

DATA SHEET



Finkl Steel

HVX[®]

HIGH QUALITY STAINLESS STEEL

TYPICAL APPLICATIONS

- Fluid Ends for Hydraulic Fracturing
- Mining Equipment
- Shafts and spindles
- Valve seats
- Fasteners
- Beater bars

GENERAL

Delivery Condition:

Hardened and Tempered, EFVD

HVX[®] is a high quality stainless steel that relies on both martensitic transformation and precipitation hardening for strengthening. The patented composition of **HVX[®]** results in a grade that is tougher than 410 stainless at an equivalent hardness, but is also capable of being processed to significantly higher strength levels through greater cross sections than are possible with 410 stainless. An additional benefit of the composition is that the carbides formed in **HVX[®]** improve its wear resistance when compared to other stainless grades.

WELDING

The base metal should be preheated to 400/600°F (205/315°C) and the temperature maintained at 400°F (205°C) during welding. A post-weld treatment at 1050°F (565°C) should be carried out on the weldment as soon as possible after cooling to room temperature. Chromium and carbon content of the filler metal should generally match those elements in the base metal.

Typical Chemical Analysis* - % weight

C	Mn	Si	Cr	Ni	Mo	Other	PREN
0.15	0.40	0.40	12.5	1.00	0.50	Added	> 14

*Covered under the following U.S. Patent: 10,344,758

Tensile Properties

Tensile Strength ksi (MPa), Min	Yield Strength ksi (MPa), Min	Elongation %, Min	Reduction of Area %, Min	Hardness HB, Max
110 (758)	95 (655)	15	45	321

Impact Properties

Longitudinal Impact Toughness at 72 °F (22 °C) Ft-Lb (J), Typical	Transverse Impact Toughness at -22 °F (-30 °C) Ft-Lb (J), Typical
35 (48)	15 (20)

KEY CHARACTERISTICS

- Higher abrasion resistance than PH stainless steels
- Better machinability than PH stainless steels
- Balanced Nickel for protection against SCC and optimal DBTT

NITRIDING

HVX[®] is suitable for nitriding in the temperature range of 765°F (470°C) to 1000°F (538°C). The case depth is time and temperature dependent. It is highly recommended to polish the surface after nitriding to remove the brittle "white layer".

Note: Provided technical data and information in this data sheet are typical values. Normal variations in chemistry, size and conditions of heat treatment may cause deviations from these values. We suggest that information be verified at time of enquiry or order. For additional data or metallurgical assistance, please contact us.

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