®PRINTPERFEKT 226 EC

Characterization	Ready for use, hot curing screen print paste on all-aqueous base for environmentally friendly colour prints on light coloured textiles; free from white spirit, APEO-free.
Chemical Structure	Unpigmented basic paste free from white spirit; compound of acrylate dispersions, thickener and additives
Supplied Form	Medium viscosity, light coloured paste
Ionic Character	Anionic
pH Value	7.0 - 9.5
Viscosity	13,300 - 19,900 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

PRINTPERFEKT 226 EC only contains minor formaldehyde quantities, so that under production terms with the preset minimum fixation terms a formaldehyde content of less than 16 ppm according to LAW 112 can be met. The strict demands of various ecological labels (product class I Öko Tex Standard 100 and Global Organic Textile Standard (GOTS)) can be fulfilled this way. We recommend pretrials under the corresponding production terms.

Processing / Fixation

PRINTPERFEKT 226 EC is ready for printing and has only to be coloured in the desired shade with suitable pigments.

Curing of the prints is normally effected by hot air in a range of 130 - 160°C.

Film Properties / Handle

PRINTPERFEKT 226 EC results in soft prints which hardly affect the textile character of the goods.

® = **registered trade mark**

Printing Properties / Fastnesses / Further Properties

PRINTPERFEKT 226 EC can be excellently processed with common screen printing methods and can be easily printed wet-on-wet. Brilliant prints with sharp outlines result with PRINTPERFEKT 226 EC; the print pastes do not tend to blocking the screens and are thus also suitable for fine meshes, e. g. the four-colour screen printing. If fixation is carried out properly, the prints effected with PRINTPERFEKT 226 EC will have a very good fastness to washing and dry cleaning.

Application Procedure

Application Fields

PRINTPERFEKT 226 EC is mainly applied for single and multicoloured prints on pale fabric qualities such as e. g. prints on cotton knitwear (sweatshirts, T-shirts, etc.) or cotton wovens (advertizing bags, patches to be sewed or ironed on). PRINTPERFEKT 226 EC has little odour and can therefore also be excellently applied in poorly ventilated working rooms.

The viscosity of PRINTPERFEKT 226 EC can be decreased by adding e.g. diammonium phosphate solution to such a low level that the pigment pastes may also be processed with the spray and brush technique.

Recommendation for Use / Processing

Material Condition / Substrates

PRINTPERFEKT 226 EC can be applied very well on a multitude of nowadays' common textile qualities.

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 qualities or heat-sensitive textiles or colour qualities (e. g. thermomigration of disperse dyestuffs).

Recipe Recommendation

Colour print on pale textiles	PRINTPERFEKT 226 EC + 0.1 – 5.0 % COLORMATCH pigments (fluor colours 10 - 20 %; possibly adding a fixing agent)

We recommend stirring up PRINTPERFEKT 226 EC before use. Colour additions have to be blended homogeneously with the basic paste.

Additives and Auxiliaries

TUBASSIST FIX 120 W

A good washfastness without formaldehyde impact can be achieved by adding 5 - 8 % TUBASSIST FIX 120 W at fixation temperatures of 120 - 150 °C. The fixing agent ought to be only added immediately before processing. Blended print pastes must be used up within two working days. Otherwise, the fixing agent reacts then without increase in the paste viscosity and is no longer efficient.

TUBASSIST FIX 104 W

An addition is useful if the temperatures or curing times required for hot curing cannot be achieved. TUBASSIST FIX 104 W also produces fast crosslinking reactions and good aftercuring during storage at curing temperatures below 120°C. Thus, even under bad curing conditions, good fastnesses can be achieved. Even in small concentrations (0.5 – 2.0 %) print pastes already blended with fixing agents have to be processed at once, possibly within 2 – 4 hours. TUBASSIST FIX 104 W used in concentrated form is very reactive even at room temperature. Therefore, the usual precautions for chemicals such as protective gloves and goggles, etc. have to be taken when handling the product. Further information can be found in the technical leaflet.

COLORMATCH Pigments

For colouring PRINTPERFEKT 226 EC we recommend adding 0.1 – 5.0 % COLORMATCH pigments (10 - 20 % COLORMATCH FL pigments).

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 the printing behaviour. High concentrations may reduce the speed of the drying and curing process which may then have to be adjusted.

Diluting/Thickening	In general not necessary; if need be, the viscosity can be decreased by adding small amounts of water (up to 5.0 %) or diammonium phosphate solution. The viscosity can be increased by stirring in homogeneously 0.1 - 0.5 % TUBIVIS DL 650, which is advisable if an extreme drop in viscosity occurred due to high pigment concentrations.
Cleaning of Working Utensils	Immediately with cold water; on prolonged stoppages during printing, the screens have to be kept moist or cleaned intermediately. Dried-on paste rests have to be softened with common detergents (e.g. dishwashing soap) and rinsed with a strong water jet, 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 34 - 90 S/T, preferably 43 - 62 S/T, depending on design and quality of goods.
Drying / Fixation	Can be carried out in one or two steps. For achieving the best possible fastness properties a fixation of the printing inks by a heat treatment is necessary. Water steam arising during the drying and curing stage must be drawn off continuously by an adequate ventilation. By doing so, an insufficient fixation of the printing ink due to humidity accumulation in the drying or curing zone is avoided.

Recommended conditions for drying and curing with hot air:

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

For achieving formaldehyde values < 16 ppm according to LAW 112 fixation must be carried out for 3 min at a minimum temperature of 150 °C.

When curing with IR radiators or other sources of energy, it is essential to run a meaningful trial before going into production.

Recommendation for Use

Before going into production we recommend making it a rule first to test the suitability of the printing 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.

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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CHT R. BEITLICH GMBH
Postfach 12 80, 72002 Tübingen, Bismarckstraße 102, 72072 Tübingen, Germany
Telephone: 07071/154-0, Fax: 07071/154-290, Email: info@cht.com, Homepage: www.cht.com