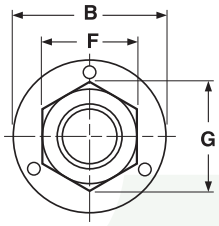
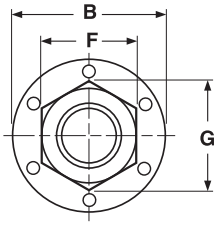
Grade 5
Grade 8

# Serrated Hex Flange

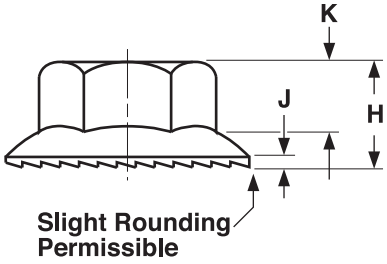
Nuts




Grade 5




Grade 8




## Serrated Hex Flange Lock Nuts—Grades 5 & 8

IFI-145
2002*

| Nominal Size or Basic Major Diameter of Thread | | F Width Across Flats | | G Width Across Corners | | B Flange Diameter | | H Nut Thickness | | K Wrenching Height | J Flange Thickness |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Max | Min | Max | Min | Max | Min | Max | Min | Min | Min |
| 10 | 0.1900 | 0.375 | 0.365 | 0.433 | 0.416 | 0.500 | 0.480 | 0.219 | 0.203 | 0.13 | 0.03 |
| 1/4 | 0.2500 | 0.438 | 0.428 | 0.505 | 0.488 | 0.594 | 0.574 | 0.236 | 0.222 | 0.14 | 0.04 |
| 5/16 | 0.3125 | 0.500 | 0.489 | 0.577 | 0.557 | 0.680 | 0.660 | 0.283 | 0.268 | 0.17 | 0.04 |
| 3/8 | 0.3750 | 0.562 | 0.551 | 0.650 | 0.628 | 0.750 | 0.728 | 0.347 | 0.330 | 0.23 | 0.04 |
| 7/16 | 0.4375 | 0.688 | 0.675 | 0.794 | 0.768 | 0.937 | 0.910 | 0.395 | 0.375 | 0.26 | 0.04 |
| 1/2 | 0.5000 | 0.750 | 0.736 | 0.866 | 0.840 | 1.031 | 1.000 | 0.458 | 0.437 | 0.31 | 0.05 |
| 5/8 | 0.6250 | 0.938 | 0.922 | 1.083 | 1.051 | 1.281 | 1.248 | 0.569 | 0.545 | 0.40 | 0.05 |
| 3/4 | 0.7500 | 1.125 | 1.088 | 1.299 | 1.240 | 1.500 | 1.460 | 0.675 | 0.627 | 0.46 | 0.06 |

| | | |
|---|---|---|
| **Description** | Hex nut with an enlarged circular base flaring out from the bottom of the nut. The bearing surface of the flange has serrations which displace material on the mating surface when the nut is wrenched into place, forming a connection which resists loosening. | |
| **Applications/ Advantages** | Requires a greater amount of torque to loosen than to tighten the nut. Will span oversized or poorly aligned holes. Flange provides a more uniform bearing-stress to clamp-force ratio than other low carbon lock nuts. Does not gall screw threads. Grade 5 nuts are designed to be used with Grade 5 screws and bolts; Grade 8 nuts are designed to be used with Grade 8 screws and bolts. | |
| **Material** | ***Grade 5*** | ***Grade 8*** |
| | Nuts shall be made from a carbon steel which conforms to the following chemical composition requirements-- ***Carbon***: 0.55% max.; ***Manganese***: 0.30% min.; ***Phosphorus***: 0.05% max.; ***Sulfur***: 0.15% max. | Nuts shall be made from a carbon steel which conforms to the following chemical composition requirements-- ***Carbon***: 0.55% max.; ***Manganese***: 0.30% min.; ***Phosphorus***: 0.04% max.; ***Sulfur***: 0.05% max. |
| **Proof Load** | ***Coarse thread***: 120,000 psi.; ***Fine thread***: 109,000 psi. | ***Coarse thread***: 150,000 psi.; ***Fine thread***: 150,000 psi. |
| **Hardness** | Rockwell 32 HRC max | ***1/4 thru 5/8" diameters***: 24 - 32 HRC<br>***Over 5/8 thru 1" diameters***: 26 - 34 HRC |
| **Plating** | Grade 5 Flange Nuts are usually supplied in zinc finish | Grade 8 Flange Nuts are usually supplied in zinc yellow finish |