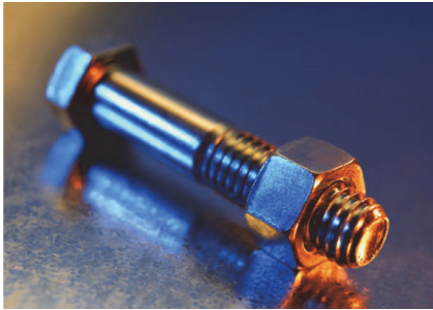


Dura-Bar Ductile Iron Shear Strength



A vertical load applied on a part similar to the way scissors cut through paper creates shear stress. Force is applied parallel to the material.

A tightened bolt applies shear stress on the threads.

In ductile iron, shear strength is 90% of tensile, and in steel, shear strength is only 50% of tensile. The same relationship applies to torsional strength.

Dura-Bar 65-45-12 ductile iron shear strength = 58,500 psi

Steel 1045 shear strength = 46,000 psi

The table below compares mechanical properties of Dura-Bar ductile to several steel grades.

Material Property	Dura-Bar				Hot Rolled Steel				
	65-45-12	SSDI	80-55-06	100-70-03	1018	1045	1117	1144	12L14
Tensile Strength (psi/ksi) min.	65,000	75,000	80,000	100,000	58,000	81,900	58,000	102,000	57,300
Yield Strength (psi/ksi) min.	45,000	55,000	55,000	70,000	31,900	45,000	31,900	60,900	34,100
Elongation (% in 2") min.	12	15	6	3	25	16	25	21	22
Hardness - Average (BHN)	180	198	229	279	116	163	116	212	121
Shear Strength (psi)	58,500	TBD	72,000	90,000	33,060	46,680	33,060	58,140	32,660

Dura-Bar 65-45-12 ductile iron can be a cost saving alternative to low-medium carbon steels. In addition to comparable properties, Dura-Bar has superior machinability over steel, including faster speeds and feeds leading to shorter cycle times and more machine capacity, as well as easier chip evacuation.

Contact us today to discuss your application and how you can start saving with Dura-Bar.