SUPERTHENE™

THE HEALTHIER FUTURE OF FOOD WRAP

SEALING GUIDE

Introduction

With the increasing move world-wide to discontinue the use of PVC cling films in food packaging, there is more pressure on retailers and food producers to find alternative packaging mediums; the most obvious alternative being polyethylene. Because of the vast differences in the chemical and physical properties of these polymers, it is very important to realize that there will be significant differences in their sealing characteristics. This guide is designed to aid producers when converting away from PVC to Superthene wrapping films in both hand-wrap and auto-wrap applications.

Polyethylene vs PVC Characteristics

Polyethylene has a higher heat absorption co-efficient that PVC. In other words, it requires more heat or time to reach the point whereby the film layers will seal onto one-another. For this reason, Superthene wrapping requires a slightly higher temperature settings on the sealing elements of the wrapping machines.

Superthene films are also more elastic than PVC and can stretch significantly more. Generally narrower width films than PVC, can be used. This means that effective heat sealing is more important as the film is under tension when wrapped and will have a natural tendency to pull loose over time. If the packaged tray/punnet is not sealed properly this could lead to quality issues.

HAND SEALING APPLICATION

1. It is recommended that the hand sealing machine used for Superthene products is fitted with a temperature adjustment function such as a thermostat. The temperature of the sealing plate should be controlled between 115 and 130 degC. The ideal temperature setting should be set considering the ambient temperature, production rate and the thickness of the film being used and the weight of the pack.

2. Choice of film width is very important in making sure that the seal integrity of the pack is optimized. In order to achieve the best possible seal with Superthene products, there needs to be a minimal amount of film under the pack. If the film being used is too wide, there will be too much residual film under the tray or punnet to seal properly.

3. Experience has shown that wrapping technique can have an impact on the quality of the seal. It is important that the operator of the hand sealer stretches the film under the pack in such a manner that there is an even layer under the pack. Lumps or bunches of film will prevent effective sealing. The operator must also make sure that the wrapped pack is placed on the heated pad long enough to seal properly without melting holes through the film.

4. Wrapping machines must be kept clean and be maintained correctly. The heating pad and the cut-off bar elements should be checked daily.

5. It is advisable that a stick-on Teflon coated sheet be placed on the sealing element of the wrapping machine in order to prevent the film sticking to the surface of the element. These sheets are available from Superthene.

AUTO-WRAPPING APPLICATIONS

1. As with hand-wrap applications, the temperature control of the sealing unit is important. Most auto-wrapping machines are fitted with a heated conveyor at the exit of the machine. The ideal temperature setting for Superthene films is generally between 115and 130 degC. This will depend on the thickness of the film, the speed of output and ambient conditions. It is recommended to find the ideal temperature setting by running the machine at the desired output rate and increasing the conveyor temperature setting gradually until the film under the tray shows signs of melting trough with holes appearing. The temperature setting should then be reduced by 3-4 degC for optimal sealing performance. When making changes it temperature it is important to allow the machine time to heat-up or cool-down sufficiently before making further changes. It is recommended to use a digital contactless thermometer while setting the heating conveyor. This will ensure a more accurate setting. Periodic measuring and recording of the conveyor temperature should be included in standard operating procedures for quality control.

2. As in the case of hand-wrapping applications, it is very important not to have an excess of film under the packed trays. In some cases it may be necessary to use a narrower width film for smaller trays. The machine supplier will be able to recommend the correct film size for the trays being packed.

3. When converting an auto-wrapper to Superthene it is advisable to fit a specifically designed cutting blade as the extra stretch of Superthene film may restrict the cutting ability of the standard PVC blades. These blades are available from Superthene.

4. The initial conversion of an auto-wrapper to Superthene should always be done by a suitable qualified technician. The different physical properties of the film require that the settings of the machine with regard to timing, stretch and sealing are adjusted accurately to ensure that a perfectly wrapped pack is achieved. It is preferred that a Superthene representative is also in attendance.

5. Superthene advises that as precautionary measure, a random QC check to ensure seal integrity should be introduced into the Standard Operating Procedure

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