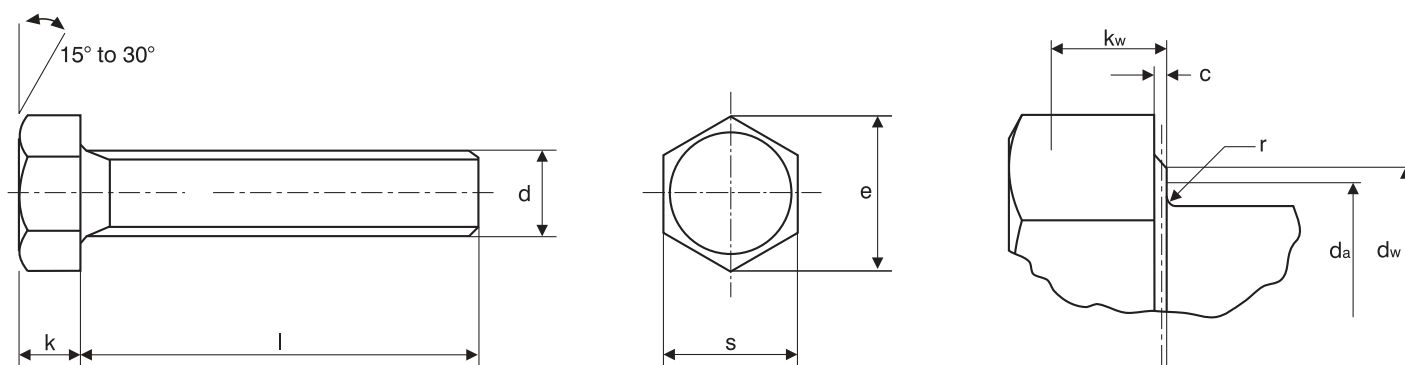


# Hexagon Head Setscrews

EN ISO 4017 (DIN 933)

High Tensile



EN ISO 4017 (DIN933) Dimensions of setscrews

| Nominal size and thread diameter $d$ | Pitch of thread $P$ | Depth of washer face $c$ |      | Transition Diameter $d_a$ | Dia. of washer face $d_w$ | Width across corners $e$ | Thickness of head $k$ | Radius under head $r$ | Width across flats $s$ |       |
|--------------------------------------|---------------------|--------------------------|------|---------------------------|---------------------------|--------------------------|-----------------------|-----------------------|------------------------|-------|
|                                      | coarse pitch        | min.                     | max. | max.                      | min.                      | min.                     | nom.                  | min.                  | min.                   | max.  |
| M10                                  | 1.50                | 0.15                     | 0.6  | 11.20                     | 14.47                     | 17.59                    | 6.40                  | 0.4                   | 15.57                  | 16.00 |
| M12                                  | 1.75                | 0.15                     | 0.6  | 13.70                     | 15.47                     | 19.95                    | 7.50                  | 0.6                   | 17.57                  | 18.00 |
| M14                                  | 2.00                | 0.15                     | 0.6  | 15.70                     | 19.15                     | 22.78                    | 8.80                  | 0.6                   | 20.16                  | 21.00 |
| M16                                  | 2.00                | 0.2                      | 0.8  | 17.70                     | 22.00                     | 26.17                    | 10.00                 | 0.6                   | 23.16                  | 24.00 |
| M18                                  | 2.50                | 0.2                      | 0.8  | 20.20                     | 24.85                     | 29.56                    | 11.50                 | 0.6                   | 26.16                  | 27.00 |
| M20                                  | 2.50                | 0.2                      | 0.8  | 22.40                     | 27.70                     | 32.95                    | 12.50                 | 0.8                   | 29.16                  | 30.00 |
| M22                                  | 2.50                | 0.2                      | 0.8  | 24.40                     | 31.95                     | 37.29                    | 14.00                 | 0.8                   | 33.00                  | 34.00 |
| M24                                  | 3.00                | 0.2                      | 0.8  | 25.40                     | 33.25                     | 39.55                    | 15.00                 | 0.8                   | 35.00                  | 36.00 |
| M27                                  | 3.00                | 0.2                      | 0.8  | 30.40                     | 38.00                     | 45.20                    | 17.00                 | 1.0                   | 40.00                  | 41.00 |
| M30                                  | 3.50                | 0.2                      | 0.8  | 33.40                     | 42.75                     | 50.85                    | 18.70                 | 1.0                   | 45.00                  | 46.00 |
| M33                                  | 3.50                | 0.2                      | 0.8  | 36.40                     | 46.55                     | 55.37                    | 21.00                 | 1.0                   | 49.00                  | 50.00 |
| M36                                  | 4.00                | 0.2                      | 0.8  | 39.40                     | 51.11                     | 60.79                    | 22.50                 | 1.0                   | 53.80                  | 55.00 |
| M39                                  | 4.00                | 0.3                      | 1.0  | 42.40                     | 55.86                     | 66.44                    | 25.00                 | 1.0                   | 58.80                  | 60.00 |
| M42                                  | 4.50                | 0.3                      | 1.0  | 45.60                     | 59.95                     | 71.30                    | 26.00                 | 1.2                   | 63.10                  | 65.00 |
| M45                                  | 4.50                | 0.3                      | 1.0  | 48.60                     | 64.70                     | 76.95                    | 28.00                 | 1.2                   | 68.10                  | 70.00 |
| M48                                  | 5.00                | 0.3                      | 1.0  | 52.60                     | 69.45                     | 82.50                    | 30.00                 | 1.6                   | 73.10                  | 75.00 |
| M52                                  | 5.00                | 0.3                      | 1.0  | 56.60                     | 74.20                     | 88.25                    | 33.00                 | 1.6                   | 78.10                  | 80.00 |
| M56                                  | 5.50                | 0.3                      | 1.0  | 63.00                     | 78.66                     | 93.56                    | 35.00                 | 2.0                   | 82.80                  | 85.00 |
| M60                                  | 5.50                | 0.3                      | 1.0  | 67.00                     | 83.41                     | 99.21                    | 38.00                 | 2.0                   | 87.80                  | 90.00 |
| M64                                  | 6.00                | 0.3                      | 1.0  | 71.00                     | 88.16                     | 104.86                   | 40.00                 | 2.0                   | 92.80                  | 95.00 |

# Hexagon Head Setscrews

EN ISO 4017 (DIN 933)

High Tensile

Specification for bolts and reference standards

Mechanical and physical properties

| Characteristic                              |   | Standard   |
|---|---|--|
| Material                                    |   | Steel  |
| General Requirements                        | International Standards   | ISO 8992   |
|   | Tolerance   | 6g   |
| Thread                                      | International Standard  | ISO 724, ISO 965-1   |
|   | Property Class <sup>a</sup>   | d < 3mm: as agreed<br>3mm ≤ d ≤ 39mm: 8.8, 10.9<br>d > 39mm: as agreed |
| Mechanical Properties                       | International Standards   | d ≤ 39mm: ISO 898-1<br>d < 3mm and d > 39mm: as agreed                 |
|   | Tolerances  | ISO 4759-1   |
| Finish and/or coating                       | As processed  |  |
|   | Requirements for electroplating are covered in ISO 4042   |  |
|   | Requirements for non-electrolytically applied zinc flake coatings are covered in ISO 10683  |  |
|   | If different electroplating requirements are desired or if requirements are needed for other finishes, they should be agreed between customer and supplier. |  |
|   | Limits for surface discontinuities are covered in ISO 6157-1  |  |
| Acceptability                               | For acceptance procedure, see ISO 3269.   |  |
| a For other property classes see ISO 898-1. |   |  |

| Mechanical or physical property  | Property Class |       |      |      |      |
|--|----------------|-------|------|------|------|
|  | 8.8            |       | 10.9 | 12.9 |      |
|  | ≤ M16          | > M16 |      |      |      |
| Tensile Strength   | nom.           | 800   |      | 1000 | 1200 |
|  | min.           | 800   | 830  | 1040 | 1220 |
| Yield Strength 0.2% offset non-proportional elongation                       | nom.           | 640   | 640  | 900  | 1080 |
|  | min.           | 640   | 660  | 940  | 1100 |
| Percentage elongation after fracture for machined test piece                 | min.           | 12    | 12   | 9    | 8    |
| Stress Under Proof Load  | nom.           | 580   | 600  | 830  | 970  |
| Rockwell Hardness, HRC   | min.           | 22    | 23   | 32   | 39   |
|  | max.           | 32    | 34   | 39   | 44   |
| All units are displayed as newton per square millimeter (N/mm <sup>2</sup> ) |                |       |      |      |      |