Solder plus Support

CASE STUDY

AIM's REL61 Alloy and FX16 Flux **Virtually Eliminate Rework** in Selective Soldering Application

PROBLEM

A customer was experiencing poor hole fill on bare copper busbar, requiring 100% touch up on all joints after selective soldering with their current solder product. This led to increased costs and significant production delays. They sought AIM Solder's help for a solution or replacement product that would reduce or eliminate the need for rework.

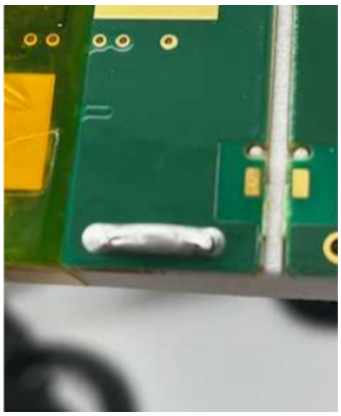
SOLUTION

AIM technical engineers suggested replacing the incumbent SAC305 alloy and competitor flux product with AIM's REL61 alloy and FX16 flux. A trial was performed comparing this proposed solution with combinations of the incumbent SAC305 and three additional flux options.

RESULTS

After optimizing temperature and speed settings, AIM's REL61 with FX16 yielded consistent 100% hole fill with excellent aesthetics on all test PCB assemblies. SAC305 with competitor fluxes failed to meet the 100% hole fill requirement. With additional adjustments, SAC305 combined with AIM's FX16 flux exhibited 100% hole fill with a few anomalies. Ultimately it was determined that REL61 with FX16 provided the best results, but that SAC305 with FX16 was also a possible solution and potentially easier to implement since it only required changing the flux and not the alloy.

Nozzle Applying REL61



REL61 Bottom Side

PRODUCTS/SERVICES USED

- REL61 Lead-Free Solder Alloy
- FX16 No Clean Liquid Flux
- AIM Solder Technical Support

SUCCESS METRICS

- Went from requiring touch up on nearly all selectively soldered joints to virtually no touch up required.
- 100% hole fill

LEARN MORE

Learn more about solder alloys and flux from AIM experts:

- Alloy Evolution: The Path from SAC305 to High-Reliability
- Solder Flux Classification: How to Decode "ROL0" and More
- AIM's REL61 Solder Alloy