

# UCB DATA SHEET

## Continuously Cast Iron:

### UCB Grade Unibar 300 (Guidance only)



**Characteristics:** Unibar 300 is alloyed to achieve the properties giving excellent wear resistance, strength & heat-treatment response compared to Unibar-200 and Unibar-250 while still possessing reasonable machinability and excellent surface finish. Noise and vibration damping are good in this grade. Compares with standard EN-1561-GJL-200 GG30 and Meehanite GB300.

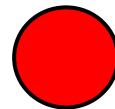
Unibar Profile and Size Range	
Round	20mm - 500mm diameter
Square	Up to 410 mm x 410mm
Rectangle	Narrow side 25mm up to a maximum 650mm x 280mm or 550mm x 380mm
Ingots	400mm - 780mm diameter x 1.2 metre long (proof machined)
Ingot Blocks	up to 550mm x 500mm x 1400mm long (proof machined)
Standard Length	Continuously Cast Bar 3 metres (other lengths available upon request)
Supply condition	As-cast, turned and peeled (Rounds). As-cast milled (proof machined) and saw cut (rectangles and squares)
Non Standard	Sizes/shapes to customer design available on special order and subject to discussion.

#### Chemistry (Typical Ranges)

(Subordinate to mechanical Properties)

Element	Typical %
Carbon	2.9 - 3.65
Silicon	1.8 - 2.90
Manganese	0.40 - 0.70
Sulphur	0.10 Max
Phosphorous	0.30 Max
Others/Alloying	Residual
Iron	Balance

#### Grade colour code



**Mechanical Properties:** (As taken from bar mid-radius of cast bar, not separately cast test bar)

Material specification	Material Section	Anticipated Values N/mm <sup>2</sup> (Taken from casting/bar)
Unibar 300 EN-GJL-200:1997	20mm - 40mm	240
	40mm - 80mm	210
	80mm - 150mm	195
	150mm - 300mm	185

Reference EN-1561-GJL-300 Table 1 Page 5

**Brinell Hardness:** (Range) 190-260 (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 core matrix is predominantly pearlitic with less than 10% ferrite. 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 can be hardened by conventional methods, to

**Density:** 7.2 g/cc

**United Cast Bar Ltd**

[www.unitedcastbar.com](http://www.unitedcastbar.com)

(UCB Issue 3 06/05/09 300)