

| BOLT                               |                        |     |     |     |     |     |     |     |     |     |     |                                     |
|------------------------------------|------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------------------------|
| Essential Characteristics          | Performance:           |     |     |     |     |     |     |     |     |     |     | Harmonised Technical Specification: |
|                                    | M12                    | M14 | M16 | M18 | M20 | M22 | M24 | M27 | M30 | M33 | M36 |                                     |
| % Elongation after Fracture        | 12.0% (Minimum)        |     |     |     |     |     |     |     |     |     |     | EN15048-1:2007 (ISO898-1:2013)      |
| Tensile Strength                   | 830 MPa (Minimum)      |     |     |     |     |     |     |     |     |     |     | EN15048-1:2007 (ISO898-1:2013)      |
| Stress at 0.2% non prop Elongation | 660 MPa (Minimum)      |     |     |     |     |     |     |     |     |     |     | EN15048-1:2007 (ISO898-1:2013)      |
| Stress under Proof Load            | 600 MPa (Minimum)      |     |     |     |     |     |     |     |     |     |     | EN15048-1:2007 (ISO898-1:2013)      |
| Strength under Wedge Load          | Pass with 6°           |     |     |     |     |     |     |     |     |     |     | EN15048-1:2007 (ISO898-1:2013)      |
| Hardness                           | 23~34 HRC              |     |     |     |     |     |     |     |     |     |     | EN15048-1:2007 (ISO898-1:2013)      |
| Impact Strength                    | 27J at –20°C (Minimum) |     |     |     |     |     |     |     |     |     |     | EN15048-1:2007 (EN10045-1)          |
| Release of Dangerous Substances    |                        |     |     |     |     |     |     |     |     |     |     | NPD                                 |
| Durability (Corrosion Protection)  |                        |     |     |     |     |     |     |     |     |     |     | NPD                                 |

| NUT                                  |  |         |         |         |         |         |         |         |         |         |         |                                     |
|--------------------------------------|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------------------------------------|
| Essential Characteristics            | Performance:                                   |         |         |         |         |         |         |         |         |         |         | Harmonised Technical Specification: |
|                                      | M12  | M14     | M16     | M18     | M20     | M22     | M24     | M27     | M30     | M33     | M36     |                                     |
| Proof Load <b>GR.8 (N)</b>           | 74,200   | 101,200 | 138,200 | 176,600 | 225,400 | 278,800 | 324,800 | 422,300 | 516,100 | 638,500 | 751,600 | EN15048-1:2007 (ISO898-2:2012)      |
| Proof Load <b>GR.10 (N)</b>          | 88,500   | 120,800 | 164,900 | 203,500 | 259,700 | 321,200 | 374,200 | 486,500 | 594,700 | 735,600 | 866,000 |                                     |
| Hardness                             | <b>GR.8</b> 233~353 HV <b>GR.10</b> 272~353 HV |         |         |         |         |         |         |         |         |         |         | EN15048-1:2007 (ISO898-2:2012)      |
| Release of Dangerous Substances      |  |         |         |         |         |         |         |         |         |         |         | NPD                                 |
| Durability<br>(Corrosion Protection) |  |         |         |         |         |         |         |         |         |         |         | NPD                                 |