

Continuously Cast Iron

Unibar 500-7 (EN 16482 EN GJS-500-7C) (Guidance only)

Characteristics:

Unibar 500-7 has an increased pearlitic structure against Unibar 400-15 resulting in higher wear resistance and increased strength with improved heat-treatment response when compared to Unibar 400-15 and is therefore recommended for applications in which good machinability and surface finish are required, as well as minimal friction with other parts and/or materials. Noise and vibration damping are good in this grade.
Conforms EN-16482:2014 EN GJS-500-7C.

Size Range:

UNIBAR STANDARD SIZES AND SUPPLY.	
Round	25mm – 700mm
Square	25mm x 25mm – 550mm x 550mm
Rectangle	Up to 650mm x 520mm
Supply condition	As-cast, turned, peeled, milled, cut.
Length	Standard 3080mm, other lengths available.

Chemistry

ELEMENT	TYPICAL %
Carbon	3.25 - 3.70
Silicon	2.40 - 3.00
Manganese	0.10 - 0.40
Sulphur	0.005 – 0.020
Phosphorous	0.015 – 0.08
Magnesium	0.04 – 0.07
Others/Alloying	Residual
Iron	Balance

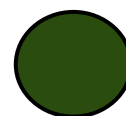
Typical Ranges: (Analysis at the discretion of UCB)

Mechanical Properties:

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

MATERIAL GRADE	MATERIAL SECTION	TENSILE (UTS) N/mm ²	0.2% PROOF STRESS N/mm ²	ELONGATION	BHN	MATRIX
Unibar 500-7 EN 16482:EN GJS - 500-7C	20 < D/B ≤ 60	500	320	7	170 - 240	Ferritic - Pearlitic
	60 < D/B ≤ 120	450	300	7		
	120 < D/B ≤ 400	420	290	5		
	400 < D/B ≤ 700	420	290	5		

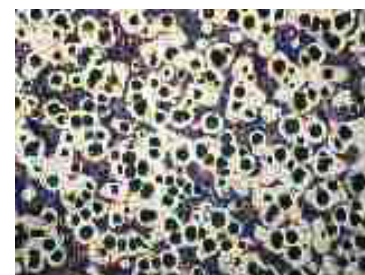
Grade
colour code



Density: 7.3 g/cc

Brinell Hardness (BHN): 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. Subject to special order specifications, certain dimensions can be supplied with maximum hardness of 190 HB, it being necessary to anneal smaller dimensions (Unibar 400-15) in order to reach this hardness; and given that, due to its partially pearlitic structure (20%), the maximum hardness can reach

Microstructure: Contains Type V & VI nodular (spheroidal) graphite in accordance with ISO 945. The rim contains approximately 200/250 nodules/mm², and is predominately ferritic with the core containing 90/150 nodules/mm². The core matrix is mixed ferritic/pearlitic (10–50% pearlite). Chill carbides will be less



Heat Treat Response: Unibar-500-7 can be oil quenched and hardened to a minimum of 50Rc on the outer skin of the bar, also has good response to most conventional methods of surface hardening.