

## 25 Standard gray iron test bars, as cast

**Categories:** [Metal](#); [Ferrous Metal](#); [Cast Iron](#); [Gray Cast Iron](#)

**Material Notes:** 987 kg transverse load on test bar.

**Vendors:** No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Density	7.15 g/cc	0.258 lb/in <sup>3</sup>	Typical for Gray Cast Iron

  

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	174	174	
Hardness, Knoop	193	193	Converted from Brinell hardness.
Hardness, Vickers	181	181	Approximated. Converted from Brinell hardness.
Tensile Strength, Ultimate	179 MPa	26000 psi	
Modulus of Elasticity	79.0 - 102 GPa	11500 - 14800 ksi	
Ultimate Compressive Strength	669 MPa	97000 psi	
Poissons Ratio	0.290	0.290	Calculated
Fatigue Strength	79.0 MPa	11500 psi	Reversed bending fatigue limit
Shear Modulus	32.0 - 41.0 GPa	4640 - 5950 ksi	
Shear Strength	220 MPa	31900 psi	Torsional shear strength.

  

Material Components Properties	Metric	English	Comments
Carbon, C	3.25 - 3.50 %	3.25 - 3.50 %	
Chromium, Cr	0.050 - 0.45 %	0.050 - 0.45 %	
Copper, Cu	0.15 - 0.40 %	0.15 - 0.40 %	
Manganese, Mn	0.50 - 0.90 %	0.50 - 0.90 %	
Molybdenum, Mo	0.050 - 0.10 %	0.050 - 0.10 %	
Nickel, Ni	0.050 - 0.20 %	0.050 - 0.20 %	
Phosphorous, P	<= 0.12 %	<= 0.12 %	
Silicon, Si	1.80 - 2.30 %	1.80 - 2.30 %	
Sulfur, S	<= 0.15 %	<= 0.15 %	

[References](#) for this datasheet.

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's disclaimer and terms of use regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.