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## TAPE-012 Mounting Film Specification Sheet

### Product Description

The TAPE-0100 is a high strength, flexible, nitrile phenolic based thermoplastic bonding film. It can be heat or solvent activated for bonding. Additional post heating will increase the polymer cross-linking, resulting in greater heat and solvent resistance, as well as a higher shear strength.

NOTE: FOR MAXIMUM STORAGE LIFE, THE TAPE-0100 MUST BE STORED BELOW 40°F (4°C).

#### Features

- Heat or solvent activation
- Flexible
- Light surface tack
- Easily die-cut
- Heat crosslinking option

### Physical Properties

Base resin	Nitrile phenolic	
Adhesive thickness	2 mil (0.05 mm)	
Tack	Slight	
Color	Brown	
	Before crosslinking	After crosslinking
Tensile (psi)	400	3140
Elongation (%)	800	180
Modulus (psi)	240	13,800
2 lb Dead Load Overlap Shear Heat Resistance (ASTM D4502-85)	160°F (71°C)	>300°F (149°C)

#### *Heat Activation:*

##### **Method 1: Direct Bonding**

To develop bond, remove the liner and place the adhesive film between the two substrates. The bond is then made through heat and pressure using a heated press, a hot roll laminator, a hot shoe thermode method or similar equipment.

##### **Method 2: Tack and Bond**

The adhesive can first be tacked (lightly bonded) to one of the substrates using low heat. The liner is then removed and the second substrate placed to the exposed adhesive surface. The final bond is made using heat and pressure. Note in some cases the slight surface tack of the bonding film may be sufficient for the initial tack so that heat is not required for tacking.

### **Recommended Tack and Bond Conditioning**

Tacking (conditions vary depending upon the substrate)

- Temperature 100°F – 120°F (38°C – 49°C)
- Pressure 5-20 psi pressure
- Dwell time: 2-5 seconds

Bonding (temperature, pressure, time and substrate effect bonding conditions)

Temperature	Pressure	Time
115°F (46°C)	15-20 psi	10 minutes
135°F (57°C)	15-20 psi	8 minutes
155°F (68°C)	15-20 psi	6 minutes
175°F (79°C)	15-20 psi	4 minutes
195°F (90°C)	15-20 psi	2 minutes
235°F (113°C)	15-20 psi	1 minutes
295°F (146°C)	15-20 psi	45 seconds
320°F (160°C)	15-20 psi	30 seconds
355°F (179°C)	15-20 psi	20 seconds

Note: To reach maximum strength, crosslink by heating to 350°F (177°C) for 5 minutes

### **Solvent Activation:**

Solvents such as MEK, toluene and/or acetone can be used to active the bond. The solvent may be applied to the film by brushing, wiping, spraying or dipping. It is important that the solvent be allowed sufficient activation time in order for the solvate the adhesive and increase its tackiness (typically 10-30 seconds). Bonding should be completed before tackiness disappears. Note if the film is too wet, the substrate may slip (float) from bonding position; if it is too dry, a poor bond may develop.

For solvent activation, maximum adhesion strength will not be achieved immediately because it will be related to the drying time of the solvent from the adhesive. If the bond undergoes natural drying at ambient temperatures, bond build-up will continue for several weeks. Heating to approximately 150°F (66°C) will accelerate the maximum adhesion within 24 hours.

As with heat activation, the maximum adhesion and chemical properties of the adhesive can be obtained by crosslinking at 350°F (177°C) for 5 minutes.

### **Removing Adhesive**

The adhesive can be removed by soaking in MEK, toluene or acetone. If the adhesive is only temporary and is to be subsequently removed, crosslinking at higher temperatures is not recommended.