



Technical Data Sheet

DOWSIL™ 7685 Adhesive

Pressure sensitive adhesive

Features & Benefits

- High peel value on ultra-low surface tension substrate
- Good for die-cutting
- Compatible and stable with F-Si release liner
- Stable adhesion

Composition

- Polydimethyl siloxane and resin dispersed in toluene

Applications

- Manufacture of adhesive tapes, labels and transfer/protective films
- Flexibility to use with other addition cure PSA to control peeling adhesion

Typical Properties

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

Test ¹	Property	Unit	Result
CTM0176	Appearance		Clear to slightly hazy, no gels
	Physical form		Liquid
	Diluent		Toluene
CTM0208	Non-volatile content	%	63
CTM0050	Viscosity at 25°C (77°F)	cP	4200
	Specific gravity at 25°C (77°F)		0.98
	Adhesion ²	oz/in	12

1. CTM: Corporate Test Method, copies of CTM's are available on request.

2. 25 um dry thickness adhesive on 50 um thickness PET film; 0.75% SYL-OFF™ SL 7028 Crosslinker, 0.3% SYL-OFF™ 397 Anchorage Additive, 1.4% SYL-OFF™ 4000 Catalyst; curing cycle 1 minute at 150°C; tape laminated on SUS, 0.3 mm, 180-degree angle.

Description

DOWSIL™ 7685 Adhesive is a platinum catalyzed type silicone PSA, which could give high peel adhesion on ultra low surface tension substrate, while maintain relatively low peel adhesion on SUS. It could be used as adhesive for industrial tape, masking and protective film coating. It provides stable adhesion.

DOWSIL™ 7685 Adhesive can be blended with addition cure type PSAs to adjust adhesion.

How to Use

DOWSIL™ 7685 Adhesive normally uses 0.75% SYL-OFF™ SL 7028 Crosslinker and 1.4% SYL-OFF™ 4000 Catalyst for catalyzing. This adhesive is dispersed in toluene with 63% non-volatile content (the range is 61%–65%). It can be further diluted in compatible solvent like toluene, heptane, ethyl acetate, MEK, mixture solvent with aliphatic solvent etc.

The following procedure is recommended for the preparation of coating bath. Equipment should be clean and dry, preferably constructed from stainless steel or glass. Disperse DOWSIL™ 7685 Adhesive in the process solvent. The suggested bath solids are 35 to 55% silicone on a weight basis.

This adhesive can be coated onto backing with traditional coating equipment.

When diluting with any solvent, refer to the solvent vendor's safety data sheet for information on physical and health hazards associated with the solvent and use of ventilation, PPE, bonding and grounding or other measures that can minimize or eliminate these risks.

Anchorage to Backing

SYL-OFF™ 397 Anchorage Additive or SYL-OFF™ 297 Anchorage Additive can be used to improve the anchorage with backings. And if necessary, a primer may be used to get optimum anchorage.

Bath Life

The life of the formulated bath varies considerably with bath concentration, the solvent, the specific formulation, and the temperature of the surroundings. Under normal bath condition at room temperature the bath should be used up within 6 hours.

Cure

When used in the manufacture of pressure sensitive constructions, catalyzed DOWSIL™ 7685 Adhesive is normally coated onto flexible substrates such as polyester and be cured at over 140°C in a vented, continuous coating oven. Air flow patterns, air volume and velocity will have an impact on adhesive curing speed. The insufficient temperature can cause poor cohesion and not good stability by uncured adhesive. The excess amount of catalyst causes a short bath life.

Note: The catalyst in this adhesive system is required to obtain pressure sensitive properties. It is also subject to contamination by peroxides and other chemical residues. Clean all mixing and coating equipment and use dedicated new containers for mixing when possible.

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 DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Usable Life and Storage

When stored at ambient temperature in the original unopened containers, this product has a usable life of 12 months from the date of production.

Packaging Information

This product is available in a variety of container sizes. Contact the local Dow customer service about the container size information.

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 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, dow.com or consult your local Dow representative.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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