I.A.Barnes & Co Ltd
Unit 21, Gunnels Wood Park
Gunnels Wood Road
Stevenage, Hertfordshire
SG1 2BH, UK
Tel: +44 (0)1438 354972
Fax: +44 (0)1438 741530
www.iabco.co.uk

IABCO C9

MIG/GMAW and TIG/GTAW copper base wire

Product name	IABCO C9
Classification EN ISO	24373: Cu6560 (CuSi3Mn1)
Classification AWS	A5.7: ERCuSi-A
Classification BS	2901 pt 3: C9 (obsolete specification)
Applications	Copper wire deoxidised with 3%Si, sometimes referred to as silicon bronze. More tolerant wire than IABCO C7 because of the higher deoxidation level which allows the wire to be used for a wider range of applications and makes the weld metal more resistant to porosity. The slightly higher alloy content does reduce thermal and electrical conductivity. Applications include electrical components and heat exchangers. Uses are also found in chemical plant, stills (brewing), and moulds. Overlays on steel. Also used for 'MIG brazing' of galvanised steel particularly in the automotive industry.
Base materials	Oxygen free copper: C10200, Cu-OF, Cu-OFS. Phosphorus deoxidised copper: C12200, Cu-DHP. Electrolytic tough pitch copper: C11000, Cu-ETP. Silicon bronze: C65500.
Typical analysis of wire, weight %	Cu: Balance Si: 2.9 Mn: 0.9
Typical heat treatment (1)	Preheat: Copper - For thin material (<3mm) probably not necessary but as material thickness increases preheat will need to increase; rising from 100-200°C at 6mm thick up to 350-450°C at 12mm thick. Preheat can be minimised by using He or He-Ar shielding gas in preference to Ar. Silicon bronze – Not required. Interpass: Copper - Maintained above the preheat temperature. Silicon bronze - 100°C maximum. PWHT: Not required for most applications.
Typical mechanical properties of weld (2)	0.2% proof stress Rp0.2%: 110MPa Tensile strength Rm: 350MPa Elongation 5d: 40%

Notes (1) Application codes and project specifications should always be referred to for specific requirements.
(2) Actual mechanical properties will be dependent on specific welding procedure (including shielding gas, flux, PWHT etc) and should always be confirmed by approval of an appropriate welding procedure.