

Technical leaflet**Additives programme product group 300****SERIES 300****Universal additives for screen printing ink product group 300****Liquid additives to enhance properties of Printcolor AG one component plastic printing screen inks series 300.**

The high quality of the plastic printing inks ensures that only thinning or in some cases retarders are needed to maintain good print quality.

Under normal print conditions the ink is ideal to work with and good results can be obtained, further additions (with the exception of hardeners) are rarely necessary and under normal conditions not recommended as the inks have been formulated to work effectively under most conditions and indeed excess additives can often lead to poor print quality. The motto "a lot does not help a lot" applies.

So why do Printcolor offer a whole extra programme? The additives are to help the printer obtain the best quality prints if unfavourable substrates, environmental influences (heat or humidity) or other print problems are encountered. Here is a technically complete and user friendly range of additives to help the printer solve these problems.

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Thinners series 300 – 017

This special thinner has been developed for universal use in all Printcolor IK plastic-screenprint inks and especially technical decoration. They have been formulated to allow for stoppages of production with minimum drying in whilst still maintaining good rheology and drying time of the printed inks and is ideal for multi-colour print lines.

Retarder series 300 – 018

If slower drying of the ink is required this retarder will reduce the speed of evaporation and assist if printing is sporadic or problems are experienced with ink drying in due to better self-solvency. A maximum addition of 10% is recommended and it is best to combine with a standard thinner to achieve the correct printing consistency

Fast thinners series 300 – 019

This solvent mixture has been specifically developed for quick drying on the substrate and is ideal for continuous printing and cylinder lines. Similar to the 300 – 017 this solvent should be added at 10 – 20% for optimum results. Mixtures of standard thinner and 300 – 019 fast thinner are also the recommended to achieve best print results.

Spraying thinners series 300-377

Screenprinting inks can be used for spraycoating by reducing their viscosity with special spraying solvent 300-377. An addition of 30-40% should be sufficient and 50% should be the maximum. Because of the high ratio of solvent needed they should be added gradually to avoid solvent shock or ink separation and an addition of 1-2% of anti-static additive 300-AMS is recommended.

Paintbrush and paint roller thinners 300-743

In addition to spraying screen inks can also be applied by brush or roller using special solvent 300-743 at about 25-35%. Depending on the substrate the flow of the ink can be enhanced by addition of 1-3% of Flow Additive 300-BMS.

Apart from thinners, retarders and hardeners Printcolor also manufacture other additives in a concentrated form; these offer the "spice" in the inks. Using too much of these gives an undesirable effect so additions have to be carefully measured to give solutions to print problems.

Flow agent 300-VMS

This highly concentrated silicon additive assists flow and improves the gloss level of the inks and avoids "foam-

ing". Typical problems like bubbling, pinholing, orange peel effect (reticulation) will also be eliminated whilst adhesion can be improved. The amount added should be 0.2 – 0.5% with a maximum of 1% and the flow additive should be very thoroughly mixed in to the inks. Care should be taken with interlayer adhesion and subsequent colours will probably also need flow additive addition. There are no difficulties printing with modified inks and spraying, rollercoating and casting should cause few problems provided interlayer adhesion is tested.

Wetting agent series 300-BMS

Flow and adhesion problems can be caused by substrate contamination (bits on plastic extrusion, silicone contamination on release papers, oxidation on metals, protection paper residue on foils etc.) in these extreme cases the surface tension of the ink is modified to allow for correct printing. The additive should be added at 0.3 – 1% to a max and thoroughly mixed into the inks.

Antistatic additive 300-AMS

Static charge normally builds up when printing plastics and sheer stress causes the lack of discharge, high humidity (less than 60%) and heat (30 C) also stop static discharge. The effect on printing is seen in uneven ink deposit, bad ink transfer and "feathering" of the edge print. To alleviate the problem an addition of anti-static additive 200 – AMS can be added to the inks at 0.5 – 1%.

There is also a spray to treat the substrate this is called STATIC – GO that modifies the surface tension of the material to be printed.

Screen opening spray Screen-O-Fix 300

A sprayable screen opener for use during print stop-pages or to re-activate dry ink in the mesh without manual cleaning. This solvent is compatible with all the IK synthetic inks.

The aforementioned additives give the user a practical solution for most print problems but it is advisable to test small amounts before going into production, naturally Printcolor AG will always be available for discussion of problems.

In addition to pure additives for the IK inks, Printcolor also manufacture 2 effective cleaners for washing down screens, tools and other items. Both are suitable for use in solvent re-circulating tanks

Cleaner series 300-URS

This solvent mixture is specially formulated for easy cleaning down of single component inks in the 300 series and contains no film causing chemicals or greases and so after evaporation leaves no residues. It is free of acid or alkalines, no chlorines or fluorides and is not regarded as poisonous according to present legislation it has a flash point of 21C. Dangers are pointed out in the safety data sheet.

Cleaner series 300-BRS

This is a solvent which according to present laws on dangerous substances does not have to be marked as

hazardous, but is a highly effective cleaner. It evaporates slower than series 200-URS but drying can be speeded up by extraction. The cleaner 300-BRS is an ecologically and physiologically practical alternative to the usual (not

always safe) cleaning agents available. It is well suited to the needs of the IK screenprint series.

It is important not to use the cleaners for skin cleaning. Cleaning skin with cleaners is quick and effective but the aggressive and drying properties of cleaners can have an adverse effect on the skin. Printcolor AG offers suitable cleansing products for daily skin hygiene; if interested we will be glad to supply more information.

The above information has been gathered through stringent laboratory tests and trials. Our technical advice is given to the best of our knowledge but we would recommend that customers always do their own trials for ink suitability due to the variable nature of production conditions and therefore lie outside our guarantee liabilities. Any use of non-recommended products or alien products are used at the customers own risk and releases PrintcolorScreen AG from any further consequences.

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