



## SOLUTION

**T-LINK**

## VERSION

December 2020

# L-F610

## Advanced engineering thermoplastic 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 an ideal matrix as it is a high performing, yet cost-effective solution when compared to traditional thermosets.

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, it has a low odor and is paintable.

## 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 low 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		
	Thickness	Available in 0.0025" (63.5µm), 0.005" (127 µm), 0.010" (254 µm)		
	Areal Weight	0.016 lbs/ft² (75.67 g/m²), 0.031 lbs/ft² (151.34 g/m²), 0.062 lbs/ft² (302.68 g/m²) respectively		
	Standard Width	1.542 m / 60 in		
	Tg (Amorphous)	80°C / 176°F		
	O2TR, BU (60% RH; 23 °C)	0.8 BU		
	CO2TR, BU (60% RH; 23 °C)	3.9 BU		
	Yield Stress	8400 psi / 58 MPa		
	Break Stress	6900 psi/ 47.6 MPa		
	Break Elongation	40%		
	Flex Modulus	387,000 psi / 2.67 GPa		
	Notched Izod	13 J / m / 0.2 ft-lb / in		
	Creep	Testing in progress		
Optical Properties	Clarity	99%	(ASTM D 1003)	
	Haze	2.7%	(ASTM D 1003)	
	Light Transmittance	93%	(ASTM D 1003)	
	Yellowness Index	2.1%	(ASTM D 925)	
Lap shear of adhesive film				
Substrate	Surface Treatment	Test Temperature	LS Strength	Failure
Galvanized Steel (G/10)	Degreased	23°C	15 MPa	95% CF
Aluminum	Sand Paper	23°C	13 MPa	95% CF
Aluminum	Chemical Deoxidation	23°C	19 MPa	95% CF
Aluminum	Chemical Deoxidation	-55°C	16.5 MPa	95% CF
Aluminum	Chemical Deoxidation	80°C	14.4 MPa	95% CF
Aluminum*	Sand Paper	23°C	11 MPa	95% CF
Epoxy and Glass Fiber	Cleaned with Alcohol	Room Temperature	13 MPa	100% CF

## Processing Guide

Dry to the touch film and hotmelt material. The film needs no release paper, it is non-tacky.

The adhesive will develop adhesion with heat and pressure:

**Temperature:** Typical bonding temperature range 140°C / 285°F - 176°C / 390°F (depending on substrate). Lower temperatures better suited for cellulosic products. Processing Temperatures should not exceed 230°C / 445°F.

**Typical 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 T<sub>g</sub> (80°C / 176°F). The quicker the material cools down, the quicker it solidifies. Handling time can vary from seconds to minutes depending on the application.

## Storage

**UV exposure:** First test results show no impact on the adhesive performance. Tests in progress.

Material should be stored below 32°C / 89°F, away from all sources of heat and sunlight.

## 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.