



Materials

HSI 2000 Ductile Iron (*standard*)

This will be the supplied material unless otherwise specified. Our most common ring material. Approximately 90% of all our seal rings are produced from this material. It is manufactured here in America making it readily available. Rings can be made from other materials to better suit your particular application. Included are but not limited to these materials.

Cast Iron

Class 30 / 40. Pearlitic gray iron.

Bronze

SAE 660. A common choice for seal rings. Other alloys are also available. These materials have mild corrosives properties for fluids such as steam, salt water and synthetic fluids that might attack iron and steel.

Ni-Resist

Type I or II. Offers properties that resist corrosion and wear, and withstand moderate high temperatures.

Stainless Steel

Series 300, 400 and precipitation hardened grades. High corrosive strength and harden ability.

Super Alloys (Nickel / Chrome)

Maintains physical properties at extremely high temperatures.

Plastics

A variety of compounds to suit your application.

HSI 2000 - Piston Ring Iron Specifications

Microstructure:

- A. Graphite
The microstructure of this material will be essentially ferritic with 90% minimum Type I and Type II graphite.
- B. Matrix
The matrix will contain some pearlite and less than 5% well dispersed carbides. Pearlite will range up to 25% in rings over 2" in diameter.

Chemical Composition:

Typical analysis will be:

C 3.6 – 3.9

Si 2.3 – 2.8

Mn .01 - 0.4

Others – As required to produce the microstructure and physical properties.

Physical Properties:

The following properties are in accordance with ASTM A-536. These properties were determined using a 1.2" diameter test bar and taken at mid radius of the as cast bar.

- A. Tensile Strength – 65,000 PSI
- B. Yield Strength - 45,000 PSI
- C. Elongation – 12%
- D. Hardness – 131 – 220 Brinell

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