United Cast Bar

UCB DATA SHEET

Continuously Cast Iron

UNIBAR NR-D2

(EN-GJSA-XNiCr20-2)
GUIDANCE ONLY

UNIBAR NR-S2

Characteristics

Austenic SG (Ni-resist) iron offering exceptional resistance to heat, corrosion and wear and is non-magnetic at any temperature. It has improved tensile strength and ductility over NR-F1. It has good machinability. Noise and vibration damping are also good in this grade. Compares with standard EN-GJSA-XNiCr20-2.

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

ELEMENT	TYPICAL %
Carbon	3.00 Max
Silicon	1.50 to 2.8
Manganese	0.50 to 1.50
Sulphur	0.020 Max
Phosphorous	0.050 Max
Nickel	18.00 - 22.00
Copper	0.50 Max
Chromium	1.00 to 2.50

Typical Ranges (Analysis at the discretion of UCB)

Mechanical Properties

MATERIAL SPECIFICATION	TENSILE STRENGTH (UTS) N/mm² minimum	0.2% PROOF STRESS N/mm² minimum	ELONGATION % minimum	HARDNESS HB
Unibar NR-D2	370 Min	210	7 Min	140 - 200

Due to the potential for thermal centre line shrinkage tensile strengths may be lower than indicated.

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

Brinell Hardness (HB)

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 I & II nodular (spheroidal) graphite in accordance with ISO 945. The rim contains approximately 200/250 nodules/mm². with the core containin 90/150 nodules/mm². The matrix is fully austenitic with up to 10% alloy carbides.



(Photo 100x magnification)

Heat Treat Response

Unibar NR-S2 cannot be hardened.

Grade colour code

Density

7.3 g/cc