Technical Data Sheet

SYL-OFF™ 7786 Coating

FEATURES & BENEFITS

- Addition curing system
- Suitable for casting (transfer coating) of some Pressure Sensitive Adhesives directly onto the release liner
- Provides consistent, stable release
- Provides differential release opportunities based on coating process or in combination with SYL-OFF™ Q2-7785 Release Coating or SYL-OFF™ 7555 Coating (fluorosilicone release systems)
- Higher fluorosilicone content for differential release values
- Solventless or solvent based coating options

COMPOSITION

- Fluorosilicone polymer mixture

Solventless fluorosilicone release coating

APPLICATIONS

- Production of release substrates coated directly or with solvent dilution
- Release of industrial-grade silicone pressure sensitive adhesives; major uses with silicone PSAs include:
  - Transfer films
  - Industrial tapes greater than 2 inches wide
  - Labels
  - Die cut constructions
  - Double-sided tapes
  - Silicone foam or rubber tapes
  - In-process liner for easier handling of jumbo rolls
  - Transfer to heat sensitive or non-solvent castable backings

TYPICAL PROPERTIES

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

Property	Unit	Result	
		SYL-OFF™ 7786 Coating	**SYL-OFF™ Q2-7560 Crosslinker**
Physical Form		Solventless coating	Liquid
Solvent		No solvent	No solvent
Color		Clear to hazy; pale yellow	Amber
Active Ingredient	%	> 95%	100
Specific Gravity at 25°C (77°F)		1.33	1.29
Viscosity at 25°C (77°F)	cSt	330	50
Flash Point, closed cup, minimum	°C °F	110 230	65 149
Refractive Index at 25°C (77°F)	$n_{20}{}^{D}$	1.365	

DESCRIPTION

SYL-OFF 7786 Coating is an addition-curing, fluorosilicone coating suitable for use as a release coating for specially formulated dimethyl silicone pressure sensitive adhesives. This coating can be used to coat either single- or double-sided release liners for labels, two-liner and self-wound transfer films, and two-sided tapes.

SYL-OFF 7786 Coating is supplied as a 100 percent solution of base polymer, to be used with SYL-OFF Q2-7560 Crosslinker, a crosslinker supplied at 100 percent solids.

SYL-OFF 7786 Coating, when used with SYL-OFF Q2-7560 Crosslinker, is designed for the production of release substrates. The primary application is the release of industrial grade silicone pressure sensitive adhesives.

HOW TO USE

Substrate selection and suitable substrates for coating SYL-OFF 7786 Coating/SYL-OFF Q2-7560 Crosslinker include:

- Polyester
- Polypropylene
- Low density polyethylene
- Polyethylene coated kraft
- High density polyethylene
- Supercalendered kraft

Some plastic films contain plasticizers that inhibit the cure of the coating. In addition, films such as polyethylene and polypropylene require a pretreatment such as corona discharge prior to application of the release coating to improve anchorage of the cured coating. Depending on the application, the surface of kraft paper may prove too rough for optimum performance.

Therefore, it is important for users of SYL-OFF 7786 Coating/ SYL-OFF Q2-7560 Crosslinker to check the compatibility of the coating and substrates. A typical procedure is to laboratory coat the substrate and measure the cure time at a selected temperature for cure to no migration.

Bath Preparation

The following procedure is recommended for the preparation of the coating bath. Equipment should be clean and dry, preferably constructed from stainless steel or glass.

1. Disperse the coating in the process solvent to a level of 20 to 100 percent silicone solids by weight if desired to achieve optimal coating weight. Recommended solvents include heptanes, hexane, or 80% heptanes/20% MIBK blend.
2. Add crosslinker and disperse thoroughly. The recommended release coating:crosslinker ratio is 100:3.6 parts by weight.

Bath Life

The life of the catalyzed bath and stock solutions varies considerably with bath concentration, solvent, and temperature of the surroundings. Under normal conditions the bath should be usable up to 7 hours.

Application Techniques

SYL-OFF 7786 Coating/ SYL-OFF Q2-7560 Crosslinker may be applied to substrates using Meyer rod, gravure, offset gravure, blade coater, smoothing bars or any other similar technique. Suitability of the coating method depends on bath solids, desired coat weight and substrate. When using offset roller systems, take care with the choice of the rubber-covered rolls; materials used to vulcanize the rubber may cause cure inhibition of the silicone coating. Choose a technique that does not cause excessive patterning or machine direction lines in the dry coating.

Application Levels

Coat weights can be varied by changing the coating technique and/or the concentration of silicone in the bath. In practice, coating baths vary from 20 to 100 percent silicone solids, resulting in dry coat weights from 0.3 to 1.0 lb/ream (3,000 sq ft). Recommended coat weights range from 0.5 to 0.7 lb/ream and should be sufficient to give complete coverage without pinholes.

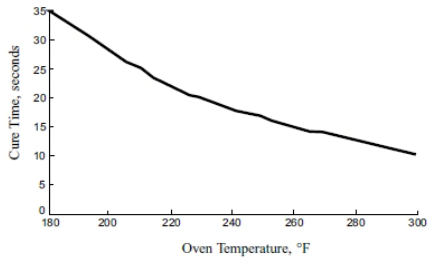
Curing

The cure schedule for SYL-OFF 7786 Coating/SYL-OFF Q2-7560 Crosslinker is influenced by the substrate being coated. Typical cure time versus cure temperature is shown in Figure 1.

Many of the catalysts used in other paper coatings, such as tin salts and amine additives, cause inhibition of the cure of the SYL-OFF 7786 Coating/SYL-OFF Q2-7560 Crosslinker. Contamination with such materials should be avoided.

Equipment used for processing both tin cure paper coatings and SYL-OFF 7786 Coating/SYL-OFF Q2-7560 Crosslinker should be thoroughly cleaned before switching from tin coatings to addition-curing fluorosilicones.

Figure 1: Typical cure time versus cure temperature for SYL-OFF Q2-7785 Release Coating /SYL-OFF 7786 Coating Type Fluorosilicones



Equipment Cleanup

SYL-OFF 7786 Coating/ SYL-OFF Q2-7560 Crosslinker is soluble in hexane, heptane, and chlorinated hydrocarbons. All equipment parts that come in contact with the coating solution should be washed at the completion of a run.

If regular cleaning after production is neglected, gels may begin to form, requiring more vigorous techniques, such as those described in the publication “Techniques for Cleaning Equipment Used in Applying SYL-OFF™ Systems”.

FORMULATION INFORMATION

The recommended ratio of SYL-OFF Q2-7785 Release Coating to SYL-OFF Q2-7560 Crosslinker is 100:3.6. The recommended bath solids range is 20 to 100 percent. Below 20 percent, the coating does not adequately wet-out film substrates such as polyester

Solvent Choice

Recommended solvents include heptane and hexane, if desired to optimize coat weight. When using any solvent, always keep away from heat and flame, provide adequate ventilation, and follow all label directions.

Release Characteristics

The release characteristics of liner made with SYL-OFF 7786 Coating are highly dependent on the specific silicone PSA used and how it is cured. Dow has developed multiple silicone PSAs that provide consistent, stable release when wet cast on this liner.

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

SYL-OFF 7786 Coating has a shelf life of 24 months from date of manufacture when stored in original, unopened containers at temperatures between 20°C (77°F) and 50°C (122°F). Refer to product packaging for “Use By” dates.

SYL-OFF Q2-7560 Crosslinker has a shelf life of 18 months from date of manufacture when stored in original, unopened containers at temperatures between 25°C (77°F) and 50°C (122°F). Refer to product packaging for “Use By” dates.

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.

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

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