

## Adhesive 235 MC Adhesive 235 MC WHITE

<b>Characterization</b>	Hot curing, screen-printable dispersion adhesive system for design flocking on textiles - especially developed for the multicolor flock technology
<b>Chemical Structure</b> thickener	Phthalate-free compound of synthetic resin dispersion, system and additives
<b>Supplied Form</b>	ADHESIVE 235 MC: very high viscosity, light-colored paste ADHESIVE 235 MC WHITE: very high viscosity, white paste
<b>Ionic Character</b>	Anionic
<b>pH Value</b>	7.5 - 9.5
<b>Viscosity</b>	95,000 - 163,000 mPas (Brookfield RVT 20/7)
<b>Conductivity</b>	More than 240 graduation values (Mahlo textometer)
<b>Storage / Storability</b>	If stored properly in a cool place between + 5 °C and + 25 °C in closed original containers, the product will be stable for about 6 months. Protect from frost and excessive heat. Opened containers must be closed again tightly.

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## Properties

### Film Properties / Handle

Both products facilitate single colored and multicolor flocking with a distinctly soft handle.

### Stability

Both in one-component and especially in two-component processing the flocking have a high abrasion resistance and a very high fastness to washing and dry cleaning.

## Rheology / Further Properties

Despite their high viscosity, ADHESIVE 235 MC / ADHESIVE 235 MC WHITE are easily screen printed with sharp outlines. By means of the printing technique the adhesive layer can be evenly printed and does not penetrate into the material. Due to the quite long open time between adhesive application and flocking, the adhesive system is especially suitable for multicolor flocking. ADHESIVE 235 MC WHITE already contains white pigments. Thus, with light-colored flocking on dark grounds an addition of COLORMATCH WHITE to the standard product ADHESIVE 235 MC is not necessary.

## Application Procedure

### Application Fields

ADHESIVE 235 MC / ADHESIVE 235 MC WHITE are preferably used for multicolor flocking and for producing particularly soft single colored flock designs on textile cuttings and garments.

## Recommendation for Use and Processing

### Material Structure

For achieving a good flock adhesion and abrasion fastness the substrates in use must be dry, dust-free and possibly free from detrimental preparation or fat add-ons. An evenly good wetting on the material ought to be secured. We recommend testing the suitability of the materials, in particular if impregnated or heat-sensitive substrates are to be flocked.

### Recipe recommendation

	Processing range	Particularly recommended
ADHESIVE 235 MC or ADHESIVE 235 MC White	92 - 100 %	94 - 98 %
FIX 102 W	8 - 0 %	6 - 2 %
	100 %	100 %

We recommend to stir up well ADHESIVE 235 MC / ADHESIVE 235 MC WHITE by means of an efficient stirrer before use and to blend then the individual additives homogeneously with the basic adhesive. An intense but air bubble-free distribution has to be ensured; dried adhesive films (which form on improper storage) have to be removed beforehand.

## Processing / Fixation

ADHESIVE 235 MC / ADHESIVE 235 MC WHITE (white pigmented version) are hot curing, one-component or two-component flock adhesives for the screen printing technique.

## Recommended Additives and Auxiliaries

### FIX 102 W

A concentration of up to 8.0 % is usually recommended to meet special requirements as to the fastness to washing and dry cleaning. Please note that with higher fixing agent concentrations the elasticity of the adhesive film may be affected. Adhesive stocks which contain fixing agent have to be processed immediately, preferably within one working day.

### COLORMATCH Pigments and COLORMATCH WHITE

For coloring ADHESIVE 235 MC in the respective shade of the flock we recommend to add 0.1 – 5.0 % COLORMATCH pigment.

For multicolor flocking (Multicolor system) on dark grounds COLORMATCH WHITE (1.0 – 5.0 %) may be added to improve the covering capacity of ADHESIVE 235 MC or by working directly with ADHESIVE 235 MC WHITE. Higher color concentrations or coarser color pigments may render the penetration of the flock fiber into the adhesive layer more difficult and may then impair the fastness properties. Therefore, we recommend carrying out preliminary trials.

### BOMOPRINT RETARDER

2.0 – 6.0 % of this retarder is added to the adhesive stocks if necessary. The product slows down the drying in speed of the adhesive into the printing screens and prolongs the open time between adhesive application and flocking. Higher concentrations may prolong the fixation time.

<b>Diluting/Thickening</b>	Usually not necessary; the viscosity may be reduced by adding water (up to 10 %) or 0.1 - 0.5 % TUBASSIST KAT 107 W.
<b>Cleaning of Working Utensils</b>	Immediately with cold water. On long stoppages during printing the screens have to be kept damp or cleaned intermediately. Left-over adhesive that has dried in can be softened with TUBASSIST CLN 400 W and then rinsed with a strong water jet; cured adhesive rests can be removed only mechanically.
<b>Pot Life</b>	The adhesive stock containing the fixing agent has to be processed immediately, in general within 1 working day; the adhesive alone can be stored in closed containers within the storability.
<b>Application</b>	Usually by screen printing through monofilament polyester gauzes no. 15 - 40 T/S, depending on the design and the fabric quality.  Alternatively by means of rotary screens or squeegee systems; the viscosity may have to be adjusted.  The wet adhesive add-on is in the range of 100 - 300 g/sqm depending on the substrate quality and flock type.  With open fabric qualities which are easy to be penetrated, a sufficiently thick adhesive layer is absolutely necessary since by a sinking-in of the adhesive the flock adhesion may be impaired.

## Flocking

The flocking process ought to start immediately after the adhesive has been applied using common and tested flock fibers.

In general, with high room temperature, low air humidity, thin adhesive layer and strongly absorbent material the "open time" between adhesive application and flocking is reduced, whereas it is prolonged in the opposite case and with the addition of a retardant (Bomoprint Retarder).

With multicolor flocking we recommend to meet the recommendations of the machine manufacturers.

For electrostatic flocking a good contact between adhesive layer and back plate electrode is required (grounding).

## Drying / Fixation

Can be carried out in a common or two separate working steps. The cross linking reaction (fixation) required for achieving an adhesive film which is fast to washing and dry cleaning is effected after drying by means of a hot air treatment.

The drying and fixation terms depend on the type and capacity of the drier, the substrate and the amount of adhesive applied.

With thick adhesive layers high drying temperatures must be avoided at the start of the process since otherwise vapor bubbles may form below the upper adhesive layer which has already turned film-like.

Water vapor forming during the drying and fixation stage must be permanently drawn off in order to prevent the adhesive from being fixed insufficiently due to moisture accumulation during the fixation.

### Recommended conditions for hot air drying and fixation

two-step:                   drying at 80 - 120 °C, about 15 - 5 minutes; if necessary, room temperature drying is possible after pretrials

  fixation at 130 - 160°C, about 10 - 3 minutes

one-step:                   drying and fixing between 15 minutes at 130 °C and 6 minutes at 150 °C

When fixing with IR radiators or other sources of energy it is essential to run meaningful trials before going into production.

## Recommendation for Use

Before going into production we recommend making it a rule first to test the suitability of the adhesive system for the substrates and flock qualities to be applied regarding wet ability, adhesion, fastness properties, thermo stability and process parameters and to control this as well during the production run.

**Information concerning the safety regulations can be taken from the Material Safety Data Sheet of this product.**

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

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

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

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