


WHY DUCTILE IRON?

DUCTILE IRON, also known as nodular iron or S.G. iron, is a member of the family of cast irons, which includes gray, malleable, white, and compacted graphite irons. Although there are chemical and metallurgical differences that distinguish the family members, of prime concern to the design engineer are the mechanical and physical properties available. DUCTILE IRON is the strongest, the toughest, and has the highest endurance limit of all the cast irons.

Characteristic	Ductile Iron	Malleable Iron	Grey Iron	0.3% C Cast Steel	White Iron
Castability	Best	Good	Very Good	Very Good	Very Good
Ease of Machining	Very Good	Very Good	Very Good	Very Good	NA
Vibration Damping	Very Good	Very Good	Very Good	Very Good	Very Good
Surface Hardenability	Very Good	Very Good	Very Good	Very Good	NA
Modulus of Elasticity	Very Good	Very Good	Very Good	Very Good	NA
Impact Resistance	Very Good	Very Good	Very Good	Very Good	NA
Corrosion Resistance	Very Good	Very Good	Very Good	Very Good	Very Good
Strength/Weight	Very Good	Very Good	Very Good	Very Good	NA
Wear Resistance	Very Good	Very Good	Very Good	Very Good	Very Good
Cost of Manufacture	Very Good	Very Good	Very Good	Very Good	Very Good

BEST  WORST

Since the invention of DUCTILE IRON in 1948, DUCTILE IRON castings have proven to be a reliable, cost effective alternative to steel castings, forgings, and fabrication. Conversions to DUCTILE IRON have been made because of excellent castability and machinability, comparable or superior properties, and 10% lower density resulting in cost savings as high as 75%.

Why DUCTILE IRON? Because it offers the design engineer an outstanding combination of endurance, toughness, reliability, and low cost manufacturing.