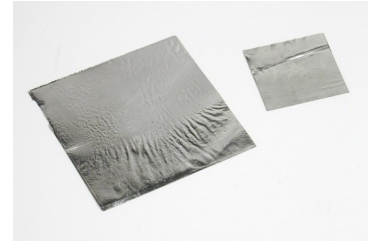


Thermal Contact Pad 317-TCP / Thermal Contact Liquid 317-TCL-1

Optimized heat transfer with low melting metals / liquid metals

For optimized thermal contact of heaters, Allectra offers two UHV compatible solutions:

-317-TCP: The Thermal Contact Pad is a low melting metal foil. The melting point is at about 60°C, the vapour pressure is very low and is below 10⁻⁸ mbar at 500°C. To get best thermal contact, the foil should be melted after installation. This metal has very high thermal conductivity. It is offered in two sizes (38 x 38mm and 30 x 30mm), the foils can easily be cut with scissors. The thickness is approx. 25µm.



-317-TCL-1: The Thermal Contact Liquid is a liquid paste at room temperature. Delivered in a syringe it can be applied in very small quantities to the heating surfaces. The thermal conductivity of this material is lower than 317-TCP, but the thickness of the film is significantly thinner. 317-TCL-1 is not suitable for Aluminium, as it will alloy with it. It must also not be used in atmospheres containing halogens.



Both materials are pure metals without any filler etc. They contain no Lead, Cadmium or Zinc. Used metals are Ga, In, Rh, Ag, Sn, Bi, Cu

| | 317-TCP | 317-TCL-1 |
|--------------------------------|----------------------------|----------------------------|
| Melting point | 58°C | 8°C |
| Boiling Point | >1500°C | >1300°C |
| Vapour pressure at 500°C | <10 ⁻⁸ mbar | <10 ⁻⁸ mbar |
| Specific weight | 8.3 g/cm ³ | 6.8 g/cm ³ |
| Colour | silver | silver |
| Thermal conductivity | 125 W / m K | 32 W / m K |
| Electrical resistivity (20°C) | 0,58 Ω mm ² / m | 0,45 Ω mm ² / m |
| Magnetic | non-magnetic | non-magnetic |
| Solubility in water | insoluble | insoluble |
| Solubility in organic solvents | insoluble | insoluble |