Arlon Innovations 210.798.1900
6110 Rittiman Road 800.549.9860
San Antonio, TX 78218 arloninnovations.com

TECHNICAL DATA SHEET

Phenolic B-Stage – High Performance Thermosetting Adhesive

Arlon Innovations Phenolic based adhesive system is ideally applied to many substrates including Aramid paper, Polyimide film, PET film and aluminum foil. The adhesive is applied to the substrate in B-stage form. Once B-staged, the adhesive and substrate can be heated and pressed for full cure bonding to steel, copper, and many other substrates.

The Phenolic based adhesive provides a superior thermal stability with high electrical properties, and strong chemical resistance. It has an extremely high continuous use temperature resistance that is tack-free at room temperature and does not require a release liner. It is also RoHS and REACH compliant.

REPRESENTATIVE PHYSICAL PROPERTIES – TABLE 1

PROPERTY	VALUE	TEST METHOD
VISCOSITY	600 - 900	RV Spindle #2, 20 rpm
PERCENT SOLIDS	24% - 28%	ALT 081
BOND STRENGTH	Cohesive or substrate failure	
RECOMMENDED CURING PARAMETERS Temperature, °F Time, Minutes Pressure, psi	 310 - 350 30 25 - 75	
CONTINUOUS USE TEMPERATURE (°F)	800	

This product complies with RoHS (Restriction of Hazardous Substances) Directive, citation 2002/95/EC. Arlon Innovations does not manufacture this material using any of the banned substances listed in the directive guidelines as of July 1, 2008.

03/01/2022

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PRESSURE PERFORMANCE

Testing performed using 1 mil Phenolic adhesive on 7 mil coated aluminum foil. Table-2 provides the Average Peel values at a constant pressure of 65 psi with varying time and temperature, depending on the need of the customer. Table-3 offers the same information but preformed at a higher pressure of 130 psi.

PRESSURE PERFORMANCE

TABLE 2 (65 PSI)		TIME (MINUTES)		
		10 min	20 min	30 min
		AVERAGE PEEL (LBS/IN)		
TEMPERATURE (°C)	120	18.19	22.16	26.79
	130	20.04	26.95	32.59
	140	26.57	28.34	33.06
	150	21.97	34.69	37.50
	160	31.86	32.48	31.94
	170	27.34	28.17	27.73
	180	30.41	27.20	27.70

PRESSURE PERFORMANCE

TABLE 3 (130 PSI)		TIME (MINUTES)		
		10 min	20 min	30 min
		AVERAGE PEEL (LBS/IN)		
TEMPERATURE (°C)	120	9.07	19.32	32.87
	130	32.23	32.63	34.71
	140	29.62	36.30	38.43
	150	33.17	39.99	37.64
	160	32.40	35.25	32.35
	170	36.55	34.42	33.51
	180	34.72	32.74	32.08

Product performance will vary in each application and is dependent upon composite construction. Arlon Innovations does not guarantee the replication of this data by third parties. None of the data or statements contained herein is intended to warrant the performance of this product. Data is representative and not intended as a manufacturing specification.

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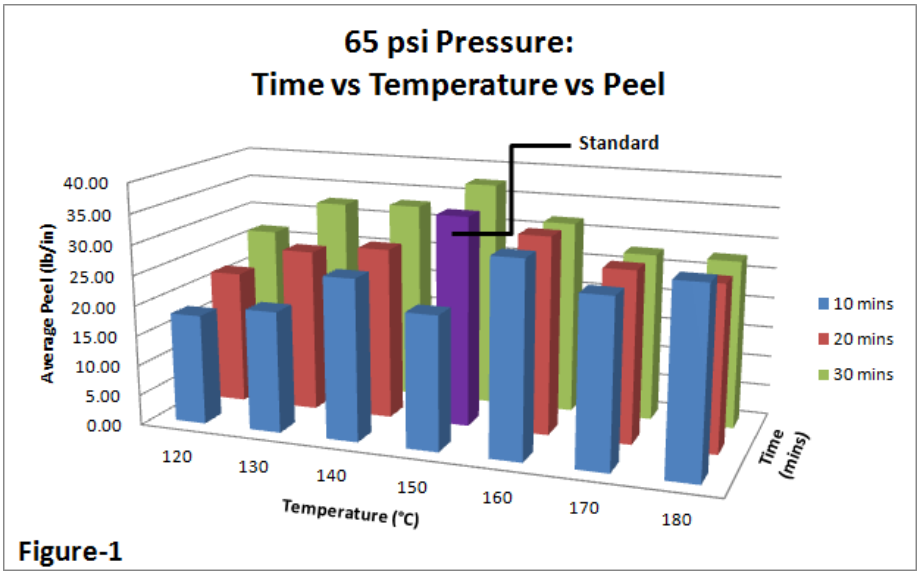

Figure-1

Figure-1 is a visual of the performance of the different times and temperatures at 65 psi pressure. Ideal Peel average can be seen around 150°C for 20 and 30 minutes. The Standard (which is highlighted purple) was the proposed ideal time, temperature, and pressure to obtain the highest Average Peel. This Standard was use to compare all collected data.

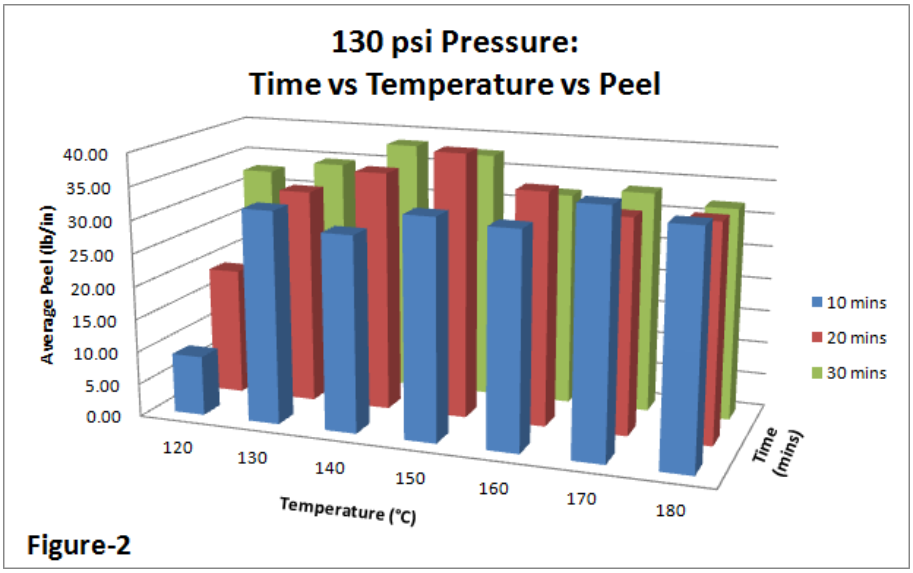

Figure-2

Figure-2 provides a visual of the increased pressure of 130 psi and the effect it had on the average peel using the same times and temperatures. Increased pressure showed that a high Average peel can be reached at a faster time and lower pressure. For example the Standard at 65 psi pressure with a temperature at 150°C for 20 minutes gave an Average peel around 35 lb/in, while at the increase pressure of 130 psi the Average Peel of 35 lb/in can be reached at 120°C in 30 minutes or at 130°C in 10 minutes. The collected data did show that the Average Peel seems to plateau around 40 lb/in.

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STORAGE

- Shelf life: one (1) year from the date of shipment.
- Store in a clean area free from exposure to excessive heat, moisture, or direct sunlight (50°F to 80°F).