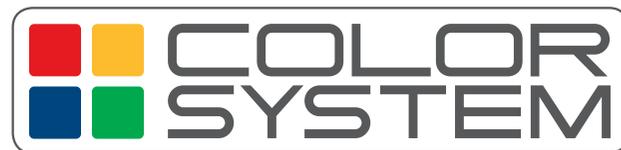


Tintometric tinting system for pigmented water-based and solvent-based wood finishes







Contents

- 4 Color System, limitless colors
- 6 Products
- 12 Dispensing machines
- 15 Color reproduction, and color formulation database
The spectrophotometer for new color formulation
- 17 e-Renner Services for the creation of safety data sheets, label printing
- 21 Renner Italia Assistance: regular maintenance of machines,
color updating and raw materials databases
- 21 Regulatory references



Color System, limitless colors

The tintometric Color System produced by Renner Italia, was developed to faithfully reproduce every shade of the color spectrum. With an infinite range of possible solutions, the Color System meets the needs of both service centres and end users who demand top quality finishes.

The Renner Italia (RTS) tintometric tinting systems for water-based and solvent-based coatings meet all the requirements for precision, speed and ease of use; setting and maintaining the highest quality standards while significantly reducing manual intervention.

Thanks to the Color System color reproducibility is now limitless.

The Renner Italia coloristic laboratory at your finger tips

The Color System brings the expertise and efficiency of the Renner Italia Coloristic Laboratory directly to the customer. Thanks to the extensive network of service centres located throughout the territory, every decorator can easily reproduce endless colors for all types of wood finishes:

- ▶ **matt polyurethane coatings**
- ▶ **high-gloss polyurethane coatings**
- ▶ **water-based products for outdoor joinery**
- ▶ **water-based one-component products for indoor furniture**
- ▶ **water-based two-component products for indoor furniture**

For pigmented products used in high-tech coating systems, such as water-based and solvent-based UV-drying systems, as well as dual cure systems, acrylic-polyurethane coatings, etc., the chromatic solution provided by the Color System is always extremely faithful.

The system does not only bring you excellent color consistency. Our service centres provide the same performance and chemical specifications as those coatings produced at Renner Italia central factories, and are subjected to the same most stringent quality levels.

Through the service centres located throughout the territory, the Color System brings Renner Italia total quality and efficiency to every corner of the planet.



Characteristics of tintometric tinting systems

The exclusive Renner Italia RTS system simplifies the complex process of tinted coating production by breaking it down into individual modular components, all easily integrated.

This makes the tintometric system fully customizable. It adapts itself to the special requirements of each specific service centre and can be expanded alongside the centre itself.

The Color System, in other words, transforms the individual centres into actual production units, able to offer customers coatings and services mirroring the quality levels associated with the headquarters of Renner Italia itself.

The tintometric Color System does not only offer products and machinery, but also provides a range of other services, through the Renner Italia network based throughout the territory, ensuring that their customers never risk working outside current legislation. These services include correct labeling, up-to-date safety data sheets, VOC information (Volatile Organic Compounds), etc..

The RTS Systems allow the distribution centre to:

Consistently reproduce any type of pigmented finish, for each and every type of coating, in every package size and gloss level.

Colors already in the system, can be easily retrieved from the RTS database.
The powerful spectrophotometer can identify and formulate new colors in just a few minutes.

Products are designed quickly and cleanly by utilizing the efficiency and speed of the well designed dispensing machines supplied by Renner Italia;

It takes less than two minutes to produce a tin of pigmented topcoat, by mixing pastes with the pre-weighed converter (for any size from 1 to 25 kg).
The mixing is carried out automatically, with the tin closed, using gyroscopic mixers. This ensures quick, efficient and clean processing (up to 5 minutes are required to obtain complete homogenization of the paste with the relevant converter) in the working area.

It is easy to obtain pigmented topcoats having the same qualitative and performance specifications as those produced internally by Renner Italia;

Thanks to the calibrated formulas of the products used in the tintometric tinting system, they are totally interchangeable and of an extremely high quality level.

Thanks to the highest quality control levels applied by Renner Italia to its converters and pastes.

Fulfilment of legal obligations (printing of labels showing correct symbols and phrases, printing of safety data sheets, quotations, printing of ADR documents, sending data to the National Institute of Health as required by law).

Thanks to the constantly updated database by Renner Italia and in line with Italian and European regulations on chemicals.





Renner Italia high technology products

The tintometric Color System reproduces pigmented finishes by correctly adding pigmented pastes to appropriately formulated bases (white or transparent). These bases are commonly known as converters.

Pigmented pastes

Renner Italia pigmented pastes used in the tintometric tinting system were designed and formulated according to various specific guidelines:

- careful selection of base pigments
- complete coverage of the color spectrum
- stability and durability of the color even when exposed to the most severe light conditions
- total compatibility (even the most complex formulations of the pastes mix perfectly and pass the rub-out test with excellent results)
- universal use never compromising the final result (i.e. pigmented finish features)
- few characteristics and concentrations are suitable for use in automatic dosing systems

CODE	THE FAMILY	COLORS AVAILABLE
EY--M460/--***	WATER-BASED	C31 purple, C54 amaranth red, C59 golden yellow, C71 carmine red, C84 lobster orange, E02 white, E04 blue, E08 orange, E09 green, E36 warm red, E42 maize yellow, E52 deep red, E62 ocean blue, E77 oxide yellow, E85 lemon yellow, NRO black
EF---M060/--***	SOLVENT-BASED	C01 deep black, C02 white, C03 red, C04 blue, C08 orange, C09 green, C31purple, C42 maize yellow, C52 deep red, C54 amaranth red, C59 golden yellow, C62 ocean blue, C70 oxide red, C71 carmine red, C77 oxide yellow, C84 lobster orange, C85 lemon yellow, NRO black





Converters

These are coatings specially formulated to be mixed with pastes. By proper mixing of pastes and converters, each service centre can produce the best pigmented finishes.

Renner Italia Converters:

- are produced to obtain perfect mixability and full compatibility with pastes;
- cover the complete range of all coating types and end uses;
- allow service centres to mix pastes, to obtain the required pigmented finishes of the same quality and performance of products made at the headquarters of Renner Italia.

For each type of coating, a pair of converters is required:

- white for pastel colors;
- neutral for deep colors.

Each pair is provided in the main gloss levels used in the market.

The range of converters is enhanced by adding a third product characterized by an intermediate concentration of white to obtain intermediate shades. This use of a semi-white base helps to reduce the amount of paste required reducing formulation costs.

Pastel colors derived from white are obtained by adding small amounts of paste to the white converter (and hence variable from color to color).

In the case of deep colors, where larger amounts of pastes are added to a neutral converter, Renner Italia sets the optimal proportion between converter and paste. The paste amount is set according to the product family and end use.

The Color System therefore aims to maximize colorimetric efficiency and achieve the best technical-applicative characteristics of finishes.

As a result, neutral converters are supplied in pre-weighted packages containing a set dosage, so it is only necessary to add the predetermined amount of paste to produce a full tin of the required color.

Converter quantities are pre-determined to optimize the way the service centres work, resulting in fast, efficient and clean production, without compromising the high quality standards of Renner Italia.

Converter range

The converters shown in the following tables meet all the needs of the service centres. For specific products, or particular uses, Renner Italia can always produce the specific converters. Color System manufactures products tailor made to the customer's requirements and able to meet any end user's needs, often exceeding his expectations.



Solvent-based coatings

Converters for high-gloss polyurethane coatings

CODE	DESCRIPTION	AVAILABLE OPACITY	OPTIMAL CONVERTER PASTE RATIO
FB---M066/--BNC	Glossy white	Glossy	Added pastes
FB---M066/--NTR	Glossy neutral	Glossy	70 : 30

Converters for opaque polyurethane coatings

CODE	DESCRIPTION	AVAILABLE OPACITY	OPTIMAL CONVERTER PASTE RATIO
FO-**M060/--BNC	Matt white	** = 10-25-60	Added pastes
FO-**M060/--NTR	Matt neutral	** = 10-25-60	75 : 25
FO-**M060/--SBN	Semi-covering matt white	** = 10-25	Added pastes
FO-**M036/--BNC	For white undercoats	** = 10	Added pastes
FO-**M036/--NTR	For neutral undercoats	** = 10	75 : 25

Water-based coatings / Outdoor systems

Converters for thixotropic coatings

CODE	DESCRIPTION	AVAILABLE OPACITY	OPTIMAL CONVERTER PASTE RATIO
YO-**M360/--SBN	Matt white	** = 15-30-45-60	Added pastes
YO-**M360/--NTR	Matt neutral	** = 15-30-45-60	92 : 8

Converters for manual spray coatings - Ideal for panels too

CODE	DESCRIPTION	AVAILABLE OPACITY	OPTIMAL CONVERTER PASTE RATIO
YO-**M370/--SBN	Matt white	** = 15-30	Added pastes
YO-**M370/--NTR	Matt neutral	** = 15-30	92 : 8

Converters for thixotropic coatings - Top Quality series

CODE	DESCRIPTION	AVAILABLE OPACITY	OPTIMAL CONVERTER PASTE RATIO
YO-**M397/--SBN	Matt white	** = 15-30	Added pastes
YO-**M397/--NTR	Matt neutral	** = 15-30	92 : 8



Water-based coatings / Indoor systems

Converters for one-component coatings

CODE	DESCRIPTION	AVAILABLE OPACITY	OPTIMAL CONVERTER PASTE RATIO
YO-**M760/--SBN	Matt white	** = 05-15-30-50	Added pastes
YO-**M760/--NTR	Matt neutral	** = 05-15-30-50	88 : 12
YO-**M761/--SBN	Tixo matt white	** = 15-30	Added pastes

Converters for two-component coatings with high thixotropy

CODE	DESCRIPTION	AVAILABLE OPACITY	OPTIMAL CONVERTER PASTE RATIO
YO-**M750/--SBN	Matt white	** = 15-30	Added pastes
YO-**M750/--NTR	Matt neutral	** = 15-30	88 : 12

Converters for two-component coatings for f at parts

CODE	DESCRIPTION	AVAILABLE OPACITY	OPTIMAL CONVERTER PASTE RATIO
YO-**M785/--SBN	Matt white	** = 15-30	Added pastes
YO-**M785/--NTR	Matt neutral	** = 15-30	90 : 10

The converters listed above cover most of the service centres' requirements. They are complemented by niche type products specially designed for specific areas, such as textured systems, hypoallergenic coatings for baby furniture, water-based UV systems, etc.



Customized Tintometric Systems

Color System machines are flexible depending on customers' requirements

Water-based system - Indoor/Outdoor

Large volumes (production lots rarely below 25 kg)

BANCO 22 CIRCUITS - GYROSCOPIC MIXER - PORTABLE SPECTROPHOTOMETER

Water-based system - Indoor/Outdoor

Small volumes (production lots rarely up to 25 kg)

BANCO 16 CIRCUITS - GYROSCOPIC MIXER - PORTABLE SPECTROPHOTOMETER

Solvent-based System

Large volumes (production lots rarely below 25 kg)

D600 16 CIRCUITS - GYROSCOPIC MIXER - PORTABLE SPECTROPHOTOMETER

Solvent-based System

Small volumes (production lots rarely up to 25 kg)

TATO COLOR 16 CIRCUITS - GYROSCOPIC MIXER - PORTABLE SPECTROPHOTOMETER

Solvent-based System + Primer

Large volumes (production lots rarely below 25 kg)

D600 24 CIRCUITS - GYROSCOPIC MIXER - PORTABLE SPECTROPHOTOMETER

Working with the Color System is simple

Once the converter related to the type of coating required is identified, the color formulation desired is selected, the converter is positioned in the dispensing machine and paste dispensing is started.

The tin is then closed and just a few minutes are needed to homogenize the pastes using the gyroscopic mixer.

After five quick steps the tin of coating is ready for use.

The dispensing machines selected by Renner Italia keeps pastes in perfect condition dispensing colors in an extremely accurate and repeatable way, allowing the service centre to produce pigmented finishes with utmost precision.

Thanks to the special operating program pastes are dispensed simultaneously, thus minimizing color preparation times.

Dispensing machines are calibrated and set before delivery, by qualified Renner Italia staff and supplied with the operating software containing all formulations required to obtain, for each coating family, the shades of colors most used in that field.





The most advanced dispensing machines



D600 16 CIRCUITS

Version with 10 6-litre tanks
6 15-litre tanks

simultaneous dispensing

Dispensing speed 0,5 lt/min.

width 1070 mm

depth 1180 mm

height 1190 mm

net weight 290 Kg

D600 24 CIRCUITS

Version with 16 6-litre tanks
8 15-litre tanks

simultaneous dispensing

Dispensing speed 0,5 lt/min.

width 1400 mm

depth 1108 mm

height 1190 mm

net weight 350 Kg



BANCO 22 CIRCUITS	
Version with 22 6-litre tanks	simultaneous dispensing
Dispensing speed	0,2 lt/min.
width	950 mm
depth	849 mm
height	1340 mm
net weight	140 Kg

BANCO 16 CIRCUITS	
Version with 16 6-litre tanks	sequential dispensing
Dispensing speed	0,2 lt/min.
width	950 mm
depth	690 mm
height	1340 mm
net weight	120 Kg



TATO COLOR 16 CIRCUITS	
Version with 16 3-litre tanks	simultaneous dispensing
Dispensing speed	0,5 lt/min.
width	950 mm
depth	600 mm
height	1363 mm
net weight	208 Kg



GYROSCOPIC MIXER	
5-speeds	H 990 mm; L 760 mm; P 825 mm;
net weight	120 Kg



PORTABLE SPECTROPHOTOMETER	
Including colorimetric software	





Color reproduction

The database of already formulated colors

In the wood industry internationally recognized color charts are used. They list the color tones, without referring to a reference liquid or paint sample. The software provided by Renner Italia for dispensing machine management includes a database of already formulated colors for all converter families. The main reference color charts are herein covered:

RAL	NCS	RENNER COLOR SYSTEM
-----	-----	---------------------

In the same database each service centre can enter, store and if necessary retrieve all customized colors produced for any customer over the years.

Using the spectrophotometer to reproduce new colors

In the past, the reproduction of a new color was a complex process, carried out by expert staff often on the basis of approximations.

Today, everything is easier.

The Color System includes a powerful instrument for color matching: the spectrophotometer.

This tool breaks down the electromagnetic waves emitted by an object subjected to a standard light source (included in the instrument) and, through a powerful interpolation program, it compares them to the relative values of Renner Italia pastes and converters already stored in the database. As a result it provides the best paste mix to reproduce the spectrum of the sample taken. In other words, the Color System spectrophotometer output, derived from a color sample reading, is a real formula based on the combination of Renner Italia converters and

pastes, allowing the service centre to immediately reproduce the color.

The level of accuracy of this instrument is so high that in most cases the result of the first reading is a perfect match.

In rare cases, where the result of the first reading is not sufficiently precise, the instrument will work in correction mode, suggesting the type and the amount of paste to be added to the product, in order to further come closer to the reference color to be reproduced.

Once the new color is obtained, the service centre will be able to store the formula in the database of customized shades and, when needed, to retrieve and reproduce it with the utmost accuracy and precision.



Always in compliance with e-Renner services

The software that simplifies management

With the Renner Italia tintometric tinting system the service centre becomes an actual production centre, able to develop coatings with specifications based on large-scale industry parameters.

This is further demonstrated by other services the service centres offer, in particular the information required to conform to all current legislation. The service centre processes the base products supplied by Renner Italia, producing chemical formulations and marketing them with their own name and product codes.

Therefore the service centre must be able to:

- correctly print out labels with risk statements and hazard symbols;
- compile for customers all required safety data sheets in line with current regulations;
- print documents with correct ADR wording.

This process can be simplified by using the e-Renner software.

The program database is constantly updated by Renner Italia headquarters, for example with the introduction of new raw materials, or a latest European standard.

With e-Renner the service centre is always in compliance and ready if any audits are carried out by governing bodies. The package also includes other functions aimed at optimizing everyday service centre management (e.g. to produce quotations...).





What are the risks of those who...

A) Do not respect the existing rules for correct classification and labelling?

Currently, violations of rules on classification and labelling are subject to a fine of up to 15,493 Euros, as set out by Legislative Decree 65/2003. In more serious cases a prison sentence of up to 6 months is applicable. However, with the release of Regulation (EC) no.1272/2008 (known as CLP) more severe sanctions will be put in place. It proposes penalties of up to 60,000-90,000 Euros as appropriate.

B) Do not correctly produce safety data sheets?

According to Legislative Decree 133/2009, incomplete or incorrect safety data sheets can result in a fine of up to 18,000 Euros, unless the act constitutes an actual crime.

Those who do not keep the information used for the production of safety data sheets, for 10 years, risk a fine of up to 18,000 Euros.

C) Do not send customers the safety data sheets or other information required?

Unless the act constitutes an actual crime, not supplying the relevant information along the whole supply chain is punished with a fine of up to 60,000 Euros, as indicated in Legislative Decree 133/2009 (these requirements are described in detail in the EC Regulation no.1907 / 2006, also known as REACH).

D) Do not comply with the legal requirements when transporting dangerous goods (ADR)?

The sanctions regime on the transport of dangerous goods is defined in section 168 of the "Highway Code" (Legislative Decree 285/1992 and Presidential Decree 495/1992 and subsequent amendments and additions): responsibility for the violations is applied to all operators in the transport chain (including the customer or the shipper) and involves administrative penalties of up to 7,370 Euros; the carrier is also responsible with penalties including the registration certificate and driving license suspension for up to six months or the administrative forfeiture of the vehicle.

WARNING Wood coatings are regulated as chemical products.

The European standards are becoming increasingly strict on production, handling and transport.

The services provided by the e-Renner program make compliance to these regulations easier.

e-Renner minimizes the risks and is always in full compliance.

Why risk it? Relying on Renner Italia eliminates any non-compliance with current regulations.

Regulations in force as of July 2011.





Renner Italia Assistance is always at your side

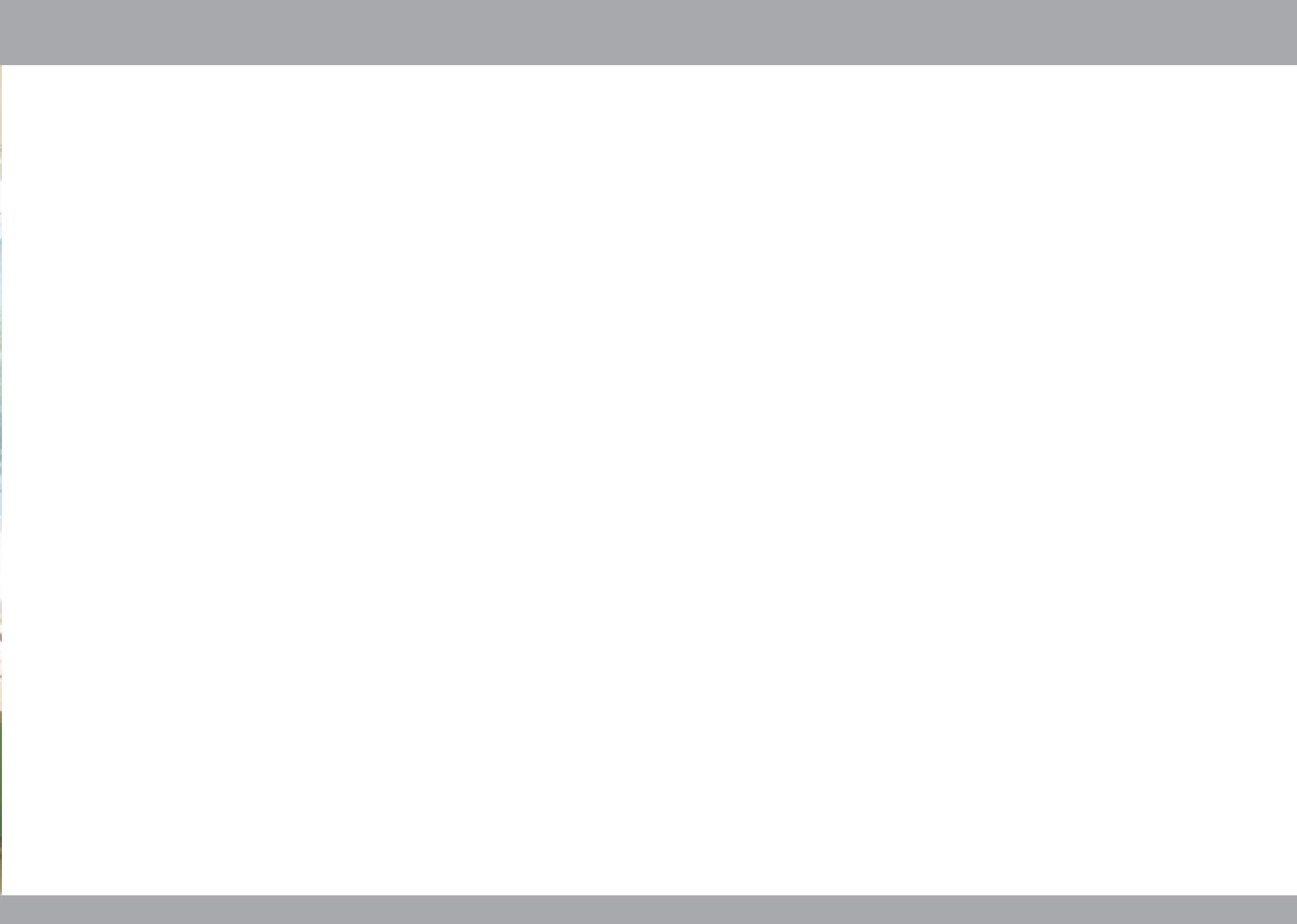
The Color System package is qualified by the assistance program Renner Italia provides its service centres. Our highly skilled technicians constantly look after the service centre.

Their stated mission is to ensure the proper functioning of the system, from the time of installation. Before starting a new Color System point, the machines are set up and tested at the headquarters. Renner Italia experts follow both delivery and commissioning at the centre, then provide training for the technicians of the new service centre. By signing a simple maintenance contract, the service centre is entitled to at least two visits per year for calibration and cleaning, including anything else required to ensure the system functions correctly. Renner Italia experts, in addition to ensuring a prompt assistance, make sure that the tintometric tinting system database is constantly updated.

Normative references

- Correct methods for coating classification and labelling:
Regulation (EU) no. 453/2010. www.eur-lex.europa.eu.
- Correct methods for product safety data sheet production and management:
Regulation (EC) no. 1272/2008 (CLP). www.echa.europa.eu.
- Obligations on information provided to customers:
Regulation (EC) no. 1907/2006 (REACH). <http://reach.sviluppoeconomico.gov.it/helpdesk>.
- Consumer Code (rules on product safety):
Legislative Decree no. 206 of 6/9/2005. www.parlamento.it ("Leggi" section).
- Marketing of pre-packaged coatings:
Ministerial Decree nr.131/1988 and Directive 86/96/EEC. <http://eur-lex.europa.eu>.
- Proper labelling and proper management of coatings classified as dangerous for transport:
ADR - European Agreement concerning the international transport of dangerous goods by road.
www.adronline.it.
- Procedures for safe working practices:
Legislative Decree no. 81/2008 and subsequent amendments and additions
(Consolidated text on health and safety in the workplace). www.lavoro.gov.it ("Normativa" section).
- Correct means to dispose of waste resulting from the production and use of coatings:
Legislative Decree no. 152 of 3/4/2006, and subsequent amendments and additions
(Consolidated environmental text) and the Decree of the Ministry of the Environment 17/12/2009 (SISTRI).
www.minambiente.it ("Normativa" section).







Renner Italia S.p.A.

Headquarter: via Ronchi Inferiore, 34 - Plants: via Ronchi Inferiore, 7 e 34 - 40061 Minerbio (Bologna) Italy
ph +39 051 6618211 - fax +39 051 6606312 - www.renneritalia.com