



PRINTING



ACHITEXMINERVA

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# CONTINUOUS PRINTING

Textile printing is a process for the application of colour to fabrics able to create well defined, bright patterns with an extremely soft final handle.

One of the most common processes is continuous rotary printing, using a photo-engraved metal drum with tiny perforations, meaning that some areas are permeable to the inks and others are not. The printing drum is placed above a fabric supported by a moving belt and deposits the product on the cloth as it turns.

Fabrics can be printed with pigments contained in specific binders, to produce decoration with excellent fastness to both washing and dry and wet rubbing.

Achitex Minerva Group has been producing and distributing products for the continuous printing of textiles since 1948.

The wide product portfolio offers Customers versatile products which can be used for printing upholstery and furnishing fabrics and garments, with excellent quality results that also comply with the toughest international environmental standards.

## THICKENERS

### MINERPRINT® CLEAR CP

Synthetic thickener specially developed for printing pigments, characterized by good stability to hard water and electrolytes which occurs even after the addition of pigments in the printing paste. The product has a notable thickening power and swells easily: it can also be used to re-thicken thin printing pastes. It gives the prints good uniformity and good colour rendering. Being in liquid form, it is perfectly dosable and is suitable for automatic colour kitchens.

### MINERPRINT® CLEAR F30

Salified synthetic thickener, which swells easily in water, can be used in screen and / or rotary pigment printing, in solvent-free systems. Its particular formulation allows to obtain prints characterized by an exceptionally soft hand, as well as by remarkable colour rendering, brilliance and uniformity. It can be used on all textile substrates, in particular, thanks to the final soft hand, it is recommended for printing fabrics intended for clothing.

### MINERPRINT® CLEAR MC

### MINERPRINT® CLEAR MCS

New concept of synthetic thickener developed specifically for printing pigments, characterized by good stability to hard water and electrolytes which occurs even after the addition of pigments in the printing paste. The product has a notable thickening power and swells easily: it can also be used to re-thicken thin printing pastes. It gives the prints good uniformity and good colour rendering. Being in liquid form, it is perfectly dosable and is suitable for automatic colour kitchens.

### MINERPRINT® CLEAR SP4

Synthetic thickener specially developed for printing pigments, characterized by good stability to hard water and electrolytes which occurs even after the addition of pigments in the printing paste. The product has a notable thickening power and swells easily: it can also be used to re-thicken thin printing pastes. It gives the prints good uniformity and good colour rendering. Being in liquid form, it is perfectly dosable and is suitable for automatic colour kitchens.





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### **MINERPRINT® DISCHARGE CLEAR**

Blend of natural and synthetic thickeners, used in pigment discharge printing with REDOXONE PRINT CONC and white spirits. Thanks to its special formulation, the printed fabric can be stored even for one day before steaming (better to avoid hot and humid environments) without the risk of irregular print development. It can be used both in rotary, manual and hand-machine printing.

### **THICKENER SF N**

Synthetic thickener, of new conception, with a strong thickening power, specially developed for the printing of pigments. The product has a notable thickening power and swells easily: it can also be used to re-thicken thin printing pastes. It gives to the prints good uniformity and good colour rendering. Being in liquid form, it is perfectly dosable and is suitable for automatic colour kitchens.

## **BINDERS**

### **BINDER MINERFAST**

New concept and high quality binder for pigment printing, designed to obtain excellent general fastness and a soft final hand on natural, synthetic and mixed fibres. The product, free from solvents, is characterized by the ease of preparation of the pastes and the perfect printability.

### **MINERPRINT® BINDER 521**

#### **MINERPRINT® BINDER 521 S**

Aqueous dispersion of a self-crosslinking vinyl copolymer, to be used as a binder in pigment printing. Ideal for printing furniture items where relatively low curing temperatures (130°C) are needed. The product allows to obtain prints characterized by a dry final hand and good general fastness.

### **MINERPRINT® BINDER ACM**

Aqueous dispersion of a self-crosslinking acrylic copolymer, to be used as a binder in pigment printing. Ideal for printing furniture and clothing items where, in addition to a soft final hand, good fastness to washing and rubbing are required. The product has good resistance to aging, does not yellow over time, and is suitable for pigment discharge printing.

### **MINERPRINT® BINDER L4**

Vinyl resin-based binder, which allows to obtain pigment prints particularly bright characterized by satisfactory fastness to rubbing and washing.

### **MINERPRINT® BINDER NF**

Aqueous dispersion of a self-crosslinking acrylic copolymer, to be used as a binder in pigment printing, to obtain sufficiently soft prints characterized by a good colour rendering. Ideal for printing furniture and clothing items where good light fastness is required. The product has good resistance to aging, does not yellow over time, and is suitable for pigment discharge printing.

### **MINERPRINT® BINDER NFO**

Aqueous dispersion of a self-crosslinking acrylic copolymer, to be used as a binder in pigment printing, to obtain sufficiently soft prints characterized by a good colour rendering. Ideal for printing furniture and clothing items where good light fastness is required. The product has good resistance to aging, does not yellow over time, and is suitable for pigment discharge printing.

### **MINERPRINT® BINDER SE**

#### **MINERPRINT® BINDER SE CONC**

Self-crosslinking acrylic binder for pigment printing with a low influence on the viscosity of synthetic thickeners. Ideal for printing furniture and clothing items where they are needed, as well as a sufficiently soft final hand, good colour rendering and good light fastness. The product has good resistance to aging, does not yellow over time, and is suitable for pigment discharge printing.



### MINERPRINT® BINDER U 50 D

Blend of acrylic and butadiene binders, which allows to obtain soft and solid pigment prints both to rubbing and repeated washing. The product is suitable for printing both clothing items and household items such as cotton flannel sheets, while it is not suitable for items with high exposure to sunlight, as the butadiene component could yellow, causing tone changes. The product is not suitable for pigment discharge printing.

### MINERPRINT® BINDER WST

Unique butadiene-based binder, which allows to obtain exceptionally soft pigment prints with high fastness. It is used only to print fabrics intended for clothing, on synthetic or polyester / cotton blends, or mixed with BINDER MINERPRINT® ACM for printing on pure cotton fabrics. It is not suitable for printing fabrics exposed to high and prolonged solar irradiation because it can cause yellowing and tonal changes. The product is not suitable for pigment discharge printing.

## PIGMENT DISPERSIONS

Minerprint® colours are water-based dispersions of selected organic pigments, finely dispersed and perfectly homogeneous, intended for textile printing.

### BENEFITS:

- ✓ High dispersion degree (< 1 micron)
- ✓ Excellent colour yield
- ✓ Optimal reproducibility
- ✓ Minimal influence on the viscosity of printing pastes
- ✓ Suitable for automatic dosing systems
- ✓ APEO-free
- ✓ Low VOC content
- ✓ Formaldehyde-free
- ✓ Part of the Minerprint range is included in GOTS, bluesign®, ZDHC certifications and is present in The List by INDITEX

As well as the conventional Minerprint® pigments, the range includes a full assortment of Minerprint® fluorescent colours and a series of ready-to-use pastes for special effects, including pearly, metal, glossy, phosphorescent, 3D and glitter products.

All pigments can be personalised to the Customer's requirements.



With the aid of the MinerMix Minerprint® Colour Matching System, uncoated and coated formulas can be produced quickly, easily and with simple reproduction.



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## WHITE DISPERSIONS

### MINERPRINT® WHITE 24049

Aqueous stabilized dispersion with a high content of titanium dioxide, with a strong colour rendering, to be used in combination with a solvent-free printing paste and an acrylic binder.

### MINERPRINT® WHITE 51

Aqueous stabilized dispersion with a high content of titanium dioxide, with a strong colour rendering, to be used in combination with a solvent-free printing paste and an acrylic binder.

## WHITE PASTES

### MINERPRINT® SOFT WHITE C

Ready-to-use white printing paste ideal for obtaining extremely covering effects on dyed fabrics and / or knits, even in the case of dark or intense tones. The product can be used both in continuous and discontinuous printing and is characterized by a high covering power and a good degree of whiteness. The prints obtained have an extremely soft and plastic final hand.

### MINERPRINT® WHITE 110

Ready-to-use white printing paste developed mainly to obtain high coverage prints on coloured cotton and its blends. Its special formulation guarantees complete polymerization at 110°C. The product is characterized by good covering power, good final hand and good general fastness.

### MINERPRINT® WHITE 24

Ready-to-use white printing paste ideal for obtaining covering effects on dyed fabrics, even in the case of intense tones. It is not suitable for printing elastic and knitted fabrics as the product does not have elastic characteristics. The product can be used both in continuous and discontinuous printing and is characterized by good printability and good covering power. The prints obtained show good general fastness and a soft final hand.

### MINERPRINT® WHITE 45 I

Ready-to-use white printing paste ideal for obtaining high quality covering effects on dyed fabrics. The product can be used both in continuous and discontinuous printing and is characterized by good printability and good covering power. The prints obtained show good general fastness and a soft final hand.

### MINERPRINT® WHITE ACT

Ready-to-use white printing paste ideal for obtaining high quality covering effects on dyed fabrics. The product can be used both in continuous and discontinuous printing and is characterized by good printability and good covering power. The prints obtained show good general fastness and a soft final hand.

### MINERPRINT® WHITE CBI

Ready-to-use white printing paste ideal for obtaining extremely covering effects on dyed fabrics, even in the case of dark or intense tones. The product can be used both in continuous and discontinuous printing and is characterized by good printability and very high covering power. The prints obtained show good general fastness and a good final hand. Formaldehyde-free.

### MINERPRINT® WHITE EJ

Ready-to-use white paste for rotary printing, suitable for obtaining covering and elastic printing effects on fabrics with particular characteristics, such as sensitive. The product, applied on sensitive fabric, is characterized by high elasticity, very soft hand and good general fastness.

### MINERPRINT® WHITE KBN

Ready-to-use white printing paste free from hydrocarbons, including aliphatic hydrocarbons and white spirits, usable both in continuous and discontinuous printing. The product is characterized by a good covering power and a high colour rendering especially on dyed backgrounds. A very careful selection of the binders ensures that the prints have good fastness both to washing and rubbing.



### **MINERPRINT® WHITE PFN**

Aqueous dispersion of titanium dioxide and natural protein that can be combined with printing with both acid and reactive dyes, both on natural and cellulosic fibre fabrics, in order to obtain "half tone" printing effects. The product can be printed on both flat and rotary machines, both in direct printing and in discharge. The product has the characteristic of fixing only through the vaporization treatment.

### **MINERPRINT® WHITE RUBBER EC**

Ready-to-use white printing paste, characterized by a high degree of whiteness, excellent covering power but above all very high elasticity performance with zero tacking, which allows to obtain prints that, after traction, do not show cracks. Ideal for printing on elastic and dyed synthetic fabrics, such as Lycra, stretch jersey, etc. The product has a printability very similar to that of plastisol inks, while ensuring excellent general fastness.

### **MINERPRINT® WHITE SBN**

Ready-to-use white printing paste ideal for obtaining extremely covering effects on dark fabrics. The product can be used in continuous printing, both rotary and flat panel, and is characterized by a high degree of whiteness, good printability and very high covering power. The prints obtained show excellent general fastness and a good final hand.

### **MINERPRINT® WHITE SCI**

Ready-to-use white printing paste ideal for obtaining extremely opaque effects on dyed fabrics, even in the case of dark or intense tones. The product can be used both in continuous and discontinuous printing and is characterized by good printability and very high covering power. The prints obtained show good general fastness and a good final hand.

## **COVERING PASTES AND LACQUERS**

### **BRILLANT LACQUER NT**

Ready-to-use printing paste that allows to obtain very deep and bright discharge effects on dyed fabrics, even on dark tones. It allows to work with fabrics that do not have discharge dyes without using steaming process. The product has a good covering power, good colour yield and high brilliance tone. It is possible to get clear and well-defined effects and have a good penetration even on knitted fabrics. The prints obtained have a very soft and pleasant hand, showing excellent general fastness.

### **COVERING AGENT 110**

Ready-to-use printing paste with elastic properties, mainly developed to obtain high coverage prints on coloured cotton and its blends. Its special formulation guarantees complete polymerization at 110°C. The product is characterized by good covering power and good colour rendering. The prints obtained are characterized by good elasticity, good final hand and good general fastness.

### **MINERPRINT® PRIME LACQUER NFO**

Innovative and performing ready-to-use printing paste that allows to obtain very intense and brilliant colour effects on fabrics with a dyed background, even on dark tones. The product has a high covering power, a good colour rendering and a high tone brilliance. Sharp and well-defined effects are obtained and it has good penetration even on knitted fabrics. The prints have a very soft and pleasant hand, and have excellent general fastness. Formaldehyde-free.

### **SOFT LACQUER NFI**

Ready-to-use printing paste that allows to obtain discharge-like effect with very intense and bright colours on fabrics with a dyed background, even on dark tones. The product has a high covering power, a good colour rendering and a high tone brilliance. Sharp and well-defined effects are obtained and it has good penetration even on knitted fabrics. The prints have a very soft and pleasant hand, and have excellent general fastness. Formaldehyde-free.



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## NEUTRAL PASTES

### MINERPRINT® CLEAR RUBBER EC

Ready-to-use transparent printing paste, characterized by very high elasticity performance, which allows to obtain prints that, after traction, do not show cracks. Ideal for screen printing, it has been developed to print on elastic and dyed synthetic fabrics. The prints obtained are characterized by intense shades, but above all by high elasticity performances, by a slippery hand similar to those of silicone-based prints, without taking. The general fastness are good.

### MINERPRINT® SOFT PASTE AT5

Ready-to-use, water-based neutral paste, mainly used in the printing of natural, synthetic, PCV and vinyl fibres. Its special formulation allows complete fixation at low temperature (130°C) and the possibility of complete crosslinking at room temperature with the help of the CATALYST AT5, without compromising the high general fastness.

### MINERPRINT® SOFT PASTE NFO

Ready-to-use transparent printing paste containing soft binding polymers, which make it possible to obtain extremely soft and shiny prints on cotton, synthetics and blends. Thanks to its special formulation, the product allows to obtain articles without the release of formaldehyde, in full compliance with the regulations and standards in force. It already contains all the products necessary for fixing, does not require additional additives.

### MINERPRINT® SOFT PASTE Z

Ready-to-use transparent printing paste containing soft binding polymers, which make it possible to obtain extremely soft and shiny prints on cotton, synthetics and blends. Thanks to its special formulation, the product allows to obtain articles without the release of formaldehyde, in full compliance with the regulations and standards in force. It already contains all the products necessary for fixing, does not require additional additives.

### NEUTRAL MINERPRINT® PASTE MI

Ready-to-use printing paste, containing soft binder polymers. The product allows you to obtain very soft prints, characterized by good general fastness, a good colour rendering and a high brilliance of tones, both on cotton and synthetic fabrics. It already contains all the products necessary for fixing, does not require additional additives.

## PRODUCTS FOR DISCHARGE PRINTING

### REDOXONE PRINT CONC

Auxiliary with strong reducing action to be used in pigment printing in corrosion, as it allows to destroy the dyes with which the background is dyed.

### SOFT DISCHARGE

Ready-to-use printing paste ideal for printing pigments in discharge, with the fixation development process by thermal fixation, or by vaporization with saturated steam and subsequent polymerization. Very bright, uniform prints are obtained, characterized by a decidedly soft hand after washing.

## PRODUCTS FOR PIGMENT PAD-DYEING

### BINDER PADDING FM N

Auxiliary suitable for continuous dyeing of cellulosic, synthetic and mixed fabrics with pigments. It is an emulsion of acrylic polymers with the addition of softeners and crosslinking agents. The product has a low film-forming power, which avoids the formation of films on the pad-dyeing. It guarantees good fastness to wet, dry and rubbing washing, giving a soft hand to the fabrics.





### BINDER PADDING NFO

Auxiliary suitable for continuous dyeing of cellulosic, synthetic and mixed fabrics with pigments. It is an emulsion of acrylic polymers with the addition of softeners and crosslinking agents. The product has a low film-forming power, which avoids the formation of films on the pad-dyeing. It guarantees good fastness to wet, dry and rubbing washing, giving a soft hand to the fabrics.

### SINERGIL BT N

Anti-migrating and wetting auxiliary for pigment dyeing, even if carried out with dispersed dyes, which gives stability to the padding baths. By using SINERGIL BT N in the dyeing baths, brilliant and uniform colours are obtained and the hand of the fabric is sufficiently soft. The use of this product prevents the dispersed dyes from migrating during the drying of a foulard fabric, especially in the case of dyeing polyester / cellulose blends according to the TERMOSOL process and also head-tail and centre selvedge problems.

### SINERGIL N 30

Anti-migrating and wetting auxiliary for pigment dyeing which gives stability to the padding baths. By using SINERGIL N 30 in the dyeing baths, brilliant and uniform colours are obtained and the hand of the fabric is sufficiently soft.

## PRODUCTS FOR SPECIAL EFFECTS

Ready-to-use printing pastes for continuous and discontinuous printing, suitable to obtain different effects on fabrics or knitted fabrics.

They confer fashionable, relevant and fancy details to the fabric for creating extraordinary prints.

This type of printing pastes give added value to fabrics, characterizing them with final effects such as flocked, plastic, cracked, shiny, metallic and much more.

## SPARKLING

### MINERPRINT® BINDER FLITTER

Ready-to-use printing paste for printing glitter with a very high content of elastic and transparent polyurethane binder, it does not blur the brilliance of the glitters.

### MINERSTAR - RANGE

The products of the MINERSTAR range are ready-to-use pastes that provide the printed fabrics with extremely bright and sparkling metallic colour effects when irradiated. They are an excellent alternative to glitter.

Sharp and well-defined prints are obtained, characterized by a hand that differs from that of glitter prints for its extreme softness and brilliance.

Their particular formulation and the very careful selection of the binders allow to obtain good fastness both to repeated washing and to dry and wet rubbing.

The range consists of the following products

- ✓ **MINERSTAR SILVER**
- ✓ **MINERSTAR BRONZE**
- ✓ **MINERSTAR GOLD**
- ✓ **MINERSTAR TURQUOISE**

**MINERSTAR NEUTRAL I** product can be used to reduce the intensity of the effect, while maintaining the characteristics of printability, brightness and colour fastness. Their formulation is free from metal powders, which cause pollution in waste water, and from formaldehyde, allowing to operate in full compliance with current regulations and standards.

### MINERSTAR COVERING - RANGE

The products of the MINERSTAR COVERING range are ready-to-use pastes that provide printed fabrics with opaque metallic colour effects, extremely bright and sparkling under radiation.

They are an excellent alternative to glitter.

Sharp and well-defined prints are obtained, characterized by a hand that differs from that of glitter prints for its extreme softness and brilliance.

The particular formulation and the very careful selection of the binders allow to obtain good fastness both to repeated washing and to dry and wet rubbing.



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The range consists of the following products:

- ✓ **MINERSTAR COVERING SILVER**
- ✓ **MINERSTAR COVERING BRONZE**
- ✓ **MINERSTAR COVERING GOLD**
- ✓ **MINERSTAR COVERING BLACK**

**MINERSTAR NEUTRAL I** product can be used to reduce the intensity of the effect, while maintaining the characteristics of printability, brightness and colour fastness.

Their formulation is free from metal powders, which cause pollution in waste water, and from formaldehyde, allowing to operate in full compliance with current regulations and standards.

## METALLIC

### GOLD BINDER NFO

Ready-to-use printing paste for printing metal powders, solvent-free. Very bright prints are obtained with a high oxidation stability that allows the production of long lengths.

### MINERPRINT® ALUMINIUM PASTE

Aluminium powder used for silver metallic effects, wetted with glycols to avoid the formation of dust during the preparation of the printing paste. It is advisable to directly add the product, under slow stirring, to the GOLD BINDER NFO.

### MINERPRINT® RICH BRONZE PASTE WB

Aluminium powder used for golden metallic effects, wetted with glycols to avoid the formation of dust during the preparation of the printing paste. It is advisable to directly add the product, under slow stirring, to the GOLD BINDER NFO.

## PERLESCENT

### PERLAMIN - RANGE

Ready-to-use printing paste developed to obtain prints characterized by a pearly effect both on light cotton fabrics and on dark backgrounds. The range is characterized by excellent printability and good opacity. The final prints are characterized by a high final pearlescent effect, a soft final hand and good general fastness.

- ✓ **PERLAMIN MT** to obtain neutral pearly effects
- ✓ **PERLAMIN GOLD R** to obtain pearly gold-coloured effects
- ✓ **PERLAMIN COPPER MA** to obtain pearly copper-coloured effects

Their special formulation, free from metals and formaldehyde, allows to operate in full compliance with current regulations and the most demanding standards.

### PERLAMIN SPACE - RANGE

Ready-to-use printing pastes formulated to obtain iridescent and pearly effects. Clear prints are obtained, with a soft hand, very bright and characterized by good fastness both to dry and wet rubbing and to washing.

- ✓ **PERLAMIN SPACE YELLOW** to obtain yellow pearly effects
- ✓ **PERLAMIN SPACE VIOLET** to obtain violet pearly effects

Their formulation is free from metal powders which cause pollution in waste water.

## METALLIC-LIKE

### MINERPRINT® GM SERIES

Ready-to-use printing pastes used for printing metallic-like effects, very bright and without oxidation problems, which allows the production of long lengths. Sharp, well-defined and very bright printing effects are obtained with good fastness both to dry and wet rubbing and to washing.

**DIAMOND MINERPRINT® GM** allows to obtain pearly effects, even coloured, and if applied on dark fabric it allows to obtain silver prints.

**GOLD MINERPRINT® GM** allows to obtain effects of gold colour.

Their formulation does not contemplate the presence of metal powders that cause pollution in the waste water.



### MINERPRINT® GPA SERIES

Ready-to-use printing pastes used for printing very bright metallic-like effects without oxidation problems, which allows the production of long lengths. Sharp, well-defined and very bright printing effects are obtained with good fastness both to dry and wet rubbing and to washing.

**GOLD MINERPRINT® GPA** for gold-coloured effects

**PLATINUM MINERPRINT® GPA** for platinum-coloured effects

**SILVER MINERPRINT® GPA** for silver effects

Their formulation makes them 100% ecological, in fact it does not include the presence of metal powders that cause pollution in the waste water. The prints are characterized by a practically zero release of formaldehyde.

### 3-D PUFF

#### MINERFOAM BI

Ready-to-use printing paste designed to obtain very marked embossed 3-D puff effects, characterized by high adhesion to the printed textile support. Ideal for printing wrought or synthetic fabrics. The prints obtained are characterized by good general fastness.

#### MINERFOAM DKV

Ready-to-use printing paste designed to obtain very marked and opaque embossed 3-D puff effects on both white and coloured fabrics, cotton, viscose, wool, silk and polyamide fibres. Its main feature is that it can be combined with printing with dyes, the fixation process of which takes place by steaming at 102°C, without the product swelling. The product has good covering power, good printability and good colour rendering. The prints obtained are characterized by the medium swelling with a soft and smooth effect. The general fastness are good.

#### MINERFOAM FL

Ready-to-use printing paste designed to obtain velvety 3-D puff effects similar to flock printing. The prints obtained are characterized by a pleasant hand and fastness to dry and wet rubbing and satisfactory washing.

### MINERFOAM SR SPEC

Ready-to-use printing paste designed to obtain very marked embossed 3-D puff effects, characterized by high adhesion to the printed textile support. The prints obtained are characterized by good general fastness.

#### MINERPRINT® ULTRAGRIP WB

Ready-to-use printing paste developed to create an anti-slip effect on the back of tablecloths (or similar fabrics). The product is a swelling agent, so the effect is noticeable only with drying. It can be printed both in rotary and in screen printing, with the foresight to print it in the last position to avoid the compromising of the final effect. The addition of 10g/kg of **CATALYST AT5** definitely improves the final effect and general solidity.

### VARIOUS EFFECTS

#### MINERLUX NEW I

Ready-to-use printing paste for phosphorescent effects, which when used without the addition of pigment on white fabric, allows for almost colourless prints. After being "charged" with light, in the dark it emits phosphorescent iridescences for several minutes. The product can be applied by padding obtaining in addition to an improvement in solidity, also a soft hand and a greater brilliance of the previously printed tones.

#### MINERPRINT® GLOSS PASTE

Ready-to-use printing paste that allows you to obtain prints characterized by glossy and brilliant effects, very elastic and with good general fastness.

#### MINERPRINT® PASTE BICOLOURED

Ready-to-use neutral paste formulated to obtain two-colour delavé (reactive-pigment) on cellulosic fibres and its blends. The paste contains in its formulation the quantity of urea and alkali necessary for the fixation of the reactive dye and a minimum quantity of binder for the fixation of the pigment. The product has been specifically formulated with a thickener at low VOC emission.


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### **MINERPRINT® TRANSPARENT FDE**

Ready-to-use transparent printing paste which, thanks to its high transparency, allows to obtain a "devoré-like" effect on different articles. On cellulosic substrates the "devoré-like" effect is considerably reduced.

### **RESIN A**

Printing resin designed to obtain reserve effects of fabrics that must subsequently be subjected to a dyeing process with direct or reactive dyes. The product prevents the printing from being influenced by the dye during the dyeing phase (reserve effect). This procedure is used above all in companies that package the raw-printed garments and then proceed to dye them according to market demands.

### **RESIN RD**

Printing resin designed to obtain tone-on-tone effects on cotton fabrics that must subsequently be subjected to a dyeing process with direct or reactive dyes. In the areas printed with the product, the fixation of direct dyes increases, allowing to obtain more intense shades of colour than the background colour.

## **ADHESIVES FOR PRINTING CARPETS**

### **MINERGLUE RP**

Vinyl polymer-based adhesive characterized by a high solubility in water and a strong grip power on natural and synthetic fibres, which can be used in bonding the fabric to the printing carpet. The product can also be used as a hand modifier, in foulard applications: it gives full and sustained hand to fabrics of cotton, viscose, silk, nylon, polyester and their blends.

## **AUXILIARIES FOR PRINTING**

Thanks to the experience gained in textile auxiliaries, Achitex Minerva is able to offer a package of solutions to support each type of product and phase of traditional printing. These products facilitate printing operations by improving the performances of the pastes, increasing their properties and allowing to obtain prints characterized by a high degree of definition and colours that are always bright and solid over time.

AUXILIARIES FOR PRINTING allow to obtain prints of superior quality, without influencing the substrates on which the printing pastes are applied.

## **SOFTENERS**

### **FINISH S**

Printing auxiliary designed to improve the characteristics of pigment prints, increasing their fastness to dry rubbing and giving the fabrics a soft, pleasant and smooth hand. It also improves printability by acting favourably on the sliding and stability properties of the printing pastes.

### **SOFTENER A 95**

Auxiliary for printing with softening function. Stable emulsion of dimethylpolysiloxanes and esters of fatty acids that gives prints on cotton and mixed fabrics a soft, pleasant, dry and smooth hand.

## **ANTIFOAM**

### **ANTIFOAM F**

Non-silicone defoamer, based on phosphoric ester, compatible with both anionic and cationic substances. It increases the wetting power and promotes the penetration and unity of printing pastes. It is used both as an antifoam and as a deaerant. The product has no affinity for fibres and is eliminated by drying the printed fabrics in the mansard.





### **ANTIFOAM W CONC**

Stable emulsion of silicones that has a very effective and rapid antifoam action, maintaining its effect during the printing phase. In the printing of pigment colours in emulsion, the use of antifoam products is not normally used, while for solvent-free systems, now widely used, it is advisable to use a good antifoam.

## **EMULSIFIERS**

### **EMULSIFIER DF**

Non-ionic surfactant in concentrated form that improves the homogeneity of the pigment pastes, favouring the unity of the prints.

### **EMULSIFIER LS**

Perfectly balanced surfactant in the dosage of its lyophilic and lyophobic components, which easily emulsifies the white spirits, allowing to obtain printing pastes with high colour yield and good stability.

### **EMULSIFIER NP N**

Stabilizer for both acrylic and butadiene binders, when they are in critical conditions due to cold or heat shocks. It has a high wetting power and is suitable for use with very damaged flat or rotary printing screens.

## **FIXATORS AND CROSSLINKERS**

### **ACHIFIX MBH CONC**

New conception and high quality binder and fixator for pigment printing, designed to obtain high fastness, bright colours and soft hand on a large variety of substrates. The product can be used both in continuous and discontinuous printing.

### **CROSSLINKER 59**

Polymerization accelerant/fixator for terminal OH polymers, used to reduce times and/or temperature during the polymerization process of pigment prints. It can also be recommended in combination with fluorinated and non-fluorinated polymers, to increase the adhesion to the textile support and impart consequently better technical performance.

### **CROSSLINKER AF**

Aliphatic polymerization accelerator for printing pastes containing binders, used to reduce times and / or temperature during the polymerization process of pigment prints. The product is compatible with all alkaline systems of pigment printing pastes, while its use in an acidic environment, such as in discharge printing, should be avoided.

### **CROSSLINKER M**

Polymerization accelerator for printing pastes containing binders, used to reduce times and / or temperature during the polymerization process of pigment prints. The product is compatible with all alkaline systems of pigment printing pastes, while its use in an acidic environment, such as in discharge printing, should be avoided.

### **MINERPRINT® FIXATOR LF**

### **MINERPRINT® FIXATOR LF CONC**

The product is used as an additive to crosslink the binders used in pigment printing, ensuring excellent washing fastness to the prints obtained. The danger of amine development is minimal. The printing pastes containing the product remain unchanged for a long time and have excellent printability.

### **MINERPRINT® FIXATOR NFO**

Crosslinker for pigment printing, suitable for obtaining prints without formaldehyde release, but with a fastness equal to that obtained with traditional melamine-based fixers. The product improves the fastness to dry and wet rubbing and the fastness to washing. It is effective in printing both elastic and non-elastic fabrics, in particular on synthetic and cellulosic fabrics.

### **CATALYST AT5**

Polyfunctional catalyst based on aziridine suitable for pigment printing with pastes containing acrylic and / or polyurethane resins, recommended for printing synthetic fibres and PVC.



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## LUBRICANTS

### LUBRILAC ZN

Lubricant and moisture donor for all types of pigment printing pastes. The product delays the drying of the printing pastes during the production process, avoiding the consequent clogging of the screens and cylinders and increasing productivity.

### MINERPRINT® RETARDER M

Polyacrylate emulsion used as a lubricant and moisture donor for all types of pigment printing paste.

The product delays the drying of printing pastes, including whites and lacquers, during the production process, avoiding the consequent clogging of the printing screens or cylinders, thus increasing productivity.

## RHEOLOGY MODIFIERS

### ANTI HALO CO 20 N

#### ANTI HALO N

Rheology modifier of new conception which slightly increases the viscosity of the printing paste by varying the rheology, therefore giving a greater mechanical stability. It performs its action only in presence of another thickener. It is mainly used in the printing of threads of synthetic and /or resinated fabrics, where the sealing of the contours and the diffusion of colour are normally difficult to solve. It can also be used in the printing of disperse dyes where a synthetic thickener is used.

### PRINTOFIN SUPRA

Rheology modifier to be added to printing paste, which slightly increases its viscosity. Its use is recommended to improve the sealing of the contours, especially of the fillets, increase the colour rendering and obtain less penetrated and more uniform prints.

### THICKENER E

Auxiliary product that in addition to increasing viscosity, decreases the penetration of prints, favouring the colour rendering. It is indicated where good sharpness is required and in particular in printing lines, especially in systems without white spirits on light cotton and blended fabrics.

## MULTIFUNCTIONALS

### PACK PRINT NFI

Multifunctional auxiliary that groups together most of the components of the printing paste, reducing the number of products to be used: a thickener and a binder are sufficient to obtain a printing paste complete with all the best features. The product allows to obtain a better hold of the contours, a greater colour rendering with an increase of the general fastness.

## VARIOUS AUXILIARIES

### DETERGENT BS

Solvent-based auxiliary, not very aggressive, formulated for the easy removal of printing paste residues from accessories normally used in production, without the formation of foam. It is recommended to apply it by immersion, using a mechanical action in case of stubborn dirt. After washing it is recommended to rinse thoroughly with water. The product contains a special mixture of solvents which makes it non-flammable and low volatile.

### DEVOPRINT B

Auxiliary used as acidity generator in devoré printing. Its particular chemical characteristics allow to obtain an excellent destruction of the cellulosic fibres, allowing eliminated in the washing phase.

### DISPERSANT P

Dispersing additive that prevents pigments from agglomerating and keeps them in a stable and very fine suspension throughout the printing process. It can also be used in modern automatic colour kitchens, it prevents pigment deposits and encrustations, which are no longer dispersible. The product also stabilizes the printing pastes, facilitating the cleaning of the cylinders and preventing the formation of colour films inside them.

### HYDROPHIL M

Auxiliary with high wetting action, suitable for double-sided prints and where a strong penetration of the printing paste into the fabric is desired. It is often used in conjunction with the EMULSIFIER DF.



# SCREEN PRINTING

Achitex Minerva Group has drawn on its experience in the textile industry to develop a full range of high-performing, eco-compatible products for screen printing.

Screen printing is a discontinuous printing technique in which a polyester fabric screen is stretched on a metal frame and then photo-engraved to create clearly defined patterns.

The frame is placed on top of the fabric for printing and a special rubber trowel (squeegee) is then pressed down on it to force the ink through the screen onto the fabric underneath, precisely reproducing the pattern created by the photo-engraving process.

Achitex Minerva screen-printing range includes the following special effects and lines:

- **Water-based:** white, clear and opaque products, lacquers, discharge products, sizes for flock and mylar, pastes for metallic and gloss effects, foaming or high-thickness (3D) pastes, etc.  
They provide an extremely soft handle and comply with the strictest environmental standards.
- **Plast:** plastisol colours for wet-on-wet printing, plastisol for metallic effects (silver, bronze and pearl), plastisol for four-colour printing, and plastisol for fluorescent shades (free from formaldehyde).
- **Minerprint® Pure (PVC-free):** PVC-free plastisol-equivalent colours, environment-friendly and extremely stable on screens and over time. An innovative formulation that combines the benefits of Plastisol with the environment-friendly characteristics typical of water-based products.
- **Minersil (silicones):** eco-friendly products with high elasticity and bonding on synthetic fabrics, suitable above all for sportswear or intimate apparel.

Most Achitex Minerva printing products are on the Inditex list and hold GOTS, bluesign® and ZDHC certification. The ranges can be modified in response to the demands of the market and our Customers, without any reduction in quality.



The MinerMix Colour Matching System, available for Minerprint® pigment dispersions, the PLAST range and the Minerprint® PURE series, allows formulae to be created quickly and easily, and with simple reproduction!

# WATER-BASED PRODUCTS

Screen printing water-based inks: the most ecological solution to print fabrics, safeguarding the environment. They allow to obtain prints with a very soft final hands, bright colour and, if desired, a lot of special effects, that give an added value to the creations.

They are a great alternative to Plastisol inks being eco-friendly (PVC, phthalates, VOC free).

## WHITE PASTES

### MINERPRINT® SOFT WHITE C

Ready-to-use white printing paste ideal for obtaining extremely covering effects on dyed fabrics and / or knits, even in the case of dark or intense tones. The product is characterized by a high covering power and a good degree of whiteness. The prints obtained have an extremely soft and plastic final hand.

### MINERPRINT® WHITE 110

Ready-to-use white printing paste developed mainly to obtain high coverage prints on coloured cotton and its blends. Its special formulation guarantees complete polymerization at 110°C. The product is characterized by good covering power, good final hand and good general fastness.

### MINERPRINT® WHITE ELASTIC EXTRA

Ready-to-use white printing paste developed mainly to obtain covering and extremely elastic printing effects on coloured backgrounds such as cotton, its blends and lycra. The prints obtained are characterized by high elasticity and covering power, good general fastness and a very soft final hand.

### MINERPRINT® WHITE ELASTIL FG

White ready-to-use printing paste designed for use on dyed elastic fabrics, such as Lycra, stretch jersey etc. The product is characterized by a high degree of whiteness, good covering power but above all for a great elasticity, which allows to obtain prints which, after traction, do not show cracks. Printed fabrics have good fastness to both dry/wet rubbing and washing.

### MINERPRINT® WHITE RUBBER EC

Ready-to-use white printing paste, characterized by a high degree of whiteness, excellent covering power but above all very high elasticity performance with zero tacking, which allows to obtain prints that, after traction, do not show cracks. Ideal for printing on elastic and dyed synthetic fabrics, such as Lycra, stretch jersey, etc. The product has a printability very similar to that of plastisol inks, while ensuring excellent general fastness.

### MINERPRINT® WHITE SR 301 T

Ready-to-use white printing paste, designed to obtain elastic effects characterized by a high degree of whiteness, on dyed elastic fabrics. It allows to obtain prints that, after traction, do not show cracks. It is characterized by the high degree of whiteness, the high coverage and the brilliance of tone; the prints obtained show good elasticity and good general fastness.

### MINERPRINT® WHITE SR KF

Ready-to-use white printing paste ideal for obtaining opaque effects on both natural and synthetic dyed fabrics, even in the case of intense tones. The prints obtained are highly opaque, characterized by an extremely soft, smooth and elastic hand, as well as by a high degree of whiteness. Printed fabrics have good fastness to both dry / wet rubbing and washing.





### **MINERPRINT® WHITE SR ND**

Ready-to-use white printing paste designed for printing dyed elastic fabrics, such as Lycra, stretch jersey, etc. The product has a high degree of whiteness and a high covering power. It allows to obtain very elastic prints, which after being subjected to traction do not show cracks, and characterized by an extremely soft hand and free from tacking. It stands out for its high printability performances, which allow to obtain very detailed drawings. The product does not dry in the printing screens. Printed fabrics have good fastness to both dry / wet rubbing and washing.

### **MINERPRINT® WHITE SR ND EXTRA**

Ready-to-use white printing paste designed for printing dyed elastic fabrics, such as Lycra, stretch jersey, etc. The product has a high degree of whiteness and a high covering power. It allows to obtain very elastic prints, which after being subjected to traction do not show cracks, and characterized by an extremely soft hand and free from tacking. It stands out for its high printability performances, which allow to obtain very detailed drawings. The product does not dry in the printing screens. Printed fabrics have good fastness to both dry / wet rubbing and washing.

## **COVERING PASTES AND LACQUERS**

### **BRILLANT LACQUER NT**

Ready-to-use printing paste that allows to obtain very deep and bright discharge effects on dyed fabrics, even on dark tones. It allows to work with fabrics that do not have discharge dyes without using steaming process. The product has a good covering power, good colour yield and high brilliance tone. It is possible to get clear and well-defined effects and have a good penetration even on knitted fabrics. The prints obtained have a very soft and pleasant hand, showing excellent general fastness.

### **COVERING AGENT 110**

Ready-to-use printing paste with elastic properties, mainly developed to obtain high coverage prints on coloured cotton and its blends. Its special formulation guarantees complete polymerization at 110°C. The product is characterized by good covering power and good colour rendering. The prints obtained are characterized by good elasticity, good final hand and good general fastness.

### **COVERING AGENT ELASTIL FG**

Ready-to-use printing paste designed for use on dyed elastic fabrics, such as Lycra, stretch jersey etc. The product is characterized by good covering power but above all by its great elasticity, which allows to obtain prints that, after traction, do not show cracks. Printed fabrics have good general fastness.

### **COVERING AGENT SR ND**

Ready-to-use covering printing paste, designed to obtain lacquered elastic effects on elastic fabrics dyed in dark tones where great coverage is required. It allows to obtain prints characterized by very intense tones with a matte finish, which after traction do not show cracks.



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### **MINERPRINT® PRIME LACQUER NFO**

Innovative and performing ready-to-use printing paste that allows to obtain very intense and brilliant colour effects on fabrics with a dyed background, even on dark tones. The product has a high covering power, a good colour rendering and a high tone brilliance. Sharp and well-defined effects are obtained and it has good penetration even on knitted fabrics. The prints have a very soft and pleasant hand, and have excellent general fastness. Formaldehyde-free.

### **SOFT LACQUER NFI**

Ready-to-use printing paste that allows to obtain discharge-like effect with very intense and bright colour on fabrics with a dyed background, even on dark tones. The product has a high covering power, a good colour rendering and a high tone brilliance. Sharp and well-defined effects are obtained and it has good penetration even on knitted fabrics. The prints have a very soft and pleasant hand, and have excellent general fastness. Formaldehyde-free.

### **COVERING AGENT ELASTIL FG**

Ready-to-use printing paste designed for use on dyed elastic fabrics, such as Lycra, stretch jersey etc. The product is characterized by good covering power but above all by its great elasticity, which allows to obtain prints that, after traction, do not show cracks. Printed fabrics have good general fastness.

## **NEUTRAL PASTES**

### **MINERCLEAR PROCESS AF**

Printing paste specially designed for the preparation of four-colour process colours, which have a soft hand as their main characteristics and which are not contaminated by Mylar and Flock sheets applied by means of a hot calender. Its particular formulation allows you to obtain four-colour prints that have excellent definition, excellent colour brilliance and high general fastness.

### **MINERPRINT® CLEAR RUBBER EC**

Ready-to-use transparent printing paste, characterized by very high elasticity performance, which allows to obtain prints that, after traction, do not show cracks. It has been developed to print on elastic and dyed synthetic fabrics. The prints obtained are characterized by intense shades, but above all by high elasticity performances, by a slippery hand similar to those of silicone-based prints, without taking. The general fastness are good.

### **MINERPRINT® PASTE GOTS**

Ready-to-use transparent printing paste containing soft binding polymers, which make it possible to obtain extremely soft and shiny prints on cotton, synthetics and blends. Thanks to its special formulation, the product allows to obtain articles without the release of formaldehyde, in full compliance with the regulations and standards in force.

### **MINERPRINT® SOFT PASTE 110**

Ready-to-use neutral printing paste developed mainly to obtain prints on white cotton, synthetic or blends. Its special formulation guarantees complete polymerization at 110°C. The product is characterized by excellent printability and high colour rendering. The prints obtained have a good final hand and good fastness, as well as a characteristic shiny and elastic effect.



### **MINERPRINT® SOFT PASTE AT5**

Ready-to-use, water-based neutral paste, mainly used in the printing of natural, synthetic, PCV and vinyl fibres. Its special formulation allows complete fixation at low temperature (130°C) and the possibility of complete crosslinking at room temperature with the help of the CATALYST AT5, without compromising the high general fastness.

### **MINERPRINT® SOFT PASTE CMX**

Ready-to-use paste specific for printing white backgrounds on cotton, its blends and knits. The product is characterized by excellent printability and high colour rendering. The prints obtained have a very soft final hand and excellent general fastness.

### **MINERPRINT® SOFT PASTE EJ**

Ready-to-use printing paste containing soft binding polymers, which make it possible to obtain extremely soft and shiny prints on cotton, synthetics and blends. Thanks to its special formulation, the product allows to obtain articles without the release of formaldehyde, in full compliance with the regulations and standards in force.

### **MINERPRINT® SOFT PASTE NFO**

Ready-to-use transparent printing paste containing soft binding polymers, which make it possible to obtain extremely soft and shiny prints on cotton, synthetics and blends. Thanks to its special formulation, the product allows to obtain articles without the release of formaldehyde, in full compliance with the regulations and standards in force. It already contains all the products necessary for fixing, does not require additional additives.

### **MINERPRINT® SOFT PASTE NS**

Ready-to-use printing paste specific for printing white backgrounds. The product can be used both in the printing of cellulosic fibres, its blends and synthetic fibres and is characterized by an excellent printability, by a high colour rendering. The prints obtained have a very soft final hand and very good general fastness. The product does not contain white spirit and has a low release of formaldehyde.

### **MINERPRINT® SOFT PASTE Z**

Ready-to-use transparent printing paste containing soft binding polymers, which make it possible to obtain extremely soft and shiny prints on cotton, synthetics and blends. Thanks to its special formulation, the product allows to obtain articles without the release of formaldehyde, in full compliance with the regulations and standards in force. It already contains all the products necessary for fixing, does not require additional additives.

### **NEUTRAL MINERPRINT® PASTE MI**

Ready-to-use printing paste, containing soft binder polymers. The product allows you to obtain very soft prints, characterized by good general fastness, a good colour rendering and a high brilliance of tones, both on cotton and synthetic fabrics. It already contains all the products necessary for fixing, does not require additional additives.

### **TRANSPARENT ELASTIL FG**

Transparent ready-to-use printing paste designed for use on white or light-coloured elastic fabrics, where high coverage is not required. The product allows to obtain lacquered and glossy effects, characterized by a high colour rendering, bright tones and above all a high elasticity. The prints obtained, after traction, do not show cracks.

### **TRANSPARENT SR ND**

Ready-to-use printing paste designed for printing dyed elastic fabrics, such as Lycra, stretch jersey, etc. The product allows to obtain very elastic prints, which after being subjected to traction do not show cracks, and characterized by very intense colours with a brilliant finish, an extremely soft and tack-free hand, as well as good general fastness. It stands out for its high printability performances, which allow to obtain very detailed drawings. The product does not dry in the printing screens.

## PASTES FOR SPECIAL EFFECTS

Ready-to-use printing pastes for screen printing, suitable to obtain different effects on fabrics or knitted fabrics. They confer fashionable, relevant and fancy details to the fabric for creating extraordinary prints. This type of printing pastes give added value to fabrics, characterizing them with final effects such as flocked, plastic, cracked, shiny, metallic and much more. The majority of these products have been formulated to meet ecological requirements to preserve the environment and human health.

### SPARKLING

#### MINERPRINT® PASTE GLT

Ready-to-use paste specific for printing with glitter, suitable for printing cellulosic fibres, its blends and synthetic fibres.

#### MINERSTAR - RANGE

Ready-to-use pastes that provide the printed fabrics with extremely bright and sparkling metallic colour effects when irradiated. They are an excellent alternative to glitter. Sharp and well-defined prints are obtained, characterized by a hand that differs from that of glitter prints for its extreme softness and brilliance.

Their particular formulation and the very careful selection of the binders allow to obtain good fastness both to repeated washing and to dry and wet rubbing.

The range consists of the following products:

- ✓ **MINERSTAR NEUTRAL I**
- ✓ **MINERSTAR SILVER**
- ✓ **MINERSTAR BRONZE**
- ✓ **MINERSTAR GOLD**
- ✓ **MINERSTAR TURQUOISE**

#### MINERSTAR COVERING - RANGE

Ready-to-use pastes that provide printed fabrics with opaque metallic colour effects, extremely bright and sparkling under radiation. They are an excellent alternative to glitter.

Sharp and well-defined prints are obtained, characterized by a hand that differs from that of glitter prints for its extreme softness and brilliance.

The particular formulation and the very careful selection of the binders allow to obtain good fastness both to repeated washing and to dry and wet rubbing.

The range consists of the following products:

- ✓ **MINERSTAR COVERING SILVER**
- ✓ **MINERSTAR COVERING BRONZE**
- ✓ **MINERSTAR COVERING GOLD**
- ✓ **MINERSTAR COVERING BLACK**

**MINERSTAR NEUTRAL I** product can be used to reduce the intensity of the effect, while maintaining the characteristics of printability, brightness and colour fastness.

Their formulation is free from metal powders, which cause pollution in waste water, and from formaldehyde, allowing to operate in full compliance with current regulations and standards.

### CRACKING

#### MINERPRINT® CLEAR CRACKING NFO

Ready-to-use transparent printing paste, totally formaldehyde-free, designed to obtain extremely bright and glossy "cracking" effect prints on stretch fabrics, such as jersey or knitwear. The base fabric must have even a minimum degree of elasticity to allow a good result of the effect. The product gives the print a glossy, compact finish with an extremely dry hand, a fundamental requirement for the required effect. The prints obtained have good fastness both to dry / wet rubbing and to washing.





### MINERPRINT® WHITE CRACKING NFO

Ready-to-use white printing paste, totally formaldehyde-free, designed to obtain "cracking" effect prints on dyed stretch fabrics, such as jersey or knitwear. The base fabric must have even a minimum degree of elasticity to allow a good result of the effect. The product is characterized by a high degree of whiteness and excellent covering power. It allows to obtain very compact prints with an extremely dry hand, a fundamental requirement for the required effect. The prints obtained have good general fastness.

## PEARLSCENT

### PERLAMIN - RANGE

Ready-to-use printing paste developed to obtain prints characterized by a pearly effect both on light cotton fabrics and on dark backgrounds. The range is characterized by excellent printability and good opacity. The final prints are characterized by a high final pearlescent effect, a soft final hand and good general fastness.

- ✓ **PERLAMIN MT** to obtain neutral pearly effects
- ✓ **PERLAMIN GOLD R** to obtain pearly gold-coloured effects
- ✓ **PERLAMIN COPPER MA** to obtain pearly copper-coloured effects

Their special formulation, free from metals and formaldehyde, allows to operate in full compliance with current regulations and the most demanding standards.

### PERLAMIN SPACE - RANGE

Ready-to-use printing pastes formulated to obtain iridescent and pearly effects. Clear prints are obtained, with a soft hand, very bright and characterized by good fastness both to dry and wet rubbing and to washing.

- ✓ **PERLAMIN SPACE YELLOW** to obtain yellow pearly effects
- ✓ **PERLAMIN SPACE VIOLET** to obtain violet pearly effects

Their formulation is free from metal powders which cause pollution in waste water.

## REFLECTIVES

### REFLEX MINERPRINT® BASE

Transparent base for the production of printing pastes characterized by a reflective effect. The base completely encapsulates the glass microspheres, regardless of their size, without altering their reflective power.

### REFLEX MINERPRINT® GREY

Ready-to-use printing paste developed to obtain reflective effects on coloured and dark fabrics, both cotton, synthetic or mixed.

## 3-D PUFF

### MINERFOAM DKV

Ready-to-use printing paste designed to obtain very marked and opaque embossed 3-D puff effects on both white and coloured fabrics, cotton, viscose, wool, silk and polyamide fibres. Its main feature is that it can be combined with printing with dyes, the fixation process of which takes place by steaming at 102°C, without the product swelling. The product has good covering power, good printability and good colour rendering. The prints obtained are characterized by the medium swelling with a soft and smooth effect. The general fastness are good.

### MINERFOAM SR SPEC

Ready-to-use printing paste designed to obtain very marked embossed 3-D puff effects, characterized by high adhesion to the printed textile support. The prints obtained are characterized by good general fastness.

### MINERPRINT® ULTRAGRIP WB

Ready-to-use printing paste developed to create an anti-slip effect on the back of tablecloths (or similar fabrics). The product is a swelling agent, so the effect is noticeable only with drying. It can be printed both in rotary and in screen printing, with the foresight to print it in the last position to avoid the compromising of the final effect. The addition of 10g/kg of CATALYST AT5 definitely improves the final effect and general solidity.



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## METALLIC-LIKE

### MINERPRINT® GM SERIES

Ready-to-use printing pastes used for printing metallic-like effects, very bright and without oxidation problems, which allows the production of long lengths. Sharp, well-defined and very bright printing effects are obtained with good fastness both to dry and wet rubbing and to washing.

- ✓ **DIAMOND MINERPRINT® GM** allows to obtain pearly effects, even coloured, and if applied on dark fabric it allows to obtain silver prints.
- ✓ **GOLD MINERPRINT® GM** allows to obtain effects of gold colour.

Their formulation does not contemplate the presence of metal powders that cause pollution in the waste water.

### MINERPRINT® GPA SERIES

Ready-to-use printing pastes used for printing very bright metallic-like effects without oxidation problems, which allows the production of long lengths. Sharp, well-defined and very bright printing effects are obtained with good fastness both to dry and wet rubbing and to washing.

- ✓ **GOLD MINERPRINT® GPA** for gold-coloured effects
- ✓ **PLATINUM MINERPRINT® GPA** for platinum-coloured effects
- ✓ **SILVER MINERPRINT® GPA** for silver effects

Their formulation makes them 100% ecological, in fact it does not include the presence of metal powders that cause pollution in the waste water. The prints are characterized by a practically zero release of formaldehyde.

## VARIOUS EFFECTS

### GREY BLOCK WB

Ink to be used as a background print on all synthetic or natural substrates in which there are problems of migration of the substrate dye. The use of this product guarantees a high barrier effect that blocks the phenomenon of sublimation and does not allow the dyeing of the fabric to alter the overprinted colours.

### MINERPRINT® PASTE FLOCK NFO

Ready-to-use printing paste that is used as an adhesive in electrostatic flock printing. The product is characterized by good penetration and adhesiveness. The prints obtained have a soft final hand and good general fastness.

### MINERPRINT® TRANSPARENT FDE

Ready-to-use transparent printing paste which, thanks to its high transparency, allows to obtain a "devoré-like" effect on different articles. On cellulosic substrates the "devoré-like" effect is considerably reduced.

### SUPERGLOSS M

Ready-to-use printing paste that allows you to obtain prints characterized by glossy and brilliant effects, very elastic and with good general fastness.

## AUXILIARIES

### CATALYST AT5

Polyfunctional catalyst based on aziridine suitable for pigment printing with pastes containing acrylic and / or polyurethane resins, recommended for printing synthetic fibres and PVC.

### CROSSLINKER M

Polymerization accelerator for printing pastes containing binders, used to reduce times and / or temperature during the polymerization process of pigment prints. The product is compatible with all alkaline systems of pigment printing pastes, while its use in an acidic environment, such as in discharge printing, should be avoided.

### EMULSION SR KF (NEUTRAL PASTE)

Ready-to-use neutral printing paste, with a high concentration of binders, suitable for printing cotton, synthetic and mixed fabrics, where better strength, soft hand and intense tones are required. It is used in printing and screen printing that do not have the possibility to prepare the thicknesses directly, as it already contains all the products necessary for fixing.



### FINISH S

Printing auxiliary designed to improve the characteristics of pigment prints, increasing their fastness to dry rubbing and giving the fabrics a soft, pleasant and smooth hand. It also improves printability by acting favourably on the sliding and stability properties of the printing pastes.

### HYDROPHIL M

Auxiliary with high wetting action, suitable for double-sided prints and where a strong penetration of the printing paste into the fabric is desired. It is often used in conjunction with the EMULSIFIER DF.

### MINERPRINT® FIXATOR NFO

Crosslinker for pigment printing, suitable for obtaining prints without formaldehyde release, but with a fastness equal to that obtained with traditional melamine-based fixers. The product improves the fastness to dry and wet rubbing and the fastness to washing. It is effective in printing both elastic and non-elastic fabrics, in particular on synthetic and cellulosic fabrics.

### SUBLIPRIMER L LIQ

Ready-to-use product for the treatment of fabrics, preliminary to the sublimation transfer process. The transfer of the sublimation dye from the paper to the cellulosic fibre will take place in all areas of the fabric treated with the product. The final coat is slightly stiff, therefore it is recommended to apply it to fabrics of a certain weight, such as denim.

## DISCHARGE PRINTING PRODUCTS

### DISCHARGE BASE ECO

Printing paste for discharge textile printing that allows to drastically reduce the quantity of extractable formaldehyde on the product, compared to the traditional discharge printing system with decroline. It is recommended for the printing of cellulosic fibres (shuttle and knit) dyed with dischargable dyes in screen printing as the products printed with it do

not require steaming and subsequent washing. The product is to be used as a base and can be overprinted with both water-based and plastisol colours, in the printed area the final hand will be extremely soft. Wet-on-wet printable.

### DISCHARGE FPW

Ready-to-use printing paste ideal for discharge printing on cotton and knit fabrics. Very bright, uniform prints characterized by a good colour rendering are obtained. Used in combination with the REDUCING AGENT ECO it allows to obtain prints that do not release formaldehyde.

### DISCHARGE WHITE SR

Ready-to-use printing paste ideal for printing white in discharge with the development process by thermo fixation, or by vaporization with saturated steam and subsequent polymerization. It's possible to obtain prints with a high degree of whiteness, a uniform background and a decidedly soft hand after washing.

### MINERPRINT® WHITE FPW

Ready-to-use white printing paste ideal for printing white in discharge. It allows to obtain prints with a high degree of whiteness, a uniform background and a soft hand after washing. Used in combination with the REDUCING AGENT ECO allows to obtain prints that do not release formaldehyde, allowing to satisfy the most demanding standards.

### REDUCING AGENT ECO

Stable reducing agent to be used in ecological corrosion pigment printing, with the aim of obtaining white and coloured prints on corrodible dyed fabrics. The corrosion printing process with this product requires the use of thickeners stable to salts and alkaline pH.

# PLAST RANGE

Plastisol inks are polyvinyl chloride (PVC) suspensions in a phthalate-free plasticizer. They are ready-to-use inks, perfectly homogeneous.

One of the main characteristics of Plast inks is their thixotropy, which allows them to vary viscosity under the action of mechanical forces and to return to the previous state when mechanical action ends up, allowing precision in detail, high coverage and uniform printing.

The range consists of:

- ✓ 13 basic colours that can be mixed to obtain other tones.
- ✓ 6 fluorescent colours.
- ✓ 5 concentrated inks for four-colour printing (PK series).
- ✓ 3 plast inks for metallic effects.
- ✓ a series of white inks and bases.
- ✓ a series of special effects products: opaque, puffed, thickened.

**Stability in the frame:** the Plast range does not dry in the panels, does not block them, allowing a significant reduction in machine cleaning times and a reduction in product waste, as well as production costs. This allows to maintain high production speeds.

**Wet on Wet stability:** the Plast range allows wet-on-wet printing, without the use of intermediate flash lamps, with a consequent saving of energy and time, this also allows to reduce printing stations and increase the number of colours.

**Low polymerization temperature:** Achitex Minerva plast range has the characteristic of polymerizing at low temperatures (130 °C), without affecting the final characteristics of the prints.



With "Colour Matching System" MinerMix PLAST is possible to obtain Coated formulations, in a fast, easy and reproducible way!





## PLAST BASES

### NEUTRAL PLAST

Plastisol ink to be used as a cutting paste for all products of the PLAST series.

### PLAST BASE EL

Ink designed for printing glossy and very transparent effects at medium thickness with "rounded shoulder". The effect obtained works like a real lens: overprinting the base in some areas of the design it's possible notice a magnification effect.

### PLAST BASE G

Ink designed for printing glossy and very transparent effects: overprinted in the final highlights the underlying print making it shiny and bright. The effect obtained works like a real lens.

### PLAST BASE HT

Ink designed for printing glossy and very transparent effects at medium thickness with "square shoulder". The prints obtained are characterized by high elasticity and the absence of tacking ("sticky" hand).

### PLAST BASE TR

Ink designed to perform in the best possible way all transfer printing processes, usable as it is or pigmented.

### PLAST COVERING

Plastisol ink to be used as a covering cutting base.

## PLAST WHITES

### PLAST ECOWHITE

White designed for printing opaque backgrounds characterized by a high degree of whiteness, a soft and elastic hand. The product is characterized by its quick drying under flash lamps and excellent printability, which allows to work with a high number of threads. It is advisable to print the product as it is, as any cuts could compromise the speed of drying and coverage. It is also suitable as a final white.

### PLAST WHITE BLEEDING REDUCER

Plastisol white for bottoms and finishing, developed to avoid the phenomenon of migration of synthetic fabrics during the drying phase and after printing. Its particular formulation and the raw materials used prevent the migration of the fabric and do not allow the dyeing of the fabric to colour the film created by the ink itself, this allows not only to have a white printing with excellent coverage and a point of white but also to preserve the brilliance of overmolded colours.

### PLAST FAST FLASH WHITE

Opaque white designed for printing covering backgrounds with a soft and elastic final hand. Ideal product for use in prints with intermediate drying using flash lamps: it is extremely quick to dry and does not occur under any subsequent flashes. The product can also be used as a final white, characterized by a high degree of whiteness that brings out any subsequent overprinted colours.

### PLAST WHITE AG

Plastisol white, designed for printing opaque backgrounds characterized by a soft, elastic hand and an extremely smooth surface, which brings out the overprinted colours. It is also suitable as a final white.

### PLAST WHITE EL

Plastisol white, designed for printing opaque backgrounds characterized by a soft, elastic hand and an extremely smooth surface that brings out the overprinted colours. Its formulation makes it particularly suitable for printing elastic substrates. It is characterized by the rapid drying under flash lamps. It is also suitable as a final white and in transfer printing.

### PLAST WHITE FLASH

White for opaque backgrounds characterized by a high degree of whiteness, a soft, elastic hand and an extremely smooth surface, which brings out the overprinted colours. It was developed for prints with intermediate drying using flash lamps, as its particular formulation allows for quick drying and does not recur under subsequent flashes. It is also suitable as a final white.



ACHITEX MINERVA

**PLAST WHITE LF**

Plastisol white, designed for printing covering backgrounds characterized by a soft, elastic hand and an extremely smooth surface, which brings out the overprinted colours. It is characterized by its quick drying under flash lamps and excellent printability, which allows to work even with a high number of threads. Its special formulation guarantees complete polymerization at 130°C.

**PLAST WHITE LT**

Plastisol white for printing covering backgrounds characterized by a soft, elastic hand and an extremely smooth surface, which brings out the overprinted colours. It is characterized by its quick drying under flash lamps and excellent printability. Its special formulation guarantees complete polymerization at 130°C.

**PLAST WHITE MX**

White Plastisol formulated to be used with the MinerMix PLAST Colour Matching System.

## PLAST FOR SPECIAL EFFECTS

**METALLIC PLAST**

Plastisol metallic colours that allow to obtain prints very similar, in terms of gloss level, to transfer applications of Mylar foil. The range consists of:

- ✓ **PLAST RICH GOLD**
- ✓ **PLAST SILVER**
- ✓ **PLAST PEARL**

**PLAST BLOCK GREY****PLAST BARRIER BLACK**

Ink to be used as a background print on all synthetic or natural substrates in which there are problems of migration of the substrate dye. The use of this product guarantees a high barrier effect that blocks the phenomenon of sublimation and does not allow the dyeing of the fabric to alter the overprinted colours.

**PLAST DROP**

Ink designed for thick printing, characterized by a rounded shoulder, with a glossy and very transparent finish. A lens effect is obtained.

**PLAST CARPET**

Ink for non-slip printing on the back of carpets.

**PLASTFOAM**

Plastisol ink designed to obtain swelling effects. The prints obtained are characterized by high elasticity and the absence of tacking ("sticky" hand).

## ADDITIVES FOR PLAST

**PLAST CATALYST**

Catalyst formulated to increase the physical and mechanical resistance of PLAST inks, ideal for reducing polymerization times or temperatures, or for all items that will subsequently undergo extremely aggressive washing processes. The product can also be used as an adhesion promoter in PLAST DROP during the flock transfer process in the calender.

**PLAST LUBRILAC**

Fluidifier formulated to reduce the viscosity of the PLAST series products, maintaining the polymerization temperature and the final coat unchanged. The product also improves wet-on-wet printability.

**PLAST CURABLE REDUCER**

Very transparent liquid resin, designed to be added to all PLAST products, both to reduce their viscosity and to reduce polymerization times and temperatures.

**THINNER**

Solvent designed to reduce the viscosity of the products of the PLAST range.

**PLASTFOAM ADDITIVE LF**

Concentrated swelling additive, which can be used mixed in all products of the PLAST series in the maximum percentage of 40%. The use of the product allows to obtain a swelling ink, particularly suitable for printing to obtain clear lines and not excessively rounded.



# MINERPRINT® PURE (PVC-FREE)

Minerprint® Pure inks are pigment dispersions in a phthalate-free plasticizer and PVC-free resins. They are ready-to-use inks, perfectly homogeneous.

They differ from the Plast range for the absence of PVC in the formula: this feature makes them really eco-friendly. They meet the strictest textile standards.

Like the inks of the Minerprint® Pure range, they are tissotropic allowing to obtain precision in details, high coverage and uniformity of printing.

The range consists of:

- ✓ 13 base colours that can be mixed to obtain other tones
- ✓ 6 fluorescent colours
- ✓ 5 concentrated inks for four-colour printing (PK series)
- ✓ 3 plast inks for metallic effects, white inks and bases
- ✓ white inks and bases

**Ecological profile:** the Minerprint® Pure range is an excellent alternative to plastisol inks, responding to the ecological demands of the market in search of high performance products that at the same time allow to protect the environment.

**Innovative formulation:** the Minerprint® Pure range combines the performance of traditional plastisol inks with the ecological advantages of water-based ranges.

**Stability over time:** the Minerprint® Pure range does not present stability problems over time, neither during transport nor storage. Stored as indicated in the specific data sheets, they have a shelf-life of more than one year.

**Stability in the frame:** the Minerprint® Pure range does not dry in switchboards, does not lock them, allowing a significant reduction in machine cleaning times and a reduction in product waste, as well as production costs. This allows high production speeds to be maintained.

**Low polymerization temperature:** the Minerprint® Pure range has the characteristic of polymerizing at low temperatures without altering the final characteristics of the prints.



With "Colour Matching System" MinerMix Minerprint® PURE is possible to obtain Coated formulations, in a fast, easy and reproducible way!



## MINERPRINT® PURE BASES

### MINERPRINT® PURE BASE

Ready-to-use transparent ink similar to plastisol, but free from PVC, phthalates and heavy metals. The product can be used for flat matte prints. The product can be used on both automatic and semi-automatic and / or manual machines. The product is characterized by good opacity and excellent stability in printing screens. The prints have a matte finish, a very low tacking effect and good general fastness.

### MINERPRINT® PURE CLEAR

#### MINERPRINT® PURE CLEAR ABS

Ready-to-use transparent ink similar to plastisol, but free from PVC, phthalates and heavy metals. The product can be used both to obtain glossy prints, both flat and thick with square shoulder. The product can be used on both automatic and semi-automatic and / or manual machines. The product is characterized by excellent transparency and stability in the printing screens, as well as by a very fast drying with the IR lamp. The prints have a glossy finish, a very low tacking effect and good general fastness.

## MINERPRINT® PURE WHITES

### MINERPRINT® PURE WHITE

Ready-to-use white ink, similar to plastisol but free from PVC, phthalates and heavy metals. Thanks to its rapid drying under IR lamps, it can be used in textile printing as a background on dark fabrics, for pre-cut or packaged garments. The product can be used on both automatic and semi-automatic and / or manual machines. The product is characterized by a good degree of whiteness, an excellent stability in the picture and a very fast drying with the IR lamp. The prints obtained have good coverage, a very low tacking effect as well as good general fastness.

### MINERPRINT® PURE WHITE MX

White plastisol-like ink, free from PVC and phthalates, formulated to be used with the MinerMix PURE colour Matching System.

## MINERPRINT® PURE FOR SPECIAL EFFECTS

### MINERPRINT® PURE METALLIC

Ready to use metallic inks, PVC free, to be used as such or in combination with the remaining products of Minerprint® PURE series.

The range consists of:

- ✓ **MINERPRINT® PURE GOLD**
- ✓ **MINERPRINT® PURE SILVER**
- ✓ **MINERPRINT® PURE PEARL**

## ADDITIVES FOR MINERPRINT® PURE

### MINERPRINT® PURE REDUCER

Fluidizing agent for the **MINERPRINT® PURE** series, free of phthalates and PVC.

### MINERPRINT® PURE BLOCKER

Ready-to-use inks, PVC-, phthalates- and heavy metals-free. The product must be used as first color on sublimation-sensitive colored fabrics, both on automatic and semiautomatic or manual machines.

### MINERPRINT® PURE FOAM

Swelling ink for screen printing, phthalates and pvc free. Minerprint pure foam is a ready-to-use paste that can be used in neutral version or coloured with up to 30% of the colours in the Minerprint Pure Colours range.





# MINERSIL RANGE (SILICONES)

The products of the MINERSIL series are silicone-based printing pastes. They are formulated from raw materials that are not classified as hazardous to the environment or human health.

The MINERSIL series also consists of some pigments designed to colour the ready to use pastes of the same series. The range consists of the following tones:

## MINERSIL TR A C MINERSIL CAT B C

Two-component silicone pastes to be used for textile printing. They are suitable for use on both natural and synthetic textile materials, in particular for the printing of underwear, children's clothing or wherever a considerable elasticity and high gloss of prints are required, both thick and flat. .

## MINERSIL WHITE A

Two-component white silicone paste for textile printing to be used both as a base white and as a final white, characterized by a good drying speed under flash lamps compared to similar products on the market. They are suitable for use on both natural and synthetic textile materials, in particular for the printing of underwear, children's clothing or wherever a considerable elasticity and high gloss of prints are required, both thick and flat.

## ADDITIVES FOR MINERSIL

### MINERSIL REDUCER

Fluid silicone to be used to reduce the viscosity of the MINERSIL series.

### THINNER

Solvent designed to reduce the viscosity of the products of the PLAST range and of the MINERSIL range (silicone based).



# DIGITAL PRINTING

The textile digital printing sector is a dynamic and constantly evolving sector that is gaining more and more importance at the expense of traditional printing, both continuous and discontinuous.

Achitex Minerva, thanks to the experience gained in textile auxiliaries and pigment dispersions, is able to propose a product portfolio intended for digital printing processes.

Today, it is able to offer:

- ✓ auxiliaries for pre-treatment
- ✓ pigment-based digital inks
- ✓ auxiliaries for post-treatment

The auxiliaries for the pre-treatment of fabrics are to be used based on the substrate, the nature of the ink and the application used and are necessary to obtain prints characterized by bright tones, defined contours and lasting solidity.

Achitex Minerva's digital inks are exclusively pigment-based. Today there are two series available, MINERJET E for EPSON piezoelectric heads and MINERJET RS for RICOH piezoelectric heads.

The auxiliaries for post-treatment are intended for washing the substrate, for the removal of excess unfixed ink, and/or for fixing the ink to increase the fastness and durability of the prints.

## PRE-TREATMENTS

Achitex Minerva provides a range of products developed to prepare in the best way the textile supports to digital printing, for different inks and processes.

The preparation of the fabrics at the digital inkjet printing is a fundamental step: it provides to the dyes contained in the inks the essential chemical characteristics for their fixing and the necessary physical characteristics to obtain appreciable and repeatable printing results.

**MINERPRIMER** range produced and commercialized by Achitex Minerva, considerably improve the receptiveness

of the used ink, the resistance to washing and rubbing and the quality of the final image on the fabrics, which results uniform, bright and with clear contours.

The products can be used as such or diluted, applied by spray, in coating or padding according to the type and needs of the end user.

## FOR ACID DYES

### MINERPRIMER INKA

Auxiliary for preparation for the ink-jet printing with acid dyes, of which improve the fixation. Gives to the prints a high definition of outlines, good uniformity and high colour yield. It is easy to remove during washing. Its dispersing effect prevents any re-deposition of the non-fixed colour on the fibre, allowing to maintain the colour intensity and to avoid the colouring of backgrounds.

### MINERPRIMER READY A PA

Ready-to-use auxiliary for preparation for the ink-jet printing with acid dyes, of which improve the fixation. Gives to the prints a high definition of outlines, good uniformity and high colour yield. It is easy to remove during washing. Its dispersing effect prevents any re-deposition of the non-fixed colour on the fibre, allowing to maintain the colour intensity and to avoid the colouring of backgrounds.



## FOR REACTIVE DYES

### MINERPRIMER INK R SERIES

Auxiliary for preparation for the ink-jet printing with reactive dyes, of which improve the fixation. Gives to the prints a high definition of outlines, good uniformity and high colour yield. It is easy to remove during washing. Its dispersing effect prevents any re-deposition of the non-fixed colour on the fibre, allowing to maintain the colour intensity and to avoid the colouring of backgrounds.

### MINERPRIMER READY R

Ready-to-use auxiliary for preparation for the ink-jet printing with reactive dyes, of which improve the fixation. Gives to the prints a high definition of outlines, good uniformity and high colour yield. It is easy to remove during washing. Its dispersing effect prevents any re-deposition of the non-fixed colour on the fibre, allowing to maintain the colour intensity and to avoid the colouring of backgrounds.

## FOR PIGMENT INKS

### MINERPRIMER INK REA K

Pre-treatment necessary for the preparation of dark textiles to ink-jet pigment printing. It gives the prints to dark textiles a high sharpness/tightness of the contours, a high uniformity of printing, a high gloss/ depth of colours and a good resistance to washing and rubbing.

### MINERPRIMER INK REA W

Pre-treatment for the preparation of white or clear media to ink-jet pigment printing. It gives the prints a high sharpness/ tightness of the contours, a high uniformity of printing, a high gloss/ depth of colours and a good resistance to washing and rubbing.

### MINERPRIMER JET PLUS series

Auxiliary for preparation for the ink-jet printing with pigments, studied for continuous process printing. Gives to the prints a high definition of outlines, good uniformity and high colour yield. Increases resistance to washing and rubbing.

### MINERPRIMER INK P DARK series

Pre-treatment for pigment inkjet printing, mainly designed for discontinuous printing processes on dark fabrics. It gives the prints a high definition of outlines and excellent print uniformity. It guarantees bright tones and a soft final hand, improving the fastness of the prints to washing and rubbing.

### MINERPRIMER INK P LIGHT CONC

Concentrated auxiliary for preparation for the ink-jet printing with pigments, studied for discontinuous process printing of white or light coloured fabrics. Gives to the prints a high definition of outlines, good uniformity and high colour yield. Increases resistance to washing and rubbing.

### MINERPRIMER SCREEN P DARK

High viscosity pre-treatment necessary for the preparation of dark fabrics for pigment ink-jet printing. The product gives the prints of dark fabrics a high sharpness and tightness of the contours, a high uniformity of printing, a high brilliance and depth of colours as well as a good resistance to washing and rubbing.

## HYBRID PRINTING

### MINERPRINT FINISH CLEAR DTG

Transparent bottom developed to be applied as a base on dark garments, and then overprinted with pigment digital inks. The digital ink can be overprinted on pre-dried background with FLASH lamp and even wet. Allows to obtain soft and elastic prints, with excellent resistance to washing. colour definition and intensity are very related to the quality of pigment used for digital printing.

### MINERPRINT® HYBRID WHITE DTG

White bottom developed to be applied as a base on dark garments, and then overprinted with pigment digital inks. The digital ink can be overprinted on pre-dried background with FLASH lamp and even wet. Allows to obtain soft and elastic prints, with excellent resistance to washing. colour definition and intensity are very related to the quality of pigment used for digital printing.

## PIGMENT BASED INKS

Achitex Minerva's digital inks combine the experience of over 70 years in pigment dispersions with that developed in printing and textile auxiliaries.

The experience, combined with the passion of Achitex Minerva's team, have given rise to two lines of pigment-based inks, which allow to obtain prints with bright colours and well-detailed contours.

Today there are two series available:

- MINERJET E for EPSON piezoelectric heads
- MINERJET RS for RICOH piezoelectric heads

## POST-TREATMENT

### MINERJET SUPER BRIGHT

Finishing for pigment inkjet printing, mainly designed for discontinuous printing processes on pigment printed fabrics, both on light and dark fabrics. It gives the prints greater colour brilliance by increasing the delta-E and making everything more intense. It makes the hand of the print extremely soft and impalpable, also improving the solidity of the prints to washing and rubbing. The product is sold in high concentration to be diluted.

### MINERJET SUPER FIX

Finishing for pigment inkjet printing, mainly designed for discontinuous printing processes on pigment printed fabrics, both on light and dark fabrics. It gives the prints greater resistance to washing and rubbing. The product does not hide the colours leaving the delta-e of the print unchanged. The product is sold in high concentration to be diluted.







# DTF (DIRECT TO FILM) PRINTING

The digital printing on fabric is focusing more and more on a new printing technique, called Direct-to-film or textile DTF which consists in printing with water-based pigment inks on a polyester film, creating a transfer. The DTF process can be used both on natural fibers, such as cotton or silk, and on artificial materials, such as polyester or rayon, ensuring bright tones both on dark and strong-coloured fabrics as well as on white and pastel fabrics.

Achitex Minerva has developed and manufactures all the products necessary for the DTF digital printing process.

- ✓ **MINERPRIMER:** products developed to coat polyester films
- ✓ **MINEJET DTF E:** water-based DTF pigment inks
- ✓ **MINERBOND DTF:** adhesive thermoplastic glues

## PRIMER FOR FILMS

Achitex Minerva has developed two primers that can be used for the coating of polyester films:

### MINERPRIMER INK P DARK

To be applied with Roto, Flexo or Meyer bar technologies. It gives a high definition of outlines and excellent print uniformity. It guarantees bright tones and a soft final hand, improving the fastness of the prints to washing and rubbing.

### MINERPRIMER SCREEN P DARK

To be applied in screen printing with frames over 100 threads. The product gives a high sharpness and tightness of the contours, a high uniformity of printing, a high brilliance and depth of colours as well as a good resistance to washing and rubbing.

## DTF INKS

Achitex Minerva's digital inks combine the experience of over 70 years in pigment dispersions with that developed in printing and textile auxiliaries.

The experience, combined with Achitex Minerva team passion, have allowed to develop a line of inks dedicated to DTF printing.

DTF inks are water-based pigment, which allows to obtain prints with bright colours and well-defined outlines.

The range consists of:

- ✓ **MINERJET DTF CYAN E**
- ✓ **MINERJET DTF MAGENTA E**
- ✓ **MINERJET DTF YELLOW E**
- ✓ **MINERJET DTF BLACK E**

New colours in progress:

- ✓ **MINERJET DTF GREEN E**
- ✓ **MINERJET DTF ORANGE E**
- ✓ **MINERJET DTF RED E**
- ✓ **MINERJET DTF BLUE E**
- ✓ **MINERJET DTF WHITE E**

**Minerjet DTF E range** stands out for its very high stability in the machine, excellent printability on any type of polyester film and the absence of toxic and volatile substances (VOC).

## THERMOPLASTIC DTF GLUES

Achitex Minerva has developed 2 types of highly performing and innovative powdered thermoplastic glues.

Depending on the fabric to be printed, it is necessary to use a different glue, which enhances the characteristics of the print, without compromising the support or the quality of the final print.

The amount of glue to use varies according to the amount of white printed and how much the print is dried before dusting.

The glue greatly affects the elasticity, softness and washing solidity of the final prints.

### MINERBOND DTF CO

Thermoplastic powder compatible with MINERJET DTF E products, ideal for making transfers to be applied on cotton or similar fabrics, which are not affected by high temperatures. The product is able to increase the opacity of the white, as well as guaranteeing extremely high fastness to washing and rubbing. It can be used in transfer printing both manual and with the aid of dusting machines.

### MINERBOND DTF NYP

Thermoplastic powder compatible with MINERJET DTF E products, ideal for making transfers to be applied on fabrics that fear high temperatures or have colour migration problems. MINERBOND DTF NYP glue contains graphite particles that reduce the sublimation effect of the fabrics, as well as guaranteeing extremely high resistance to washing and rubbing. Particularly suitable for use in transfer printing both manual and with the aid of dusting machines.

## BENEFITS

- Great coverage
- Elasticity
- High definition
- High stability
- Reduction of printing head block
- High washability
- High standards of control during production
- High light fastness
- Soft to the touch
- Bright colours
- Wide print gamut
- Possibility of printing in combination with a screen printing bottom (just for DTG)



# MINER *Special* UET

Special glue for foils printable through digital print heads; able to revolutionize the traditional digital printing paradigm.

## ADVANTAGES:

- Reduction of application time of the foil on the fabric
- Possibility to create single design. No cut and peel off needed
- High washing fastness
- Extremely soft hand
- Possibility to obtain different patterns
- All in one product for more effects
- Flock and mylar transfer on fabrics



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