,71 | 10,29 | 0,913 | 1,33 | 1,89 | 2,98 | 5,38 | 11,3 | |
| 12 | 11,65 | 12,35 | 1,00 | 1,45 | 2,04 | 3,22 | 5,72 | 11,9 | |
| (14) | 13,65 | 14,35 | 1,09 | 1,57 | 2,18 | 3,46 | 6,06 | 12,5 | |
| 16 | 15,65 | 16,35 | 1,18 | 1,69 | 2,33 | 3,69 | 6,40 | 13,1 | |
| 20 | 19,58 | 20,42 | 1,35 | 1,93 | 2,62 | 4,17 | 7,08 | 14,4 | |
| 25 | 24,58 | 25,42 | 1,58 | 2,23 | 2,98 | 4,76 | 7,92 | 15,9 | |
| 30 | 29,58 | 30,42 | 1,80 | 2,53 | 3,35 | 5,35 | 8,77 | 17,5 | |
| 35 | 34,5 | 35,5 | | 2,83 | 3,71 | 5,94 | 9,62 | 19,0 | |
| 40 | 39,5 | 40,5 | | | 4,08 | 6,53 | 10,5 | 20,6 | |
| 45 | 44,5 | 45,5 | | | | 7,12 | 11,3 | 22,1 | |
| 50 | 49,5 | 50,5 | | | | | 12,2 | 23,7 | |
| (55) | 54,05 | 55,95 | | | | | 13,0 | 25,2 | |
| 60 | 59,05 | 60,95 | | | | | 13,9 | 26,7 | |

Commercial lengths are given between stepped lines

¹⁾ Use of sizes given in brackets should be avoided where possible

²⁾ l^2 = pitch of thread

³⁾ Sizes given above the dashed line are threaded up to the head (i.e. thread length, $h = l - a$)

3 Technical delivery conditions

Table 2

| Material | | Steel | Stainless steel |
|---|---------------------------|--|-----------------|
| General requirements | As specified in | ISO 8992. | |
| Screw recess | As specified in | ISO 4757 ¹⁾ . | |
| Screw thread | Tolerance | 6 g | |
| | As specified in | DIN 13 Parts 13 and 15. | |
| Mechanical properties ¹⁾ | Property class (material) | 4.8 | A2-70 |
| | As specified in | DIN EN 20 898 Part 1. | ISO 3506. |
| Limit deviations and geometrical tolerances | Product grade | A | |
| | As specified in | ISO 4759 Part 1. | |
| Surface finish | | Bright. Requirements for electroplating as in ISO 4042. Other types of surface protection shall be the subject of agreement between customer and supplier. Limit deviations for surface discontinuities as in DIN EN 26 157 Part 1. | |
| Acceptance inspection | | ISO 3269 shall apply with regard to acceptance inspection. | |
| ¹⁾ Considered for adoption as a DIN EN Standard. | | For ³⁾ , see page 2. | |

4 Designation

Designation of an M 5 pan head screw with collar, with a type Z cross recess and a length, *l*, of 20 mm, assigned to property class 4.8:

Pan head screw DIN 967 - M 5 × 20 - 4.8 - Z

The DIN 4000-2-1 tabular layout of article characteristics shall apply to screws as covered in this standard.

Standards referred to

| | |
|----------------------|---|
| DIN 13 Part 13 | ISO metric screw threads; series of preferred sizes for screws, bolts and nuts from 1 mm to 52 mm diameter and limits of size |
| DIN 13 Part 15 | ISO metric screw threads; fundamental deviations and tolerances for screw threads of 1 mm diameter and larger |
| DIN 962 | Designation system for fasteners |
| DIN 4000 Part 2 | Tabular layouts of article characteristics for screws and nuts |
| DIN EN 20 225 | Bolts, screws, studs and nuts; symbols and designations for dimensioning (ISO 225 : 1983) |
| DIN EN 20 898 Part 1 | Mechanical properties of fasteners; bolts, screws and studs (ISO 898 - 1 : 1988) |
| DIN EN 26 157 Part 1 | Fasteners; surface discontinuities; bolts, screws and studs for general requirements (ISO 6157 - 1 : 1988) |
| ISO 3269 : 1988 | Fasteners; acceptance inspection |
| ISO 3506 : 1979 | Corrosion-resistant stainless steel fasteners; specifications |
| ISO 4042 : 1989 | Threaded components; electroplated coatings |
| ISO 4757 : 1983 | Cross recesses for screws |
| ISO 4759-1 : 1978 | Tolerances for fasteners; bolts, screws and nuts with thread diameters from 1,6 to 150 mm; product grades A, B and C |
| ISO 8992 : 1986 | Fasteners; general requirements for bolts, screws, studs and nuts |

International Patent Classification

F 16 B 023/00
F 16 B 035/00