United Cast Bar

UCB DATA SHEET

Continuously Cast Iron

UNIBAR 350

(EN-GJL-350, EN 1561)
GUIDANCE ONLY

UNIBAR 350

Characteristics

Unibar 350 is a special grade alloyed to achieve the specified properties, gives excellent wear resistance and strength. Suitable for all heat-treatment applications, the pearlitic structure giving a better response compared to Unibar 200, 250 and 300, while still possessing reasonable machinability and producing a good surface finish after machining. Noise and vibration damping are good in this grade.

Size Range

UNIBAR STANDARD SIZES AND SUPPLY	
Round	25mm – 700mm
Square	25mm x 25mm – 625mm x 625mm
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	2.95 – 3.45
Silicon	2.10 – 2.90
Manganese	0.55 – 0.75
Sulphur	0.04 – 0.07
Phosphorous	0.1 – 0.2
Others/Alloying	Residual
Iron	Balance

Typical Ranges (Analysis at the discretion of UCB)

Mechanical Properties

MATERIAL GRADE	MATERIAL SECTION mm	TENSILE STRENGTH N/mm² MINIMUM	HARDNESS (HB)	MATRIX
Unibar 350	20 < D ≤ 50	315	230 – 300	Pearlitic
	50 < D ≤ 100	280		
	100 < D ≤ 200	250		
	200 < D ≤ 400	225		

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 'A' graphite flakes in accordance with ISO 945. The rim zone contains fine types 'D' and 'E' interdendritic graphite. The core matrix is greater than 95% pearlitic. The rim matrix is a ferrite/pearlite mixture. The rim may contain up to 5% dispersed fine carbides.



(Photo 100x magnification)

Heat Treat Response

Unibar 350 is ideal for all conventional methods of heat treatment, with ability to through harden; hardness levels of up to Rc 50 are achievable.

Grade colour code

Density

7.3 g/cc