e-mail: info@favini.com Website: www.favini.com

Technical Data Sheet - 12.09.2011

FAVINI

SOFTY

Product Description

A single sided tactile material that feels like cloth yet behaves like paper. Softy is extremely strong and reacts well to die-cutting and folding and, of course, print, making it ideal for packaging as well as other creative applications. Certified FSC.

It is available 5 grammages and matching envelopes.

Technical Data

THE FOLLOWING DATA REFER TO SOFTY WHITE

	Method		+/-	120	200	250	300	380
Basic Weight	ISO 536	g/m ²	10%	148	203	263	303	383
Caliper	ISO 534	μm	100	380	440	505	545	630
L&W Stiffness	ISO 2493	mN MD/CD	>	100/50 (15°/10mm)	30/15 (15°/50mm)	60/30 (15°/50mm)	100/50 (15°/50mm)	200/100 (15°/50mm)

THE FOLLOWING DATA REFER TO SOFTY BLACK ON BLACK

	Method		+/-	120	300
Basic Weight	ISO 536	g/m ²	10%	165	325
Caliper	ISO 534	μm	100	415	600
L&W Stiffness	ISO 2493	mN MD/CD	>	150/75 (15°/10mm)	110/60 (15°/50mm)

THE FOLLOWING DATA REFER TO SOFTY BLACK ON WHITE

	Method		+/-	300
Basic Weight	ISO 536	g/m ²	10%	315
Caliper	ISO 534	μm	100	580
L&W Stiffness	ISO 2493	mN MD/CD	>	100/50 (15°/50mm)



Printing and finishing recommendation

Printing Job preparation: Softy 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.

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Offset printing with oxidising inks

Plates: 150 lpi engraved pattern.

Printing machines: 4 colours + 1 80 lines/cm station for varnishing. – or to run a 5th black where needed.

Inks: 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.

Favini and GF Smith have also run successful printing jobs using Sun Chemical Permafix oxidizing inks.

For an appropriate protection we suggest, when possible, to use an oxidizing varnish as 5th colour.

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.

Extra note on Softy Black: we suggest to use silver and gold oxidizing inks.

Fount Solutions: 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.

Drying times: 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.

Stack Heights: in jobs with a high intensity of ink, we recommend a stack height of 10 to 12 cm.

Offset spray powders: we recommend the maximum possible, typically we have used sprays of 50 mic.

Rubber blanket: multipurpose compressible.

Printing pressure: these types of supports need uncommon pressures to reach the maximum printing results, especially Softy that might be more difficult to treat since its thickness it's not the same of another paper of equal grammage.

Offset print with UV inks: we do not recommend UV inks for paper because they need a high temperature which is not compatible with the Softy and Twist surfaces.

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.

Other indications: 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.

In case of pantone colours and intense black it is recommended to use all four colours (CMYK) to obtain the required printing density or print twice the black.

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.

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Digital and laser printing: not guaranteed. The result depends on the graphic type and printing machine used. We suggest to test the product in advance.

Ink-jet printing: not guaranteed.

Screen printing: we suggest to use solvent based inks and eventually test the product with this technique. UV inks are not suitable.

Test different screens with values from 21/140 to 61/64.

Problems related to different adhesion across the sheet are possible with transparent varnish.

Inks: 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.

Rubber blade: recommended hardness 60-70 shore.

Foil printing: this techniques 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. 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.

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.

*Extra note on Softy Black: us*ing the technique of hot foil, but avoiding the foil, an unusual effect can be achieved. In fact the areas in contact with the cliché melts the nonwoven textile giving a different surface feeling. This technique can be observed in our NERO booklet which you can request via web under the section samples & swatches of the web site www.favini.com.

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 substancies over 200, the guillotine can be used directly but always with small paper stacks.

Laser cutting and engraving: Softy is suitable for both laser cutting than engraving. White tents 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: Softy 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.

Mill accreditations (Crusinallo VB -Italy)

Corporate Quality Management Standard	UNI EN ISO 9001
Environmental Management Standard	UNI EN ISO 14001
Occupational Health and Safety Management Standard	OHSAS 18001

Safety Data Sheet

FAVINI safety production profile according to 1907/2006/CE Date / revision: 27/12/2011 Product: SOFTY

Printing date: 10/05/2012

FAVINI

1. Substance/preparation name and company identification

Product name **SOFTY**

Substance/preparation and usage

Textile paired with opaque film and paper. Suitable for creative applications, printing and packaging.

Company

FAVINI S.r.l Head Quarter – via Alcide De Gasperi 26, 36028 Rossano Veneto (VI) – Italy Tel. +39 0424 547711 Fax. +39 0424 540684

Plant and Sales Office – via IV Novembre 276, 28887 Crusinallo (VB) – Italy Tel. +39 0323 882300 Fax. +39 0323 642611 E-mail. renato.burba@favini.com

2. Possible hazard

The product is not classified among dangerous substances and does not need specific precaution during normal use.

3. Composition and information on ingredients

Chemical composition Cellulose fibres Water Natural inorganic fillers Synthetic organic polymers (sticker) Polyester (PET) Polypropylene/polyethylene copolymer Dyes and other auxiliary chemical additives for paper production

4. First aid measures

General information

If necessary, call a doctor.

Inhalation

Unlikely, due to the type of product.

Skin contact

There are no known harmful effects during normal use. In case of skin contact with molten material, do not remove the solidified product from skin and seek medical advice.

Eye contact

Unlikely, due to the type of product.

Ingestion

Unlikely, due to the type of product.

5. Fire fighting measures

Suitable extinguishing media

All types commonly in use, including water, foam and chemical powders.

Unsuitable extinguishing media

Do not use water near electrical equipment.

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Protective equipment

Wear self-contained respiratory protective device in case of fire in an enclosed area burns.

Combustion products

Under thermal decomposition toxic and irritating gases can be generated.

6. Accidental release measures

Not applicable.

7. Handling and storage

Handing

It is necessary to follow the usual precautionary measures for handing rolls. Use the suitable DPI (safety glasses, protective gloves and safety shoes) during handling and removal from the packaging of rolls and pallets.

Storage

Keep the product in a fresh place, away from warmth source, ignition sources and oxidizing agents. Overlap vertically a maximum of two rolls. Overlap a maximum of two pallets.

8. Exposure control and personal protection

Environmental exposure limits

It is not required any environmental control procedures.

Personal protective equipment

The use of the product does not require extraordinary measures of protection; use ordinary DPI (safety glasses, protective gloves and safety shoes).

9. Physical and chemical properties

Physical state: solid Solubility in water: not soluble Ignition temperature: $160^{\circ}C$ pH value: 7 ± 1 (aqueous extract)

10. Stability and reactivity

Stability

The product is considered stable under normal conditions.

Substances to avoid

Avoid direct contact with acids, bases and oxidizing materials.

Hazardous decomposition products

No decomposition and no dangerous reaction if used properly.

11. Toxicological information

The product has not toxicological effects known.

12. Ecological information

Environmental impact None known. Not release the product into the environment. Page 2 of 3



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Ecotoxicity None known.

Degradability

The product is not biodegradable.

13. Disposal considerations

Dispose of product and packaging in accordance with current local regulations.

14. Transport information

The preparation is not classified as hazardous in terms of transport regulations.

15. Regulatory information

The product does not comply with national and international regulations regarding the paper used for food packaging (direct contact with food).

Labelling according to CEE directives. The product is not included in the inventory of dangerous substances and therefore does not require special labelling or packaging.

16. Other information

None.

The information and technical instructions herein are based on the present state of our scientific and technical knowledge at the date indicated on this Safety Data Sheet and can not therefore guarantee certain properties. The Safety Data Sheet only describes product's aspects with regard to their safety requirements. The user of our products must take responsibility to comply with existing laws and regulations.



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