

Advanced Preform Solutions

Warpage Mitigation in Complex Semiconductor Packages

ALPHA® TrueHeight® Spacers

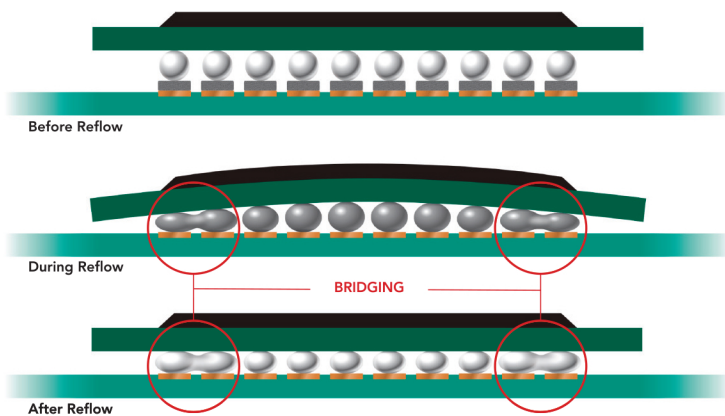
- Engineered solution to prevent solder bridging in high-density BGA packages used in advanced automotive and high-performance computing applications.
- Spacers perform a crucial function by controlling unmanageable warpage
- Precision machined discs provide superior dimensional tolerances as low as $\pm 0.010\text{mm}$

Manufactured to ease implementation:

- Engineered for reflow, as well as adhesive bonding
- Designed for automatic placement using industry-standard T&R packaging
- Finished to ensure superior reflow results

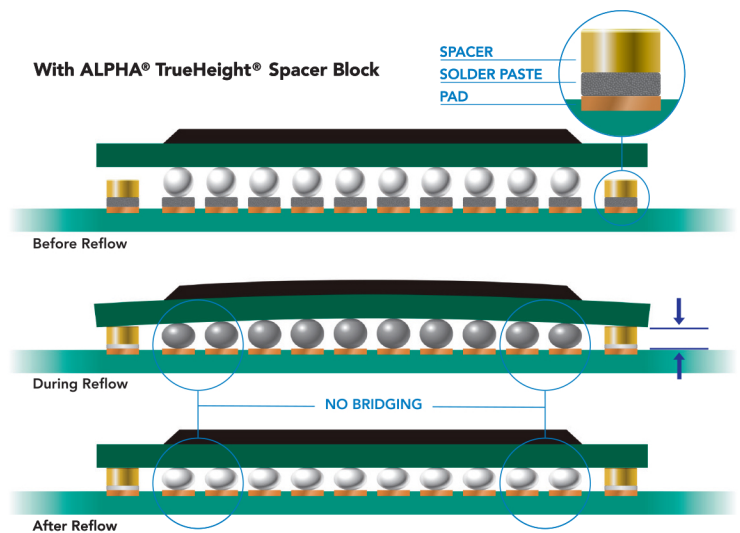
How to Prevent Solder Bridging in Large BGAs

Without Precision Spacer Block



During the liquidous phase, solder is squeezed and forms a bridge due to either substrate warpage or component weight.

With ALPHA® TrueHeight® Spacer Block



The ALPHA® TrueHeight® Spacer Block maintains minimum stand-off height, allowing solder to form a more spherical ball and prevent bridging.



SCAN TO LEARN MORE:
MacDermid Alpha Spacer Blocks



macdermidalpha.com