The Autotype Haze Remover Range

MacDermid Autotype manufactures a complete range of haze removers to cover all of your screen cleaning needs.

		STAIN TYPE					
Usage	Haze Remover Type	Ink Stains	Stencil Stains	Diazo Stains	Working Time	Caustic Level	Solvent Level
Every Screen	Autosolve	8	2	1	2 mins	None	High
Regular Use	Quick Clean	10	5	3	5 mins	Low	High
	Autokleen Plus Quick method	4	4	8	5 mins	Low	Low/Medium*
	Autokleen Plus 1 hour method	6	6	10	1 hour	Low	Low/Medium*
	Autokleen Plus 12 hour method	9	10	10	12 hours	Low	Low/Medium*
Occasional Use	Autohaze Extra	9	8	10	10 mins	High	Medium
	Autohaze	10	10	10	8 mins	Very High	Medium

*Medium if solvent based activator is used

Contact us today and see for yourself how our range of products can help you.

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Haze Removal
Part 1
Screen stains; identification and removal

How to Guide

Using dirty, stained screens can lead to low quality prints and expensive stencil breakdown. This How to Guide provides essential advice on how to choose the best haze removal system to remove screen stains and ghost images.

The importance of haze removal:

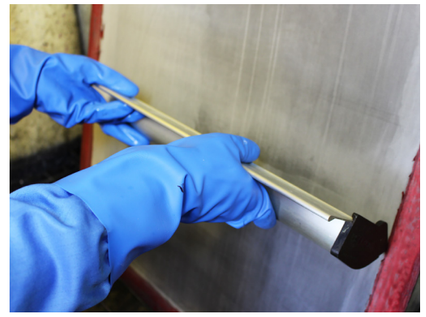
Most ghost images are made up of microscopic residues on the mesh left over from the previous job. These residues not only prevent the stencil from adhering properly, they can even affect the way in which the ink flows through the mesh to cause a latent 'ghost' image in the print. Therefore, it is very important that these residues are removed from the mesh during the cleaning process.

Prevention is better than cure

Before going into detail about haze removal, it is worth stating that a few simple steps can be taken to reduce, or even eliminate, the formation of screen haze and stains. Exposing screens correctly, cleaning them as soon as possible after printing and using the right Screen Wash, can minimise and even eliminate the need for an additional haze removal process, saving time and money.

Identifying the type of stain

Typically ghost images come from one or more of the following: fused Acetate (locked-in screens) or Diazo from the stencil, ink that has dried-in, ink staining of the mesh fibres, or even mechanical abrasion of the mesh itself. Knowing the root cause of the stain will then help you choose the ideal haze remover to clean it.



Top tip: As a simple guide if the stain is the same as the print, then it has come from the ink and if it is a negative of the print, it has come from the stencil.

Stencil stains:

There are two types of stencil stains:

Diazo stains - Diazo sensitisers are chemical dyes and are therefore very effective at dyeing Polyester mesh. The yellow/brown stain left by Diazo can easily be removed by using a low caustic haze remover, such as Autokleen Plus. If the Diazo stain is very noticeable, it is usually an indication that the stencil has been under-exposed.

Fused Acetate stains - These are easily recognisable as a lightly coloured, translucent residue left on the screen where the stencil was. These stains can be removed using a low caustic haze remover such as Autokleen Plus activated with Autosolve Industrial AF Screen Wash.

Top tip: It is much easier to remove stencil stains immediately after decoating the stencil whilst the screens are still wet. If they are allowed to dry out fully, then the acetate hardens and becomes more difficult to remove. Use the High Pressure Gun on both sides of the screen for the best effect.

Ink stains: There are five main types of ink stains:

Dried-in-ink - If the ink has been allowed to dry in the mesh after printing it is very easy to see. Most inks can be re-dissolved using a powerful cleaning solvent, such as Autosolve, which makes removing them straightforward. Stubborn stains may require the use of a more aggressive solvent and low caustic blend, such as Quick Clean.

Top tip: Applying a 'stain preventer gel' to the screen immediately after printing can make cleaning much easier.

Hardened ink - Two-pack catalysed inks are notoriously difficult to remove, as they are formulated to be highly resistant once they have hardened. You will need to use an aggressive very high caustic and solvent haze remover, such as Autohaze, to have any chance of breaking these down. The longer the catalysed inks have been allowed to react the harder they will be to remove.

UV cured inks - Screens that have been used for printing UV curing inks should not be left in a white light area as they will quickly harden and become much more difficult to remove. They will require a high caustic and solvent haze remover, such as Autohaze Extra to remove them. Therefore, it is best to store these screens under yellow safelight (go to macdermid.com/autotype How to Guide – Coating PLUS Emulsions for advice on safelights).

Ink staining of the mesh fibres - Some inks will actually dye polyester threads during printing. If this does happen the stain can only be removed with a very strong caustic haze remover, such as Autohaze. Although this type of stain does not reduce the mesh opening diameter it can cause problems during the exposure of subsequent stencils due to differential UV light absorption.

Mechanical abrasion of the mesh fibres - Although not strictly mesh staining, these ghost images are quite rare and are typically caused by printing very long runs with an abrasive ink. For example, ceramic inks contain a glass frit which will micro-abrade the mesh as it flows through the image. If the screen is then reused to print a sensitive ink, such as a transparent, then the previous image may appear in the print as a ghost. Haze removers will have no effect on this type of stain and it is best to discard the mesh after printing.

Safe handling: Haze removers are powerful chemicals and must be handled carefully. Always read the Safety Data Sheet before use and wear PPE (Personal Protective Equipment) when handling them. It is very important to always rinse off any haze remover with a low pressure spray before using the High Pressure Gun, otherwise you will atomise the chemical and expose the operator to this mist. Did you know, when atomised caustic lands on screens that have already been cleaned they will produce pinholes the next time they are used?

All caustics react with aluminium, so take care when applying the low viscosity haze removers to aluminium frames and they should not be left in an aluminium scoop coater overnight.

Top tip: A High Pressure Gun should be classed as an essential piece of screen making equipment as it will save you time, money and materials in cleaning screens. A good quality industrial High Pressure Gun producing at least 75 BAR will clean screens quicker and outlast the cheaper alternatives.

Summary:

It is always best to take a proactive approach to screen cleaning to ensure that every screen is cleaned effectively before it is reused. Knowing the type of stains and the best way to treat them will help you remove them as quickly and efficiently as possible.

The sight of a ghost image on your screen should not be ignored as this stain will most likely cause you problems when that screen is next used, costing you time and money.

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