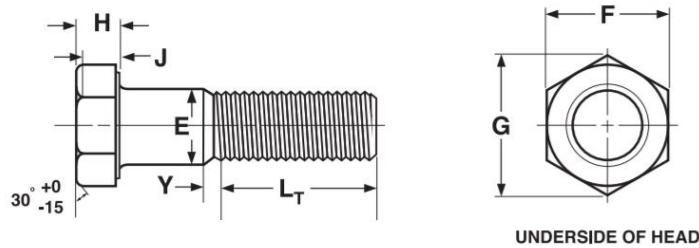


# Metallics

An **AMERICAN** Source For Premier  
and Innovative Fasteners and Anchors

## GRADE 5 HEX BOLT – DOMESTIC AND STEEL-ZINC

The following Specification Sheet applies to all **Grade 5 Hex Bolt – Domestic and Steel-Zinc** in our **G5HC and JG5HC** series.



UNDERSIDE OF HEAD

| HEX CAP SCREWS                    |        |                    |        |                      |                                |                                |                            |                   |             |       |       |                  |                |                           | ASME B18.2.1-2012        |                           |
|-----------------------------------|--------|--------------------|--------|----------------------|--------------------------------|--------------------------------|----------------------------|-------------------|-------------|-------|-------|------------------|----------------|---------------------------|--------------------------|---------------------------|
| Nominal or Basic Product Diameter |        | E                  |        | F                    |                                |                                | G                          |                   | H           |       |       | J                | L <sub>T</sub> |                           | Y                        |                           |
|                                   |        | Body Diameter      |        | Width Across Flats   |                                |                                | Width Across Corners       |                   | Head Height |       |       | Wrenching Height | Thread Length  |                           | Transition Thread Length |                           |
|                                   |        | Max                | Min    | Basic                | Max                            | Min                            | Max                        | Min               | Basic       | Max   | Min   |                  | Min            | For Screw Lengths ≤ 6 in. |                          | For Screw Lengths > 6 in. |
| 1/4                               | 0.2500 | 0.2500             | 0.2450 | 7/16                 | 0.438                          | 0.428                          | 0.505                      | 0.488             | 5/32        | 0.163 | 0.150 | 0.106            | 0.750          | 1.000                     | 0.250                    |                           |
| 5/16                              | 0.3125 | 0.3125             | 0.3065 | 1/2                  | 0.500                          | 0.489                          | 0.577                      | 0.557             | 13/64       | 0.211 | 0.195 | 0.140            | 0.875          | 1.125                     | 0.278                    |                           |
| 3/8                               | 0.3750 | 0.3750             | 0.3690 | 9/16                 | 0.562                          | 0.551                          | 0.650                      | 0.628             | 15/64       | 0.243 | 0.226 | 0.160            | 1.000          | 1.250                     | 0.312                    |                           |
| 7/16                              | 0.4375 | 0.4375             | 0.4305 | 5/8                  | 0.625                          | 0.612                          | 0.722                      | 0.698             | 9/32        | 0.291 | 0.272 | 0.195            | 1.125          | 1.375                     | 0.357                    |                           |
| 1/2                               | 0.5000 | 0.5000             | 0.4930 | 3/4                  | 0.750                          | 0.736                          | 0.866                      | 0.840             | 5/16        | 0.323 | 0.302 | 0.215            | 1.250          | 1.500                     | 0.385                    |                           |
| 5/8                               | 0.6250 | 0.6250             | 0.6170 | 15/16                | 0.938                          | 0.922                          | 1.083                      | 1.051             | 25/64       | 0.403 | 0.378 | 0.269            | 1.500          | 1.750                     | 0.455                    |                           |
| 3/4                               | 0.7500 | 0.7500             | 0.7410 | 1-1/8                | 1.125                          | 1.100                          | 1.299                      | 1.254             | 15/32       | 0.483 | 0.455 | 0.324            | 1.750          | 2.000                     | 0.500                    |                           |
| 7/8                               | 0.8750 | 0.8750             | 0.8660 | 1-5/16               | 1.312                          | 1.285                          | 1.516                      | 1.465             | 35/64       | 0.563 | 0.531 | 0.378            | 2.000          | 2.250                     | 0.556                    |                           |
| Tolerance on Length               |        | Nominal Screw Size |        | Nominal Screw Length |                                |                                |                            |                   |             |       |       |                  |                |                           |                          |                           |
|                                   |        |                    |        | Up to 1 in., incl.   | Over 1 in. to 2-1/2 in., incl. | Over 2-1/2 in. to 4 in., incl. | Over 4 in. to 6 in., incl. | Longer than 6 in. |             |       |       |                  |                |                           |                          |                           |
|                                   |        | 1/4 to 3/8         |        | -0.03                | -0.04                          | -0.06                          | -0.10                      | -0.18             |             |       |       |                  |                |                           |                          |                           |
|                                   |        | 7/16 and 1/2       |        | -0.03                | -0.06                          | -0.08                          | -0.10                      | -0.18             |             |       |       |                  |                |                           |                          |                           |
|                                   |        | 9/16 to 3/4        |        | -0.03                | -0.08                          | -0.10                          | -0.10                      | -0.18             |             |       |       |                  |                |                           |                          |                           |
|                                   |        | 7/8 and 1          |        | ....                 | -0.10                          | -0.14                          | -0.16                      | -0.20             |             |       |       |                  |                |                           |                          |                           |
| 1-1/8 to 1-1/2                    |        | ....               | -0.12  | -0.16                | -0.18                          | -0.22                          |                            |                   |             |       |       |                  |                |                           |                          |                           |

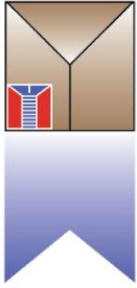
### Metallics

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|                           |  |
|---------------------------|--|
| <b>Description</b>        | A cap screw made from medium carbon steel and heat-treated.  |
| <b>Material</b>           | Medium carbon steel. Use of an alloy steel is also acceptable.   |
| <b>Core Hardness</b>      | <b>1/4 through 1 in. diameter, all lengths:</b> Rockwell C25 - C34.<br><b>1-1/8 through 1-1/2 in. diameter, all lengths:</b> Rockwell C19 - C30.         |
| <b>Surface Hardness</b>   | <b>1/4 through 1 in. diameter, all lengths:</b> Rockwell 30N54 maximum.<br><b>1-1/8 through 1-1/2 in. diameter, all lengths:</b> Rockwell 30N50 maximum. |
| <b>Proof Load</b>         | <b>1/4 through 1 in. diameter, all lengths:</b> 85,000 psi.<br><b>1-1/8 through 1-1/2 in. diameter, all lengths:</b> 74,000 psi.                         |
| <b>Yield Strength*</b>    | <b>1/4 through 1 in. diameter, all lengths:</b> 92,000 psi. minimum<br><b>1-1/8 through 1-1/2 in. diameter, all lengths:</b> 105,000 psi. minimum        |
| <b>Tensile Strength</b>   | <b>1/4 through 1 in. diameter, all lengths:</b> 120,000 psi. minimum<br><b>1-1/8 through 1-1/2 in. diameter, all lengths:</b> 105,000 psi. minimum       |
| <b>Elongation*</b>        | 14% minimum (all diameters)  |
| <b>Reduction of Area*</b> | 35% minimum (all sizes)  |

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