



**Nucor-Yamato Steel Co.**

*It's Our Nature.* 

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**RE: Hot Rolled Carbon or HSLA Structural Steel Shapes**

According to ASTM A941, (Standard Terminology Relating to Steel, Stainless Steel, Related Alloys, and Ferroalloys) ASTM A992 material can be classified as carbon steel.

**carbon steel**, *n*—a steel that conforms to a specification that prescribes a maximum limit, by heat analysis in mass percent, of not more than: 2.00 for carbon and 1.65 for manganese, but does not prescribe a minimum limit for chromium, cobalt, molybdenum, nickel, niobium (columbium), tungsten (wolfram), vanadium, or zirconium.

Secondly, ASTM A992 material is also certified as ASTM A572-50, which is specifically designated as a high-strength low-alloy steel (HSLA). According to ASTM A941, A572-50 material can be classified as microalloyed steel.

**microalloyed steel**, *n*—a low-alloy steel that conforms to a specification that requires the presence of one or more carbide-, nitride-, or carbonitride-forming elements, generally in individual concentrations less than 0.15 mass percent, to enhance strength.

**DISCUSSION**—The most common microalloying elements are niobium (columbium), titanium, and vanadium.

Finally, the use of the word “Structural Steel” in both titles of the ASTM A992 and ASTM A572 grade specifications, to which the material in question is certified, indicates said material to be a structural product. According to ASTM A6 section 3.1.19, the material is hot-rolled, as it is a structural product.

3.1.19 **structural product**—a hot-rolled steel plate, shape, sheet piling, or bar.

We trust that this information will answer your questions regarding hot-rolled carbon or HSLA structural steel shapes. If we can be of any further assistance, please feel free to contact us.