®PRINTPERFEKT LAC FLEX

Characterization	Ready for printing, hot curing screen print paste on aqueous base for covering colour prints on dark, elastic textiles
Chemical Structure	Unpigmented basic paste; compound of synthetic dispersions, thickener and additives, free from white spirit and phthalates
Supplied Form	White, medium viscosity paste
Ionic Character	Anionic
pH Value	7.6 – 10.0
Viscosity	9,500 – 15,750 mPas (Brookfield RVT 20/5)
Storage	If stored properly in a cool place between + 5 °C and + 40 °C in closed original containers, the product will be stable for about 12 months. Protect from frost and excessive heat. Opened containers must be closed again tightly.

The above given values are product describing data. Please consult the 'delivery specification' for binding product specifications. Further data about product properties, toxicological, ecological data as well as data relevant to safety can be found in the safety data sheet.

Properties

Processing / Fixation

PRINTPERFEKT LAC FLEX is ready for printing and is normally coloured in the desired shade with pigments, e. g. COLORMATCH pigments.

If special fastnesses are required or if critical fabric qualities are used, a fixing agent can be added to the print paste but this may decrease the flexibility.

Fixation of the prints is normally effected by hot air in the range of 130 - 160 °C. For special fixing conditions with a reduced fixing temperature or a reduced fixing time TUBASSIST FIX 104 W can be applied as a special low temperature crosslinking agent after preliminary trials.

Film Properties / Handle

Despite its high covering power PRINTPERFEKT LAC FLEX results in soft and very flexible prints, above all on stretch knitwear and elastic qualities.

® = registered trade mark

Printing Properties / Fastnesses / Further Properties

PRINTPERFEKT LAC FLEX can be processed very well with common screen printing methods, mainly for single coloured or intermediately dried prints.

Colour prints with PRINTPERFEKT LAC FLEX result in very brilliant, highly covering print effects with a very good fastness level. They stand out for their high flexibility on elastic fabric qualities. A further distinct feature is the good adhesive power on many fabric qualities which are hard to wet, e. g. tightly woven goods for outdoor articles.

Application Procedure

Application Fields

PRINTPERFEKT LAC FLEX is mainly applied for brilliant, well covering colour prints on dark, stretchable knitwear and flexible elastic fabrics. When screen printing on tightly woven, hydrophobic goods PRINTPERFEKT LAC FLEX has normally a very good wetting capacity and adhesion to the goods.

Recommendation for Use / Processing

Material Condition / Substrates

PRINTPERFEKT LAC FLEX can be applied on a multitude of today's textiles, preferably on elastic textiles.

For achieving good printing results with a high fastness level the substrates have to be dry, clean and possibly free from auxiliary rests or preparation add-ons. Generally the materials should be tested as to their suitability - especially impregnated or heat-sensitive textiles and colour qualities (e. g. heat migration of disperse dyestuffs).
In most cases a reduction of the fixing temperature and a corresponding prolongation of the fixing time can improve this situation. If necessary, the fixing temperature may be additionally decreased by means of a special low temperature crosslinking fixing agent.

Recipe Recommendation

Standard colour print	PRINTPERFEKT LAC FLEX	97.0 – 100.0 %
	+ COLORMATCH pigments	0.1 – 10.0 % (with fluor colours up to 20 %)

We recommend stirring up PRINTPERFEKT LAC FLEX before use. Colour additions and paste combinations with adhesive dispersions have to be blended homogeneously with the basic paste.

Additives and Auxiliaries

TUBASSIST FIX 120 W

With the addition of 5 – 8 % TUBASSIST FIX 120 W at fixing temperatures of 120 – 150 °C a good washfastness without formaldehyde impact can be achieved. The fixing agent ought to be added immediately before processing. Blended print pastes have to be processed within two working days. The fixing agent would otherwise react without increasing the paste viscosity and would no longer be effective.

TUBASSIST FIX 104 W

By adding 1.0 – 2.0 % TUBASSIST FIX 104 W a good washfastness can already be achieved at drying temperatures far below 120 °C. The fixing agent should be added just before starting the process. Blended print pastes must be processed within half a working day (2 – 4 hours) because the fixing agent leads to a strong increase in the print paste viscosity.

COLORMATCH Pigments

For colouring PRINTPERFEKT LAC FLEX we recommend adding 0.1 – 10.0 % COLORMATCH pigments. Based on our experience twice the dyestuff amount is necessary to achieve colour effects analogous to standard printing methods on white goods.

TUBIPRINT RETARDER

If need be, 2.0 – 5.0 % of this retarder are added to reduce the drying speed in the printing screens and to improve simultaneously the printing properties. High concentrations may reduce the speed of the drying and fixation process which then have to be possibly adjusted.

Diluting/Thickening	In general not necessary; if need be, the viscosity can be decreased by adding small amounts of water (up to 5 %) or diammonium phosphate solution. The viscosity can be increased by homogeneously stirring in 0.1 - 0.5 % TUBIVIS DL 650, which is advisable if an extreme drop in viscosity occurred due to high pigment additions.
Cleaning of Working Utensils	Immediately with cold water. On prolonged stoppages during printing the screens have to be kept moist or cleaned intermediately. Slightly dried paste rests or colour tintings on the screen lacquer can be softened by means of suitable household detergents (dishwashing soap); cured paste rests can only be removed mechanically.
Printing Process	Application by means of all common screen printing methods with monofilament PES screen gauzes of 26 - 55 threads/cm, preferably 30 - 43 threads/cm, depending on design and quality of goods. Highest covering power and brilliancy are achieved in the last position or with intermediate drying.
Drying / Fixation	Can be carried out in one or separate steps. For achieving the best fastness properties a fixation of the printing inks by heat treatment is necessary. Water vapour forming during the drying and fixation stage must be permanently drawn off through an adequate ventilation. By doing so an insufficient fixation of the printing ink due to humidity accumulation in the drying or fixing zone is avoided.

Recommended conditions for drying and fixation with hot air:

	In the drying chamber	In the continuous drier
One step	130 - 150°C, 20 - 5 min	140 - 160°C, 6 - 3 min
Two step	Drying 80 - 120°C, 10 - 5 min, drying at room temperature possible after preliminary trials. Fixation 130 - 160°C, 10 - 3 min	

When fixing with radiant heat or other sources of energy, meaningful trials are indispensable before going into production.

Recommendation for Use

Before going into production we recommend making it a rule first to test the suitability of the print pastes for the substrates to be used as to wettability, adhesion, fastness properties, thermostability and processing parameters and to control everything as well during the production run.

Warning

This product may contain up to 220 ppm of formaldehyde.
Its application may release up to < 75 ppm of formaldehyde in the finished article.

We reserve the right to modify the product and technical leaflet.

Our department for applied technique is always at your service for further information and advice.

Our technical advice and recommendations given verbally, in writing or by trials are believed to be correct. They are neither binding with regard to possible rights of third parties nor do they exempt you from your task of examining the suitability of our products for the intended use. We cannot accept any responsibility for application and processing methods which are beyond our control.

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