



POLYCHEM UV/EB INTERNATIONAL CORP.

Instruction for Two-Component Silver Conductive Adhesive

Product Code: POLYCHEM #051908-1 R

1. Product Features :

100% solid content (solvent free), minimum shrinkage, excellent conductivity, high cure speed, lower curing temperature, excellent adhesion on many substrates, very good long-term heat and aging resistance. Properties are better than most of commercial available solvent type silver conductive adhesives.

2. Appearance :

Component A(silver paste) : high viscosity silver paste

Component B(Hardener) : dark brown

3. Mixing Ratio by Weight:

10 part (Component A silver paste): 1 part (Component B Hardener)

4. Pot life for Mixed Silver Conductive Adhesive :

10~15 minutes for fast type hardener (standard).

60-120 minutes for slow type hardener (please specify when ordering).

Note: only mix the needed amount of the silver adhesive that will be used in 10-15 minutes to avoid waste.

5. Weighing Method and Mixing Tools :

1. Recommend to use 0.01 or 0.001g resolution (shown below) of electronic scale for precise weighing:



2. Prepare a plastic film (PET film is recommended) and a mixing rod made of stainless steel or glass:



6. Mixing Procedures:

1. Place the plastic film on the electronic scale and deduct its weight to zero:



2. Mixing the Component A (silver paste) in its original bottle thoroughly and then take out the needed amount of the component A and then place it on the plastic film. For example as shown below, take out 0.500g of Component A (silver paste) :



3. Deduct the weight of Component A to zero:



4. Drop the Component B (hardener) besides the Component A (silver paste). The dosage of Component B (hardener) is 1/10 of the weight of Component A. For example as shown below, drop 0.050g of Component (hardener) besides the Component A (silver paste):



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5. Mix these two components only just before use:



6. Make sure these two components are mixing thoroughly. If the color of the mixture is not uniform (as shown below), it indicates insufficient mixing that may affect curing speed, bonding strength and electric conductivity.



7. Make sure to get uniform mixing, like the uniform color is shown below. Then it is ready to use. The viscosity of the mixture will start to increase and solidify. Make sure use this mixed silver conductive adhesive in 10-15 minutes:



7. Application Example (Job Purpose: Bonding a LED and electric wires on an electric circuit):

1. Use a cleaning solvent, such as IPA or acetone to clean the surface of the substrates to make sure the surfaces are free of any oil, dusts or oxides. This is important to achieve the best bonding strength and inter-connect electric conductivity.

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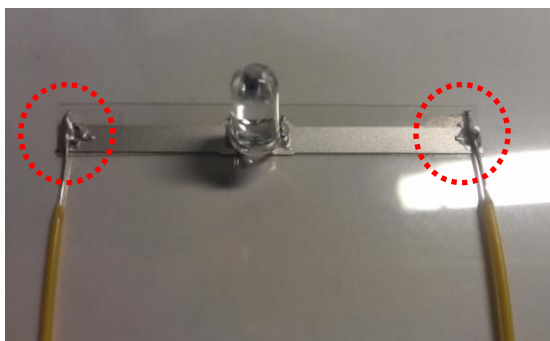
2. Apply a small amount of the POLYCHEM mixed silver conductive adhesive on both of the electric connecting points:



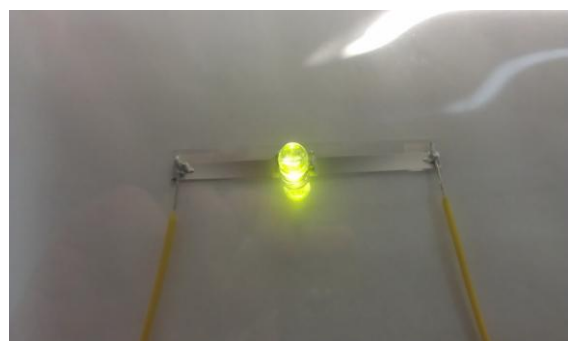
3. Place a LED to connect its two leads as shown below:



4. Repeat the above processes to connect two electric wires as shown below:



5. Heating and curing temperature at 110C~ 150C for typically 3-10 minutes. Depending on size, thickness and thermo conductivity of the substrates, longer heating/curing time may be needed to get full cure. Since this silver conductive adhesive has excellent heating/ aging resistance, over-heating or over-curing typically do not affect its properties. After heating/ curing process, the cured silver conductive adhesive forms very low electric resistivity connections (finished):



8. Clean Up Method :

- a. For un-cured POLYCHEM silver conductive adhesive, use IPA, acetone or toluene to

Clean up.

- b. For fully cured POLYCHEM silver conductive adhesive, regular solvents will not be able to resolve or clean it. Therefore, scratching or stripping the fully cured POLYCHEM silver adhesive mechanically is recommended.
- c. If contacted with skin, use soap and water to clean up. If skin irritation occurs, seek for medical assistance. If contacted with eyes, flush with water for 5-10 minutes and seek for medical assistance immediately.

9. **Recommended Storage Condition:**

Always keep caps closed, stored under dark and room temperature. For long-term storage, to store the POLYCHEM Two-Component Silver Conductive Adhesive in a freezer (below -15C) can reduce the settlement of silver particles of Component A.

10. **Additional Information:**

- a. If this POLYCHEM Two-Component Silver Conductive Adhesive is used for automatic assembly lines, two-component automatic dispensing dispenser can be used.
- b. Package Sizes:
 - 10g/set (the smallest packaging size for R&D purposes)
 - 100 g/set
 - 500 g/set
 - 1000g/set.

Note: The weight refers to the total weight of Component A plus Component B.