L&L Products

TECHNICAL DATA SHEET

SOLUTION

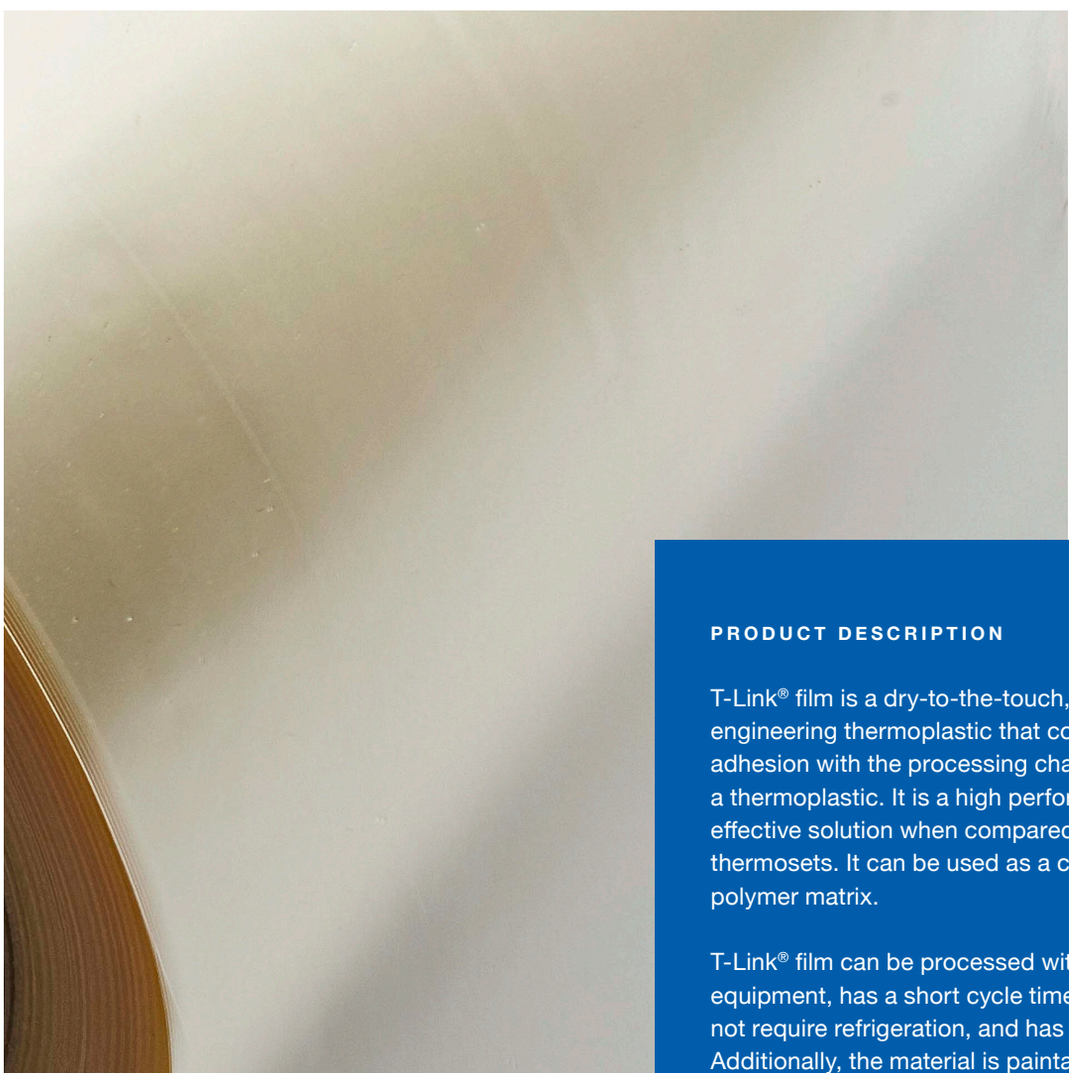
T-LINK®

VERSION

November 2024

L-F610

Advanced Engineering Thermoplastic Adhesive Film.



PRODUCT DESCRIPTION

T-Link® film is a dry-to-the-touch, advanced engineering thermoplastic that combines superior adhesion with the processing characteristics of a thermoplastic. It is a high performing, yet cost-effective solution when compared to traditional thermosets. It can be used as a composite material polymer matrix.

T-Link® film can be processed with traditional press equipment, has a short cycle time for bonding, does not require refrigeration, and has a long shelf life. Additionally, the material is paintable.

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Key Product Attributes

- High strength, rigidity, and toughness
- High strain-to-failure - up to 40%
- Short cycle times needed for bonding
- Long shelf life
- Unlike most epoxy adhesive films, it can be stored at room temperature
- Flexible, clear, and no odor
- Fully thermoplastic
- Recyclable
- Repairable / formable
- Debonding / healing capability

Good resistance to:

- Hydrocarbons
- Non-polar solvents

Poor resistance to:

- Polar solvents
- Acids
- Alcohols

Solubility in select solvents:

- Dimethylformamide (DMF)
- Tetrahydrofuran (THF)

Technical Data

		L-F610	Test Methods
Physical Properties	Color	Clear to light amber	
	Crystallinity	100% Amorphous polymer	
	Thickness	Available in 0.0025 in [63.5 µm] and 0.005 in [127 µm]	
	Areal weight	0.016 lbs/ft² [75.67 g/m²], 0.031 lbs/ft² [151.34 g/m²]	
	Standard Width	60 in [1.542 m]	
	Melt Index (190 C @ 2.16 kg)	10 dg/min	ASTM D1238
	Specific Gravity	1.2	ASTM D792
	Tg	80°C [176°F]	ASTM D7028

Lap shear of adhesive film

Substrate	Surface Treatment	Conditioning	Test Temperature	LS Strength	Failure Mode
Galvanized Steel (G/10)[1]	Degreased	20 minutes @ 360°F [182°C]	23°C	10.5 - 14.5 MPa	95% CF
Aluminum[2]	Sanded	20 minutes @ 360°F [182°C]	23°C	14 - 17 MPa	95% CF

1. Substrate thickness: 3.2 mm. Bondline thickness: 0.05 mm. Overlap: 25.4 mm
2. Substrate thickness: 2 mm. Bondline thickness: 0.05 mm. Overlap: 12.7 mm

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Processing Guide

Dry to the touch thermoplastic adhesive film material. The film is dry-to-the-touch and needs no release paper.

The adhesive will develop adhesion with heat and pressure.

Temperature: Typical bonding temperature range is 266°F [130°C] to 392°F [200°C] depending on substrate. Lower temperatures better suited for cellulosic products. Consult with L&L Products for other processing conditions.

Typical Application Time: 1 to 15 minutes. Actual time, temperature and pressure will vary depending on bonding substrates and desired adhesion strength.

Gel time: There is no gel time since this material is thermoplastic. It solidifies below Tg 176°F [80°C]. The quicker the material cools down, the quicker it solidifies. Handling time can vary from seconds to minutes depending on the application.

Storage

Material should be stored below 89°F [32°C], away from all sources of heat. Avoid UV exposure.

Potential Health Hazards

Skin: Negligible (potential sensitizer).

Eyes: May cause slight, temporary irritation.

Inhalation: Avoid fumes from decomposing material.

Use Proper PPE

Skin: Protective garments, i.e. gloves- nitrile or latex. Heat resistant gloves if there is potential for contact with hot/molten material.

Eye Protection: Goggles if there is potential contact due to splashing/ spraying of hot/molten material.

Respiratory Protection: Provide ventilation during thermal processing.

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