

X-Products

Dura-Bar offers a product with an expanded size range in gray and ductile iron continuous cast grades, and a larger size static cast ingot. Rounds are available as large as 29.50" dia. and rectangles/squares up to 28" (on the longest dimension).

GX is a pearlitic gray iron offered in a variety of small and large cross sections for non-typical size applications. GX benefits include wear resistance, noise and vibration damping and heat treat response. Conforms to ASTM A48 Class 40.

65-45-12X is an all-purpose grade of ductile iron with medium strength and ductility, making it a suitable alternative to low-medium carbon steels. The predominately ferritic matrix is appropriate for applications necessitating fatigue strength and ductility.

80-55-06X ductile iron is predominantly pearlitic, making it a good fit for applications where wear resistance and surface finish are required. The additional pearlite also makes it responsive to heat treating using conventional methods.

Each grade above meets its corresponding ASTM required mechanical properties.

Mechanical Properties:

| Grade | Tensile Strength | Yield | Elongation | Brinell Hardness | Microstructure |
|-----------|------------------|------------|------------|------------------|----------------|
| GX | Varies by size * | n/a | n/a | 190-260 | Pearlitic |
| 65-45-12X | 65,000 psi | 45,000 psi | 12% | 131-217 | Ferritic |
| 80-55-06X | 80,000 psi | 55,000 psi | 6% | 187-255 | Pearlitic |

* See GX Class 40 Tensile Table

New Size Offerings in Continuous Cast Bars:

| Round Nominal Diameter* | GX | 65-45-12X | 80-55-06X |
|-------------------------|----|-----------|-----------|
| 21.64" x 54" | ✓ | ✓ | |
| 22.62" x 54" | ✓ | ✓ | |
| 24.00" x 54" | ✓ | ✓ | |
| 25.18" x 48" | ✓ | ✓ | ✓ |
| 26.56" x 43" | ✓ | ✓ | ✓ |

*Diameter x Length

Stock Allowance (add to nominal dia. inches) = 0.980"

| Rectangle As-Cast Size | Grade | Machining Allowance per side (inches) | Max Finish Size |
|--------------------------|-----------|---------------------------------------|------------------------------|
| 14" x 25.6" x 72" or 83" | GX** | 0.450 | 13.10" x 24.70" x 72" or 83" |
| 16" x 28" x 56" | GX** | 0.450 | 15.10" x 27.10" x 56" |
| 15.354" x 15.354" x 72" | GX** | 0.300 | 14.754" x 14.754" x 72" |
| 16.142" x 16.142" x 72" | GX** | 0.370 | 15.402" x 15.402" x 72" |
| 17.716" x 17.716" x 72" | GX** | 0.370 | 16.976" x 16.976" x 72" |
| 21" x 21" x 54" | GX** | 0.500 | 20" x 20" x 54" |
| 20" x 25.6" x 48" | 65-45-12X | 0.500 | 19.0" x 24.6" x 48" |
| 21" x 21" x 54" | 65-45-12X | 0.500 | 20" x 20" x 54" |
| 15.354" x 15.354" x 72" | 65-45-12X | 0.370 | 14.614" x 14.614" x 72" |
| 16.142" x 16.142" x 72" | 65-45-12X | 0.450 | 15.242" x 15.242" x 72" |
| 17.716" x 17.716" x 72" | 65-45-12X | 0.450 | 16.816" x 16.816" x 72" |
| 18" x 28" x 50" | 65-45-12X | 0.500 | 17" x 27" x 50" |
| 14.6" x 24.4" x 72" | 80-55-06X | 0.500 | 13.60" x 23.4" x 72" |

** Stress Relieved

Note: Sizes are H x W x L. X Grades rectangle stock allowances are based on the width of the bar. Clean up stock must be considered when ordering.

Example: 20.0" x 25.60" maximum finish size is 19.0" x 24.6".

New Size Offerings in Static Cast Ingots:

| Round Nominal Diameter* | GX | 65-45-12X | 80-55-06X |
|-------------------------|----|-----------|-----------|
| 29.50" x 34" | ✓ | ✓ | ✓ |

*Diameter x Length

Turned OD Tolerance +.080" / -.00" and Finish Size 0.250" below turned OD

Application Examples:

Foundry: pattern plates and core boxes

Machine Tool: slide ways and vises

GX Gray Iron Rectangles

| As-Cast Size in Inches | Maximum Finish Size in Inches | As-Cast Weight per foot - lb | Bundle Quantity | Gray Iron GX As-Cast Est. lb/Bar |
|------------------------|-------------------------------|------------------------------|-----------------|----------------------------------|
| 0.75 X 1.50 | 0.550 X 1.300 | 3.5 | 50 | 21.6 |
| 1.25 X 2.25 | 0.970 X 1.970 | 8.8 | 30 | 54.1 |
| 1.25 X 3.25 | 0.970 X 2.970 | 12.7 | 30 | 78.2 |
| 1.25 X 4.25 | 0.890 X 3.890 | 16.6 | 24 | 105.0 |
| 1.25 X 5.25 | 0.890 X 4.890 | 20.5 | 18 | 126.3 |
| 1.25 X 6.25 | 0.890 X 5.890 | 24.4 | 18 | 156.0 |
| 1.50 X 2.25 | 1.220 X 1.970 | 10.5 | 40 | 64.9 |
| 1.50 X 4.25 | 1.140 X 3.890 | 19.9 | 24 | 126.0 |
| 1.50 X 6.25 | 1.140 X 5.890 | 29.3 | 15 | 186.0 |
| 1.75 X 4.25 | 1.390 X 3.890 | 23.2 | 25 | 143.1 |
| 1.75 X 6.25 | 1.390 X 5.890 | 34.1 | 18 | 216.0 |
| 2.25 X 3.25 | 1.970 X 2.970 | 22.8 | 24 | 140.7 |
| 2.25 X 4.25 | 1.890 X 3.890 | 29.8 | 25 | 184.0 |
| 2.25 X 5.25 | 1.890 X 4.890 | 36.9 | 16 | 227.3 |
| 2.25 X 6.25 | 1.890 X 5.890 | 43.9 | 12 | 278.0 |
| 2.50 x 3.25 | 2.220 x 2.970 | 25.4 | 20 | 160.0 |
| 2.50 x 4.25 | 2.140 x 3.890 | 33.2 | 20 | 204.4 |
| 2.50 X 6.25 | 2.140 X 5.890 | 48.8 | 12 | 300.6 |
| 2.50 X 8.25 | 1.980 X 7.730 | 64.4 | 8 | 396.8 |

Note: All bars are 72" length

Squares

| As-Cast Size in Inches | Maximum Finish Size in Inches | As-Cast Weight per foot - lb | Bundle Quantity | Gray Iron GX As-Cast Est. lb/Bar |
|------------------------|-------------------------------|------------------------------|-----------------|----------------------------------|
| 1.500 X 1.500 | 1.300 x 1.300 | 7.0 | 50 | 43.3 |
| 2.250 X 2.250 | 1.970 x 1.970 | 15.8 | 30 | 97.4 |
| 2.500 X 2.500 | 2.220 x 2.220 | 19.5 | 25 | 123.0 |

Note: All bars are 72" length

As always, the Dura-Bar Technical Staff is available to aid you in understanding and choosing the best grade for an application. Visit www.dura-bar.com or contact us with any questions.