UCB DATA SHEET

Continuously Cast Iron

UNIBAR 300

(EN-GJL-300C, EN 16482)
GUIDANCE ONLY

UNIBAR 300

Characteristics

Unibar 300 is alloyed to achieve the specified properties, giving excellent wear resistance, strength & heat-treatment response compared to Unibar 200 and Unibar 250, while still possessing reasonable machinability and an excellent surface finish. Noise and vibration damping are excellent 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 300	20 < D ≤ 50	220	190 – 260	Predominantly Pearlitic
	50 < D ≤ 100	205		
	100 < D ≤ 200	195		
	200 < D ≤ 400	185		

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 90% pearlite. 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 300 is suitable for all conventional methods of heat treatment, with hardness levels of up to Rc 50 achievable.

Grade colour code

Density

7.3 g/cc