

UCB DATA SHEET

Continuously Cast Iron

Unibar NR-F1

(ASTM A436 Type 1)

GUIDANCE ONLY

Characteristics

Unibar NR-F1 is an austenic flake graphite (Ni-resist) iron offering exceptional resistance to heat, corrosion and wear, and is non-magnetic at any temperature. It has good machinability. Noise and vibration damping are good in this grade. Compares with standard ASTM A436 **Type 1**.

Size Range

UNIBAR STANDARD SIZES AND SUPPLY		
Round	25mm – 700mm	
Square	25mm x 25mm – 550mm x 550mm	
Rectangle	Up to 750mm x 550mm	
Supply condition	As-cast, turned, peeled, milled and cut	
Length	Standard 3080mm, other lengths available	

Chemistry

TYPICAL %

3.00 Max

1.50 to 2.8 0.50 to 1.50

0.12 Max

0.20 Max

13.5 to 17.5

5.50 to 7.50

1.50 to 2.50

ELEMENT

Carbon

Silicon

Nickel

Copper

Chromium

Manganese Sulphur

Phosphorous

Brinell Hardness (BHN)

Test 10mm dia Ball 3000Kg load depending on section size. Hardness readings are taken across the entire section of the bar. Hardness values for rectangles depend on the ratio of height to width and can be supplied upon request.

Microstructure

Contains type 'A' graphite flakes in accordance with ASTM A247. The rim zone contains fine types 'D' and 'E' interdendritic graphite. The matrix is fully austenitic with up to 10% alloy carbides.



(Photo 100x magnification)

Heat Treat Response

Unibar NR-F1 cannot be hardened.



Mechanical Properties

Typical Ranges (Analysis at the discretion of UCB)

MATERIAL	TENSILE STRENGTH	HARDNESS
SPECIFICATION	N/mm ²	(BHN)
Unibar NR-F1 ASTM A436 Type 1	<3" - 172 >3" - 138	131 - 183

Due to the potential of thermal centre line shrinkage, in bars below 45mm dia, tensile strengths may be lower than indicated.

Taken from mid-radius of cast bar, not separately cast test bar.