Lead-Free Wave Solder: Changing from SAC305/387/405 to SACX™

When changing from high silver containing SAC alloy to SACX™ it is important to change the solder bath using the correct procedure.

SACX™ is an alloy formulation that is based on a SAC alloy, with additives to improve the performance and as such has extra ingredients that are not present in standard high silver SAC alloys such as SAC305.

The recommended procedure when changing to SACX™ is to completely drain the previous Lead-Free alloy from the solder pot and refill with SACX™, there is no need to do a Tin wash.

It is NOT recommended to add SACX™ alloy to the high silver SAC alloy for the following reasons:

- SACX™ contains extra ingredients that enhance the performance of the alloy; by adding the alloy one bar at a time these ingredients are greatly diluted by the bulk of the high silver alloy and as such become ineffective.
- Adding SACX™ one bar at a time will gradually change the formulation from the high silver SAC alloy to SACX™, this may take up to six months to get to the end point. During this period the formulation of the alloy in the wave solder pot will change day by day. The many formulations that will naturally occur during this period have not been fully tested and may have a negative impact on the process yield and/or the long-term reliability. A low risk strategy is to follow the recommended procedure.

Your local Cookson Electronics Assembly Materials contact will be in a position to make an offer to purchase the high silver SAC alloy or offer a deal to replace the solder bath with SACX™.