



OPTOELECTRONICS ADHESIVES

UV cure adhesives

Dual cure adhesives

- 1 part epoxies
- Suitable for manual or automated production lines
- Syringe dispensing
- UV curable or UV+heat curable
- Easy to process

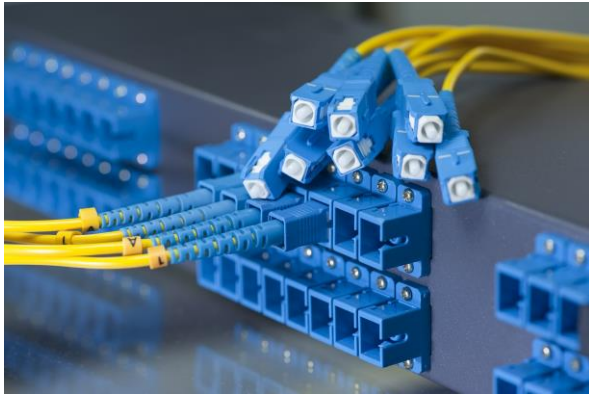


Microelectronics Packaging – Optoelectronic components for FTTH and IoT

addisoncw.com

In the microelectronic world the term PACKAGING refers to encapsulation or bonding components into a unit that can be connected into a circuit board so that the components are protected during handling and use. The bonding adhesives need to provide ultra-accurate bonding with extremely precise control of the relative location of components such as lenses, fibers, chips, etc. in the housing or on the PCB. The adhesive needs to hold components in secure positions to maintain the optical alignment over time where positional tolerances are typically less than one μm . UV-curable adhesives play an important role in this area.

Optoelectronics customers have turned to ACW UV-cure adhesives as the reliable solution to fix optical components as this is one of the most important steps in making high quality photonics components. ACW UV-cure adhesives have earned the reputation of being the most reliable adhesives for bonding optical components with no alignment shift through the most severe reliability testing against Telcordia standards. Adhesives bonding of optical components using ACW UV cure adhesives is a low-cost alternative to laser welding or Gold-Tin soldering. ACW UV-cure adhesives provide high glass transition temperature (high Tg) and low outgas, and they are available at various viscosities to ensure smooth processing. Adhesive volumes of less than one microliter can be dispensed to fix small optical components with alignment accuracies of better than 200 nm.



ACW UV or Dual cure adhesives for optoelectronics or silicon photonics component for FTTH and IoT

- ACW developed a full line of UV and dual cure adhesives for use in Opto-electronic bonding applications for telecommunication and silicon photonics packaging applications



ACW UV or Dual cure adhesives for optoelectronics or silicon photonics component for FTTH and IoT

Applications:

- Fibers to V-Grooves
- Lens and mirror to housing or PCB
- Grin lens bonding
- Wafer level packaging and bonding
- Glass to metal sealing
- Hermetic package sealing
- Waveguides devices bonding

Advantages as compared to competitors and other techniques:

- Solvent free
- Flexible curing processes: UV or UV+heat
- Low outgas: Telcodia GR1221 and MIL-STD 883
- No movement in aligned components after reliability testing
- **High yield process** – low manufacturing cost
- Long shelf and working life – low manufacturing cost
- READY-TO-USE package – low manufacturing cost

ACW Adhesives				
	AC A535-AN	AC A535-A	AC A586	AC A539-DM
Typical applications	Fiber to V-groove Grin lens Opto-components	Fiber to V-groove Grin lens Opto-components	Fiber to V-groove Grin lens Opto-components	Opto-components with active alignment and shaded areas.
Base chemistry	1-part epoxy	1-part epoxy	1-part epoxy	1-part epoxy
Curing	UV: 10 J/cm ² (heat – 80 °C/60 minutes, heat is optional)	UV: 10 J/cm ² (heat – 80 °C/60 minutes, heat is optional)	UV: 10 J/cm ² (heat – 80 °C/60 minutes, heat is optional)	UV + heat: 10 J/cm ² + heat 100°C/60 minutes
Viscosity (mPas or cps at 25 °C)	3,500 – 4,500	900 – 1,100	4,500 – 6,000	1,900 – 2,200
Glass Transition temperature, Tg °C	170	150	110	145
Young’s modulus, Mpa	2,300	1,700	1,000	2,300
Operating temperature, °C	-60 to 180	-60 to 180	-60 to 180	-60 to 180



Contact Information for USA

Chau Ha, Ph. D.

cha@addisoncw.com

Addison Clear Wave Coatings, Inc.

3555 Legacy blvd, St. Charles, IL 60174 USA

Tel: +1 630 444 1658

Robert Smith

RSmith@addisoncw.com

Addison Clear Wave Coatings, Inc.

3555 Legacy blvd, St. Charles, IL 60174 USA

Tel: +1 630 444 1658

Contact Information for JAPAN

addisoncw.com

Mr. Hirofumi Tanaka

田中 大文

htanaka@addisoncw.com

Addison Clear Wave Japan

Vice President of Business Development

6-7-402 IRIFUNE URAYASU CITY

CHIBA PRE. JAPAN 279-0012

Tel: +81 47 353 8580

Cell: +81 80 1234 2500

Chau Ha, Ph. D.

cha@addisoncw.com

Addison Clear Wave Coatings, Inc.

3555 Legacy Blvd, St. Charles, IL 60174 USA

Tel: +1 630 444 1658

Mr. Koji O. Maekawa, MBA

前川耕司

Corporate Advisor, Business Development

Addison Clear Wave Coatings, Inc.

maekawa.koji@addisoncw.com

