

HANDLING RECOMMENDATIONS FOR THE RANGE:

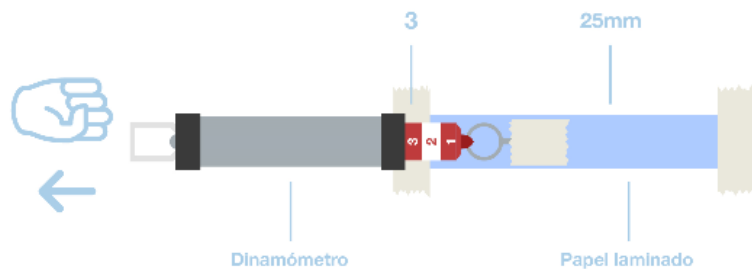
SOFT TOUCH®

General recommendations for D 24I (Thermal)

- ✓ This film has an extra-matte surface and Soft Touch coating which is why it is recommended to work with clean hands or wear wool gloves when handling.
- ✓ If any stain occurs owing to direct handling with the hands, the marks may be removed by rubbing a dry, clean cotton swab without any kind of liquid.
- ✓ Do not use any chemical to clean the film surface or the laminated sheets.
- ✓ We do not recommend one-pass dual-sided lamination unless the film gets cold via the two sides before stacking it. We recommend 24 hours of rest, before laminating the other side.
- ✓ When varnishing on a two-sided laminated support with Soft Touch, vertical stacking is preferred to horizontal stacking once varnished to avoid the transmission of the varnish from one side to the other owing to the high surface tension of the soft side. To avoid varnish transmission, it is also recommended to reduce machine speed between 20-30% compared to the speed used with BOPP films with a view to achieving complete drying of the varnish.
- ✓ The use of Soft Touch film for binding applications with a hard cover may result in processability problems in the binding machine as the film/metal friction coefficient of the soft side is greater than with conventional films and may cause scratches. We would recommend that the machine guides should be totally clean and that tests should be carried out prior to industrial production. In the event of scratching problems, we would recommend covering the guides with adhesive Teflon tape which greatly reduces friction to see if the problem can be resolved.
- ✓ The lamination of one Soft Touch side and the other shiny is not recommended owing to problems deriving from additive stains on the soft side. This type of lamination can be carried out, provided that an unprinted sheet of paper is placed between each of the laminated materials.
- ✓ The inks must be dry and it is recommended that the lamination should be carried out after 2-3 days at a temperature of 30°C (86° F) subsequent to the printing process to ensure total drying of the inks. Our experience tells us that passing the printed cartons under UV lamps speeds up the drying of the inks and improves film adherence.
- ✓ We recommend that the creasing processes should be carried out several days after lamination, as the adherence force increases considerably.
- ✓ Check the lamination strength in the first laminations with a view to verifying the suitability of the film for the type of support and inks. We recommend using the methods described in the last section.
- ✓ We recommend lamination at a temperature of between 110-120° C (230-250°F) depending on the production speed. This temperature allows an optimum adherence strength on the support. Higher temperatures generate appearance problems on the film surface.
- ✓ The processing speed must be cut by between 30 and 50% to ensure the good adhesion of the film to the support. This can be put down to the fact that the film is thicker and hence more time is needed to fuse the EVA layer and, on the other hand, the extra-matte side is worse at transmitting heat. For

these reasons machine threading is recommended which allows the maximum wrapping of the film on the calender.

- ✓ To ensure good adherence, the film must be contracted between 1 and 1.5 % in terms of film width, maintaining low unwinding tension.
- ✓ As far as making covers is concerned, we only have experience of correct operation with Hot Melt type adhesives. It must be applied properly bearing in mind that during those periods in which the room temperature is colder, the hot melt application temperature must be raised between 10 and 15°C (50 and 60° F). Whenever possible, Hot Melt will be applied to the film. Other adhesives are not guaranteed and it is the end consumer who must ensure their smooth operation. When making boxes with water-based glues, flame pre-treatment must be ensured.
- ✓ We recommend paying special attention when laminations on photo paper are made. This is because this type of paper is usually laminated on one face, so that by applying temperature to return to laminate, blisters can be generated in the film.
- ✓ In stamping processes there must not be any problems on this film. Notwithstanding, we recommend carrying out prior tests. Recommendations for lamination with F 141 (Wet)
- ✓ With a view to determining whether the adhesion strength is sufficient, we would recommend our customers to use the dynamometer. With this in mind the customer must:
 1. Have available a laminated sheet with our film, with a width of around 25mm (1 inch).
 2. Delaminate via one end of the sheet.
 3. For smooth operation, it is recommended to secure the laminated end and the delaminated carton, pulling out the dynamometer parallel to the table. As shown in the photo.



4. Our experience tells us that if the value shown by the dynamometer is lower than 3 Newton, there may be problems in processes subsequent to lamination such as creasing, sharp blows, stampings etc., whilst of the value is greater than 3 Newton the film can withstand this type of processes.

- ✓ If you don't have a dynamometer, you can carry out this simple test to determine the adhesion strength. It consists of hanging a 500 g weight from a 40 mm test tube. (a 0.5 litre bottle of water may be used). If the test tube withstands the weight of the bottle without delaminating, it can be considered that the adhesion strength is sufficient, otherwise the film may come unstuck, making creases, sharp blows etc. In this case we would recommend waiting two or three days to achieve better ink drying and repeat the test before moving on to subsequent operations.