

## Reworkable Underfill Encapsulant for BGA's

April 23, 2004

EAST HANOVER, NJ – Zymet has introduced a new reworkable BGA underfill encapsulant, **CN-1453**. It is a silica filled version of the company's earlier **CN-1432**, so it has a lower coefficient of thermal expansion of 45 ppm/°C, compared to 70 ppm/°C. This makes the product suited for more demanding applications.

Unlike flip chips, BGA's are not normally encapsulated. However, in applications where components must survive shock or vibration tests, such as in mobile phones or other handheld devices or in military electronics, an underfill encapsulant is used. Since the value of the assembly can be quite high, reworkability of the encapsulant is critical for removal and replacement of a faulty BGA.

Removal of defective components is easily accomplished by heating the component and the underfill encapsulant to 220°C. Underfill encapsulant residues are easily scraped or brushed off.

**CN-1453** has a viscosity of 7500 cps at room temperature, making it very easy to dispense. It is also fast flowing, capable of flowing a distance of 18 mm, with only a single-side dispense, in as little as 20 seconds.

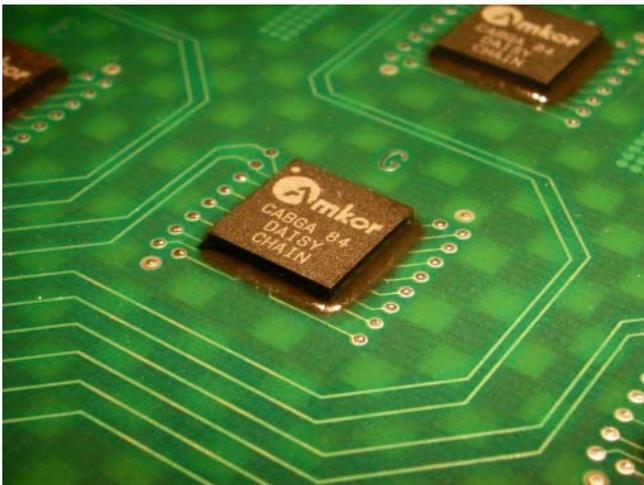


Figure 1. Underfilled BGA.

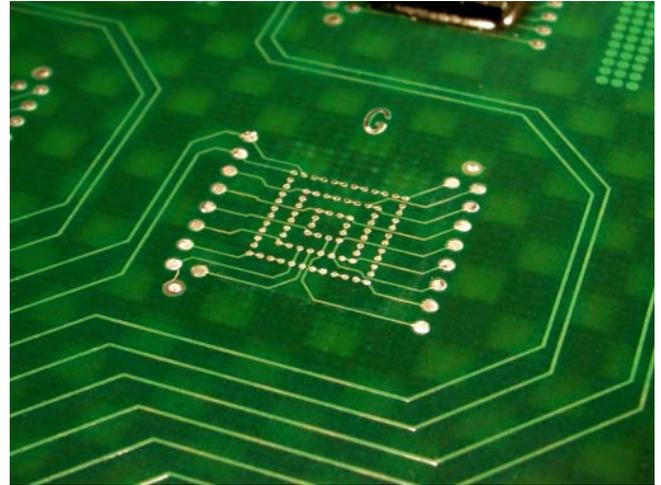


Figure 2. Cleaned site.

The encapsulant exhibits excellent wetting. It self-fillets, eliminating the need for seal passes to create complete and symmetrical fillets. After flow is complete, **CN-1453** can be cured in an in-line oven, in 5 minutes at 165°C. The excellent processability of **CN-1453** makes it suited to high volume manufacturing of competitive consumer electronics, such as mobile phones and other handheld devices.

Zymet is a manufacturer of microelectronic and electronic adhesives and encapsulants. Its products include die attach adhesives, substrate adhesives, UV curable glob top and cavity-fill encapsulants, and underfill encapsulants.

For more information, contact Zymet, Inc., East Hanover, NJ. Requests for information may also be submitted by Email to [info@zymet.com](mailto:info@zymet.com)