

Dura-Bar Gray Iron Grades

Overview

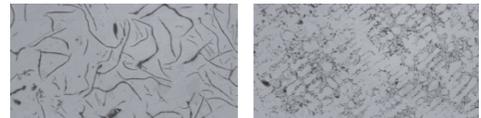
Dura-Bar continuous cast gray iron grades contain flake graphite in matrices that range from pearlite to pearlite plus ferrite. The matrix will influence machinability, strength, hardness and wear resistance. In general, a fully pearlitic matrix will have the best mechanical properties and will be readily machinable. Bars containing ferrite in the matrix will be easier to machine but will be lower in strength and wear resistance.

Grade	Tensile Strength (psi minimum)	Fatigue Strength (psi)
G2	40,000	20,000
G2S	40,000	tbd
G2P	40,000	tbd
G2A	40,000	25,000
G1A	25,000	15,000

G2 – Pearlitic Gray Iron

Dura-Bar G2 is a pearlitic gray iron containing Type A graphite.

Dura-Bar made to this robust specification is a good fit for a variety of applications, due to its good machinability, wear resistance and vibration damping properties. G2 is built around ASTM A48 Class 40 gray iron, which is validated from a separately cast bar. Minimum tensile is 40,000 psi. G2 is a stock grade, available in rounds, rectangles, squares and tubes.*



G2S – High Strength Highly Pearlitic Gray Iron

Dura-Bar G2S is a high strength highly pearlitic gray iron containing Type A graphite. It combines both superior strength and surface hardenability. By an addition of molybdenum, G2S maintains excellent strength throughout the cross-section of the bar. A minimum of 40,000 psi tensile strength from the mid-radius is achieved. Using additional alloying elements, the carbon-rich material needed for effective induction or flame hardening is an additional compliment to G2S. G2S is ideal for applications where strength, hardenability, and creep resistance are required. G2S is stocked in a range of diameters.*

G2P – Highly Pearlitic Gray Iron

Dura-Bar G2P is a highly pearlitic gray iron containing Type A graphite. It was developed to best suit surface-hardenability applications. G2P is made with a substantial amount of pearlite in the rim, which requires the least amount of stock removal necessary in order to achieve a heattreatable surface. Carbon-rich material is forced to the outer edges of the bars, allowing surface hardening via induction and flame hardening to be accomplished quickly, consistently, and effectively. Minimum tensile is 40,000 psi. G2P is stocked in a range of diameters.*

G2A – Highly Pearlitic Small Flake Gray Iron

Dura-Bar G2A has a fine graphite structure, Type VII D, size 6-8 as defined in ASTM A247. This allows excellent surface finish and is normally used in permanent mold applications requiring optimal strengths and wear resistance. Minimum tensile is 40,000 psi. It is a non-stock grade that can be ordered in volume quantities.*

G1A – Ferritic Gray Iron

Dura-Bar G1A contains graphite Type VII D, size 6-8 as defined in ASTM A247. This specification was originally developed for the glass mold industry where fine grain structure and superior machining finish are needed. Dimensional growth due to repeated heating and cooling cycles is minimal due to the smaller graphite flake and size and ferritic matrix structure. G1A is not intended for hardening. The matrix structure may be softened slightly. Minimum tensile is 25,000 psi. It is a non-stock grade, which can be ordered in volume quantities*

*Sizes and Shapes

Please see our website for current size information: www.dura-bar.com/products/stock-sizes, or contact your Dura-Bar Account Manager. All custom shapes are special order, and are quoted individually at minimum run quantities.

Typical Applications

Automotive: Gears

Fluid Power: Cylinder blocks, Gerotors, Glands, Manifolds, Pistons, Rotors, Valves

Machinery: Barrel Rollers, Bushings, Chain Sheave Rollers, Chuck Bodies, Die Blocks, Flywheels, Gear Racks, Gears, Housings, Pile Drivers, Press Rams, Pulleys, Rams, Rotary Tables, Tie Rod Nuts

Miscellaneous: Core Boxes, Dies, Disamatic Pouring Rails, Grinding Rolls, Mill Liners, Pattern Plates, Plunger Pin

Oil and Gas: Slips, Cones, Retainers, Mandrels, Ball Seats, Lock Rings, Completion Tool Components

Power Transmission: Gears, Pulleys

Pump and Compressor: Gears, Housings, Liners, Pistons, Rotary Screws, Rotors Steel Mill: Guide Rolls, Pinch Rolls, Runout Table Rolls

Transportation: Gears, Motorcycle Disk Brake, Pulleys, Rail Spacers

The above list is only a small sampling of the hundreds of parts being made from Dura-Bar.

Contact us today to discuss your application and how you can start saving.