2009-11-18

2002/95/EU
RoHS

Solder

Some note at first:

- Unporcessed solder, irrespective of its components, is not subject to the RoHS directives of 2000/95/EU.
- The solder used for repair, supplementation, or upgrading of electric and electronic devices is also not subject to the mentioned regulation. In those cases the main argument for the kind of solder to be used comes from the solder originally used in the device (see below).
- The corresponding national mandatory regulations commonly follow the intention of the EU recommendation and therefore concern the "bring to market" of electrical or electronic devices of definded categories.
- In the near future leaded solder will not be taken out of the product range of the solder manufacturers.
- WBT clearly denotes both of its solder types as leaded on unleaded. The application decision is made by the customer on his own responsibility.
- Regulation comparable to theRoHS directives (in Germany codified by the ElektroGG) at this time are only valid within the EU.
  - In Japan there exist a rigid self obligation of the EE industry.
  - China there are comparable regulations (with some severer restrictios) on the way with similar road map but rather uncertain legal effects.
  - In the USA there exist binding recommendations and local regulations (e.g in California)

WBT offers solder in different packings (concerning the amount and the diameter of the solder wire) with the following two compositions:

product	composition					melting temperature	recmd. Temp. of solder tip[1]	comment
	Sn	Pb	Ag	Cu	others	°C	°C	
leaded silver solder Sn60Pb36Ag4	60,0	remain	4,0	< 0,05	< 0,2	179	220 - 260	silver: less flux lower melting point
unleaded silver solder Sn95,5Ag3,8Cu0,7	remain	< 0,1	3,8	0,7	<0,2	217	255 - 295	copper: decrease of Cu solubilising

Processing tips:

- Avoid to use different solders while repairing or upgading electonic or electrical dvices. (i.e.: leaded ↔ unleaded, different leaded among one another is commonly not critical). It could be that uncontrollably resulting alloys would cause an extreme changing of the behaviour of the solder joint against thermic or/and mechanic loading:
  - Increase of the melting temperature: cold or sticked soldering, dross, resulting in thermically overstressed elctr. devices, ruinated isolation, etc.
  - Decrease of melting temperature: lowered thermic loading capacity of the solder joint.
  - Change of the solder texture: lowered strength and elasticity.

[1] Not to be confused with the solder temperature wich is only insignificant higher then then the melting temperature. Rate action due to the temperature loss of the solder tip.

– The higher temperatures of suited unleaded solder commonly require upgraded exhausters for the work bench for the absolutely insanitary flux vapours containing an increasing content of metal.