AVCO-BINDER 878

BINDER FOR TEXTILE PRINTNG, PADDING

AVCO-BINDER 878 is a universal binder for printing all kinds of textiles with aqueous pigment dispersions. It has a little effect on the viscosity of synthetic thickeners.

SPECIFICATION:

Appearance	White, free flowing liquid
Density	1.01 - 1.02 g/cc (25ºC)
pH	6 - 8
Chemical nature	Acrylic copolymer dispersion in water.
Solubility	Can be diluted in water at any proportion.
Viscosity	Low viscosity
Ionic nature	Nonionic / anionic
Mechanical stability	Good
Resistance to electrolytes	Good
Re- dispersibility	Good
Compatibility	Can be mixed with nonionic and anionic auxiliaries and pigments normally used in textile printing.
Storage	Product should be stored in closed containers and protected against frost. After freezing product can not be re-used. When properly stored Storage stability is 12 months at least.

FILM PROPERTIES:

1. Appearance - colorless, transparent.
2. Handle - rather soft, very flexible.
3. Cross linking ability - can be cross linked at temperature range of 140ºC – 180ºC. The reaction is accelerated with acid catalysts. Additional cross linkage is obtained by use of cross linking agent such as AVCO-PRINTFIX LQ.

4. Wash and rubbing fastness - properly cured binder stands repeated laundry cycles, dry cleaning, dry and wet- crocking as occurred in normal handling of printed textiles. Fastness properties depend on type of substrate, binder/pigments ratio, curing conditions, other ingredients of printing paste, processes and auxiliaries used in fabric finishing. Fastness properties should be checked on each material before printing in bulk.
5. Light fastness - very good.

PROPERTIES & USES

1. AVCO-BINDER 878 can be used as a binder for organic and inorganic pigments dispersions on all kinds of textile fabrics.
2. AVCO-BINDER 878 is suitable for pigment resist printing under reactive dyestuffs.
3. AVCO-BINDER 878 is suitable for discharge printing with pigments onto reactive dyestuff grounds.
4. Product does not clog printing screens even at high printing speeds, high squeegee pressure and very fine screens.
5. Prints produced with AVCO-BINDER 878 have a very soft handle and there is no need to mix it with butadiene binders.
6. AVCO-BINDER 878 produces prints with very good fastness properties.
7. Excellent stability to mechanical stress and shear produced while preparing and pumping the printing paste.
8. Can be used in all aqueous or oil in water printing pastes with all types of anionic or nonionic thickeners (polyacrylic acids, guar derivatives).
9. When added to ready made paste, the influence of AVCO-BINDER 878 on the viscosity is very low.
10. Does not contain any solvents and other hazardous ingredients.

APPLICATION:

A. Printing paste preparation:

The following is a typical formulation:

		Remarks
WATER	adjust to 1000	Use soft water
AVCO-ANTIFOAM NS-100	0 - 5	Important when printing large area
AVCO-CLEAR CHI	2.0 - 25	Adjust to the needed viscosity
AVCOPRINT JN	4- 15	Co-thickener to avoid bleeding problems
AVCO-BINDER 878	70 -250	Usage depends on quantity of pigment
AVCO-PRINTOSIL EM	10 -25	Softener
AVCO-PRINTFIX LQ	0 - 20	Cross-linking agent
AVCOLOR PIGMENT	X	Depends on required shade

The thickener and antifoam (if needed) are added to the water and homogenized with a high speed (1500-3000 r.p.m) homogenizer mixer for 5-10 minutes.
It is preferable to add the binder in portions and lower the mixer speed.

Preparation order should be as is shown in the recipe above. Continue mixing for a further 10-15 min.
Once a container of binder has been opened, the contents should be used as soon as possible. After product has been taken out, the container must be properly resealed to avoid skin formation when exposed to air.

REMARKS:

1. The recipes are intended to serve as a guide and should adapted as necessary to local condition.
2. The pH of the printing paste should be 7-8. If pH is lower, adjust with ammonia solution.
3. Viscosity of the paste can be adjusted by increasing amount of AVCO-CLEAR CHI. If viscosity is too high it can be corrected by adding small amount of electrolyte (di-ammonium-phosphate or ammonium sulphate).
4. Use of AVCO-PRINTOSIL EM in printing formulation improves handle and increases dry-crocking fastness. It also has a positive effect on the brilliance of the prints.
5. Use of AVCO-PRINTFIX LQ improves wash fastness and wet crocking fastness.
6. Use of 4-6 gr/kg of AVCO-PRINT JN can overcome bleeding problems in printing. It improves the uniformity and appearance of a large printed areas and enhances production of brighter and deeper colors.
7. Use of 1-3 gr/kg AVCO-ANTIFOAM NS 100 can solve problems of foam while printing paste preparation and processing.
8. If printing paste has to be stored for prolonged time add 1-2 gr/l preservative such as AVCO-GARD PR.
9. While using hard water it is advisable to add sequestering agent such as AVCO-POLYQUEST KAL (do not use E.D.T.A types). Amount of thickener should be increased if necessary.
10. If there is a problem of screen clogging, add 5-10 gr/kg AVCO-PAL LUB.

After fixation there is no need for any further treatment. If customer demands additional finish check influence on fastness properties.

B. FIXATION

After printing and drying the printed fabric should be cured at elevated temperature with hot air for the proper time as shown in the following table:

Temperature (°C)	Fixing time (minute)
140	4 – 6
150	3 - 5
160	2 – 3
170	1.5 – 2
180	1 – 1.5

Fixation can also be done with high temperature steam. Fix for 5-7 minutes at 160÷C. Results are not as good as fixation in hot air.