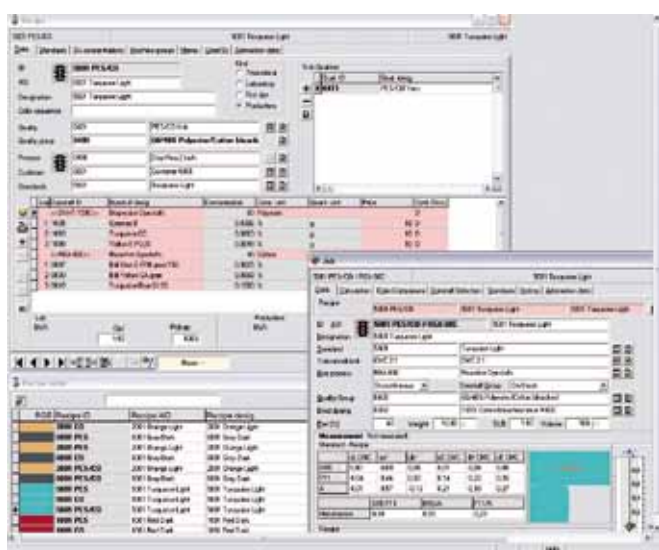
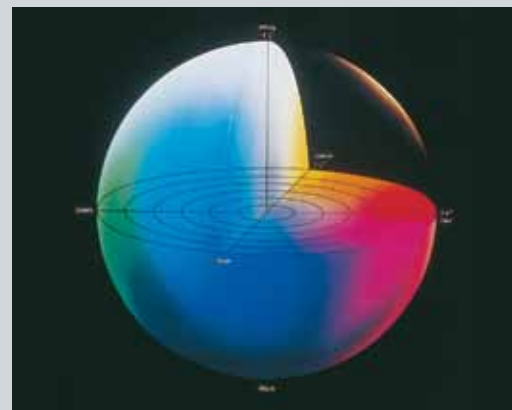
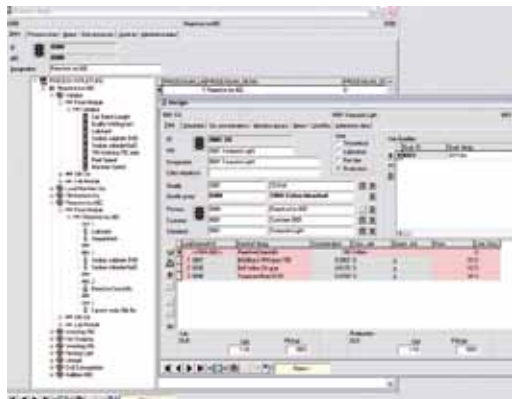


Optimized production, integrated color and recipe management



The Windows based software package ColorMaster is an expert system for recipe management and color measurement. In the laboratory ColorMaster allows the best and most cost-effective recipe to be calculated. For production the integrated processes within ColorMaster offer the best possible treatment and define the correct dye program. Colorimetric control for the different production steps and calculations of additions with addition treatments enhance the functionality of Colormaster. To create a dye house with completely optimized automatic production, ColorMaster is, together with the management system SedoMaster, a powerful and necessary tool.

Process and recipes

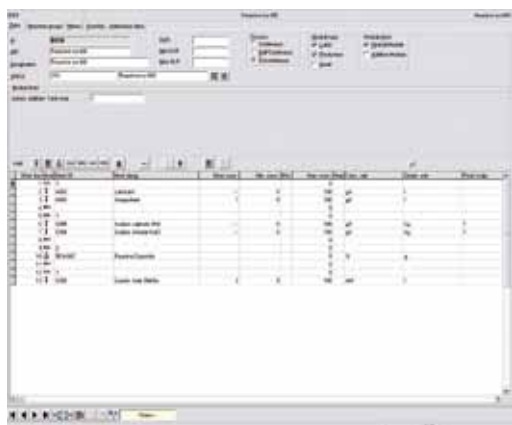


Recipe list and process structure

Production 002230 / 2903

Order	Material	Unit	Quantity	Unit	Location
002230	00000000	kg	0,000000	kg	200,000
0001	0001	kg	1,000000	kg	1000,0
0002	0002	kg	1,000000	kg	1000,0
0003	0003	kg	1,000000	kg	1000,0
0004	0004	kg	1,000000	kg	1000,0
0005	0005	kg	1,000000	kg	1000,0
0006	0006	kg	1,000000	kg	1000,0
0007	0007	kg	1,000000	kg	1000,0
0008	0008	kg	1,000000	kg	1000,0
0009	0009	kg	1,000000	kg	1000,0
0010	0010	kg	1,000000	kg	1000,0
0011	0011	kg	1,000000	kg	1000,0
0012	0012	kg	1,000000	kg	1000,0
0013	0013	kg	1,000000	kg	1000,0
0014	0014	kg	1,000000	kg	1000,0
0015	0015	kg	1,000000	kg	1000,0
0016	0016	kg	1,000000	kg	1000,0
0017	0017	kg	1,000000	kg	1000,0
0018	0018	kg	1,000000	kg	1000,0
0019	0019	kg	1,000000	kg	1000,0
0020	0020	kg	1,000000	kg	1000,0
0021	0021	kg	1,000000	kg	1000,0
0022	0022	kg	1,000000	kg	1000,0
0023	0023	kg	1,000000	kg	1000,0
0024	0024	kg	1,000000	kg	1000,0
0025	0025	kg	1,000000	kg	1000,0
0026	0026	kg	1,000000	kg	1000,0
0027	0027	kg	1,000000	kg	1000,0
0028	0028	kg	1,000000	kg	1000,0
0029	0029	kg	1,000000	kg	1000,0
0030	0030	kg	1,000000	kg	1000,0
0031	0031	kg	1,000000	kg	1000,0
0032	0032	kg	1,000000	kg	1000,0
0033	0033	kg	1,000000	kg	1000,0
0034	0034	kg	1,000000	kg	1000,0
0035	0035	kg	1,000000	kg	1000,0
0036	0036	kg	1,000000	kg	1000,0
0037	0037	kg	1,000000	kg	1000,0
0038	0038	kg	1,000000	kg	1000,0
0039	0039	kg	1,000000	kg	1000,0
0040	0040	kg	1,000000	kg	1000,0
0041	0041	kg	1,000000	kg	1000,0
0042	0042	kg	1,000000	kg	1000,0
0043	0043	kg	1,000000	kg	1000,0
0044	0044	kg	1,000000	kg	1000,0
0045	0045	kg	1,000000	kg	1000,0
0046	0046	kg	1,000000	kg	1000,0
0047	0047	kg	1,000000	kg	1000,0
0048	0048	kg	1,000000	kg	1000,0
0049	0049	kg	1,000000	kg	1000,0
0050	0050	kg	1,000000	kg	1000,0
0051	0051	kg	1,000000	kg	1000,0
0052	0052	kg	1,000000	kg	1000,0
0053	0053	kg	1,000000	kg	1000,0
0054	0054	kg	1,000000	kg	1000,0
0055	0055	kg	1,000000	kg	1000,0
0056	0056	kg	1,000000	kg	1000,0
0057	0057	kg	1,000000	kg	1000,0
0058	0058	kg	1,000000	kg	1000,0
0059	0059	kg	1,000000	kg	1000,0
0060	0060	kg	1,000000	kg	1000,0
0061	0061	kg	1,000000	kg	1000,0
0062	0062	kg	1,000000	kg	1000,0
0063	0063	kg	1,000000	kg	1000,0
0064	0064	kg	1,000000	kg	1000,0
0065	0065	kg	1,000000	kg	1000,0
0066	0066	kg	1,000000	kg	1000,0
0067	0067	kg	1,000000	kg	1000,0
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0075	0075	kg	1,000000	kg	1000,0
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0082	0082	kg	1,000000	kg	1000,0
0083	0083	kg	1,000000	kg	1000,0
0084	0084	kg	1,000000	kg	1000,0
0085	0085	kg	1,000000	kg	1000,0
0086	0086	kg	1,000000	kg	1000,0
0087	0087	kg	1,000000	kg	1000,0
0088	0088	kg	1,000000	kg	1000,0
0089	0089	kg	1,000000	kg	1000,0
0090	0090	kg	1,000000	kg	1000,0
0091	0091	kg	1,000000	kg	1000,0
0092	0092	kg	1,000000	kg	1000,0
0093	0093	kg	1,000000	kg	1000,0
0094	0094	kg	1,000000	kg	1000,0
0095	0095	kg	1,000000	kg	1000,0
0096	0096	kg	1,000000	kg	1000,0
0097	0097	kg	1,000000	kg	1000,0
0098	0098	kg	1,000000	kg	1000,0
0099	0099	kg	1,000000	kg	1000,0
0100	0100	kg	1,000000	kg	1000,0

Production printout



Modules

Production:

Mapping all production machines, used materials and different treatment routes, ColorMaster can create intelligent production processes for all finishing types. The control and administration of the entire finishing area can be developed into three logical groups:

Definitions DEF:

Customers, suppliers, machine groups and the machines with key features such as minimal and maximum liquor are defined here. Type of distribution, weighing and dosing systems and all data of a connected production management system describe the production possibilities.

Process Management PM:

Dyestuffs and their classes, chemicals, parameters and the process material based on fiber types are determined here. The dyestuffs to be used in the production recipes are selected in the dye processes.

Production PROD:

Recipes are based on an individual treatment. These are divided into production and laboratory treatments. A treatment (e.g. bleaching, dyeing, soaping and rinsing) consists of a sequence that describes the preparations, chemicals, dyestuffs, gradients (parameter) and manual instructions for the machine operator. Using rules treatments, chemicals, parameter and dyestuff requirements are calculated for production.

Further functions are summarization of orders, material requirement report and calculation of manual additions with treatments.

Production costs:

The most effective method to cut cost is to dye without corrections. The precondition for this is an optimized recipe with a consistent treatment. ColorMaster ensures that a recipe with the same material is always dyed with the same program. When the treatment changes, this program will be the new default for all recipes for production calculation.

Treatment safety:

Deviations to the standard process like improvements in fastness or another grip might be required for some customers. This is taken into account by ColorMaster when calculating production, enhancing treatment safety and minimizing human errors.

Environmentally compatible production:

The amounts of chemical and water are adjusted for different treatments according to the material and color depth. This saves expenses and is environmentally friendly. This way economic and ecological aspects go hand in hand.

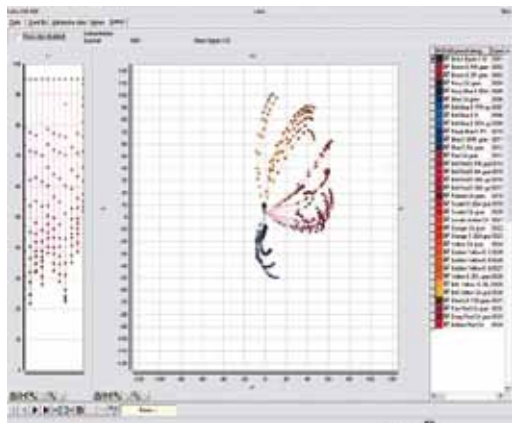
Connections:

Color recipes of external systems can be used. Connection to a host system is possible.

Production management system:

ColorMaster can be integrated into SedoMaster or other central management systems. The direct connection of machine controllers creates an integrated, fully automatic production system.

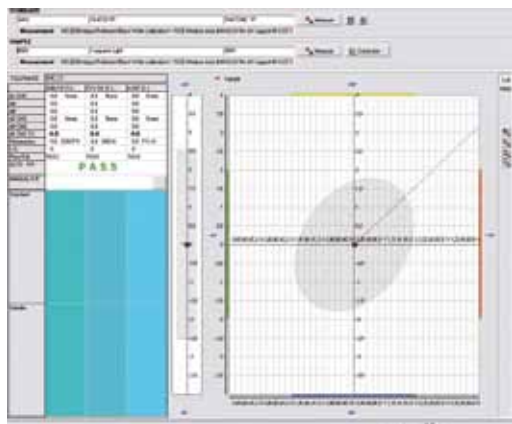
Color measurement



Available calibration series



Addition calculation



Pass/Fail

Material	Quantity	Unit	Consumption	Unit
Blue	100	g	100	g
Yellow	50	g	50	g
Red	20	g	20	g
Green	10	g	10	g
Black	5	g	5	g
White	5	g	5	g
Grey	5	g	5	g
Magenta	5	g	5	g
Cyan	5	g	5	g
Brown	5	g	5	g
Pink	5	g	5	g
Orange	5	g	5	g
Light Blue	5	g	5	g
Light Green	5	g	5	g
Light Red	5	g	5	g
Light Yellow	5	g	5	g
Light Purple	5	g	5	g
Light Grey	5	g	5	g
Light Brown	5	g	5	g
Light Orange	5	g	5	g
Light Pink	5	g	5	g
Light Cyan	5	g	5	g
Light Magenta	5	g	5	g
Light Black	5	g	5	g
Light White	5	g	5	g
Light Grey	5	g	5	g
Light Brown	5	g	5	g
Light Orange	5	g	5	g
Light Pink	5	g	5	g
Light Cyan	5	g	5	g
Light Magenta	5	g	5	g
Light Black	5	g	5	g
Light White	5	g	5	g

Material consumption

Recipe development:

The powerful colorimetric software supports the creation of recipes for laboratory and production. The clear administration of calibration series and the corresponding dye processes simplifies the efficient color development. The integrated PASS/FAIL functions with calculation of additions makes ColorMaster a true expert system for finishing.

Tolerance block:

The tolerance block is defined with difference formulas like CMC, CIELAB or with absolute deviations. The free choice of three light sources with their own tolerance values controls all further colorimetric definitions. Using this, customer specific guidelines are saved

Calibration series and methods:

Calibration series are stored in calibration methods by dyestuff manufacturer and dye treatment. This organization permits easy and effective works with calibrations from different manufacturers.

Blind dyes:

Storage of information on the substrates from the calibration series and of the ready-for-dyeing qualities. For over-dyeing the over-dyer can be measured into the blind dyes.

Dye process:

The calibration division into groups like bright, middle, dark color or other dyestuff attributes like fastness simplifies the dyestuff selection for laboratory and production correction.

Standard:

The measurements are stored in freely definable groups, like production, final inspection, customer sample with a customer tolerance block. All applications with a standard are adjusted to the light source of their tolerance block.

Powerful recipe search:

Colorimetric search with the customer sample supports easily finding a similar production recipe. In this way laboratory work is reduced and the transfer lab/production is greatly enhanced.

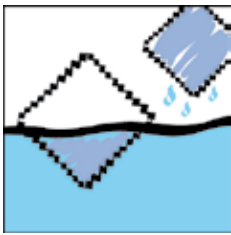
Quality for laboratory development:

The calculated recipe must match the color sample, must be metamery free, color consistent as well as inexpensive. The further intelligent graphical laboratory applications ensure that the found recipe is reproducible for production.

Production control:

Recipes with different samples are prepared for Pass/Fail controls for both finishing and final inspection. The production control is further supported by the integrated addition calculation. Correction treatments like additions and washing treatments are stored with batch data. The dyestuff and chemical consumption is exactly registered. The report of batch data makes the recipe correction, prior to a new order, easier and minimizes additions.





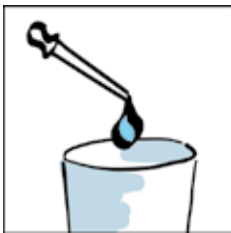
Production



Color measurement



Link to SedoMaster



Link laboratory dosing station

COLOR	CHEM	NR
1259	5967	5623
9123	2356	1012
7476	2288	1999
1010	6277	2468
5063	2601	3698
9603	3369	1917

Database access

Colorimetric reports:

- Check fastness according to ISO grey scale
- Statistic evaluation
- Comparison of color strength and standard depth
- Color communication
- Whiteness according to: Berger, CIE or Ganz/Griesser (option)

Conclusion:

ColorMaster is a modular system that can be set up for a simple recipe and quality control system or to a complete system with production management. All modules are connected to the same database. ColorMaster can be easily adapted according to the needs of new requirements.

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Technical specifications are subject to change without prior notice.

