BRASS

Cast brasses are Copper-Zinc alloys that consist of a single-phase α structure at room temperature up to 36% Zinc. This phase exhibits excellent malleability both in cold and hot conditions, making it suitable for cold deformation. In these materials, the addition of Tin improves mechanical properties and enhances resistance to certain forms of corrosion.

ALLOY: VL - 854 = UNS C85400 = SAE 41

Yellow brass (called Admiralty brass) with moderate mechanical strength, resistance to corrosion, wear, fatigue, and impact. It has cold deformation capacity and is softened by annealing; it also has good anti-friction quality, electrical conductivity, and good sealing at low hydraulic and steam pressures.

Chemical Composition:

%Cu	% Sn	%Pb	%Zn	%Fe	% Ni	%Al
65 - 70	0,5 - 1,5	1,5 - 3,8	24 - 32	0,7 max.	1 max.	0,35 max.

Mechanical and Physical Properties:

- **Tensile Strength,** *Kg/mm²*..... 21,1 - 26,7
- **Yield Strength,** *Kg/mm²*..... 7,7 - 9,1
- **Elongation,** *%*..... 35 - 20
- **Hardness,** *HB (10 mm / 500 Kg)*..... 40 - 60
- **Thermal Conductivity,** *W / m °C (20 °C)*..... 87,9
- **Coefficient of thermal Expansion,** *10^{-6} / °C (20 - 300 °C)*..... 20
- **Electrical Conductivity,** *% IACS (20 °C)*..... 20
- **Operating Temperature,** *°C*..... 180
- **Operating Load or Pressure,** *Kg/mm²*..... -

Technical manufacturing standards:

- Chemical Composition and Mechanical Properties: UNS C 85400 = SAE 41 = DIN 1709 Cu65Zn.
- Centrifugal Casting : ASTM B271 / 271M.
- Sand Mold Casting : SAE J462.
- Continuous Casting : ASTM B505 / 505M.

Main Uses and Application:

Elements for cooling and heating systems (radiators) ● Valves, shut-off and purge valves for gas and steam, locks, faucets ● Bodies, valves, and connectors for domestic and industrial water meters ● Battery terminals, electrical connectors, and lightning protectors.

✱ ***Referential Specifications for Chemical Composition, Mechanical, and Physical Properties based on the Unified Numbering System (UNS-C) of the Copper Development Association (CDA) for cast and forged copper alloys; subject to written confirmation by VULCANO METALS***

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