# Brass raw material

| GB/T5231-2001 designation | Nearest equivalences | Specific gravity | HB hardness | Tensile strength Rp0,2 (Mpa) | Extension % |
|---|---|---|---|---|---|
| H59Pb1 | CuZn39-Pb2 (Afnor-51-104)<br>CuZn37-Pb0.5, (Din 17760)<br>C37000 (ASTM)<br>CW617N (EN12165) | 8.4 | 80-120 | 350 | 15-30% |

**Composition**

| Cu | Fe | Pb | Ni | Zn | Impurities total |
|---|---|---|---|---|---|
| 57~60% | ≤ 0.5% | 0.08-1.9% | ≤1 % | surplus | ≤1% |

## Brass Rohs compliance

According to the Directive 2011/65/ dated June 8, 2011 (Rohs), copper alloys are allowed to have a maximum of 4% by weight of lead as an alloying element. (Provisions of Article 4 and paragraph 1 of Annex II, limit value set by 6c of Annex III)

## Earthing (grounding) provisions, Stainless steel and brass models

**Earthing (Grounding) continuity. EN60335-1 requirements)**

The design of the grounding connections was scheduled to meet all the points of this standard, and to ensure a grounding line, including in boxes with plastic. It complies in particular with the following specifications (extracted from the standard) and our solutions

27.1 Accessible metal parts of class I appliances that may become live in the event of an insulation fault, shall be permanently and reliably connected to an earthing terminal within the appliance

Solution: fittings have a built-in earth terminal

27.2 The clamping means of earthing terminals shall be adequately secured against accidental loosening.

It shall not be possible to loosen the conductors without the aid of a tool.

Solution: earthing is made by nuts needing a wrench to screw and unscrew, and have dented washers

27.4 All parts of the earthing terminal intended for the connection of external conductors shall be such that there is no risk of corrosion resulting from contact between these parts and the copper of the earthing conductor or any other metal in contact with these parts.

Solution: The earthing terminal is made of nickel-plated brass or stainless steel that does not corrode with brass fitting and stainless steel

28.1 Earth connections which failures may provide a lack of earthing continuity shall withstand the mechanical stresses occurring in normal use.

Screws used for connections providing earthing continuity shall screw into metal.

Solution: The earth terminals withstand more than one and a half times the nominal torque required by the standards and are screwed into a threads made of brass or steel fittings

28.2 Connections providing earthing continuity shall be constructed so that contact pressure is not transmitted through insulating material that is liable to shrink or to distort

- Thread-cutting (self-tapping) screws shall not be used if they are likely to be operated by the user or installer.
- At least two screws must be used for each connection providing earthing continuity unless the screw forms a thread having a length of at least half the diameter of the screw

Solution:

- The earth terminals are provided that even if they are used with a plastic housing, tightening the earth connection has no plastic or elastomeric gasket interposed.
- No self-tapping screw used for earthing
- When the earthing is made by a screw in a thread, the length thereof is always greater than the value given by the standard

28.4 Screws and nuts that make a mechanical connection between different parts of the appliance shall be secured against loosening if they also make connections providing earthing continuity.

- Sealing compound that softens on heating provides satisfactory security only for screw connections not subject to torsion in normal use.

Solution: The ground terminals are blocked by dented lock washers. No thread sealing compound used