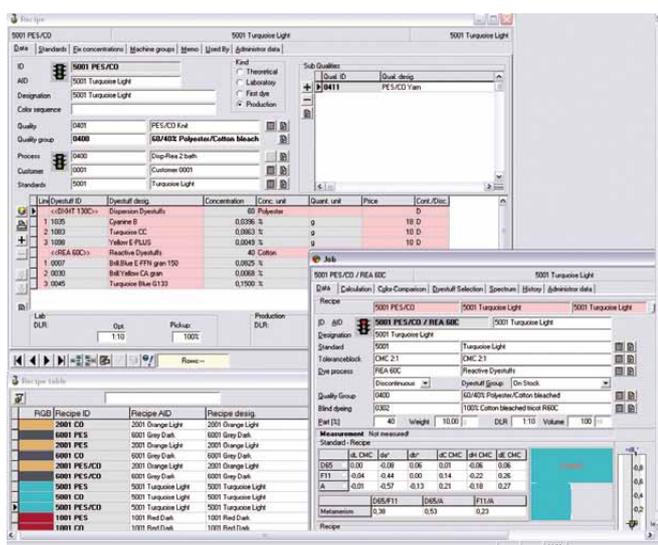
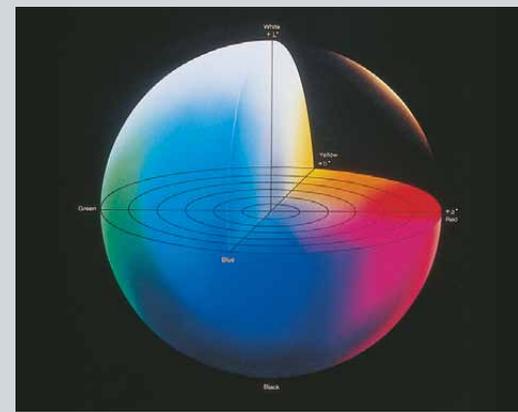
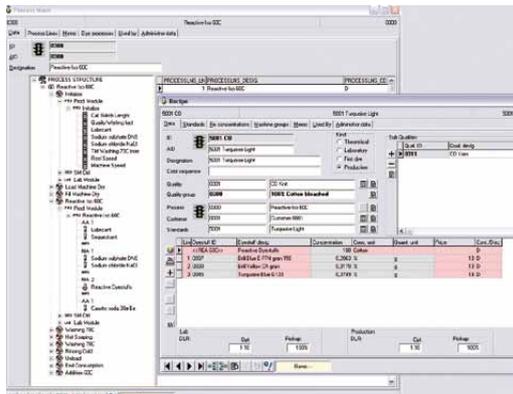


Optimized production, integrated color and recipe management



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

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Production 002230 / 2903					
Prod. ID	Prod. Name	Prod. No.	Prod. Qty	Prod. Unit	Prod. Desc.
002230	Jet 01 - 923	2903	0,000000 m		200,000 kg
0001	Reactive Iso 60C	0001			
0001 CD	0001 Turquoise Light	0001 Turquoise Light			
0001	Turquoise Light	0001			
0301	CO Knit	0301	180,000 cm		
0001	Customer 0001	0001			

Mach. ID	Mach. Name	Prod. No.	Prod. Qty	Prod. Unit	Prod. Desc.
0001	Initialize	0001	1 x	5,0	1000,0 l
BP005	Cal Batch Length	694,000 m	604,000 m		
PR001	Sodium sulphate	2,000 g	2,000 g		
0001	Load Machine Dry	0001	1 x	5,0	1000,0 l
AUTO	Preparation 1		Tank 1		
AD01	Wetting agent	1,000 ml	1,000 l		
0001	Fill Machine Dry	0001	1 x	5,0	1000,0 l
0001	Reactive Iso 60C	0001	1 x	5,0	1000,0 l
AUTO	Preparation 2		Tank 1		
AK02	Lubricant	2,000 g	1,429 l		
AK03	Sequesterant	1,000 g	1,000 l		
MANUAL	Preparation 3		Tank 1		
CD05	Sodium Sulphate	2,000 g	2,000 kg		
MANUAL	Preparation 4		Tank 2		
LALL 60C	Reactive Dye/stuffs				
0007	Brk Blue E-FFN gran 150	0,4614 %	0,22,812 g		
0010	Royal Blue E-FFN	0,0041 %	8,227 g		
0020	Brk Yellow Ck gran	0,0470 %	0,4,095 g		
AUTO	Preparation 5		Tank 1		
CD02	Caustic soda 50% Be	2,000 ml	2,000 l		

Production printout

Mat. ID	Mat. Name	Unit	Req. Qty	Req. Unit	Prod. Code
1	AD01	ml	1,000	ml	1
2	AK02	g	2,000	g	2
3	AK03	g	1,000	g	3
4	CD05	kg	2,000	kg	4
5	LALL 60C	g	0,4614	g	5
6	0007	g	0,22812	g	6
7	0010	g	8,227	g	7
8	0020	g	0,4095	g	8
9	CD02	l	2,000	l	9

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 machine 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.

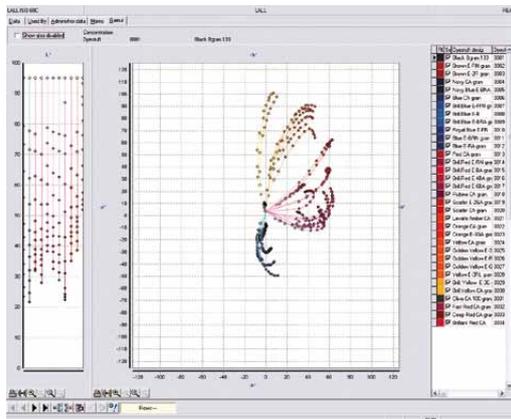
Connections:

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

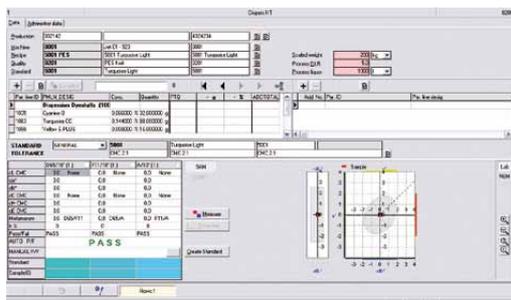
Production management system:

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

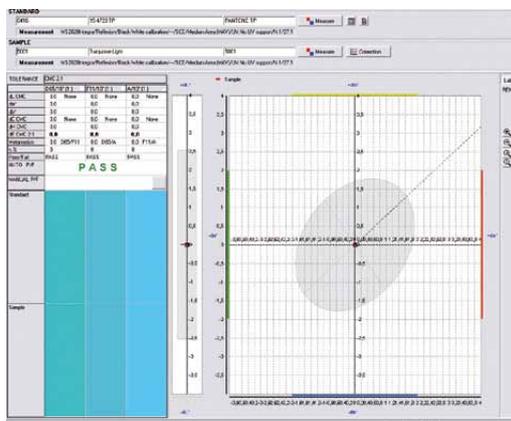
Color measurement



Available calibration series



Addition calculation



Pass/Fail

Material	Quantity	Price
AM01	1131.27 g	462.00
AM02	824.81 g	329.80
AM03	617.72 g	247.16
AM04	498.96 g	199.58
AM05	419.71 g	167.88
AM06	2462.21 g	984.88
AM07	4485.21 g	1793.28
AM08	1582.24 g	632.97
AM09	4712.24 g	1885.69
AM10	8882.27 g	3512.11
AM11	2175.24 g	870.16
AM12	33.24 g	13.24
AM13	25402.44 g	10160.96
AM14	128.24 g	50.89
AM15	2732.24 g	1072.96
AM16	8623.24 g	3369.36
AM17	482.24 g	188.96
AM18	1882.24 g	732.96
AM19	1882.24 g	732.96
AM20	1882.24 g	732.96
AM21	1882.24 g	732.96
AM22	1882.24 g	732.96
AM23	1882.24 g	732.96
AM24	1882.24 g	732.96
AM25	1882.24 g	732.96
AM26	1882.24 g	732.96
AM27	1882.24 g	732.96
AM28	1882.24 g	732.96
AM29	1882.24 g	732.96
AM30	1882.24 g	732.96
AM31	1882.24 g	732.96
AM32	1882.24 g	732.96
AM33	1882.24 g	732.96
AM34	1882.24 g	732.96
AM35	1882.24 g	732.96
AM36	1882.24 g	732.96
AM37	1882.24 g	732.96
AM38	1882.24 g	732.96
AM39	1882.24 g	732.96
AM40	1882.24 g	732.96
AM41	1882.24 g	732.96
AM42	1882.24 g	732.96
AM43	1882.24 g	732.96
AM44	1882.24 g	732.96
AM45	1882.24 g	732.96
AM46	1882.24 g	732.96
AM47	1882.24 g	732.96
AM48	1882.24 g	732.96
AM49	1882.24 g	732.96
AM50	1882.24 g	732.96

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:

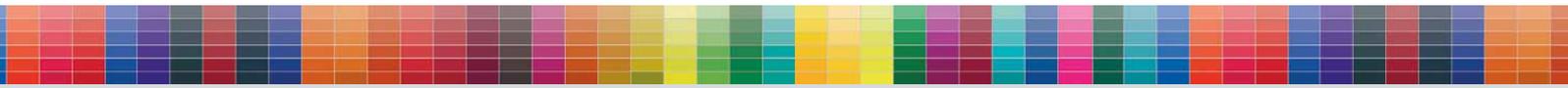
Colorimetric search with the customer sample supports easily finding a similar production recipe. In this way laboratory work is reduced and the transfer lab/production is greatly enhanced.

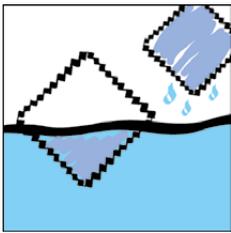
Quality for laboratory development:

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.

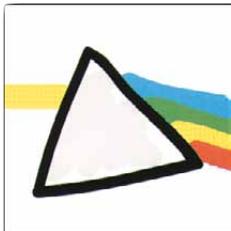
Production control:

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.





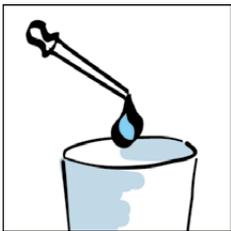
Production



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.

