

COPPER

INTRODUCTION

This term is used to cover commercially pure copper in all forms. The intrinsic strength of pure copper is very low but, as shown below, can be greatly increased by work hardening.

Specifications

- BS 2870 for Sheet, Strip and Foil
- BS 2875 for Plate
- BS 2874, BS 1433/2 for Rod and Bar
- BS2871 for Tube
- BS 4608 for Electrical Purposes

Applications

C101 (Electrolytic tough pitch, high conductivity copper, ETP or 'Electro') is used for general purposes and for electrical applications. In the annealed state it can be expected to have a conductivity of at least 100% IACS (International Annealed Copper Standard).

C106 (Phosphorus deoxidised, non-arsenical copper or 'Deox') has been deoxidised with phosphorus in order to make it even easier to weld and braze. It also has slightly better deep-drawing properties.

Grades: Compositions/Mechanical Properties

Grade		Nominal Composition (%)		Typical Mechanical Properties				
BS	ISO	Copper	Phosphorus	Condition	0.2% Proof Stress N/mm ²	Tensile Strength Nmm ²	Elongation %	Hardness Hv
C101	Cu-ETP	99.90	0.013 to 0.050	O-Annealed	60	220	55	45
				H-Hard	325	385	4	115
C106	Cu-DHP	99.85		O-Annealed	60	220	55	45
				H-Hard	325	385	4	115

Copper Based Alloys Sheet Density Factor

Alloy	Density Kg/dm ³
C101/103	8.90
C106	8.90
CZ108	8.45
CZ112	8.45
CZ114	8.30
CZ126	8.55
CZ131/121	8.50
PB 102	8.85
SAE 660	8.93
PB1 C	8.89
CN 102	8.90
CN 107	8.95
CA 104	7.60
CA 107	7.80
DGS 1043	7.65