

Printing and handling Robuskin® ECO

Revised: 10-2012

Robuskin® ECO is a high density polyethylene film, especially produced to provide excellent printing results with offset, flexo, gravure, screen, thermal transfer and UV-inkjet printing systems. Robuskin® ECO is produced by co-extrusion. Robuskin® ECO is also available in a variant filled with inorganic pigments (for a paper-like surface).

Sheet-fed offset printing

Robuskin® ECO can be printed on with a standard ink-water mixture. Printers should adjust the blanket tension and print pressure in accordance with thickness of the material to be printed. Do not use excessive pressure.

Special inks (film inks), which are formulated for use on non-absorbent surfaces, are required. These are oil based and dry by oxidation to a hard dry film. To achieve satisfactory drying and subsequent rub resistance, specific running conditions should be adhered to.

In order to avoid delays when drying, the following values should be maintained in the water:
pH value 4.8 – 5.5, Alcohol 10 %, Water hardness 8 – 12 dH

When printing, pure water should be used in place of conventional fountain solution to prevent any retardation of drying. The ink should dry in 24 hours when adequately exposed to the air. The presence of water trapped in the ink film can delay drying by up to 4 to 5 days, so water damping should be kept to an absolute minimum required for clean printing.

The printed sheets should be stacked in low piles of 10 to 15 cm, and a non-soluble spray powder of large particle size should be used. It is preferable that 4-colour-process work is carried out on a 2- or 4-colour press, as the fewer the number of passes through the machine, the less the risk of stretch, mis-registration, set off and moisture retention.

In addition, the following points are very important: Ensure that the blanket plates are clean and not worn.

Reduce the packaging beneath the blanket plates. Make sure that all rollers, etc., are warmed up prior to start up. Do not start cold. Ensure that the press is warmed up for longer than normal. Always ensure that the correct inks are being used. Consult your ink supplier for further information.

UV drying systems are also recommended with suitable inks. The UV station must be carefully adjusted to take account of the sensitivity of the film temperature. Trials are recommended.

Flexo, Gravure and Screen

These are all suitable methods for printing on Robuskin® ECO. Inks recommended for polyethylene and polypropylene can be used. For narrow width label printing, it is preferable to choose presses that provide good control and tensioning of the web. The temperature of the drying lamps must be carefully controlled to avoid distortion of the web.

Thermal Transfer

Manufacturers' recommendations should be followed; however, best results are achieved with hybrid wax/resin ribbons to obtain good key and rub resistance (e.g. Ricoh B110 A).

Inkjet printing

Robuskin® ECO is also available in a topcoated version (primer). This film can be printed on using UV-curing inkjet inks. It is recommended to perform tests prior to ordering.

Printing front and reverse side

Like all synthetic materials, the two sides of Robuskin® ECO are not precisely the same, and some very slight differences in the printed colours may be visible when comparing front and reverse side prints.

Cutting

Robuskin® may be cut like paper on condition that:

- Blades should be sharpened to an angle of 21°
- Stacks should not exceed 8 – 10 cm
- Stacks should be adequately fanned and aired before cutting to eliminate air pockets
- Pressure of cylinders should be reduced to a minimum

Machinability

Robuskin® ECO folds and creases like paper. A pre-fold improves the result. For perforation, the use of machines with short teeth is recommended. Use adhesives suitable for films.

Stocking and Printing Conditions

Sheets should always be stocked flat. Synthetic materials require 50% more time than paper to acclimatise before printing. Avoid extreme temperature changes and exposure to direct sunlight.

Optimal printing conditions are:

- At least 24 hrs acclimatisation in the print room
- Relative humidity of 55 - 60%
- Temperature of 18 - 23°C
- Low sheet stacks
- Sufficient aeration of sheets before printing
- Use of insoluble drying powders of 20 - 45 micron

We recommend that you test inks and printing procedures before embarking on production.

Note: Robuskin® ECO has been Corona-treated to improve printability and handling. Assuming correct storage, the treatment is valid for approximately 6 months.

Food Use

Robuskin® ECO is safe for use in direct contact with liquid and dry food stuffs (EU Directive 90/128 EC).

Technical Data Sheets

Technical data sheets containing additional information and parameters for successful processing can be provided upon request.

Disclaimer

All the above information is based on practical experience and is provided in good faith. No guarantee or warranty is given or implied by its use.

We recommend that the material is tested by the purchaser for his application prior to ordering. Contact and discussion with suitable ink manufacturers is also recommended.

MDV Papier- und Kunststoffveredelung GmbH

An der Pfingstweide 3

D-63791 Karlstein

Tel. +49 (0) 6188 952-0

Fax +49 (0) 6188 952-212

info@mdv-group.com

www.mdv-group.com