



HEAVY HEX NUTS

NUCOR FASTENER

TECHNICAL DATA SHEET

Heavy Hex Structural Nuts are manufactured to ASTM A563, ASTM A563M and ASTM A194 specifications and are designed to be stronger than the bolts with which they are assembled. Therefore, a higher strength nut typically may be substituted in the application and should always possess the same finish as the bolt. Never compromise your assembly with an inferior nut.

Buy with Confidence ... Specify Nucor!

The following table shows the mechanical properties for each of these products:



HEAVY HEX NUT TYPE	ROCKWELL HARDNESS	PROOF LOAD STRESS	
		NON-GALVANIZED	GALVANIZED
C and C3	B78 – C38	144,000 psi	Not Offered
DH and DH3	C24 – C38	175,000 psi	150,000 psi
2H	C24 – C35	150,000 psi	Not Offered
Metric Class 10S	C26 – C38	1,245 MPa	1,245 MPa

Grade C and C3 Nuts

The Grade C Heavy Hex Structural Nut is recommended for plain (non-galvanized) ASTM A325 High Strength Structural Bolts. A Grade C Nut is not sufficient for galvanized A325 Bolts since the overtapping of the nut threads required to accommodate the thickness of the zinc coating also reduces the strength of the nut. Grade C Nuts are made out of carbon steel and generally achieve their mechanical properties without heat treatment. The Grade C3 Nuts are made with weathering steel (alloy steel with additions of copper, nickel and chromium) to match up with ASTM A325 Type 3 Bolts.

Grade DH and DH3 Nuts

The Grade DH Heavy Hex Structural Nut is recommended for ASTM A490 Structural Bolts (150,000 psi minimum tensile strength structural bolts and for galvanized ASTM A325 Bolts). Galvanized DH Nuts are lubricated to minimize galling as a requirement of ASTM/AASHTO specifications. A colored dye is included in the lubricant as a requirement to enable visual confirmation of the presence of a lubricant. The green color of Nucor Fastener's Hot Dip Galvanized nuts distinguishes them from our blue colored Mechanical Galvanized nuts to help prevent mixing. There shall be no mixed coating types on structural bolt/nut combinations per the specifications. Grade DH Nuts are made from medium carbon steel and must be quenched and temper heat treated. Grade DH3 Nuts are made from weathering steel (alloy steel with additions of copper, nickel and chromium), are also heat treated and are designed for use with ASTM A325 Type 3, F1852 Type 3, A490 Type 3 and F2280 Type 3 products.

2H Nuts

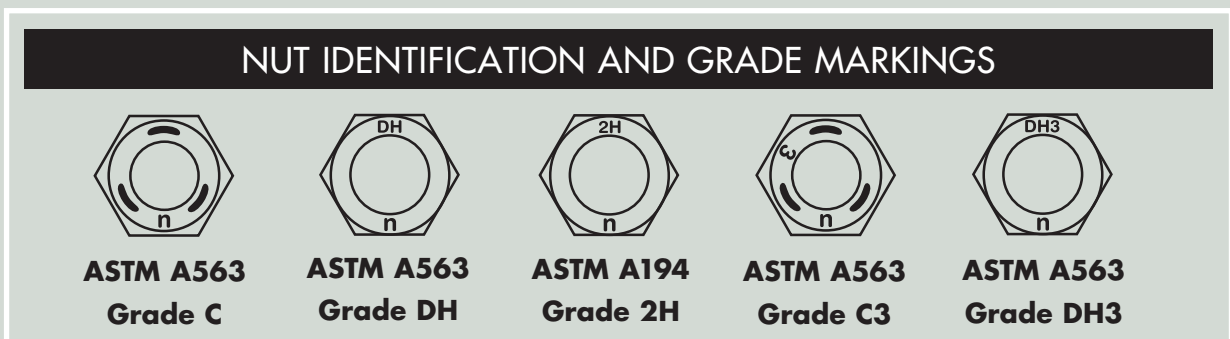
The ASTM A194 Grade 2H Heavy Hex Nut is designed to be used with bolts in high-pressure and high-temperature service in a plain finish. The ASTM A194 specification is under the jurisdiction of ASTM Committee A-1 (Subcommittee on Valves, Fittings, Bolting, and Flanges for High and Sub-atmospheric Temperatures), as opposed to ASTM A563, which is under the jurisdiction of the ASTM Committee F-16 (Fasteners). The ASTM A194 specification was not meant for normal structural bolting; however, the 2H Nut Heavy Hex Nut is considered a suitable substitute for a Grade DH Nut. If galvanized, an asterisk is required to be present after the grade symbol to signify that the nut has been tapped oversize, so the nut will not be mistakenly placed in a high-pressure, high-temperature application. Nucor recommends the use of Grade DH Nuts any time a galvanized finish is specified.

Metric Class 10S Nuts

The ASTM A563M Class 10S Heavy Hex Nut is recommended for zinc-coated ASTM A325M high strength structural bolts and ASTM A490M bolts. While the Class 8S Nut is recommended for plain A325M Bolts, the Class 10S Nut can be substituted with the approval of the customer and can also be used with A490M bolts. Class 10S Nut mechanical properties are similar to an ASTM A563 Grade DH Nut, are made from medium carbon steel and are quenched and temper heat treated.

Quality

Nucor Heavy Hex Nuts are 100% Made in the U.S.A from steel melted and rolled in the U.S.A. Nucor Nuts are formed on precision high speed nutformers, utilizing in-process quality systems and have full traceability from raw material to each container we ship. Chemical and physical certifications are provided with every shipment. Nucor Fastener is TS16949 & ISO9001 Registered and our laboratory is A2LA Accredited. Nucor Black Kegs are really "Green"! With an Average Recycled Content of 99%, Nucor Fastener products qualify for "Green Building" applications or LEED® rated projects. Just as you would expect from Nucor, the largest recycler in North America. It's our Nature!



Nucor Fastener has the equipment, quality, systems, expertise, sources & people to meet your Heavy Hex Structural Nut needs in sizes ranging from 1/2" to 1 1/4" and from M16 to M24.

TODAY, THAT LITTLE "n" MEANS BIG THINGS!

This Technical Data Sheet is subject to change without prior notification.

