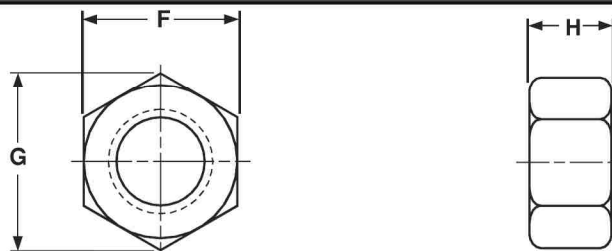


FICHA TECNICA

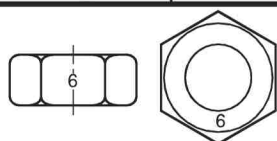
TUERCAS HEXAGONALES CLASE 6/8/10-9



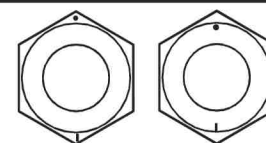
METRIC - HEX NUTS, STYLE 1

ISO 4032

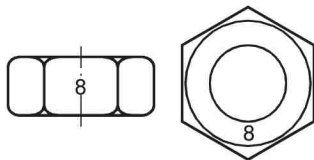
| Nominal Size | Thread Pitch | F | | G | H | |
|--------------|--------------|--------------------|-------|----------------------|-----------|-------|
| | | Width Across Flats | | Width Across Corners | Thickness | |
| | | Max | Min | Min | Max | Min |
| M1.6 | 0.35 | 3.2 | 3.02 | 3.41 | 1.3 | 1.05 |
| M2 | 0.4 | 4 | 3.82 | 4.32 | 1.6 | 1.35 |
| M2.5 | 0.45 | 5 | 4.82 | 5.45 | 2 | 1.75 |
| M3 | 0.5 | 5.5 | 5.32 | 6.01 | 2.4 | 2.15 |
| M4 | 0.7 | 7 | 6.78 | 7.66 | 3.2 | 2.9 |
| M5 | 0.8 | 8 | 7.78 | 8.79 | 4.7 | 4.4 |
| M6 | 1 | 10 | 9.78 | 11.05 | 5.2 | 4.9 |
| M8 | 1.25 | 13 | 12.73 | 14.38 | 6.8 | 6.44 |
| M10 | 1.5 | 16 | 15.73 | 17.77 | 8.4 | 8.04 |
| M12 | 1.75 | 18 | 17.73 | 20.03 | 10.8 | 10.37 |
| M14 | 2 | 21 | 20.67 | 23.35 | 12.8 | 12.1 |
| M16 | 2 | 24 | 23.67 | 26.75 | 14.8 | 14.1 |
| M20 | 2.5 | 30 | 29.16 | 32.95 | 18 | 16.9 |
| M24 | 3 | 36 | 35 | 39.55 | 21.5 | 20.2 |
| M30 | 3.5 | 46 | 45 | 50.85 | 25.6 | 24.3 |
| M36 | 4 | 55 | 53.8 | 60.79 | 31 | 29.4 |
| M42 | 4.5 | 65 | 63.1 | 71.3 | 34 | 32.4 |
| M48 | 5 | 75 | 73.1 | 82.6 | 38 | 36.4 |
| M56 | 5.5 | 85 | 82.8 | 93.56 | 45 | 43.4 |
| M64 | 6 | 95 | 92.8 | 104.86 | 51 | 49.1 |



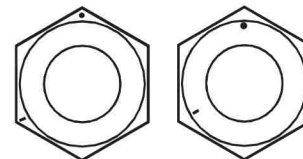
CLASS 6 HEX NUTS



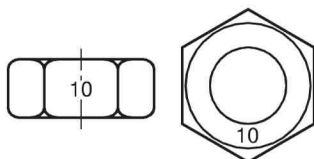
| | |
|---------------------------------|---|
| Description | A six-sided internally threaded, non-heat treated fastener with a metric thread pitch. Nuts M16 and smaller are chamfered on the top and the bearing surface. Nuts M18 and larger may be either double chamfered, or have a washer face on one side and a chamfered surface on the opposite side. |
| Applications/ Advantages | Class 6 nuts are intended for use with screws and bolts of property class 6.8 or lower. They are the most popular nut for use with metric machine screws. |
| Material | Class 6 nuts shall be made of a steel which conforms to the following chemical composition-- <i>Carbon: 0.50% maximum; Phosphorus: 0.060% maximum; Sulfur: 0.150% maximum.</i> Class 6 nuts may also be made from free-cutting steel which conforms to the following chemical composition-- <i>Carbon: 0.50% maximum; Sulfur: 0.34% minimum; Phosphorus: 0.11% minimum; Lead: 0.35% minimum.</i> |
| Hardness | Diam. thru M16: Vickers HV 150 - 302 (Rockwell B78.7 - C30); Diam. M18 thru M39: Vickers HV 170 - 302 (Rockwell B85 - C30) |
| Proof Load | Diameters M1.6 through M4: 600 N/mm ² Diameters M5 through M7: 670 N/mm ² Diameters M8 through M10: 680 N/mm ² Diameters M12 through M16: 700 N/mm ² Diameters M18 through M36: 720 N/mm ² |
| Plating | See Appendix-A for plating information |



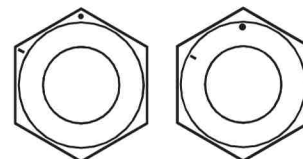
CLASS 8 HEX NUTS



| | |
|---------------------------------|--|
| Description | A Style 1 hex nut with a metric thread pitch. Nuts M16 and smaller are chamfered top and bottom, and are not heat-treated. Nuts M18 and larger are (1) heat-treated and (2) may be double chamfered, or have a washer face on one side and a chamfered surface on the opposite side. |
| Applications/ Advantages | Class 8 nuts are intended for use with screws and bolts of property class 8.8 or lower. They are widely used in the automotive and electronics industries. |
| Material | Class 8 nuts shall be made of a steel which conforms to the following chemical composition-- <i>Carbon: 0.58% maximum; Manganese: 0.25% minimum; Phosphorus: 0.060% maximum; Sulfur: 0.150% maximum.</i> |
| Heat Treatment | Class 8 nuts of diameter 18mm or greater shall be heat treated by quenching in a liquid medium from a temperature above the transformation temperature and tempering at a temperature of at least 425°C. |
| Hardness | Diameters M1.6 through M4: Vickers HV 180 - 302 (Rockwell B87.1 - C30) Diameters M5 through M16: Vickers HV 200 - 302 (Rockwell B91.5 - C30) Diameters through M18 through M39: Vickers HV 233 - 353 (Rockwell C18 - 36) |
| Proof Load | Diameters M1.6 through M4: 800 N/mm ² Diameters M5 through M7: 855 N/mm ² Diameters M8 through M10: 870 N/mm ² Diameters M12 through M16: 880 N/mm ² Diameters M18 through M36: 920 N/mm ² |
| Plating | See Appendix-A for plating information |



CLASS 10 HEX NUTS



| | |
|---------------------------------|---|
| Description | A Style 1, heat treated fastener with a metric thread pitch. Nuts M16 and smaller are chamfered on the top and the bearing surface. Nuts M20 and larger may be either double chamfered, or have a washer face on one side and a chamfered surface on the opposite side. |
| Applications/ Advantages | Class 10 nuts are intended for use with screws and bolts of property classes 10.9 and lower. They are widely used in farm equipment. |
| Material | Class 10 nuts shall be made of a steel which conforms to the following chemical composition-- <i>Carbon: 0.58% maximum; Manganese: 0.30% minimum; Phosphorus: 0.048% maximum; Sulfur: 0.058% maximum.</i> |
| Heat Treatment | Class 10 nuts shall be heat treated by quenching in a liquid medium from a temperature above the transformation temperature and tempering at a temperature of at least 425°C. |
| Hardness | Rockwell C26 - 36 (Vickers HV 272 - 353) |
| Proof Load | Diameters through M10: 1040 N/mm ² Diameters M12 through M16: 1050 N/mm ² Diameters M18 through M39: 1060 N/mm ² |
| Plating | See Appendix-A for plating information |