



RECOMMENDED MATERIALS

The adhesives, potting agents and coatings listed below work well to attach or secure an optical component to a given PCB type. The materials listed are also generally safe to use with most LEDs on the market. We strongly recommend that every customer fully tests and takes the necessary measures to ensure that there is a complete compatibility of the glue when used with his particular product, LEDs and other components. Testing and verifying of the adhesives, potting agents, coatings and their combinations must always be the responsibility of the customer. Please take note of the Instructions of Use.

ADHESIVES FOR MCPCB/FR4 CIRCUIT BOARDS

DOW CORNING® SE9120

Color:	Translucent
Component:	1-part Clear Adhesive
Viscosity:	8125 mPa•sec
Curing time:	Skin over Time at 25°C 9 minutes
Tensile Strength:	15 kg/cm ²
Other:	Non Volatile Content 95,7%
Application methods:	Needle dispense Automated or manual
The pros:	RT cure, no ovens required No mixing required Good flow

More information on the datasheet (<http://www1.dowcorning.com/DataFiles/090007c8802d7be1.pdf>)

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TEROSTAT® MS 939

Color:	White, off-white, grey & black
Component:	One component Adhesive/Sealant
Viscosity:	High
Thermal resistance:	Installation temperature +5°C - +40°C Application temperature -40°C - +100°C (momentarily also over +120°C)
Strength:	More information about performance with different materials can be found on the datasheet
Curing time:	3mm/24h
Other:	Does not absorb into acrylic Odourless Suitable for flexible bonds
The pros and cons:	+ Easy to use + Suitable for potting + Works fine with plastics - Long curing time

More information on the datasheet (<http://tds.loctite.com/tds5/docs/TEROSTAT%20MS%20939-EN.PDF>)

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POTTING AGENTS FOR MCPCB/FR4 CIRCUIT BOARDS

Loctite® 5140

Color:	Translucent milky white
Component:	One component – Silicone for Potting
Viscosity:	Viscosity, Brookfield - RVT, 25°C, mPa·sec (cP): Spindle 6, speed 2.5 rpm 30,000 to 140,000LMS Spindle 6, speed 20 rpm 15,000 to 55,000LMS
Thermal resistance:	Installation +5°C - 28°C Application -55°C - 200°C (momentarily up to 200°C)
Strength:	Cured for 1 week @ 23 °C / 50±5 % RH Lap Shear Strength, ISO 4587: Aluminum to Glass N/mm ² 1.7 Steel to Glass N/mm ² 1.8 Glass to Glass N/mm ² 1.7
Curing Time:	2-5mm / 24h
Other:	Mil-A-46146B Proved
The pros and cons:	+ Easy to use + Can be used in temperature up to 200°C - Long curing time

More information on the datasheet

([https://tds.us.henkel.com//NA/UT/HNAUTTDS.nsf/web/F70E295D336288C1882571870000D7D7/\\$File/5140-EN.pdf](https://tds.us.henkel.com//NA/UT/HNAUTTDS.nsf/web/F70E295D336288C1882571870000D7D7/$File/5140-EN.pdf))

COATING AGENTS FOR MCPCB/FR4 CIRCUIT BOARDS

DOW CORNING® 3-1953

Color:	Transparent
Component:	1-part Conformal Coating
Viscosity:	350 mPa•sec
Curing time:	Tack-Free Time at 25°C 8 minutes Tack-Free Time at 60°C/15% RH; 0,5 minutes
Other:	UL Flammability Classification 94; V-0 Mil Specification; Mil I-46058C Amend 7
Application methods:	Spray Brush Flow Automated pattern coating May be dip coated with special precautions
The pros:	RT cure, no ovens required Can be considered for uses with UL, IPC or Mil Spec requirements

More information on the datasheet (<http://www2.dowcorning.com/DataFiles/090007c8802d7bcf.pdf>)



DOW CORNING® 1-2577

Color:	Transparent
Component:	1-part Conformal Coating
Viscosity:	1050 mPa•sec
Curing time:	Tack-Free Time at 25°C 6 minutes Tack-Free Time at 60°C/15% RH; 1,5 minutes
Other:	UL Flammability Classification 94; V-0 Mil Specification; Mil I-46058C Amend 7 Abrasion resistant surface after cure Low VOC
Application methods:	Spray Brush Flow Automated pattern coating Dip
The pros:	RT cure, no ovens required Ideally suited for electronic printed wiring board (PWB) applications

More information on the datasheet (<http://www2.dowcorning.com/DataFiles/090007c8802d7b56.pdf>)

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DOW CORNING® RTV3140

Color:	Translucent
Component:	1-part RTV cure, Coating
Viscosity:	35 950 mPa•sec
Curing time:	RT Tack Free Time 105 minutes RT Cure Time 72 hr
Flammability:	UL94 V-1
Application methods:	Brush Syringe Flow coating
The pros:	High viscosity Tough durable elastomer Thin-section encapsulation

More information on the datasheet (<http://www2.dowcorning.com/DataFiles/090007c8802d7b3a.pdf>)

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GENERAL INSTRUCTIONS OF USE

All surfaces where adhesive is applied must be clean, dry and free from grease and dirt. If cleaning of PCB surfaces is needed, please follow strictly the cleaning instructions of your LED manufacturer - this is important as cleaning shall under no circumstances damage LEDs or other electronics components on the PCB.

Further note that optical components shall not be cleaned with any chemicals - only micro fiber cloth may be used to remove fingerprints or other traces from handling. When using adhesive, please follow the detailed instructions of the adhesive manufacturer. E.g. note that different humidity and/or temperature levels may slow down the curing process of the adhesive bond or shorten its lifetime

DISCLAIMER

LEDIL's note

LEDIL cannot take responsibility for the results obtained by others whose methods we cannot control. It is always the customer's responsibility to determine the adhesive's suitability for their product and to take precautions for protection of property and persons against any hazards that may be involved in the handling and use of adhesives. LEDIL disclaims all warranties, including warranties of merchantability or suitability for a particular purpose, arising from use of any adhesive product. LEDIL disclaims any liability for consequential or incidental damages of any kind, including lost profits.

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