

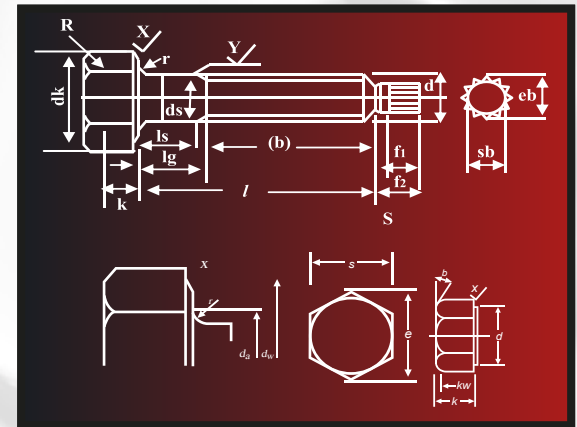
# Tension Control Bolt HR BSEN 14399-10

## TCB Bolt (Tension Control Bolt)

## Drwaing

### BS EN 14399-10 HRC Bolt Dimension

| Thre ad | pb   | b(ref.) |    |    | c   |     | da   |       |       | ds  |      | dw    |       | e     | k     |      |     | kw | r     | s   |     |
|---------|------|---------|----|----|-----|-----|------|-------|-------|-----|------|-------|-------|-------|-------|------|-----|----|-------|-----|-----|
|         |      | c       | d  | e  | Max | min | max  | max   | min   | max | min  | max   | min   |       | nom   | max  | min |    |       | min | max |
| M12     | 1.75 | 30      |    |    | 0.8 | 0.4 | 15.2 | 12.70 | 11.30 | f   | 20.1 | 23.91 | 7.50  | 7.95  | 7.05  | 4.9  | 1.2 | 22 | 21.16 |     |     |
| M16     | 2.00 | 38      | 44 |    | 0.8 | 0.4 | 19.2 | 16.70 | 15.30 |     | 24.9 | 29.56 | 10.0  | 10.75 | 9.25  | 6.50 | 1.2 | 27 | 26.16 |     |     |
| M20     | 2.50 | 46      | 52 | 65 | 0.8 | 0.4 | 24.4 | 20.84 | 19.16 |     | 29.5 | 35.03 | 12.5  | 13.40 | 11.60 | 8.1  | 1.5 | 32 | 31.00 |     |     |
| M22     | 2.50 | 50      | 56 | 69 | 0.8 | 0.4 | 26.4 | 22.84 | 21.16 |     | 33.3 | 39.55 | 14.0  | 14.90 | 13.10 | 9.2  | 1.5 | 36 | 35.00 |     |     |
| M24     | 3.00 | 54      | 60 | 73 | 0.8 | 0.4 | 28.4 | 24.84 | 23.16 |     | 38.0 | 45.20 | 15.0  | 15.90 | 14.10 | 9.9  | 1.5 | 41 | 40.00 |     |     |
| M27     | 3.00 | 60      | 66 | 79 | 0.8 | 0.4 | 32.4 | 27.84 | 26.16 |     | 42.8 | 50.85 | 17.0  | 17.90 | 16.10 | 11.3 | 2.0 | 46 | 45.00 |     |     |
| M30     | 3.50 | 66      | 72 | 85 | 0.8 | 0.4 | 35.4 | 30.84 | 29.16 |     | 46.6 | 55.37 | 18.75 | 19.75 | 17.65 | 12.4 | 2.0 | 50 | 49.00 |     |     |



### BS EN 14399-10 HRC Spline End Dimensions

| Thread d | Width Across Flats of Spline-end rb b |      |      | Width Across Corners of Spline-end eb b | Length Of Spline-End F1 | Break off Length F2 |
|----------|---------------------------------------|------|------|---|-------------------------|---------------------|
|          | nom                                   | max  | min  |   |                         |                     |
| M12      | 7.7                                   | 8.0  | 7.4  | 8.36                                    | 11.0                    | 16.0                |
| M16      | 11.3                                  | 11.6 | 11.0 | 12.43                                   | 13.0                    | 18.0                |
| M20      | 14.1                                  | 14.4 | 13.8 | 15.60                                   | 15.0                    | 20.0                |
| M22      | 15.4                                  | 15.7 | 15.1 | 17.06                                   | 15.5                    | 21.0                |
| M24      | 16.8                                  | 17.1 | 16.5 | 18.65                                   | 16.0                    | 21.5                |
| M27      | 19.0                                  | 19.3 | 18.7 | 21.13                                   | 19.0                    | 24.0                |
| M30      | 21.1                                  | 21.4 | 20.8 | 23.50                                   | 21.0                    | 26.0                |

### Other Features (TCB BOLT)

Developed for more simplified bolt fastening and more accurate performance. HRC (Tension Control) Bolts offer excellent characteristics as shown below

- Controlled clamping force can be ensured.
- Completion of bolt fastening can be confirmed by the shear-off of the notched end of the bolt.
- Removes the possibility of operator error.
- Fastening can easily be done by electric wrench. Noiseless installation and no need of wrench adjustment.
- Noiseless installation and no need of wrench adjustment.
- The bolt does not rotate when fastening.

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|----------|---------------------------------------|------|------|---|-------------------------|---------------------|
|          | nom                                   | max  | min  |   |                         |                     |
| M12      | 7.7                                   | 8.0  | 7.4  | 8.36                                    | 11.0                    | 16.0                |
| M16      | 11.3                                  | 11.6 | 11.0 | 12.43                                   | 13.0                    | 18.0                |
| M20      | 14.1                                  | 14.4 | 13.8 | 15.60                                   | 15.0                    | 20.0                |
| M22      | 15.4                                  | 15.7 | 15.1 | 17.06                                   | 15.5                    | 21.0                |
| M24      | 16.8                                  | 17.1 | 16.5 | 18.65                                   | 16.0                    | 21.5                |
| M27      | 19.0                                  | 19.3 | 18.7 | 21.13                                   | 19.0                    | 24.0                |
| M30      | 21.1                                  | 21.4 | 20.8 | 23.50                                   | 21.0                    | 26.0                |

