Technical Data Sheet

DOWSIL™ Q2-7735 Adhesive

FEATURES

- High tack combined with good adhesion

COMPOSITION

- Polydimethylsiloxane gum and resin dispersion; high-viscosity liquid

Pressure sensitive adhesive

APPLICATIONS

- Recommended for use with release liner coated with SYL-OFF™ 7785 Release Coating
- Transfer films and labels
- Masking, plating, splicing and electrical tapes

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications.

Test	Unit	Results
Appearance		Translucent
Diluent		Xylene
Active Ingredient	percent	55 to 58
Viscosity at 25°C (77°F)	cp	20,000 to 45,000
Specific Gravity at 25°C (77°F)		0.98
Flash Point, tag closed cup	°C (°F)	27 (81)
Electrical Properties of the Cured Adhesive Film[1]		
Electric Strength[2]	V/mil	1487
Dielectric Constant		2.99
at 10^2 Hz		2.93
at 10^5 Hz		
Dissipation Factor		0.0046
at 10^2 Hz		0.0025
at 10^5 Hz		
Volume Resistivity	ohm-cm	2.5×10^{15}

[1]After 96 hours at 23°C (73°F) and 50 percent relative humidity.
[2]Measured with 6.35-mm (1/4-in) electrodes on 2-mil film of adhesive cured on an aluminum panel.

DESCRIPTION

DOWSIL™ Q2-7735 Adhesive is a peroxide-curable silicone pressure sensitive adhesive designed to provide low, stable release from liners made with SYL-OFF Q2-7785 Release Coating, while maintaining high subsequent tack and adhesion properties. The adhesive is a dispersion of siloxane gum and silicone resin diluted with xylene to 55 percent silicone solids content.

HOW TO USE

DOWSIL Q2-7735 Adhesive can be applied, as supplied, to backing materials by conventional tape coating equipment. It can be further diluted with compatible solvents1 or blended with other silicone pressure sensitive adhesives before being coated.

[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.
[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.

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 DOWSIL Q2-7735 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.

Peroxide concentration can be varied from 0.5 to 3.0 percent (based on adhesive solids), depending on such factors as backing material, coating equipment, cure cycle and the properties desired. Increasing peroxide concentration in DOWSIL Q2-7735 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 powdered 98 percent benzoyl peroxide. Complete blending of peroxide and adhesive is best obtained by first making a 10 percent 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 DOWSIL Q2-7735 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 crosslink 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; however, the time required to reach complete cure can be substantially different.

Anchorage to Backing
It is typically necessary to prime film substrates to enhance the anchorage of the adhesive to the backing. Contact Technical Service for assistance in selecting a primer formulation.

HANDLING PRECAUTIONS

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT WWW.CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

USABLE LIFE AND STORAGE

DOWSIL Q2-7735 Adhesive has a shelf life of 24 months from date of manufacture when stored in original, unopened containers at or below 32°C (90°F). Refer to product packaging for "Use By" date.

PACKAGING INFORMATION

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

LIMITATIONS

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 has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

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

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