

**Die-attach adhesives –
Taking the lead with know-how**

System properties

- Die-attach
- Electrically conductive adhesives
- Thermally conductive adhesives
- Panacol bond-line control
- Customised system solutions

Advantages

- Excellent thermal conductivity
- High TG
- Suitable for long-term storage at + 5 °C
- Long pot life
- Short curing times

**Innovative adhesive technology for optimised LED assembly.
Bond-line control – exclusive to Panacol.**

Die-attach LED adhesives

Developed specially for LED production, Panacol's electrically conductive die-attach adhesives offer several benefits:

- Excellent thermal conductivity
- High TG
- Electrically conductive 1C adhesives
- Low ionic content
- Short curing times
- Long pot life
- Cost-effective production
- Simple handling

Special advantages:

- Six months storage at + 5 °C (not "deep-frozen")
- Single-component
- Long pot life (8 to 96 hours)
- Short cure times, e.g. 10 min. at 150 °C, 30 min. at 120 °C

Available in three performance classes that are individually adaptable for specific requirements.

Thermal conductivity:

- 1 – 2 W/mK
- 2 – 5 W/mK
- > 5 W/mK

Fillers: 1 – 30 µ
Filler content: 65 – 85 %

Glue application

- With dispenser
- Stencil or screen printing
- Needle or pin transfer

Rheological properties:
- Viscosity
- Thixotropic

Bond-line control (optional):

- 40 µ
- 75 µ
- 100 µ

Production-specific adjustment possible
20 – 150 µ

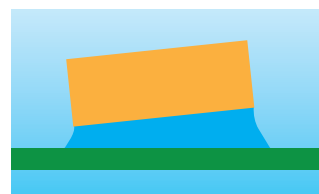
Optional: Bond-line control – an exclusive Panacol innovation

With Panacol's optionally available bond-line control technology, the thickness of the applied adhesive can be exactly defined to optimise the balance between best thermal conductivity and mechanical precision.

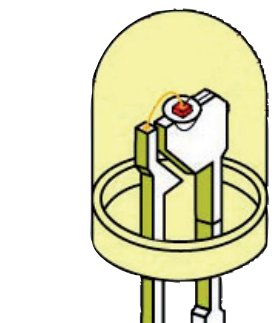
Special advantages:

- The same bond-line – every time
- Exactly definable bond-line, for example 40, 75 or 100 µm
- Precision adhesive dispensing
- Regular, even bonded joints
- No tilted dies or variations in component height
- Reduced likelihood of application errors

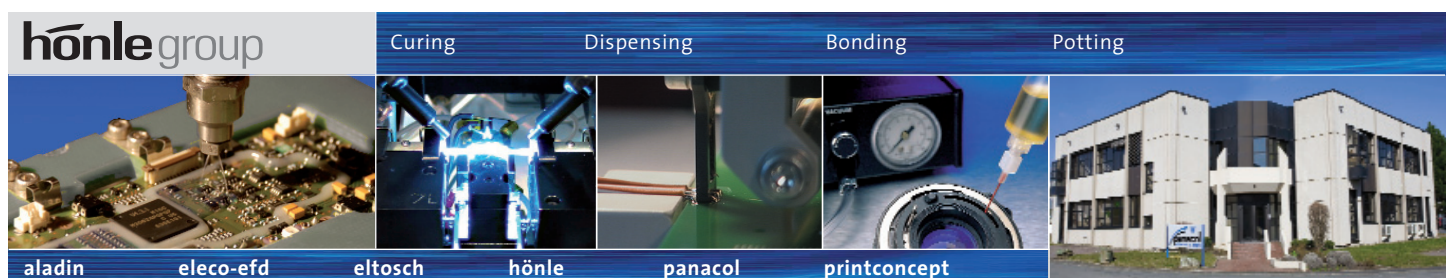
Example without Panacol's bond-line control



Tilted dies



Variations in mounting height of adjacent components (up to 300 percent!)



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