

COLOR COMPETENCE CENTER

RESEARCH & DEVELOPMENT

◇◇◇ THE MAGAZINE ◇ SPECIAL EDITION OF ROWA GROUP ◇ THE CCC+ INTRODUCES ITSELF ◇◇◇



THE BEST FROM ALL AREAS

In the COLOR COMPETENCE CENTER, the color experts of the ROWA GROUP produce precisely tailored, finished colored plastics, masterbatches, liquid colors and finely dispersed pigment preparations.

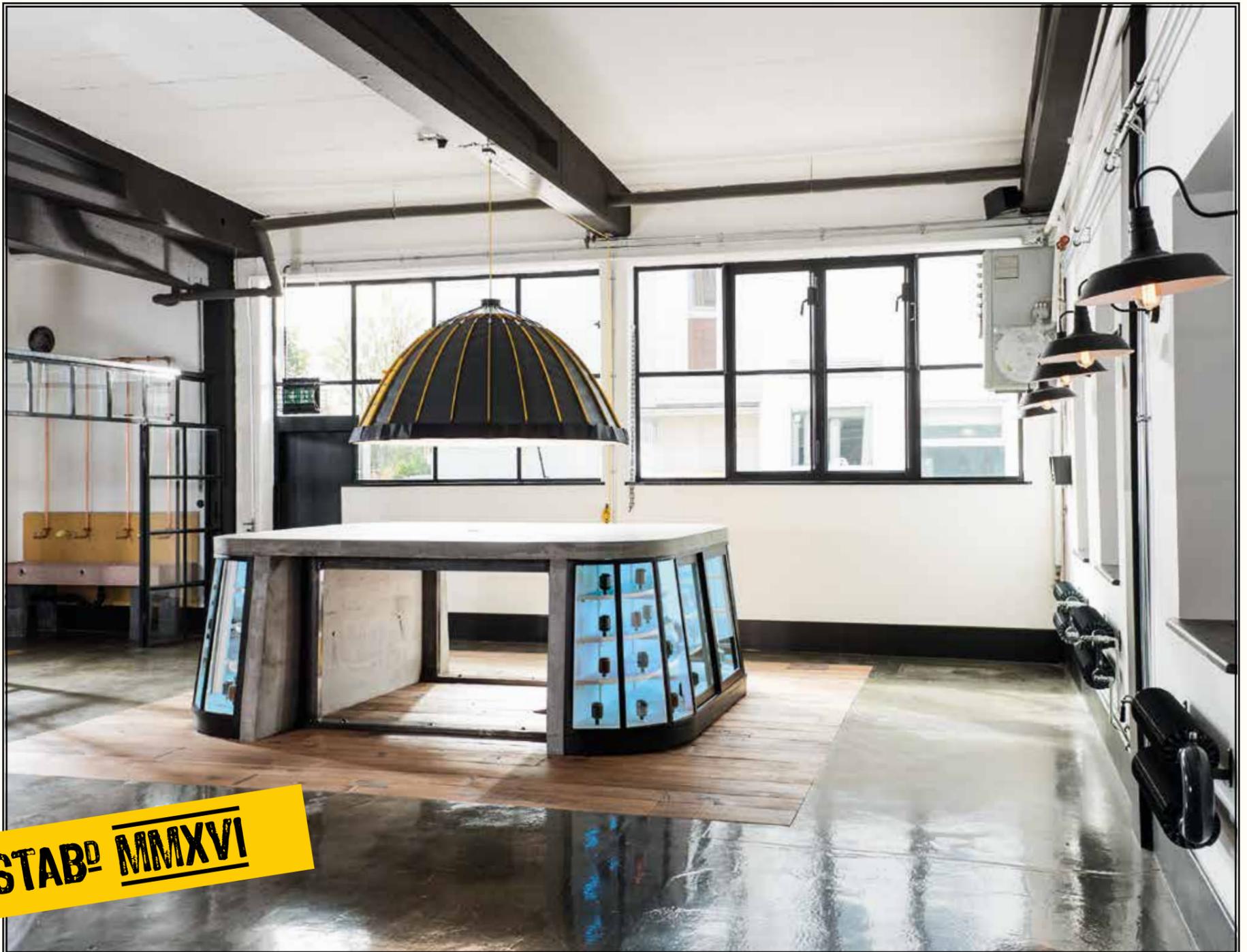
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CCC+ INTERN

Get a clear impression of our workflow at CCC+. From customer requests to approved sample – in the most modern working environment our color experts flexibly develop and create your optimal product solution.

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ESTAB^o MCMXVI

TAILOR-MADE PRODUCT SOLUTIONS

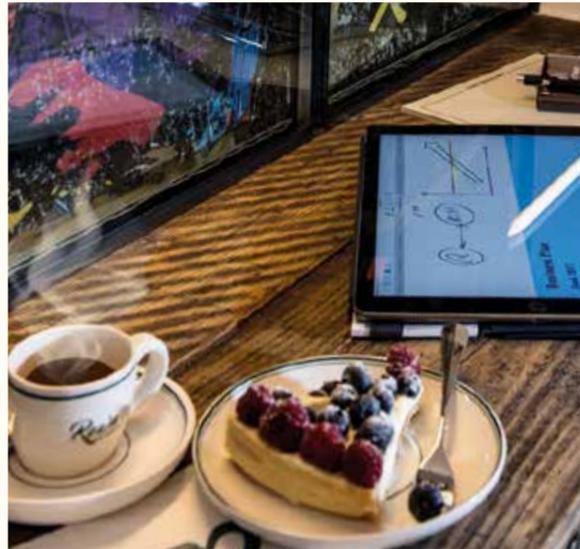
Learn more about our collective expertise in the COLOR COMPETENCE CENTER



ROMIRA COLOR

Since 1991 ROMIRA has specialized in the development and production of engineering plastics and blends.

As one of the leading compounders in Europe, ROMIRA develops customer specific products with precisely fitting properties and perfect colors for applications in the automotive industry, electrical engineering, construction, medical technology and many other sectors.



ROWALACK PIGMENT PREPARATIONS SINCE 1970

For decades, ROWA Lack has specialized in the development of special coating systems and pigment preparations for a wide variety of applications. The highly concentrated and finely dispersed pigment preparations allow a maximum degree of distribution, have a large compatibility spectrum as well as high transparency and color strength and are particularly suitable for use in PVC and PMMA. The properties such as heat resistance, migration, light-resistance and solvent-resistance are determined by the pigment used. A fully coordinated stabilization of the respective plastic carrier material guarantees that the pigment properties are fully preserved.



OVER 45 YEARS RELIABLE PARTNER

ROWA Masterbatch has been a reliable partner to the plastics processing industry for over 45 years.

Polymer-specific masterbatches for almost all thermoplastics, reinforced plastics and polymer blends are produced in granular form. The product range includes color masterbatches, additive masterbatches, combination masterbatches and special compounds. Each masterbatch is developed individually according to customer requirements. With the most modern color measuring equipment, sophisticated formulation software and a team of specialists, color accuracy with the smallest tolerances can be guaranteed.



THE SMART ALTERNATIVE

ROWASOL has been the specialist for high-quality liquid colors and additive concentrates for plastic coloring since 2004. The product portfolio is complemented by the ROWAMETRIC dispensing system for fast and clean color changes and the ROWASOL COLOR CUBE reusable container for resource efficient product handling.

In both extrusion and injection molding, the use of liquid colors saves on color costs and on the production process in general.



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THE BEST FROM ALL AREAS

In the COLOR COMPETENCE CENTER, the color experts of the ROWA GROUP produce finished colored plastics (ROMIRA), masterbatches in granular form (ROWA Masterbatch), liquid colors (ROWASOL) and finely dispersed pigment preparations (ROWA Lack) that are tailored to customer requirements.

Expertise, the most modern equipment, close cooperation with the customer and, last but not least, an optimal workflow guarantees the best results. In Pinneberg, the ROWA GROUP has invested in a manufacturing facility with state-of-the-art injection molding machines, which can be expanded further as required. All relevant surface structures can be produced here with a new injection molding cassette system for the highest quality demands, also combined with the latest Variotherm technology.

- High-gloss surfaces without subsequent varnishing
- Increased surface gloss
- Avoidance of weld lines to reduce rejects
- Filled products with high gloss surfaces and much more!

Precise process documentation, production monitoring and optimization by the Arburg computer system (ALS) contribute to increased productivity and quality assurance.

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TRANSPARENCY, EFFECTIVENESS, FLEXIBILITY, EFFICIENCY!

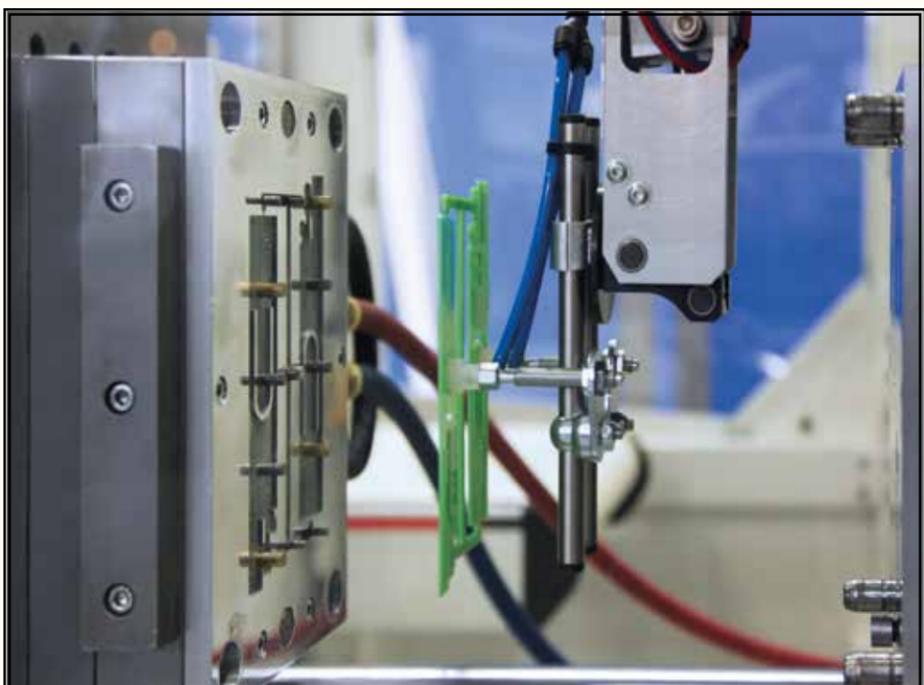
01 CUSTOMER REQUEST



Our sales back office team takes the order for the new color setting. Following this, a laboratory order will be placed, in consultation with the customer and field services.



08 SAMPLE



The sample is tested by the customer for suitability in their process and is approved.



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02 FEASIBILITY TEST

The customer sample is inspected visually, and the feasibility of the desired requirements will be investigated.



BRINGING EXPERT

◇◇◇ THE CCC+ DEVELOPS AND SUPPLIES COLORS ACCO

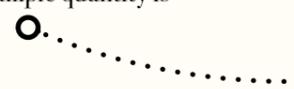
With the CCC+, the ROWA GROUP offers its customers the best possible service and fulfils even the most demanding requirements for a product. All products can be flexibly adapted - thanks to company specific know-how.

As a result, customers can rest assured that they are getting a product that is perfect for their manufacturing process and end use application, with the confidence of optimized color, consistency and reproducibility. Various color systems are available, such as RAL, NCS and Pantone. Thanks to the most modern data communication, customers can obtain a color adjustment with electronic targets without the need for a visual template. This can enable a much faster workflow from

07 PRODUCTION SAMPLE



As soon as the formulation development has been completed, a sample quantity is produced for customer evaluation.



The
WAY
to
WORK



03 PLANNING COLOR ADJUSTMENT

The raw materials required to achieve the desired color are ordered and a date is set for completion of the color match.

WISDOM TO THE FOLD

ACCORDING TO INDIVIDUAL CUSTOMER REQUIREMENTS

initial color standard setting to completion of a tailor-made color concentrate or compound.

On the basis of the exemplary procedure at ROMIRA GmbH shown here, you can see what technical demands and high quality requirements we place on the color matching of your material.



This information can now also be found online.



06 TESTING

The next step is to test the mechanical properties of the material according to product and / or customer requirements using the latest testing equipment in accordance with current standards. This includes the melt flow index, tensile and flexural strength, impact strength, heat deflection temperature and weathering tests.

04 IMPLEMENTING THE COLOR ADJUSTMENT



Sample plates of the new color are produced in our laboratory and our colorist, who is responsible for the color development, makes an initial assessment of the color.

05 ASSESSING COLOR SAMPLE PLATES



The color is assessed both visually and using state-of-the-art measurement technologies including a Konica Minolta spectrophotometer. If the customer wishes, we are happy to evaluate the results with them in conjunction with our COLOR COMPETENCE CENTER. This gives us the possibility of a direct exchange of views on fine tuning, with immediate modifications if necessary.



OUR STRENGTH IS THE COLOR!

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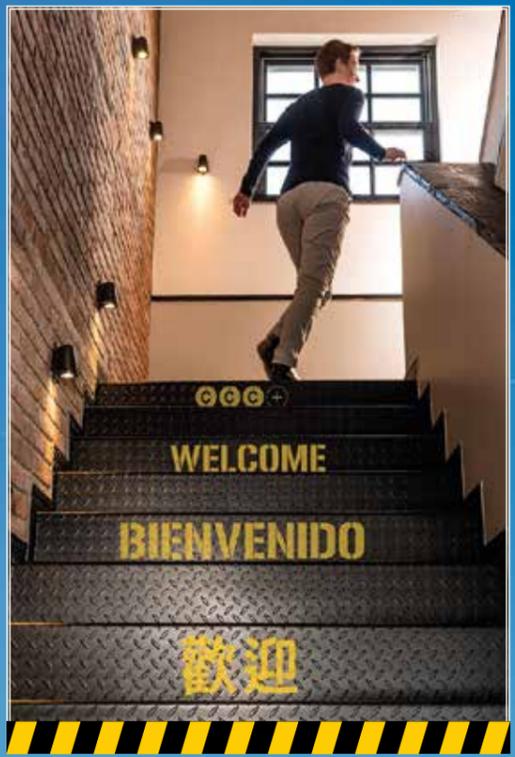
Based on various polymer-specific carrier materials, color matches are created as required. Sample parts sent in by the customer are assessed both visually and with laboratory equipment in order to produce an exact copy of the color. Our colorists, with years of professional experience and the right eye and feel for colors, are supported by state-of-the-art color management systems and digital microscopy. This enables them to give the formulations the finishing touches and to 100 % meet customer requirements.



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— RESEARCH & DEVELOPMENT —

WE ARE DISTINGUISHED BY OUR CONSTANT

ONGOING TRAINING AND HIGHEST COMPETENCE



SUMMARIZED!

THE CCC+:

VALUABLE KNOWLEDGE,

FACTS AND FIGURES.

COLOR MEASUREMENT TECHNOLOGY & CALIBRATION RANGE

- » „Colibri” Color Management System
- » Calibration series for transparent and muted colors for more than 200 colorants
- » Formulation based on existing color catalogues (RAL, Pantone, NCS) or color samples
- » New color formulation and color corrections
- » Various Konica Minolta spectrophotometers with different measuring geometries
 - CM-3700A spectrophotometer and CM-700d for for sphere geometry
 - CM-2500c CT spectrophotometer for directional geometry
- » Gloss meters
- » Common database for color standards
- » Walk-in color sample room (with dark room) as well as several color matching booths with different standard light types for visual observation
- » Colorimetric measurements of sent in components

LABORATORY EQUIPMENT

- » 8 laboratory dissolver from 0.4-2.2 kW for batch quantities from 0.1-30 kg
- » Laboratory bead mills
- » Rolling mills
- » Laboratory presses
- » Digital microscope
- » Collin Pressure Filter Test
- » Dynamic Differential Scanning Calorimetry (DSC)
- » Melt Index Test Equipment
- » FTIR Spectrophotometer
- » Density Balance
- » Moisture Analyzers

TWIN-SCREW EXTRUDER

- » 11 parallel-rotating, modular twin-screw extruders
- » Screw diameter from 16 mm to 30 mm
- » Process length up to 44D
- » Premix or split feed process
- » Processing of all common standard thermoplastics as well as high-temperature plastics
- » Gravimetric dosages
- » Sample quantities up to 25 kg

SINGLE-SCREW EXTRUDER

- » 3 extruders
- » Screw diameter from 22 mm to 30 mm
- » Tools: Hole nozzles and wide slot nozzles
- » Strand and flat film production
- » Tempered calendar rollers
- » Laminated film
- » Composite film
- » Film thickness 30 µm up to 3 mm
- » Film width up to 200 mm
- » Extruder temperature max. 300 °C
- » Inline film inspection (resolution 5 µm, detectable defects from 10 µm)

INJECTION MOLDING MACHINES

- » 17 different machines from 25 t - 200 t clamping force
- » Variotherm technology
- » Molds with various surface structures
- » Digital flatbed printing technology for plate marking



For reasons of better readability, the masculine form is used for personal names and personal nouns. In the interest of equal treatment, the corresponding terms apply to all genders. The abbreviated form of language is for editorial reasons only and does not imply any valuation.

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