

# R/flex® 8080

## Liquid Photoimageable Covercoat

### Description

Rogers R/flex® 8080 Liquid Photoimageable Covercoats help achieve the ultra-fine patterns needed for today's high density flexible printed circuits. Offering uniform coverage and reliable performance in mass production processes, R/flex 8080 materials allow manufacturing of high precision patterns unattainable through conventional screen printing.

Contact photo exposed and alkaline developable, R/flex 8080 products provide excellent resistance to all plating processes, including electroless nickel and gold plating. Processing stability, along with long shelf life and pot life, make R/flex 8080 covercoats dependable solutions to meet industry performance requirements.

### Product Features

- Ideal for high density, ultra-fine feature flexible printed circuits
- Suitable for mass production processes
- Long shelf life and pot life with excellent process stability
- Exceptional adhesion, heat resistance and electrical insulation properties
- Excellent plating resistance, including electroless Ni and Au plating processes
- Outstanding flexibility and creaseability

### R/flex 8080 Part Numbering System

To determine the part number for 8080, use the following system.

R/flex 8080LP 1 G 0640-R

1. Product Type
2. Product Color
3. Net Weight (g)
4. Resin or Hardener

For example, a product with the part number listed above would have the following characteristics:

1. Product Type — The first number indicates the product types for R/flex 8080:

Product Type	Critical Mixing Ratio Resin/Hardner	Weight Mix Ratio Resin/Hardner
8080LP1	100g/38g	1/0.38
8080LP2	100g/46g	1/0.46
8080LP4	100g/38g	1/0.38

The example is product type 1.

2. Product Color — The letter "G" indicates Green. "A" indicates Amber. Pigment is in the resin portion.
3. Net Weight (g) — Net weight of the container is expressed in grams. The example product weight is 640 grams.
4. Resin or Hardener — R/flex 8080 is a 2 part system. The letters "R" and "H" designate whether the product is a resin or hardener. The example product is a resin.

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## Mixing Calculation

For product types 1 or 4, multiply the weight of base resin used by the hardener weight factor of 0.38 to determine the required quantity of hardener needed. For product type 2 use hardener weight factor of 0.46.

### Example:

If 0.155 Kg or (155 grams) of TYPE 1 or 4 resin is used, then multiply by hardener weight factor of 0.38. i.e., 0.155 Kg x 0.38 = 0.0589 Kg (or 58.9 grams).

## Typical Values

Specific Properties		8080LP1	8080LP2	8080LP4
Viscosity @ 25°C (77°F)		190-230PS	190-230PS	190-230PS
Pot Life @ ambient		approx. 3 days	approx. 3 days	approx. 3 days
Approx. shelf life @ 5°C (41°F)		6 months	6 months	6 months
Approx. shelf life @ 25°C (77°F)		3 months	3 months	3 months
Drying after screening s/s (167°F)		75°C, 30 min	75°C, 30 min	75°C, 30 min
Photoexposure		400-600mj/cm <sup>2</sup>	400-600mj/cm <sup>2</sup>	500-700mj/cm <sup>2</sup>
Development Time/Rinse Time		1 min each	1 min each	1 min each
Final Cure (do no exceed 60 min.)		150°C/302°F/30 min	150°C/302°F/30 min	150°C/302°F/30 min
Solder dip test 10 seconds @ 260°C/500°F		Pass	Pass	Pass
Thermal Decomposition Temp.		358°C	382°C	382°C
Pencil hardness		5H	5H	5H
Dielectric Strength		500 to 700 V/mil	500 to 700 V/mil	500 to 700 V/mil
Water absorption immersion	24hr/23°C (73°F)	1.29%	1.29%	1.29%
	4 hr/85%/85°C (185°F)	0.73%	0.73%	0.73%
Rated Properties		8080LP1	8080LP2	8080LP4
Note: Rogers relative scale factor 1 to 10 with 10 being excellent.				
Brittleness in Process		2 to 4	2 to 4	2 to 4
Final Flexibility		10	7	7 to 5
Tackiness at Photo		5	5 to 7	10
Heat Resistance		7	10	7
Photosensitivity		10	7	7
Final UV Resistance		10	7	7
Developability		10	7	7
Electro-chemical migration		7	7	10
Plating Resistance to Ni/Au		7	10	10

Typical values should not be used for specification limits."

Notes:

- \*Do not use UV heating systems for curing/baking. Use convection oven with good turnover. Total cure time not to exceed 60 minutes.
- Avoid creasing product between coating, photo and final cure to avoid cracking. Full properties develop at final cure.
- UV lamp wavelength in exposing unit should be 365 nm. Do not use collimated light. Artwork and cover must be UV transparent polyester.

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