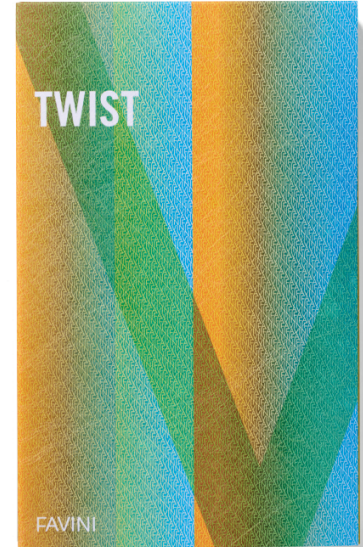


TWIST

PRODUCT DESCRIPTION

A unique surface combining strength with good looks, making it ideal for creative applications, as well as packaging and retail opportunities. The entire range is certified FSC™ and may be printed with most major print and finishing processes.

It is available in 12 colours, 4 grammages and matching envelopes.



TECHNICAL DATA

| | METHOD | | +/- | 120 | 180 | 290 | 360 |
|---------------|----------|------------------|-----|----------------------|---------------------|----------------------|-----------------------|
| BASIC WEIGHT | ISO 536 | g/m ² | 10% | 138 | 188 | 298 | 368 |
| CALIPER | ISO 534 | µm | 30 | 235 | 300 | 420 | 510 |
| L&W STIFFNESS | ISO 2493 | mN MD/CD | > | 150/75 (15*/10mm) | 30/15 (15*/50mm) | 100/50 (15*/50mm) | 200/100 (15*/50mm) |



The mark of responsible forestry

PRINTING AND FINISHING RECCOMENDATIONS

PRINTING JOB PREPARATION

Twist is produced to be stable between 40-60% humidity rate and at 21-23°C, therefore we advise to avoid exposure to extreme environmental conditions. Please keep the paper as long as possible in the original mill-packaging before use. This is particularly important for light weights. Oxidizing inks for offset printing are recommended and UV drying inks for plastic.

OFFSET PRINTING WITH OXIDISING INKS

PLATES

■ 150 lpi engraved pattern.

PRINTING MACHINES

■ 4 colours + 180 lines/cm station for varnishing - or to run a 5th black where needed.

| | |
|-----------------------------------|--|
| INKS | <p>Use oxidizing inks adding extra desiccant shared out among the 4 colours. For blacks, where a strong black is required, we recommend a second hit, using oxidizing ink at all times. Equally, it may be possible to achieve the depth of black by adding percentages of CYM with one hit of black, but it will depend on individual circumstances of the job and the print set up. Favini in Italy uses Huber inks (German brand) - Resista N9550, plus a desiccant called Grafo Dryer. In some jobs Favini has used 6% to 8% of desiccant, but it will depend on the job.</p> <p>Favini and GF Smith have also run successful printing jobs using Sun Chemical Permaflox oxidizing inks.</p> <p>For an appropriate protection we suggest, when possible, to use an oxidizing varnish as 5th colour.</p> <p>Obviously each printer has their own choice to make about inks and the above are not meant to be prescriptive, simply sharing our experience. Because the materials absorb the ink, we recommend a higher intensity than might be anticipated, printing tests used upto 20% higher intensity than for a coated stock.</p> <p>Extra note on Twist Gold and Silver: to achieve a strong ink lift in CMYK, the best results can be achieved by printing 2 runs white ink, leave to dry 8 hours and then apply CMYK.</p> |
| FOUND SOLUTIONS | <p>The absolute minimum water should be applied in the fount solution. Favini / GF Smith printing jobs have used Prisco fount solution which complements the choice of inks.</p> |
| DRYING TIMES | <p>The materials dries like many uncoated papers, with upto 48 hours to dry and another 24 hours if creasing and folding is needed. Drying can be assisted with a drying section on the printing machine.</p> |
| STACK HEIGHTS | <p>In jobs with a high intensity of ink, we recommend a stack height of 10 to 12 cm.</p> |
| OFFSET SPRAY POWDERS | <p>We recommend the maximum possible, typically we have used sprays of 50 mic.</p> |
| RUBBER BLANKET | <p>Multipurpose compressible.</p> |
| PRINTING PRESSURE | <p>These types of supports need uncommon pressures to reach the maximum printing results.</p> |
| OFFSET PRINT WITH UV INKS | <p>We do not recommend UV inks for paper because they need a high temperature which is not compatible with the Twist surface. In case of very dark colours and deep black, offset UV with drying inks for plastic is suggested slowing down the machine speed in order to reduce the temperature and eventually to let the paper pass through the oven twice.</p> |
| OTHER INDICATIONS | <p>No printing technique with direct irradiation or with a heating unit at temperatures over 120°C should be used. It could burn the surface or cause deformation of the nonwoven fabric.</p> <p>Maximum pressures should be applied to obtain a good printing result with very intense graphic work (with heavy ink coverage). Paper has to be plentifully aired, always and only before going into the machine to make unstacking and descent on the table of the sheet catcher easier.</p> |
| DIGITAL AND LASER PRINTING | <p>Not guaranteed. The result depends on the graphic type and printing machine used. We suggest to test the product in advance.</p> |
| INK-JET PRINTING | <p>Not guaranteed.</p> |
| SCREEN PRINTING | <p>We suggest to use solvent based inks and eventually test the product with this technique. UV inks are not suitable.</p> <p>Test different screens with values from 21/140 to 61/64.</p> <p>Problems related to different adhesion across the sheet are possible with transparent varnish.</p> |
| INKS | <p>Use vinyl or nylontech inks. Do not exceed 80°C. The printed sheets must not be stacked before 2-4hrs of drying in the set locations if available or before 24 hours in mini stacks. Ink with metallic pigments (glitter) give a good result.</p> |
| RUBBER BLADE | <p>Recommended hardness 60-70 shore.</p> |
| FOIL PRINTING | <p>This technique requires special care since it is necessary to slow down machine speed, prolong printing times and increase cliché pressure. Not all foil types are ideal for this material, we suggest to test the different foils beforehand.</p> <p>In particular, the underlying material can have an interference on the outcome of the foil - for example a silver foil may come out aluminium like, i.e. satinated rather than bright and shiny.</p> <p>Good results have been achieved with Foil Co, Manetti AB43, ITW Foil OSP100 foils for example, but also others have worked extremely well - it will once more be a question of fitting the right material to the demands of the job.</p> |

CUTTING AND DIE-CUTTING

Below 200, the use of a die cutter is suggested for a higher cutting precision. For guillotine, use no more than a 100 sheets/stack each time. With substances over 200, the guillotine can be used directly but always with small paper stacks.

LASER CUTTING AND ENGRAVING

Twist is suitable for both laser cutting than engraving. White and Ivory tends to yellows in the areas treated by the laser.

GLUING/LAMINATION

In case of shoppers, envelopes... we suggest to use polyurethane based glues for plastic applications. For bookbinding and covering boxes application use vinyl based glues or hot melt.

PUNCHING, FOLDING, CREASING

Twist has excellent properties for these techniques.

EMBOSSING

We suggest to try the product, in fact the result depends on combinations between product finishing, colour and embossing pattern.

> *Please contact our technical department for further suggestions.*

MILL ACCREDITATION | Crusinallo VB - Italy

CORPORATE QUALITY MANAGEMENT STANDARD | UNI EN ISO 9001

ENVIRONMENTAL MANAGEMENT STANDARD | UNI EN ISO 14001

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT STANDARD | UNI EN ISO 45001

ECO-MANAGEMENT AND AUDIT SCHEME CE 1221/2009 | EMAS

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