

DOW CORNING® 280A Adhesive

FEATURES

- Good tack
- Adhesion to 260°C (500°F)

COMPOSITION

- Polydimethylsiloxane gum and resin dispersion; high-viscosity liquid

Pressure sensitive adhesive

APPLICATIONS

- Masking and plating tapes
- Applications requiring a balance of properties emphasizing high tack
- As an independent adhesive for many bonding, fastening or holding applications

TYPICAL PROPERTIES

Specification writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales representative prior to writing specifications on this product.

Property	Unit	Value
Appearance		Translucent
Diluent		Xylene
Active ingredients	%	55 to 57
Viscosity at 25°C (77°F)	cp	30,000 to 80,000
Specific gravity at 25°C (77°F)		0.98
Flash point, closed cup	°C	27
	°F	81
Electrical properties of the cured adhesive film¹		
Electric strength ²	V/mil	900
Dielectric constant		
at 10 ² Hz		2.95
at 10 ⁵ Hz		2.90
Dissipation factor		
at 10 ² Hz		0.004
at 10 ⁵ Hz		0.003
Volume resistivity	ohm.cm	4x10 ¹³

1. After 96 hours at 23°C (73°F) and 50% relative humidity.

2. Measured with 6.35-mm (1/4-in) electrodes on 2-mil film of adhesive cured on an aluminum panel.

DESCRIPTION

DOW CORNING 280A Adhesive is a dispersion of polydimethylsiloxane gum and resin. It is diluted with xylene to 55% silicone solids content.

diluted with compatible solvents¹ or blended with other silicone pressure sensitive adhesives before being coated.

HOW TO USE

DOW CORNING 280A Adhesive can be applied, as supplied, to backing materials by conventional tape coating equipment. It can be further

¹ When using any solvent, always provide adequate ventilation. Follow the solvent manufacturer's safe handling precautions as well as local, state and federal guidelines.

Catalysts

To achieve a good balance of tack, adhesive strength and cohesive strength over a wide range of operating temperatures, proper cure is essential. One of the factors affecting cure is the catalyst.

Catalysts such as benzoyl peroxide² may be used with DOW CORNING 280A Adhesive to either accelerate the rate of cure or to allow lower curing temperatures. The use of catalysts also increases the cohesive strength of the adhesive mass and promotes anchorage to the backing material.

² Benzoyl peroxide: Luperox[®] A98, formerly Lucidol[®] 98 from Afofina Chemicals North America, Cadox[®] BFF 50 powder or BP 55 paste from Akzo Chemie of America, Noury Chemical Division.

Peroxide concentration can be varied from 0.5% to 3.0% (based on adhesive solids), depending upon such factors as backing material, coating equipment, cure cycle and the properties desired. Increasing peroxide concentration in DOW CORNING 280A Adhesive will decrease the tack and adhesive strength, but will increase the cohesive strength of the product.

The most consistent results are achieved by using the powdered, 98% benzoyl peroxide. Complete blending of peroxide and adhesive is best obtained by first making a 10% solution of the peroxide in toluene.

NOTE: Solvent dispersions of peroxides should be used within a day or two after mixing, as the peroxide loses its activity quite rapidly in solvent. Thorough dispersion of the adhesive and peroxide during mixing is necessary to achieve uniform results in the finished product.

Solvent Removal

To cure DOW CORNING 280A Adhesive following its application to the backing material, first remove the solvent. Recommended temperatures for removal range from 66 to 93°C (150 to 200°F). Higher removal

temperatures can cause the peroxide to decompose prematurely and cross-link the solvent into the adhesive. This can reduce the properties of the finished tape. The length of time for solvent removal should be sufficient to ensure that no solvent is present in the adhesive when it enters the curing zone.

Curing the Adhesive

After the solvent is removed, a tacky, uniform film of adhesive is left on the backing. This film's adhesive and cohesive strengths, as well as the tack, can be further developed by a heat cure. The amount of cure depends on a number of factors, including the type of catalyst or equipment and backing material.

A cure of 1 minute at 66°C (150°F) for solvent removal, followed by 2 minutes at 177 to 204°C (350 to 400°F) is used for adhesive that contains benzoyl peroxide.

If equipment and type of backing material permit the use of higher curing temperatures, the cure time may be shortened. Higher cure temperatures develop cohesive strength of the adhesive in less time than at lower temperatures. The ultimate adhesive strength of the fully cured material is essentially the same whether cured at higher or lower temperatures. The only difference is the time required to reach complete cure.

Anchorage to backing

To achieve maximum anchorage of the adhesive to the backing, a primer may be required. Contact Dow Corning Technical Service for assistance in selecting a primer formulation.

HANDLING PRECAUTIONS

Product safety information required for safe use is not included. Before handling, read product and safety data sheets and container labels for safe use, physical and health hazard information. The material safety data sheet is available on the Dow Corning website at www.dowcorning.com. You can also obtain a copy from your

local Dow Corning sales representative or Distributor or by calling your local Dow Corning Global Connection.

USABLE LIFE AND STORAGE

When stored at or below 32°C (90°F) in the original unopened containers, this product has a usable life of 9 months from the date of production.

PACKAGING

This product is available in a variety of container sizes. Contact your local Dow Corning Customer Service representative for information about container sizes available in your area.

LIMITATIONS

Shipping: DOT Classification: flammable.

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION

To support customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Health, Environment and Regulatory Affairs specialists available in each area.

For further information, please see our website, www.dowcorning.com or consult your local Dow Corning representative.

**LIMITED WARRANTY
INFORMATION - PLEASE
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The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that Dow Corning's products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

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