CYBERCHROME
Color Control for Industry

# TECHNICAL PRODUCT INFORMATION

**On Color™ Match**

## Color Matching Software

Versatile, easy-to-use On Color Match software quickly and accurately calculates and predicts color match formulas in a wide variety of solid, liquid, gel and film applications, including coatings, plastics, textiles, inks, foods, beverages, fragrances, toiletries, cosmetics, appliances, furnishings, building materials and much more. It is engineered to help you achieve the highest level of accurate "first-shot" color matches and to minimize production corrections. It combines intuitive features — which make operators quickly comfortable and productive — with advanced, integrated features that optimize formulation, correction and quality inspection operations.

Teamed with either a portable or benchtop color measurement spectrophotometer, On Color Match software can give you a powerful competitive ability to increase overall production and enhance responsiveness to today's "just-in-time" customer demands.

### Speed color matching

On Color Match software helps you speed customer orders by reducing laboratory trials and minimizing formula adjustments by 50 percent or more compared to traditional methods. It replaces time consuming trial and error with high speed computer color matching. From a stored database of colorants it calculates in seconds the best match, least cost, least metameric formulas.


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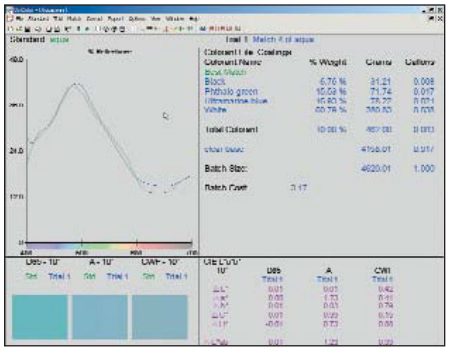
## *With On Color Match software you can select:*

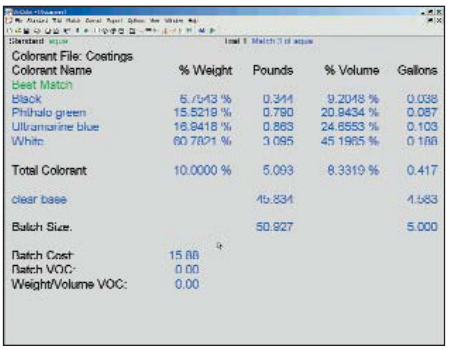
- **All possible combinations of colorants.** Choose from a colorant group, or select from the palette . . . options that further increase matching speed.
- **Automatic or manual color matching.** Measure a target color in automatic mode and let the software generate the match formula for you. Or, input a trial formula manually and let the software quickly compute its spectral curve and output its probable color difference measurements. Either way, almost instantly you can compare your predicted formula with the target color you are attempting to match.

## *With On Color Match software you can make:*

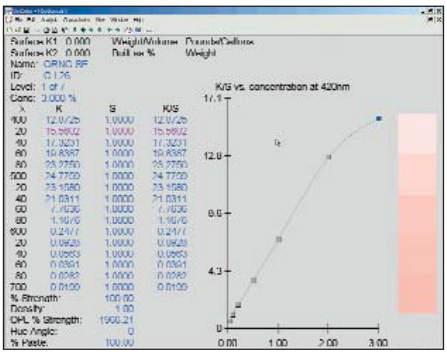
- **New matches from previously proven formulas.** With the On Color Match formula storage option you can quickly access a proven formula and with just minor adjustments match a new target color in minimum time.
- **Accurate matches from solid or liquid samples or materials with UV content.** Special features and program routines let you accurately measure all types of solid samples or liquid dyes and adjust for whiteners and brighteners with UV components.
- **New matches from excess or recycled materials.** On Color Match software can incorporate unused print pastes in new color recipes to help you reduce waste and associated disposal costs.



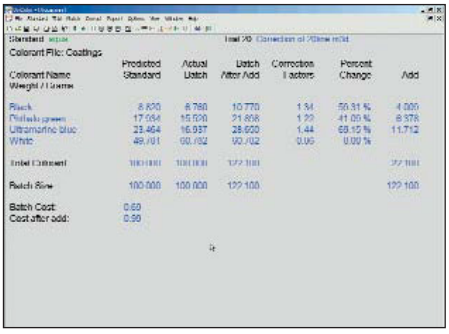
1. Color match



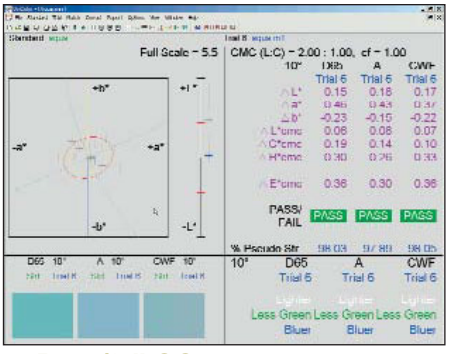

2. Formula detail




3. Database




4. Formula add/adjust




5. Pass/fail QC

## Cut production adjustments

In the real world of color-matching involving dyes and pigments, machine-to-machine variations, process anomalies and human errors, such as misweighs and sample preparation errors, often make production adjustments unavoidable — even when your laboratory match is perfectly correct. On Color Match software gives you a range of options which help you minimize the need for adjustments.

**Automatic add.** On Color Match software automatically calculates any additional colorant necessary to bring your production back on target.

**Optimize Add.** Use this option to correct a batch with just one colorant. The software calculates the optimum add of this colorant.

**Manual add.** You supply the adjustment you think best for a formula, and On Color Match software will simulate and predict the effects of your adjustment.

**Batch size variation.** On Color Match software can calculate accurate adjustments a number of ways; for example, when you know the weight or volume in a batch, or when the batch size is software generated, or even when true batch amounts are not known.

**Reduce adds or change correction factors.** On Color Match software is versatile on the job. For example, when the strength of a dye or pigment in a production batch is less than or greater than predicted, it can adjust correction factors to accommodate the actual performance of the colorant.

## Gain performance and flexibility

On Color Match software gives you the speed, accuracy and flexibility you need to respond to changing customer needs, to operate more profitably and to build your business.

**Faster estimating.** Detailed production costing gives you faster, more accurate estimating.

**Shorter lead times.** Streamlined color matching in the lab and fewer color issues in production help you meet today's ever-tighter customer deadlines.

**More confident matching.** High speed combinatorial matching evaluates and eliminates hundreds of possibilities to give you the best possible matches no matter how difficult the color.

**Wider color range.** Faster laboratory and production throughput, combined with On Color Match software's extensive colorant database capabilities, enable you to reduce the number of colorants in your inventory.

**More consistent color quality.** Batch-to-batch, run-to-run, order-to-order, On Color Match software helps you produce accurate color consistently and document your color quality for your customers . . . increasing both repeat order levels and reducing your need to submit rebids every time.

**Expandable, upgradable color control.** With On Color Match software you can decide just what level best suits various points in your operation. From an On Color Match Silver System with match and correct capabilities to an On Color Match Gold System with comprehensive formulation, correction, quality control and SPC/SQA capabilities, you get expandable, compatible, upgradable, reliable CyberChrome technology.

**On Color Match Silver Software** provides all functions needed to perform color matching, batch correction and waste work-off. It also provides the shade library and formula storage module for search of the closest shade, for search and correct to a new target color, and for retrieval of formulas. Silver level software is ideal for satellite plants and laboratory operations where the colorant database is supplied by another operation.

**On Color Match Gold Software** provides all of the above plus the complete color characterization module. The colorant characterization module enables you to generate and maintain the colorant database used by the matching and correction modules. Gold level software is ideal for central color laboratories which generate the complete data files of raw materials, colorants, additives and other recipe ingredients used in color matching and correction applications in all operations.

Both levels seamlessly integrate all of the quality control functions of CyberChrome On Color™ QC color quality control software. On Color QC software features user-defined screens, automatic elliptical tolerancing, pass/fail comparative inspections, standard database capabilities, batch history data, custom report generation, user-defined macros and many other advanced quality inspection operations. Three password levels control access to menu features, setups, color standards, tolerances and databases.

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## Technical Data

Legend: feature included feature not included

| | SILVER | GOLD |
|---|---|---|
| **Color Matching/Formulation Functions** | | |
| Automatic combinatorial matching using all possible combinations of colorants | | |
| Matches calculated using up to 6 colorants per match | | |
| Sort/select matches by weighted ΔE, cost, or metamerism | | |
| Output options: match screen display; dual units of weight, volume, dry liquid or paste; choice of 15 units of measure; choice of pre-set number of matches; match to 3 illuminants or primary only; display spectral curves and ΔE's for all matches | | |
| Waste work-off via fixed % or fixed amount in new matches | | |
| Manual matching; formula input with synthesis of spectral curve and ΔE's relative to standards | | |
| Colorant selection by colorant group, user-specified, or software specified; colorant exclusion rules | | |
| User definable colorant groupings for specific applications | | |
| Gloss compensation for matching to different gloss levels | | |
| **Batch Correction Functions** | | |
| Automatic calculation of minimum add to match standard | | |
| Option displays: weight or volume units; dry, paste or dispersion; predicted standard and batch % correction factors and % change; cost | | |
| Manual add with display of ΔE and spectral curves; optimize add | | |
| Correlation of correction factors from batch information for computation of adds | | |
| **Shade Library and Formula File Functions** | | |
| Batch history data storage/management for unlimited number of samples per file | | |
| Shade Library with formula storage | | |
| Store unlimited number of color standards with tolerances and optional formulas | | |
| Search library for closest color by maximum DE and total number of matches | | |
| Recall a standard and/or trials from library; filter the database according to selected criteria | | |
| Search and correct the closest color | | |
| Recall standard and its formula for production correction | | |
| Files are ODBC compatible (can be read in Access and other ODBC database for further manipulation and reporting) | | |
| **Colorant Characterization Functions** | | |
| Characterizations of dyes, colorants, additives, substrates and/or recycle materials | | |
| Calculation of optical constants: K, S, K/S, or A | | |
| Multiple white letdown for both single and two constant applications | | |
| Choice of application-specific calibration techniques: opaque or transparent | | |
| Error-analysis on back-prediction for trouble shooting database | | |
| Calculation of Saunderson coefficients for gloss correction; entry of colorant rules table | | |
| Storage and edit of complete colorant name and data including comprehensive physical and optical properties | | |
| **Color Parameters** | | |
| CIE illuminants: A, C, D65, D50, D55, D75, F2, F6, F7, F8, F10, F11, U30, U50 | | |
| CIE standard observers: 2° and 10° | | |
| Color space/color difference scales: CIE L*a*b*; CIE L*C*h*; CMC; CIE L*u*v*; HUNTER L,a,b; CIE 94; XYZ/Yxy, FMC2, CIE 2000, GE-PQS, Audi, DIN99 | | |
| Spectral data at 10nm or 20nm intervals with spectral graphs for target and unlimited samples | | |
| Munsell Notations; 43 industry-specific indices; 21 delta indices | | |
| 555 shade sorting | | |
| **Color Quality Inspection Functions** | | |
| On Color Match software is supplied complete with full On Color™ QC color quality inspection software, including all needed modules for color space selections, illuminants; pass/fail inspections; report generation; and data export to SPC/SQA and spreadsheet compatible files | | |
| **General Functions/Requirements** | | |
| Microsoft Windows 98 or NT, 2000, or XP required | | |
| Custom report generator and user display screens | | |
| On-screen video simulation of color for standard and samples in three illuminants | | |
| Macro generator for user-created macros; save and recall of unlimited macros | | |
| On-line instruction manual; built-in Color Science Tutorial | | |
| User-definable workspaces; 3 levels of password protection | | |
| Export to spreadsheet compatible files | | |
| Upload and download to portable spectrophotometers | | |
| Data import/export with SpectraQC™, SpectraMagic and other file formats | | |
| E-mail of color data via Microsoft Mail | | |

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