# UCB DATA SHEET
# Continuously Cast Iron:
# UCB Grade Unibar 200 (Guidance only)

**Characteristics**: Offers exceptional machinability and excellent surface finishes but limited strength and wear resistance. Noise and vibration damping are good in this grade. Compares with standard **EN-1561-GJL-200 GG20 and Meehanite GE200**

| 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 mid-radius of cast bar, not separately cast test bar)

| Material specification | Material Section | Anticipated Values N/mm² (Taken from casting/bar) |
|---|---|---|
| **Unibar 200** EN-GJL-200:1997 | 20mm - 40mm | 155 |
| | 40mm - 80mm | 130 |
| | 80mm - 150mm | 115 |
| | 150mm - 300mm | 105 |
| *Reference EN-1561-GJL-200 Table 1 Page 5* | | |

**Brinell Hardness**: (Range) 120-200 BHN (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 A 247. The rim contains fine type 'D' and 'E' interdendritic graphite. The matrix structure is predominantly ferritic with less than 10% pearlite throughout.
(Photo 100x magnification)

**Heat Treat Response**: Unibar-200 is not suitable for hardening applications.
**Density**: 7.2 g/cc