

:Sublima

Advanced Screening Technology

Meeting the demand for higher quality,
with no extra effort on press.

AGFA 

| see more | do more |

What is :Sublima technology? You're looking at it!

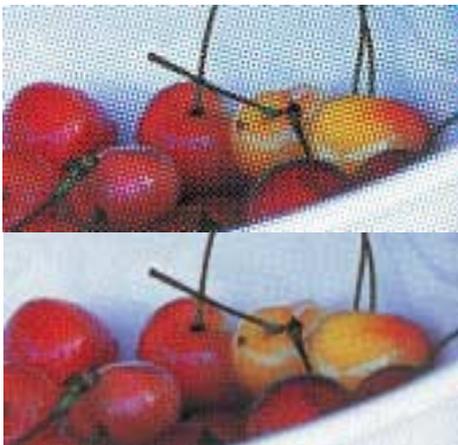
This entire piece has been printed with 4 colours using :Sublima screening.

For many printers, the move to computer-to-plate technology enabled major improvements in on-press efficiency. Now the focus has shifted to providing higher-quality printing. To get attention for their product or service in a crowded marketplace, today's print buyers need the best possible image reproduction. Customers are looking for printers who can ensure this higher level of quality with every job.

Screening enables new levels of quality

Agfa's engineers have invested years of research and development in creating the best possible screening technology. :Sublima – our next generation solution – provides a unique approach to screening. With :Sublima, your press can easily hold a 1 – 99% dot at higher frequencies, delivering the finest artifact-free details, and most vibrant colours your customers now demand.

:Sublima screening from Agfa lets you offer your customers the higher print quality they demand – and enables you to work more efficiently within your existing press conditions. With :Sublima, Agfa leverages its extensive expertise to create a new screening solution – one that combines two proven screening technologies to achieve new levels of near continuous tone reproduction on press. And it integrates seamlessly with your current Agfa workflow. For printers who are looking for a simple, easy, and cost-effective way to raise print quality, :Sublima is the right screening solution.



Get great results without extra work

While it enables you to make a significant leap forward in quality, :Sublima does not require a change in the way you work, nor extensive training. With :Sublima, high-quality screening is an automatic, invisible function that occurs in the Agfa RIP. It's an easy and cost-effective investment that enables you to get higher-quality, higher margin jobs, with no extra effort on press.

A proven success for raising quality

:Sublima is already being used successfully by newspaper printers around the world. With :Sublima, these printers can do higher-quality colour work, such as inserts and magazines. Now commercial printers have also proven that :Sublima is of great benefit to them. :Sublima offers a winning combination of high-quality results, ease-of-use, low cost, and exceptional reliability.

Part of Agfa's complete line of screening solutions

:Sublima covers a wide spectrum of jobs, achieving high-quality, continuous tone reproduction. Agfa also offers Agfa Balanced Screening and :CristalRaster screening – enabling you to choose the right screening solution for your needs.



Today's photographic styles often contrast sharp details against softer tones to enhance image impact. These high-impact graphics challenge traditional reproduction methods, and demand new solutions. In today's market - compromise is no longer an option.

How :Sublima works

:Sublima is an innovative screening solution that combines two screening techniques – traditional Amplitude- Modulation "AM" and Frequency-Modulation "FM" screening. That's why we call this combination "XM" or " Cross-Modulation" screening. :Sublima is designed to match the smallest reproducible dot your press can easily hold. Even at 340 lpi, the smallest :Sublima dot is 21 microns.

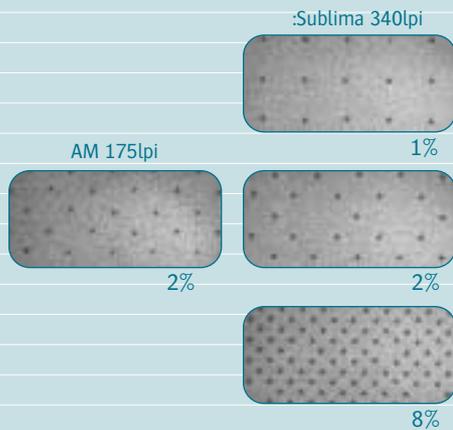
Trusted AM screening for midtones

Agfa Balanced Screening provides clear, accurate mid-tone reproduction. Especially noticeable in flat tints, ABS produces smooth results, without the usual graininess you find with most stochastic screening algorithms. AM screening is also more "responsive" on press than stochastic - enabling the press operator to maintain grey-balance or make customer-requested slight colour moves.

How can Agfa say "no extra effort on press"?

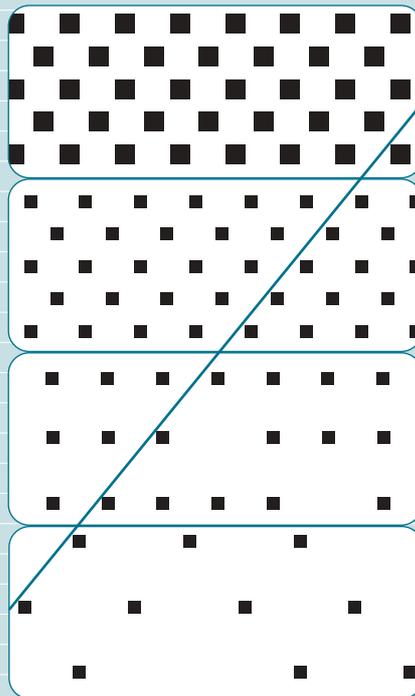
If you can print a 2% dot at 175 lpi (70 l/cm), :Sublima uses a dot that is no smaller - even at the highest frequencies.

This can best be illustrated by taking a closer look at the highlights. In the photo below to the left, you see a 2% AM dot at 175 lpi. On the right you see the 340 lpi XM screen at 1%, 2% and 8%. All dots are the same size, regardless of tonal value and frequency. If you can now hold a 2% at 175 lpi, you can easily print :Sublima at 340 lpi without any extra overhead in pre-press or in the pressroom. No extra effort, at even double the line ruling.



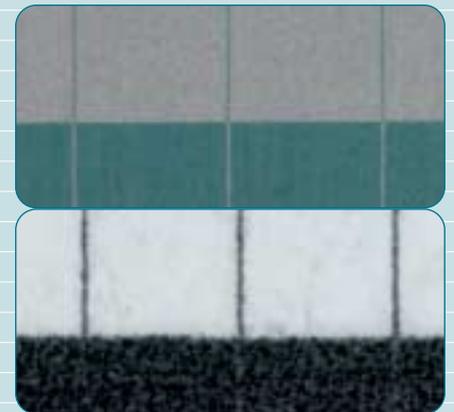
:Sublima - ABS at its heart

Once :Sublima reaches the smallest and easiest printable dot for your press, it makes the dots no smaller. Instead, it uses our patented method to remove dots. Even though the dots at the highlights may appear to be random - you will notice the dots align along the existing ABS angles.



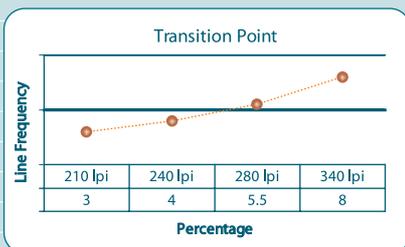
Quality beyond the capability of your press

Regardless of technology - visible light or thermal - CTP often delivers details on plate that cannot be held on your press. In this example, a 10.6 micron line is imaged nicely on plate, but in order to hold the fine line on press, the shadow detail is lost.



The cross from AM to FM

The "transition-point" as a percentage of the line screen ruling increases as the frequency increases. As you can see below, the same size 21 micron dot that measures 3% at 210 lpi, measures 8% at 340 lpi.



"AM" & "XM" compared

Each row at the right shows photomicrographs of 340 lpi screening on plate. The top row is AM, and the bottom row is :Sublima. There is no difference throughout the mid-tones.

At this lpi, below 8% the 21 micron :Sublima dots remain the same size. :Sublima places "fewer" dots as it gets "lighter". This exclusive Agfa patented technology is also used in the shadows.

Unlike "XM", the "AM" dots continue to get smaller until they reach one pixel - 10.6 microns at 1%. Although your platesetting system may resolve these extremely small AM dots, the highlight and shadow details may be lost or "clipped" on press.

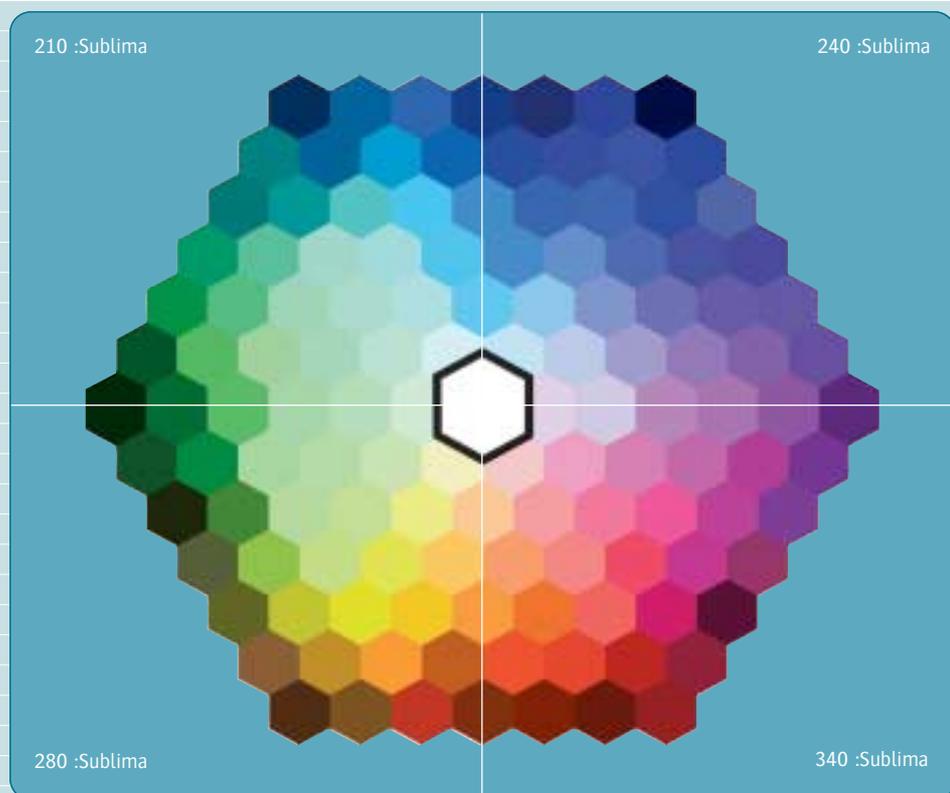
FM screening for highlights and shadows

In difficult highlights and shadows, :Sublima uses a patented FM algorithm which ensures the printability of the lightest tones and every shadow detail. Although these tones are controlled via an FM approach, they are aligned using the same ABS AM angles in the mid-tones. Since :Sublima's FM distribution is not random nor stochastic, there is no area of cross-over noise or transition artifacts.

:Sublima

A smooth combination of AM & FM

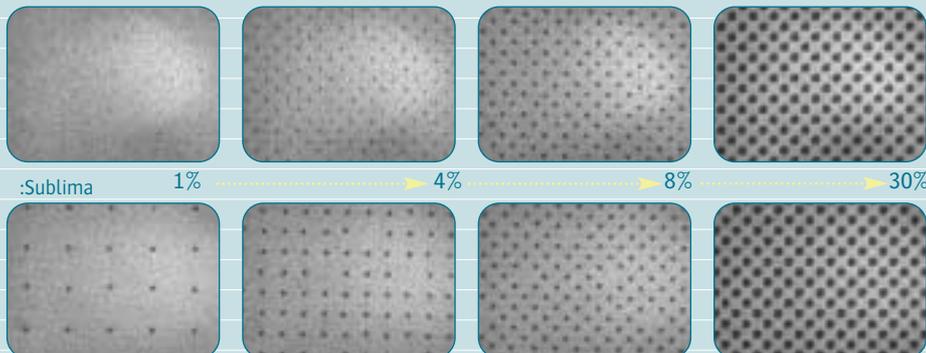
:Sublima adds up to seamless, high-quality reproduction from shadows (FM) to midtones (AM) to highlights (FM). This approach lets each screening technology do what it does best. The point at which the screening switches from an AM to FM algorithm is line-screen dependent, and predetermined. :Sublima ensures the best possible results – easily, automatically, and with every job.



Spot-Free CTP!

The higher frequencies of :Sublima generates smaller rosettes - which are nearly invisible to the naked eye. And yet, this screening structure enables the smooth rendering of flat tints and spot colours - a smoothness even evident in the most demanding tints. With :Sublima, you can print with an endless palette of spot colour effects - while only using four colours - CMYK.

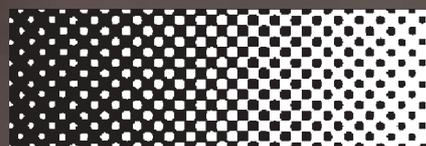
AM



A screening overview

To better understand the benefits of :Sublima, it's important to understand the two screening technologies that it combines – Amplitude Modulation (AM) and Frequency Modulation (FM) screening.

For decades, printers have used various screening methods to produce continuous-tone originals. Various techniques convert the range of tone values in the original artwork or photograph into arrangements of halftone dots. To the casual reader, these dots are too small to see individually. Instead, the reader perceives an overall tone value that varies based on the total surface area that the dots cover – i.e., larger dots = a darker image area.



Conventional Amplitude Modulation (AM) screening places halftone dots in a consistent pattern, with the size of individual dots varying to simulate the tone values of the original. The size of the halftone dots can vary from 10 to 200 microns, although coarser newspaper screens may produce dots up to 350 microns.



Frequency Modulation (FM) screening, which is sometimes referred to as stochastic or random-screening, has the same goal as AM screening-artifact-free reproduction. It uses smaller microdots that reproduce tone values by adjusting the number of dots in a given area. Stochastic screening typically breaks up the image tone into smaller fragments of equally-sized dots and randomly positions them over the same surface area. These microdots are smaller than traditional halftone dots, typically in the 20 to 35 micron range.

Meeting the needs of today's printers

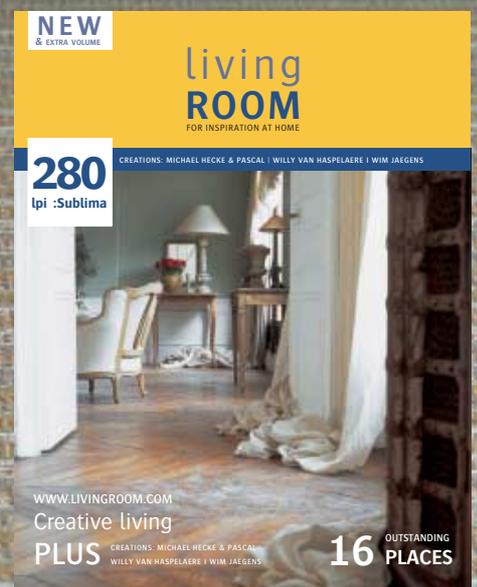
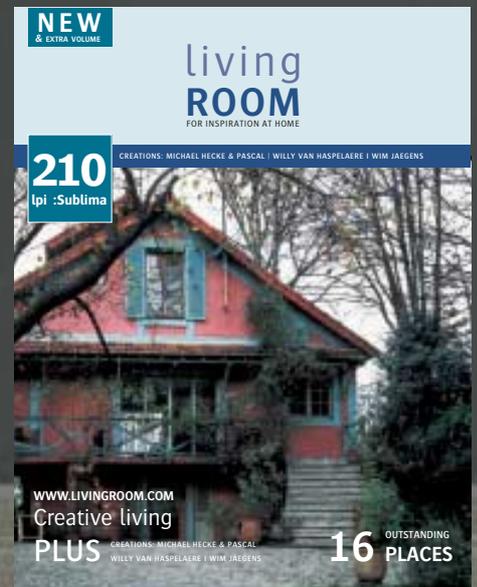
Spot-colour impact with only CMYK

As with the text you are reading, and its background colour, with :Sublima, you can build tints and type that simulate spot colours – using only 4-colour CMYK. This will improve your production efficiency and also your customers' bottom line.

:Sublima enables higher-quality results

Since :Sublima uses higher line frequencies, it significantly reduces the risk of subject moiré. Your customers will notice this enhanced detail and colour even without looking through a loupe.

:Sublima enables you to print with screen rulings up to 210 lpi (80 l/cm) with :Palladio and 340 lpi (140 l/cm) with :Galileo (green or violet), :Xcalibur 45 Elite and :Xcalibur VLF Elite. Standard models of :Xcalibur can use :Sublima up to 240 lpi (100 l/cm).



:Sublima is simple and easy to use

Every printer must evaluate new technology based on its impact on his current operation. In an era of tight margins and tough competition, new technology must enhance and streamline the current print production process. :Sublima enables you to achieve higher screen rulings without any extra effort. It's a simple, easy way to raise quality – without affecting your operation.

:Sublima is a cost-effective solution

:Sublima provides a cost-effective way to increase quality – without requiring a major investment. Instead, :Sublima is a modestly priced software option for your :ApogeeX or :Apogee PDF RIP. Bringing :Sublima into your operation doesn't require additional labor costs, and its incredible ease-of-use reduces the need for lengthy training or extensive changes in the pressroom.

:The Sublima difference

:Sublima's impact is even apparent in the subtle quarter tones. The overall photo below is screened at 340 lpi :Sublima; the top box shows our traditional 175 lpi ABS, and the bottom box uses 240 lpi :Sublima.



Choose the right screening solution for your needs

A wide range of options

In addition to Agfa's new :Sublima "XM" technology, our Agfa Balanced Screening "AM" solution has proven successful for printers that require reliable quality – job after job. And Agfa's :CristalRaster "FM" solution delivers rosette-free details for HiFi, Hexachrome, and other demanding applications.

Agfa Balanced Screening:

A trusted tool for a wide range of jobs

Agfa Balanced Screening is a reliable, proven AM screening technology that thousands of printers rely on every day. It is appropriate for many applications – brochures, newsletters, magazines, and more – that are prevalent at most printing operations. On press, Agfa Balanced Screening has gained a reputation for exceptional reliability and easy use.



210 :Sublima

340 :Sublima

:CristalRaster: winning awards since 1993

:CristalRaster is Agfa's award-winning FM screening technology that provides the exceptional quality required by many high-end printing applications. Customers enjoy its photorealistic look, rich colours, and the smooth rendering of the finest possible details. Since there are no rosettes or screen angles, :CristalRaster completely eliminates moiré.

Advantage	FM/CR	Sublima	AM/ABS
Finest detail	x	x	
Flat Tints		x	x
Responsiveness On Press		x	x
HiFi/Hexachrome Reduced	x	x	
Subject Moire	x	x	

:Sublima provides exceptional integration with all elements of the computer-to-plate process. Here are key areas where :Sublima integration truly excels:

Agfa's :Apogee

With :Apogee Series3 and :ApogeeX, :Sublima can be mixed with other screens (AM & FM). These screened dots can be previewed and verified with :Apogee's "digital film" feature. :Sublima operates seamlessly within :Apogee to meet today's increasing prepress demands.

Agfa's Platesetters

:Sublima works with each supported Agfa platesetter's imaging characteristics to build the right minimum reproducible dot. Depending on the imaging application, the smallest size of the dot on the plate may vary. :Sublima addresses these differences in the background so you can image with confidence.

Agfa's Plates

Agfa's digital plates such - as :Thermostat and :Lithostar - provide some of the highest resolutions available. :Sublima takes advantage of the broad imaging range (1 - 99 %) and high-quality graining and anodizing of Agfa digital plates. The result? Fast make-ready and excellent results on press.

Agfa's Colour Management and Proofing

With our :Sherpa family of proofers, Colour Management (CMS) and Quality Management (QMS), Agfa helps manage and maintain colour accuracy by providing the widest possible printable colour gamut and predictable result from proof-to-press.

175 ABS

21 CR

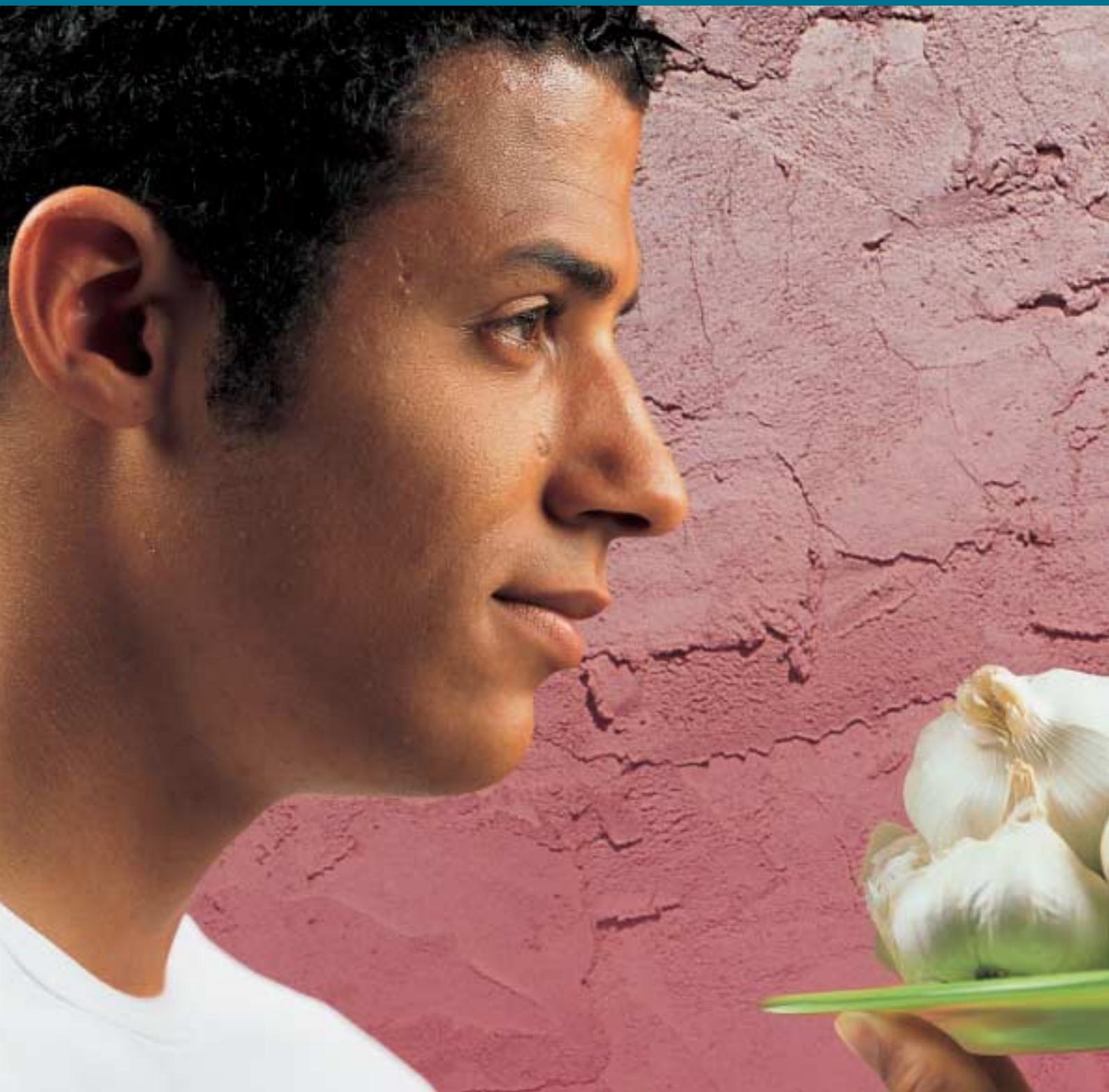


Great results on press... and around the world

When developing :Sublima, Agfa drew upon its broad customer base for advice about a next-generation screening solution. They told us that any solution had to be flexible enough to meet the needs of a wide range of applications. It had to provide the high-quality results that more and more customers demanded. And they said that the solution had to be extremely easy to use. :Sublima does just that. Here's what they said after they started using :Sublima:

“We like the quality of :Sublima screening. The results are amazing in flat tints, which are soft and smooth. They look as if they were printed in a spot colour. What's nice about the detail is small colored type, as well as knocked-out type (white on black). And, of course, images look great. Key shadow areas – such as under a person's chin – are not disturbed by rosettes.”

• GuidoMaes.PrintingDeluxe. Ghent (Belgium)



"After two commercial print runs, we decided to move to 340 lpi :Sublima screening right away and stay there for the whole production. With :Sublima, I can choose the level of quality I need – 340, 280 or 240 lpi. If I know the images are lower quality and would show weakly at 340, I can use 240 instead. In short, :Sublima can be used for all kinds of work."

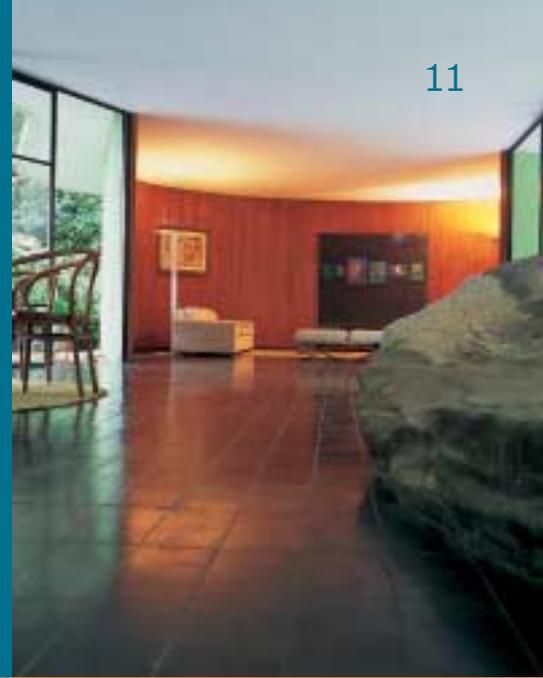
• Collective Printing, Leeds (UK)

We installed :Sublima without any problems, and we loved it from the very first sheet. We ran some comparison tests with :Sublima and found that we have less start-up waste and more stability on press. We have since switched to :Sublima for all our 6 colour Hexachrome work. "

• VA Impresores, Madrid (Spain)

"Photos printed with :Sublima screening tend to look more like a continuous tone photograph than a printed image. With the higher line screens of :Sublima, we now avoid subject moiré in fabric, while maintaining a smoothness in flat tints."

• Premier Press, Portland, OR (US)



People have
different tastes.



DETAIL
DESIGN



Choose :Sublima Today

:Sublima is an innovative screening solution from Agfa that brings the best elements of two screening technologies together to achieve high-quality reproduction. The result? :Sublima brings strong benefits to your organization – higher quality, simple use, and greater competitiveness. With the higher screen rulings of :Sublima, you can bring new levels of quality to your customers – all without changing your current prepress workflow or pressroom. To achieve the highest quality results on press, start with the right screening solution – :Sublima.

Production notes

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