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# **Tech Textile**

Achitex Minerva S.p.A. has developed a range of products allocated to the area of technical textiles, which allows the realization of coated fabrics, coated and laminated, used in various market segments, such as sportswear and protective, sunscreen, automotive, thermal and acoustic insulation.

We are able to develop compounds based on the customer technologies, from foulard impregnation to direct knife coating, from transfer coating to fabric lamination to obtain the requested performances. From water proofing and UV resistance to breathability, from hydrolysis resistance to the air permeability we are able to satisfy the grooving needs of the market, ensuring comfort and performance fabrics for each specific application.



# MINERCRYL Acrylic Dispersions

Main application field

Products	Chemical Nature	Tg (°C)	Solids %	рН	Viscosity (mPa.s)	Self-crosslinking	Coating	Pigment Printing
MINERCRYL A03	ACR	-30	45	8	<100	yes	xx	x
MINERCRYL A02S	S/A	-15	45	8	<100	yes	xx	xx
MINERCRYL B17	ACR	-15	60	7,5	<500	yes	xx	
MINERCRYL B21	ACR	-11	45	6,5	<250	yes	xx	xx
MINERCRYL B22	ACR	1	60	7,5	<350	yes	xx	
MINERCRYL D32	S/A	35	50	8	<3000	sì	xx	
MINERCRYL G53	ACR	35	50	2,5	<250	yes	xx	

ACR: Acrylic S/A: Styrene-Acrylic V/A: Vinyl-Acrylic xx: Very Good x: Good

# **FINISH** Poliurethane Dispersions

Products	Chemical Nature	Solids %	Resistance to Hydrolisis	lonic charge	100% Modulus (Mpa)	Tensile Strength (Mpa)	Elongation at break (%)	Properties
FINISH PL LIQ	Polyester	50	Good	Anionic	2	20	700	High flexibility, suitable for mechanical foam
FINISH DLU	Polyether/ Polycarbonate	60	Very Good	Anionic	2	30	1.000	High solid content, very good resistance to hydrolysis, excellent mechanical foaming
FINISH BR 07	Polyester	35	Moderate/ Good	Anionic	1,5	24	550	Tie coat breathable, adhesive for lamination
FINISH BR 08	Polyester	30	Moderate	Anionic	4	30	450	Top coat breathable
FINISH PNI	Polyester		Moderate	Non-ionic	1	15	1.000	Soft, non ionic, electrolytes resistant Good compatibility with cationic
FINISH DP 77	Polycarbonate	35	Excellent	Anionic	15	25	250	Rigid, excellent resistance to hydrolysis



### **Acrylic dispersions**

### MINERCRYL A 02 S

Soft styrene-acrylic co-polymer, self-crosslinking. Mainly used on the formulation containing a high amount of filler. It forms a hydrophobic film, suitable where high water proof is requested.

### **MINERCRYL A 03**

Very soft acrylic dispersion, self-crosslinking. It is basic product for formulated adhesive use on the wet lamination for fabric destined to sportswear, also suitable for foam application. Soft primer for multilayer coating, used as base coat for soft coated fabrics. Could be used as binder for non-woven destined to apparel.

### **MINERCRYL B 17**

High solids soft acrylic, self-crosslinking. Mainly used on foam coating, soft binder for flock fabrics destined to upholstery. It is generally used where necessary to depose high quantity of solids in one or a few coating steps.

### **MINERCRYL B 21**

Soft acrylic self-crosslinking. Binder recommended for general purpose, very good UV resistance, washing and abrasion resistance. It is used on fabric destined to apparel and home textile. Could be used on non-woven where a soft "hand" is requested.

### **MINERCRYL B 22**

Medium-soft, high solids acrylic dispersion, self-crosslinking. Due to its chemical formulation and physical characteristics could be used as a multipurpose binder. The high dry cleaning resistances make it the ideal binder for flocked fabrics destined to upholstery. Suitable for foam coating application. It is used on wet lamination where a high solid deposit in one step is requested. Also used on coating fabrics for apparel and technical textile. It forms a film without any or very low residual tackiness.

### **MINERCRYL D 32**

Self-crosslinking acrylic, not containing Formaldehyde and APEO. Particularly suitable as a binder in non-woven fabrics and glass fiber fabrics, where it shows a high mechanical resistance both dry and wet (water and alkali). To obtain maximum effectiveness in the cross-linking of the product, is recommended a treatment at minimum 130°C for 2 minutes. The film after drying is rigid.

### **MINERCRYL G 53**

Hard acrylic, self-crosslinking. It is used on foulard impregnation where a stiff and bulk hand is requested. Could be used for fabric coating alone or in combination with soft acrylics. Used at level of 10-20% in combination with soft acrylic eliminates the tackiness. It forms a brittle and transparent film with high UV resistance.

## **Polyurethane dispersions**

### **FINISH BR 07**

Soft PU dispersion, BREATHABLE. It is used as a first step on the coating of fabrics destined to the sportswear. It shows a very high breathability combined with water column resistance. Basic product on the formulation of breathable adhesives for wet lamination fabric to fabric or fabric to membrane.

### **FINISH BR 08**

Medium hard PU dispersion, BREATHABLE. It is used as a top coat on the fabric destined to sportwear. It eliminates the residual tackiness of BR07 conserving breathable characteristics and water column resistances.

### **FINISH DLU**

Very high solids soft PU dispersion. It is mainly used for technical fabrics due to its excellent hydrolisys resistances. Particularly suitable for foam coating application, it shows very high scratch and abrasion resistance. It forms a transparent, elastic and soft film.





#### **FINISH DP 77**

Aliphatic polyurethane in water dispersion, extremely rigid. It forms a glossy film with high resistance to light, hydrolysis and abrasion. It is mainly used in the resin coating of fabrics where is required a high mechanical strength or as a top coat on fake leather in PU or PVC, where is required a polished and resistant finish.

### **FINISH PL LIQ**

High solids, soft PU dispersion. Polymer for general purpose, mainly used on coating of fabrics for apparel. It is mostly used on the formulation containing Flame Retardant additives and generally where a high contents of filler are present in the formulation. It forms a soft, elastic and glossy film.

### **FINISH PNI**

Soft PU dispersion. Main characteristic is the nonionic nature of dispersion. Particularly suitable to use in combination with other finishing agent like resin, cationic softeners or fillers. It can endure the presence of electrolytes on the finishing bath or in the coating paste.

### **FINISH PU AP**

Polyurethane in water dispersion generally applied by coating where is required a soft hand and a rubbery touch. It has excellent washing fastness.

# **Compound for direct coating**

### **MINERCOAT AS**

Ready-to-use compound. It is generally back coated on the fabric, it imparts antislip properties to the textile articles destined to bath mats, carpet, placemats or non-woven destined to home-textile and floor protection. The product must be dried and cured at 160°C.

### **MINERCOAT AV1**

Ready-to-use compound. It is used on the coating of synthetic or blend with cellulosic fabrics destined to sportswear and casual wear. MINERCOAT AV1 increase the water resistance maintaining a soft and pleasant "touch".

### **MINERCOAT B 22 MF**

Ready-to-use compound, designated for fabrics that needs a very good resistance to water column like external awnings, umbrellas, sun protection articles awning for boats. MINERCOAT B 22 MF is specially formulated to resist to the growth of mold or fungi even in high humidity conditions.

### **COVERING MINERCOAT**

Ready-to-use compound. It is used, generally in more than one step where one wishes to avoid the passage of light, black out curtains and home textile. Mostly used where it is necessary to obtain effects of colour on fabrics already dyed on dark shades like black, navy blue and so on. COVERING MINERCOAT can be coloured with pigment dispersion range MINERPRINT.

#### MINERCOAT TP

Ready-to-use compound. Based on the very soft acrylic dispersion, it is used as a "primer" on open-weave fabrics. It forms a film that prevents the penetration of following coating steps, saving amount of resin and maintaining the soft hand of the fabrics. It promotes the adhesion of the resins used on the following coating step, particularly on synthetic fabrics.

# Ready-to-use compound for foam coating

### **MINERCOAT FOAM B 21**

Acrylic based compound for foam coating. It is used on the back-coating of synthetic furs and pile fabrics to impart dimensional stability and improve mechanical resistances. Can be used as a foam base coat where a soft "hand" is requested.

### MINERCOAT FOAM BLACK OUT

Ready-to-use compound for foam coating. It is used for coating of Black Out curtains. Normally used at tree steps level of coating adding pigments, 1st White, 2nd Black, 3rd White or Colours, it imparts a perfect insulation from light passage.

### **MINERCOAT FOAM G 53**

Acrylic based compound for foam coating. It is used on the back coating of synthetic furs and pile fabrics to impart dimensional stability and improve mechanical resistances. Can be used as a foam base coat where a hard "hand" is requested.

## Ready-to-use flock binders

### MINERFLOCK FAST G

Ready-to-use product. It is used as a flock glue on coating or screen printing on fabrics destined to upholstery, home textile or apparel where high fastness are requested. It shows very good resistance to domestic washing and dry cleaning and it imparts a medium-soft bulky "hand". It is possible to



modify the "hand" adding a soft acrylic like MINERCRYL B 17. We recommend the addition of FISSATORE NFO or FISSATORE LF when necessary to increase wet fastness.

### MINERFLOCK PS

Ready-to-use product. It is used as a glue on the flocking of plastic materials, polystyrene. Could be used by spray application, the viscosity is adjusted to prevent the leaking during the spraying operation. Minerflock PS can be used also on the coating of polystyrene films destined to packaging of luxury items, cosmetics and jewellery. The viscosity can be adjusted according to the requirements adding an acrylic thickener.

# Adhesives & thermoadhesives for fabric lamination

### **MINERCOLL B 22 HV**

Adhesive for wet lamination, fabric to fabric, fabric to plastic film, fabric to PVC foil, fabric to Aluminium foil. It contains high solids to guarantee a very good adhesion of different supports together with good washing resistance. The product is prepared at the right viscosity for knife coating application. Addition of 5% isocianate cross-linker improve the wet fastness.

#### **MINERCOLL BREATH 04**

Polyurethane based breathable adhesive. It is used on cellulosic or synthetic fabric lamination where a very high breathability is requested. The product shows good resistance to domestic washing. I can be used on the lamination of fabrics with breathable membranes. The addition of 5% Isocianate cross-linker is necessary to improve the wet fastness.

### MINERCOLL PU LN

Ready-to-use polyurethane-based compound, developed for the lamination of fabrics in natural fiber (cotton, cellulosic) or synthetic fibers (PES, PA). It contains a cross-linking system based on a blocked isocyanate which increases its wet fastness. It's recommended to dry and cure at 150°C for 3 minutes.

### **THERMO VAC 50**

Medium-soft thermoadhesive, applicable with the common finishing methods, foulard, impregnation or squeegee / cylinder coating. After drying it forms a transparent and non-sticky film with good general mechanical strength. Due to its chemical nature, the product can be thermos-reactivated at a temperature between 100 and 120°C.

# Flame retardant compounds

### **IGNIFUGO SU NEW**

Not permanent Flame Retardant for foulard impregnation. It is used on cotton and PES blend fabrics and PES non-woven destined to car interior. It provides good FR performances, can be combined with softeners or water repellent agents. The product does not resist to the domestic washing.

### **MINERFLAM BFC**

Ready-to-use compound. It is applied by foam coating to the fabrics destined to Black-Out curtains. It offer a very good fabric ground covering together with very high FR performances. Can be coloured with MINERPRINT pigment range.

### **MINERFLAM SP21**

Ready-to-use compound. It is applied by knife or roll coating. Very good ground fabric covering, with smooth and matt aspect. It shows a good elasticity without cracking even under strong tension. Minerflam SP 20 offer high FR performances, it is possible to print coated material with ink-jet systems. It is mainly used for articles destined to wallcover, suspended ceiling, sound proof barriers and ink-jet printed advertising or decorative fabrics.

### MINERFLAM TNT

Used for the fire-retardant treatment of synthetic fibers and their blends. It can be used both in foulard and in different coating processes. The most common fields of application are automotive fabrics, furniture



and glass fiber items. It does not contain antimony or halogen derivatives. Drying and curing at 150-160°C for 2 minutes.

### **MINERFLAM TRASP CLP02**

Ready-to-use compound. It is applied by knife or roll coating. Minerflam Trasp CLP02 offers a good FR performances. The coating aspect is matt and semi-transparent, it allow the light passage. It is used for fabric panels destined to space dividers, sound proof barriers. Could be used for decorative fabrics with the addition of pigments of the range PERLAMIN or MINERPRINT.

### Fluorocarbon resins

### **NOVAGUARD NI 6**

Last generation fluoro-carbon resin on C6 chain. The product is non-ionic, for this reason it is used where is required a compatibility with anionic products. Good resistance to domestic washes.

### **NOVAGUARD GE 6 CONC**

Fluoro-carbon resin on C6 chain. Offers high performance oleohydro repellents. It is mainly used for scarf application. It can be used on any textile substrate in natural fiber such as cotton and wool or synthetic fiber such as PA and PES. Good resistance to domestic washes, the performances can be enhanced with the addition of CROSSLINKER 59.

### **NOVAGUARD GE 6 LIQ**

Economic version of NOVAGUARD GE 6 CONC.

### **Crosslinking agents**

### **FIXATOR LF**

Melamin fixing agent for every kind of acrylic, vinyl and polyurethane resins. It is characterized for the low contents of free formaldehyde. Generally used at level of 1-3% on the weight of resin. Crosslinking temperature 150°C.

#### **FIXATOR NFO**

Aliphatic isocianate fixing agent for water compound based on acrylic or polyurethane resins. It is used on system where "Zero Formaldehyde" release is requested. The product start to performs from 130°C, suggested temperature 150°C.

### **CROSSLINKER 59**

Isocianic fixing agent. It is used to cross-link acrylic or polyurethane resins by padding impregnation or fabric coating. It performs very well in combination with fluorocarbon resins. Minimum crosslinking temperature 130°C.

### **CROSSLINKER M**

Last generation cross-linking agent. It is used when low temperature crosslinking are requested. Particularly suitable for textile lamination with plastic film or polymeric foams. CROSSLINKER M is used on coating of fiber that cannot withstand the high temperatures. The product is active from 90°C. Ideal crosslinking temperature between 120 and 130°C.

### **Auxiliaries**

### **THICKENER PR9**

Acrylic thickener. It is used for water based acrylic or polyurethanes systems with high solid contents. The product must be neutralized with Ammonia at pH 8 to 9, when it shows the best thickening performances.

### **CLEAR MCS**

Classic thickener for textile pigment printing. Can be used for water base systems containing acrylic and polyurethane resins in textile coating application. It is completely neutralized, no necessary any other addition of Ammonia.

### ANTI HALO CO 20 N

Polyurethane thickener. It is used on the adhesive compounds based on PU resins. Does not need alkali addition, suitable for difficult resin system condition.

### **ECOPON AM ST**

Foam stabilizer and foaming agent used during foam coating process including flock adhesives. The product allows to obtain homogeneous and porous foam for coating in perfect conditions.

### **ACHITFOAM SD**

Foaming agent used in foam coating process including flock adhesive. Mainly used in combination with Ecopon AM/ST as foam stabilizer. It performs a viscosity increase against anionic surfactants.

### **IMBIBENTE NRW 3**

Wetting agent and emulsifier surfactant, suitable for water repellent finishing and anti-crease finishing by foulard impregnation. The product is thermolabile, doesn't affect adversely water repellence.

### **MINERCIDE TC 10**

Fungicide and algaecide for fabrics. Can be incorporated on the coating paste containing polyurethanes or acrylic resins. Particularly suitable for cotton fabric canvas, linen fabrics or synthetic fabrics destined to sun protection or boat fabrics. Can be used in combination with fluorocarbon resins, doesn't affect adversely oleo and hydro repellent performances.



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