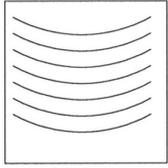
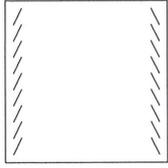
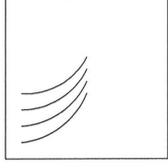
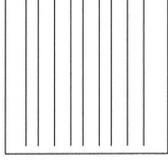
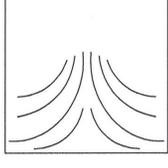


TROUBLESHOOTING GUIDE

FOR POOR LAMINATION QUALITY



Problem	Visual	Cause	Solution
Straight Wave Lines Across the Output		Excessive Front Roller Pressure	Loosen the Front Roller Pressure
Concave Waves in the Lamination		Excessive Rear (Pulling) Roller Pressure	Loosen the Rear Back Roller Pressure
Angles waves on Both Sides of the Output		Insufficient Rear Roller Pressure	Tighten the Rear Roller Pressure
Angles waves on One Sides of the Output		Insufficient Rear Left (of Right) Roller Pressure	Tighten the Rear Left (or Right) Roller Pressure
Straight Waves in the Output		Excessive Heat at the Nip Rollers	Lower the Roller Temperature
Wake Waves		Insufficient Heat at the Nip Rollers	Raise the Roller Temperature

TROUBLESHOOTING GUIDE

FOR POOR LAMINATION QUALITY



Problem	Solution
Wrinkling of the plastic on a laminated piece of material.	Make sure you have enough supply roll tension to take the wrinkles out of film before it gets past the heat roller.
Film is not properly adhered or starts to come off sometime after lamination.	<p>Unless there is something wrong with the film this problem comes from film being run at too low a temperature. Check the heat setting on the laminator. If the film is not sticking to the item it is likely that more heat is required.</p> <p>If you are running thicker films you may have the problem if you try to go too fast. In this case the thicker film may not have enough time to heat on the roller to reach its adhesive melt temperature. Thicker films may be run at lower speeds with no problem.</p>
A milky, hazy line about an inch wide appears periodically across the width of the web immediately after initial warm-up.	The rollers are not evenly heated, and the cold side of the rollers is preventing the adhesive from melting. When warming up the machine, keep the rollers open and keep the forward drive on a low speed.
Wavy or rippled sections in the laminate, especially toward the center or the web.	These “heat wrinkles” are caused by excess temperature and/or speed for the film being used. Slow down the motor and/or use a lower appropriate temperature for that particular film.
General haziness or cloudiness in the film after lamination.	Increase the temperature. The cloudiness is a function of incomplete adhesion. On a variable speed machine loaded with thicker film it may be that the film is being run too fast and is not getting enough time on the heat shoes.
Bubbles in the center of the web and/or film not sticking to the center of an item.	<p>This is caused by excessive laminating roll pressure in the center of the web.</p> <p>The other likely cause of this symptom is worn rollers. For example, if hundreds or thousands of 18” wide sheets are laminated on a 38” machine, the center of the rollers can get worn down more than the ends of the rollers. In this situation, the laminating rollers should be replaced. The rollers worn in this way are not suitable for use as pull rollers.</p>
Wrinkling of the material as it goes into the laminating rollers. This problem usually occurs when laminating an item that has been folded, rolled, bent or wrinkled.	<p>Make sure the leading edge of the item being laminated is laying flat and is inserted parallel to the laminating rollers.</p> <p>It is sometimes essential to smooth out an item as it passes over the feed table and through the rollers to ensure an even laminating without wrinkles. Smooth from the center of the item back toward the trailing edges. Once the item starts to feed you may also pull back and to the sides on the corners of the trailing edge.</p>