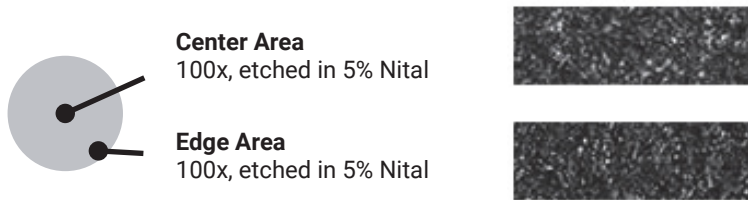


GX Gray Iron

General Description:

GX is a pearlitic gray iron offered in a variety of small and large rounds and rectangles for non-typical size applications. GX benefits include wear resistance, noise and vibration damping, and can be heat treated using conventional methods.



The core microstructure will consist of Type A graphite flake, per ASTM A247, with a matrix containing a minimum of 90% pearlite. The edge or rim will have a combination of Type D and Type E graphite flake and a matrix with a mixture of ferrite and pearlite. The rim will contain as much as 5% carbides.

Heat Treat Response:

GX can be heat treated by conventional methods. Hardening can be accomplished by heating and quenching the material from 1600° F resulting in Rockwell C hardness up to 50 HRC. Induction and flame hardening can be performed but may require an additional pre-heat treatment to reach the desired hardness and microstructure.

Chemical Composition:

Element	Percentage
Carbon*	2.95 - 3.45%
Silicon*	2.10 - 2.90%
Manganese	0.50 - 0.80%
Sulfur	0.04 - 0.10%
Phosphorus	0.15% Max

*Carbon and silicon targets are specified for each bar size in order to control the size and shape of the graphite flake.

Mechanical Properties:

Hardness values listed are minimum and maximum across the bar. Hardness values for rectangles and squares are a function of the height and width ratios and will be supplied on request.

Size Range		BHN	
Inches	mm	Min	Max
01.000 – 28.000	25 – 711	183	285

GX Gray Iron conforms to ASTM A48 Class 40. Tensile data from the as-cast bar, in conjunction with separately cast tensile data, correlates to a Class 40 Gray Iron.

For more information refer to the GX Class 40 Tensile Table.

Typical Applications:

Automotive:

Gears

Fluid Power:

Cylinder blocks, Gerotors, Glands, Manifolds, Pistons, Rotors, Valves

Machinery:

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

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