

Sales Offices	Phone	Fax
Adelaide	08 8345 1033	08 8345 1044
Brisbane	07 3722 0800	07 3277 6799
Melbourne	03 9409 8500	03 9408 3946
Sydney	02 9827 0790	02 9757 4486
Perth	08 9258 2600	08 9358 6206

PRODUCT DATA SHEET

Yellow Brass Alloy 268 UNS C26800

Copper Alloys

Also known as 67/33 Brass, 2/1 Brass, 67/33 Yellow Brass, 65/35 Brass

Composition, ASTM B36

Copper		Lead	Iron	Zinc
Min	Max	Max	Max	Max
64.0	68.5	0.15	0.05	Remainder

Equivalent Alloy Specifications (approx)

Specification	Designation
UNS	C26800
ISO	CuZn33
BSI	CZ107
JIS	C 2680

Specification	Product Form
ASTM B36	Brass plate, sheet, strip and rolled bar
ASTM B587	Welded brass tube

Product Specifications

Mechanical Properties

ASTM B36
Plate, sheet, strip
and rolled bar.

Product	Temper	Condition	Tensile Strength, MPa, min	Hardness, HRB	(Hardness, HV)
Flat	M20	As hot rolled	275 - 345	-	-
Flat	H01	Quarter hard	340 - 405	44 - 65	(86 - 116)
Flat	H02	Half hard	380 - 450	60 - 74	(106 - 135)
Flat	H04	Hard	425 - 495	78 - 84	(146 - 162)

Available Forms

Austral Wright Metals can supply this alloy as coil, sheet, plate, circles and tube.

General Description Yellow brass has excellent ductility and good strength. It is often used where its deep drawing qualities and lower cost are needed.

The alloy consists of the face centred cubic alpha phase, and has the lowest copper content of the single phase brasses. When welded without filler metal, particles of second phase (beta) may develop in the weld metal, which reduce the strength, ductility and corrosion resistance of the weld metal.

C26800 has the distinctive clear bright yellow colour normally associated with 'brass'.

Typical applications. Deep drawn and spun components. General industrial pressings formed from sheet and strip.

PHYSICAL PROPERTIES

<u>Property</u>	<u>Metric Units</u>	<u>Imperial Units</u>
Melting Point (Liquidus)	940°C	1725°F
Melting Point (Solidus) (eutectic)	902°C	1655°F
Density	8.50 gm/cm ³ @ 20°C	0.305 lb/in ³ @ 68°F
Specific Gravity	8.50	8.50
Coefficient of Thermal Expansion	19.0 x 10 ⁻⁶ /°K (20 - 300°C)	11.0 x 10 ⁻⁵ /°F (68 - 572°F)
Thermal Conductivity	121 W/m.°K @ 20°C	70 BTU/ft ³ /ft/hr/°F @ 68°F
Thermal Capacity (Specific Heat)	376 J/kg.°K @ 20°C	0.09 BTU/lb/°F @ 68°F
Electrical Conductivity (Annealed)	0.156 microhm ⁻¹ .cm ⁻¹ @ 20°C	27% IACS @ 68°F
Electrical Resistivity (Annealed)	6.4 microhm.cm @ 20°C	38 ohms (circ mil/ft) @ 68°F
Temperature Coefficient of Electrical Resistance (Annealed)	0.0016 / °C @ 0 - 100°C	0.0009 / °F @ 32 - 212 °F
Modulus of Elasticity (tension)	105 GPa @ 20°C	15.0 x 10 ⁶ psi @ 68°F
Modulus of Rigidity (torsion)	35 GPa @ 20°C	5.0 x 10 ⁶ psi @ 68°F
Poisson's Ratio	0.50	0.50

FABRICATING PROPERTIES

Cold Working Capacity	Excellent
Hot Working Capacity	Fair
Hot Working Temperature	750 - 850°C
Annealing Temperature	450 - 650°C
Stress Relieving Temperature	250 - 300°C
Machinability Rating	30% of free cutting brass (C36000)
Polishing/Electroplating Finish	Excellent

JOINING PROPERTIES

Soldering	Excellent
Brazing	Excellent
Oxy-Acetylene Welding	Good
Gas Shielded Arc Welding (GTAW/TIG, GMAW/MIG)	Fair
Coated Metal Arc Welding (Manual electrodes)	Not recommended
Resistance Welding – Spot & Seam	Fair

Corrosion Resistance

C26800 has good corrosion resistance to weathering and very good resistance to many chemicals. It may undergo dezincification in stagnant or slowly moving salt solutions, brackish water or acidic solutions.

C26800 should not be used in contact with ammonia or ammonia compounds, as it may suffer stress corrosion cracking. Beware of corrosion inhibitors in piping systems containing carbon steels, which should be checked for compatibility with alloy C26800.

This brass should not be used with acetic acid, acetylene, brines, calcium chloride, moist chlorine, chromic acid, hydrochloric acid, mercury or its compounds, nitric acid and sodium hypochlorite.

Please consult Austral Wright Metals for advice on your specific application.

Phase Diagram & Mechanical Properties of the Brasses

