



Non Pre-Load Bolt Assemblies BS EN 15048-1&2

BS EN 15048 Fully threaded setscrew dimensions. Classes 8.8 & 10.9

| Nominal size and Thread dia. d | Pitch of thread p | Plain portion a | Width across flats s | | Width across corners e | Diameter of washer face df | Depth of washer face c | | Radius under head r | Transition diameter de | Thickness of head k | |
|----------------------------------|-----------------------|-------------------|------------------------|-------|--------------------------|------------------------------|--------------------------|------|-----------------------|--------------------------|-----------------------|-------|
| | | | max | min | | | max | min | | | max | min |
| | Coarse pitch series) | max | min | max | min | max | min | max | min | | | |
| M12 | 1.75 | 5.25 | 18.00 | 17.57 | 19.85 | 16.47 | 0.60 | 0.15 | 0.60 | 13.70 | 7.68 | 7.32 |
| M16 | 2.00 | 6.00 | 24.00 | 23.16 | 26.16 | 22.00 | 0.80 | 0.20 | 0.60 | 17.70 | 10.29 | 9.71 |
| M20 | 2.50 | 7.50 | 30.00 | 29.16 | 32.95 | 27.70 | 0.80 | 0.20 | 0.80 | 22.40 | 12.85 | 12.15 |
| M24 | 3.00 | 9.00 | 36.00 | 35.00 | 39.55 | 33.25 | 0.80 | 0.20 | 0.80 | 26.40 | 15.35 | 14.65 |
| M30 | 3.50 | 10.50 | 46.00 | 45.00 | 50.85 | 42.75 | 0.80 | 0.20 | 1.00 | 33.40 | 19.12 | 18.28 |
| M36 | 4.00 | 12.00 | 55.00 | 53.00 | 60.79 | 51.11 | 0.80 | 0.20 | 1.00 | 39.40 | 22.92 | 22.08 |

BS EN 15048 Mechanical properties. Grade 8.8 setscrews

| Bolt thread dia | Tensile strength | Proof load | Elongation | Hardness Rockwell HRC | |
|-----------------|------------------|------------|------------|-----------------------|-------|
| | | | | min | max |
| M12 | 800.00 | 660.00 | 12.00 | 23.00 | 34.00 |
| M16 | 830.00 | 660.00 | 12.00 | 23.00 | 34.00 |
| M20 | 830.00 | 660.00 | 12.00 | 23.00 | 34.00 |
| M22 | 830.00 | 660.00 | 12.00 | 23.00 | 34.00 |
| M24 | 830.00 | 660.00 | 12.00 | 23.00 | 34.00 |
| M27 | 830.00 | 660.00 | 12.00 | 23.00 | 34.00 |
| M30 | 830.00 | 660.00 | 12.00 | 23.00 | 34.00 |
| M36 | 830.00 | 660.00 | 12.00 | 23.00 | 34.00 |

BS EN 15048 Assemblies also require a charpy impact test to EN 10045-1

| Product Characteristics | Standard | |
|--------------------------|------------------------------|------------------------------|
| Fully threaded setscrews | | |
| General requirements | ISO 4017 | |
| Material & manufacture | ISO 898-1 CLASSES 8.8 & 10.9 | |
| Finish /coatings | Zinc electroplated | BS 7371-3 or BS EN ISO 4042 |
| | Hot dip galvanized | BS 7371-6 or BS EN ISO 10684 |
| Mechanical properties | ISO 898-1 Classes 8.8 & 10.9 | |
| Dimensions & tolerances | ISO 4017 | |
| Threads | ISO 965-2 class 6G | |

BS EN 15048 Head Marking

