



## Plastilock® 685

### Foaming Core Splice Adhesive

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#### Description

Plastilock® 685 (PL 685) is an expanding film adhesive designed for applications which require controlled expansion and environmental durability. PL 685 cures at either 250°F (121°C) or 350°F (177°C) and features a 30 day maximum out-time at 75°F (24°C).

#### Features

- Qualified to BMS 5-90, Ty III
- Uniform, controlled expansion
- Closed cell expansion limits moisture ingress into splice area, reducing weight gain
- Dual cure: 250°F (121°C) or 350°F (177°C)
- 30 Day out time @ 77°F (25°C)
- Sag resistant
- Moderate tack

#### Uses

- Splicing, filling honeycomb core
- Edge closeouts

Typical Technical Data	PL 685
Type:	Unsupported Expanding Epoxy Film
Form:	Available in sheets or rolls
Color:	Lt. Yellow Tan
Thickness:	.050" ± .005" (1.3mm), .100 ± .127 (2.54mm)
Volatiles:	.46% (2 hrs @ 217°F (103°C))
Shelf Life:	12 months @ 0°F (-18°C)
Out Time:	30 days @ 77°F (25°C)
T <sub>g</sub> (DSC):	276°F (136°C)

**Performance Properties**

	<b>77-250°F (25-121°C)</b> <b>3.8°F (-15.6°C)/min rise</b>	<b>77-350°F (25-177°C)</b> <b>9.0°F (-12.7°C)/min rise</b>
Un-aged		
Expansion Ratio	2.0	2.8
Sag	0.10"	0.15"
Exotherm	----	447°F (230°C)
Cured Density	24.2 lbs/cu. ft.	22.3 lbs/cu. ft.
Tg (via DSC)		276°F (136°C)
Aged 10 days at 90°F (32°C)		
Expansion Ratio	2.0	2.7
Sag	0.13"	0.15"
Exotherm	----	401°F (205°C)
Cured Density	24.6 lbs/cu. ft.	22.8 lbs/cu. ft.
Tg (via DSC)		277°F (136°C)

Tube Shear Strength: 40-43 grams cured in nine-inch tube.

<b>Test Temp</b>	<b>@ 250°F (121°C)</b> <b>PSI (MPa)</b>	<b>350°F (177°C)</b> <b>PSI (MPa)</b>
-67°F (-55°C)	1700 (11.7)	2000 (13.8)
75°F (24°C)	1110 (7.7)	1200 (11.2)
250°F (121°C)	740 (5.1)	1000 (6.9)
350°F (177°C)	----	370 (2.6)

Typical technical data and performance properties given for reference only. Not for specification purposes.

**Application Method**

Remove product from cold storage and allow to warm-up to room temperature. Cut product to size needed. Remove separator and apply to bonding surface. Remove backing separator. Cure as needed. Seal unused material in a bag before returning to cold storage.

**Curing Conditions**

60 minutes @ 350°F (180°C) and 25-100 psi (.17 - .69 MPa)

90 minutes @ 250°F (120°C) and 25-100 psi (.17 - .69 MPa)

Other Cure Conditions are possible.

**Clean-up**

Uncured adhesive may be removed effectively with ketone solvents in well-ventilated areas. Avoid contaminating uncured parts. Consult solvent container label/MSDS for proper safety and handling procedures.

### Storage

PL 685 has a shelf life of 12 months @ 0°F (-18°C). The adhesive has an out time of 30 days @ 77°F (25°C).

### Handling Precautions

Do not handle or use until the Material Safety Data Sheet has been read and understood.  
For industrial use only.

### General:

As with most epoxy based systems, use this product with adequate ventilation. Do not get in eyes or on skin. Avoid breathing the vapors. Wash thoroughly with soap and water after handling. Empty containers retain product residue and vapors, so obey all precautions when handling empty containers.

**CAUTION!** As with most epoxy based systems, the uncured adhesive may cause eye and skin irritation or allergic dermatitis. Contains epoxy resins.

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Users should review the Materials Safety Data Sheet (MSDS) and product label for the material to determine possible health hazards, appropriate engineering controls and precautions to be observed in using the material. Copies of the MSDS and label are available upon request.

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