



BCS

BASPAR CHEMI SEPIDAN

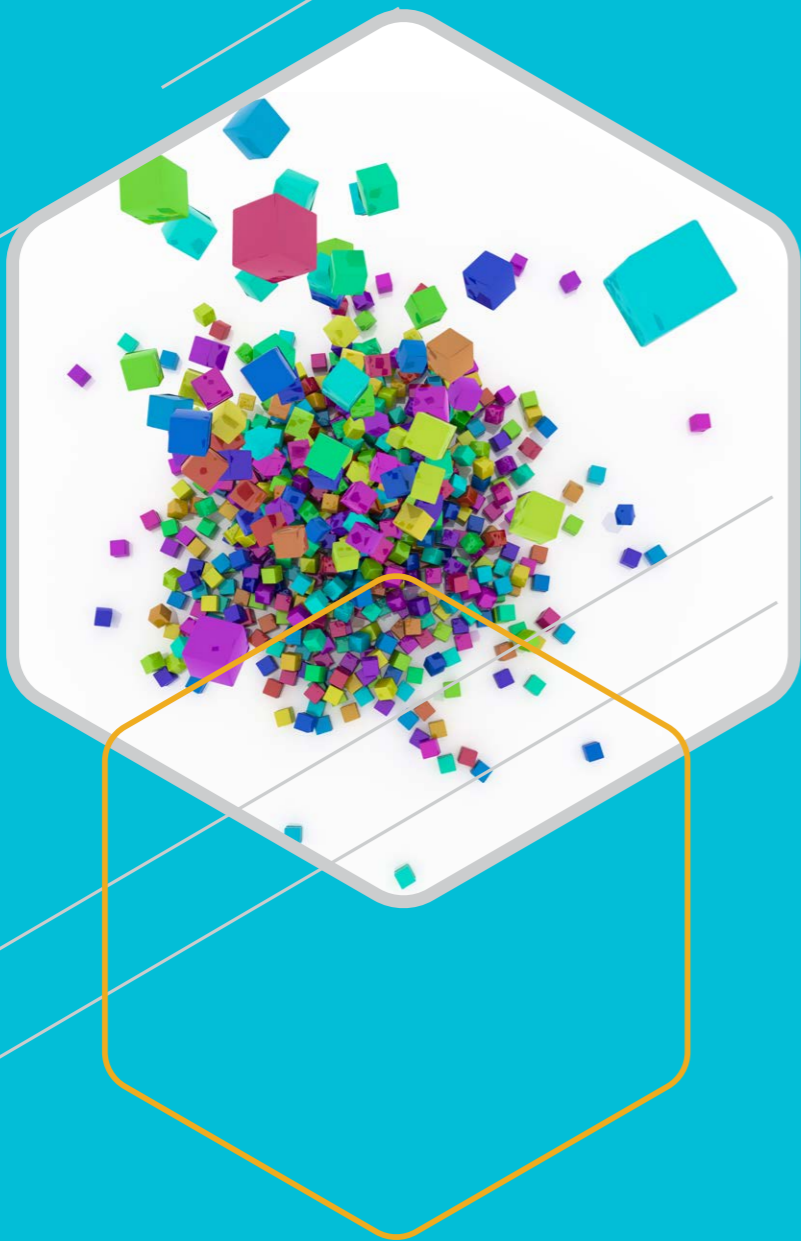


Where science meets innovation

Masterbatch 2023



Where _____
Science Meets
Innovation





“Where science meets innovation”

Baspar Chيمي Sepidan Holding, with the trademark BCSTM, is a knowledge-based startup laboratory focused on developing an innovation ecosystem. The Holding was founded with four main centers: business development and organizational innovation, research and innovation, production sites, and Sales & commercialization offices. Its result is the production and supply of advanced industrial and engineering polymers. It started its activities in 2011 by supplying various polymers for use in different industries such as home appliances, automotive, electrical, construction, etc. Gradually, with the establishment of commercialization offices and market research in different countries such as Germany, Turkey, China, the United Arab Emirates, Taiwan, India, Serbia, Vietnam, Malaysia, South Korea, and Italy, it has succeeded in achieving a leading position in the supply, production, and innovation of polymer products in the country's industry.

One of BCS's goals is to expand the value chain by converting raw polymer materials and additives into high-value specialized raw materials. Over the past decade, it has successfully launched several production units for compounds, masterbatches, and rubber compounds. With an emphasis on continuous improvement of product quality and the expansion of knowledge-based activities, BCS equipped and operated a specialized polymer materials laboratory and a research and development (R&D) unit in 2015 and 2016. In 2021, the integration and development of these organizational units led to the establishment of a research and innovation center located at Isfahan University of Technology. All these effective processes have transformed BCS into a leading and technologically advanced knowledge-based production entity with a capacity of over 75,000 tons per year, supplying raw materials and additives for industries such as household appliances, automotive, textiles, construction, agriculture, film and packaging, electronics, rubber, and chemicals in the region.

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2017

- ▶ Localization of technical know-how for the production of PP-based compounds obtained from South Korea;
- ▶ Localization of technical know-how for the production of the PA-based compounds obtained from the Netherlands;
- ▶ Production of compound and masterbatch for use in household appliances, Automotive, films, packaging, and electrical industries;

2016

- ▶ Establishment of Research and Development (R&D) Unit in Isfahan Technology University;
- ▶ Policy making and design of development projects at production and R&D scales;

2014-2015

- ▶ Equipping and establishing a specialized laboratory for polymers;
- ▶ Supplying various additives for plastic industries, PVC, dyes, and resins;
- ▶ Start of the operations of Baspar Chemi Sepidan factory, First unit, with the production capacity of 30000Tons;

2013

- ▶ Development of sales capillary networks and market development;
- ▶ Design and construction of First Compound & Masterbatch unit;

2012

- ▶ Establishment of foreign offices in Germany, South Korea, Turkey, China, India, etc;
- ▶ Establishment of logistical and warehouse infrastructures in Tehran;

2011

- ▶ Establishment of Baspar Chemi Sepidan Holding;
- ▶ Supplying various polymers for different industries;

2018-2019

- ▶ Improvement of technical capabilities and registration of products (compound and masterbatch) as knowledge-based products;
- ▶ Design and construction of Second Compound & Masterbatch unit;
- ▶ Development of organizational, marketing, CRM, financial and logistical systems;

2020

- ▶ Start of the operations of Baspar Rubber Sepidan factory, Second unit, with the production capacity of 2000 Tons;
- ▶ Design, and construction of Third Compound & Masterbatch unit;
- ▶ Establishment of sales offices in Isfahan and Mashhad regions;
- ▶ Development of logistical and warehouse infrastructures
- ▶ Creation and implementation of a -5year strategic plan;

2021

- ▶ Start of the operations of Sepid Chemi Parto factory, Third unit, with the production capacity of 45000 Tons;
- ▶ Establishment of Compound & Masterbatch Research and Innovation Center;
- ▶ Equipping the prototyping workshop in industrial dimensions.
- ▶ Increasing the production capacity of Rubber Compound;
- ▶ Development and implementation of branding and communication roadmap;

2022

- ▶ Start of the operations of Research and Innovation Center;
- ▶ Exploiting the development plan of Baspar Rubber Sepidan and Sepid Chemi Parto factories;
- ▶ Establishment of coworking & workspace;
- ▶ Become a member of the Asian Science Park association (ASPA)

2023

- ▶ Design and construction of Forth Compound & Masterbatch unit;
- ▶ Establishment of Start-up laboratory
- ▶ Developing of Export roadmap

Achievements and Honors

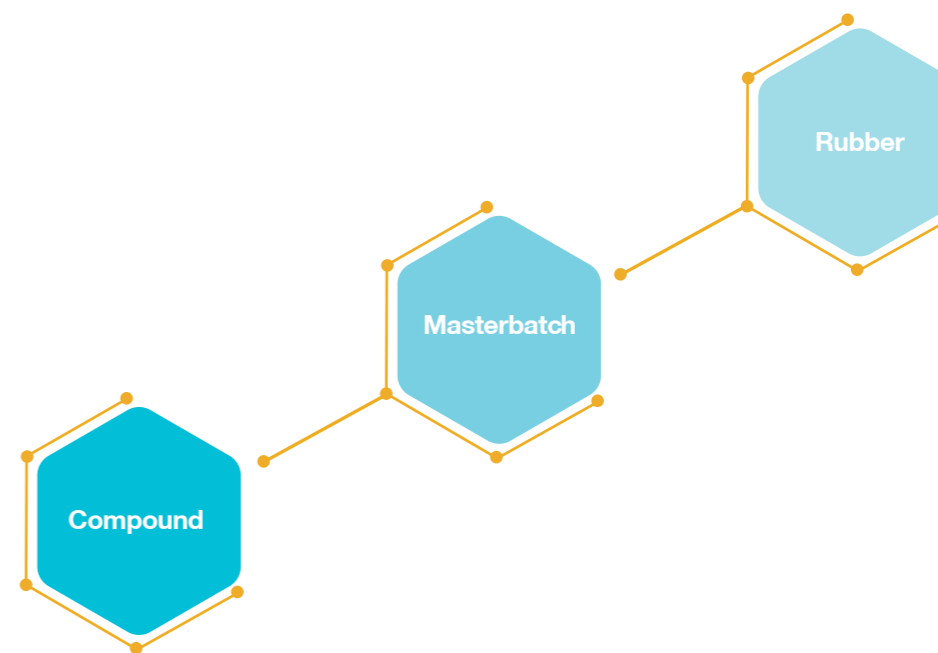
- ▶ Holder of knowledge-based company certificate
- ▶ **Achieving the top position and Excellence Prize of the Asia Science and Technology Parks Association (ASPA)**
- ▶ Receiving the top rank of industry, mining and trade of Isfahan province
- ▶ Obtaining the tile of job creating unit in polymer industry from the provinces polymer industry association
- ▶ Registration of 40 knowledge-based products
- ▶ Achieving more than 150 active grades development in our R&I center.
- ▶ Recieved ISO certificates:
 [ISO 2015-9001(IQNET)
 ISO 2018-10004(QM)
 [ISO 2018-10002(QM)
 ISO 2015-9001(CSQ)
- ▶ Received the title of the best research and development company among technological companies among technological companies in ISTT.
- ▶ Obtaining Food grade licence for products issued by medical treatment and education, Ministry of Health and Isfahan University of Medical Sciences
- ▶ Member of the Board of Directors of the National Association of Compound and Masterbatch
- ▶ Member of the Association of Knowledge-Based Companies of Istahan Province
- ▶ Member of Agricultural Engineering and Natural Resources Organization of Isfahan province
- ▶ Member of Plastic and Polymer Industry Association of Isfahan province
- ▶ Member of Research and Technology Network of Isfahan province
- ▶ Member of Tehran and Isfahan Chamber of Commerce

WINNER

Achieving the top position and Excellence Prize of the Asia Science and Technology Parks Association (ASPA)



Core production of Baspar Chemi Sepidan Holding

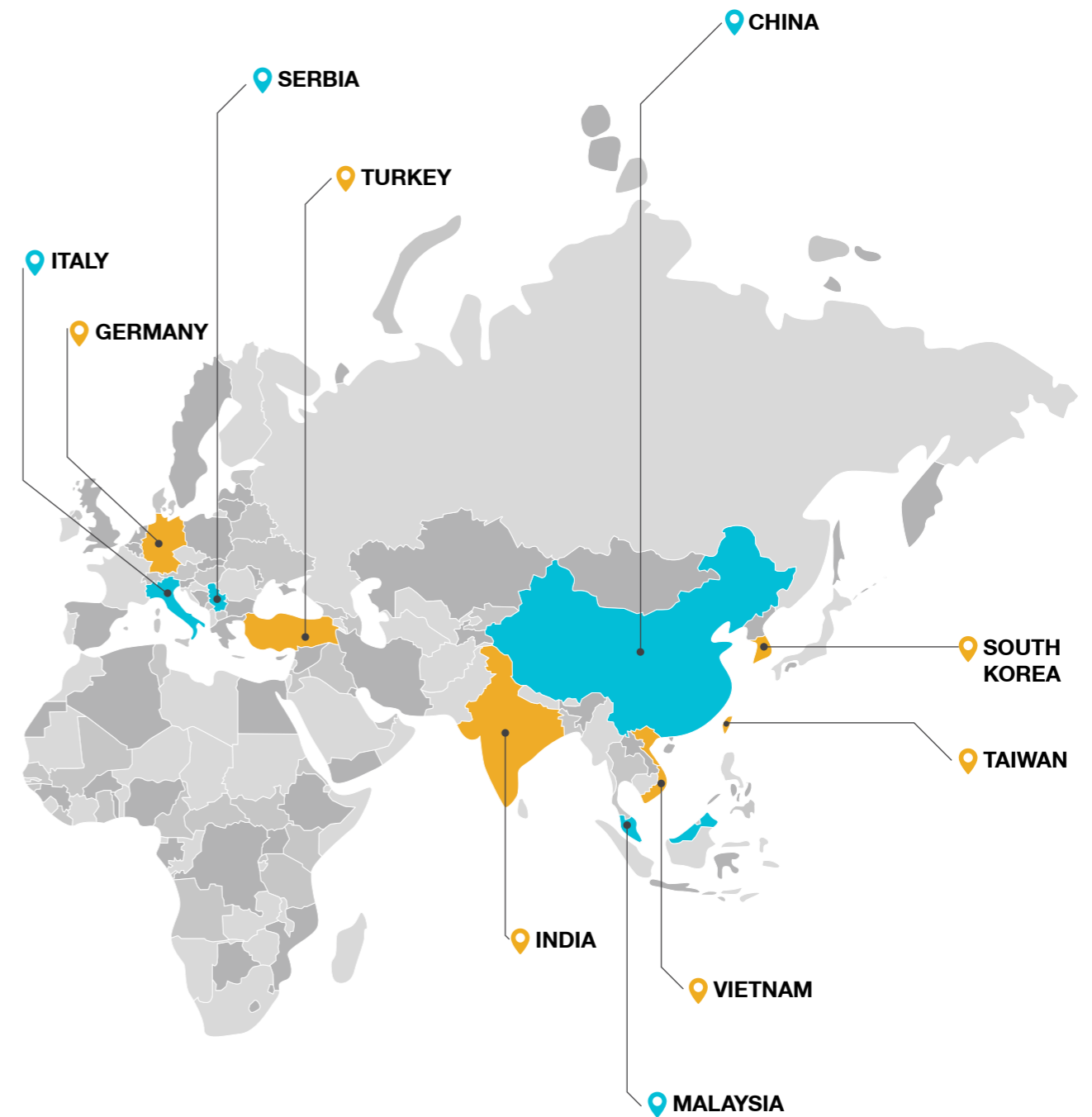


Division	Product
Compound	PE, PP, ABS, SAN, PC, MABS, PMMA, PA
Masterbatch	COLOR, WHITE, BLACK, ADDETIVE
Rubber	NBR, IIR, EPDM, SI, NBR-SBR, CR, CSM

Offices & Production sites



International offices



Related industries of Masterbatches (MB)



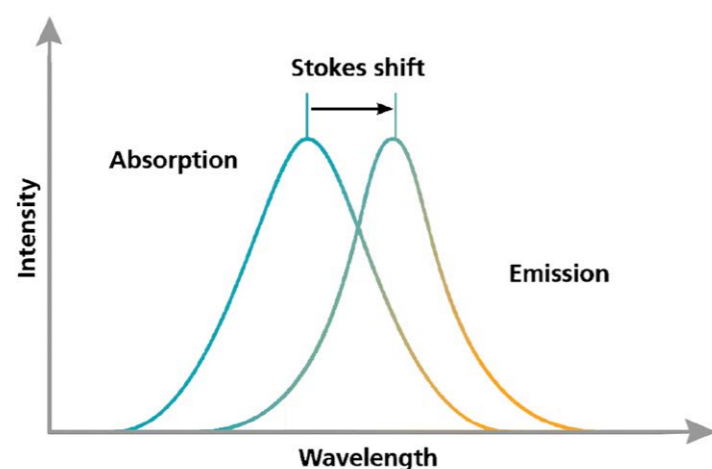
Masterbatch Products

- ▶ Additive Masterbatch
- ▶ Color Masterbatch
- ▶ Black Masterbatch
- ▶ White Masterbatch

ADDITIVE MASTERBATCHES

Optical brighteners

Optical brightener Masterbatch have the ability to convert light invisible to humans into visible light. Most of the time, light is shifted from the UV wavelength into the blue wavelength which makes your products appear brighter and whiter.

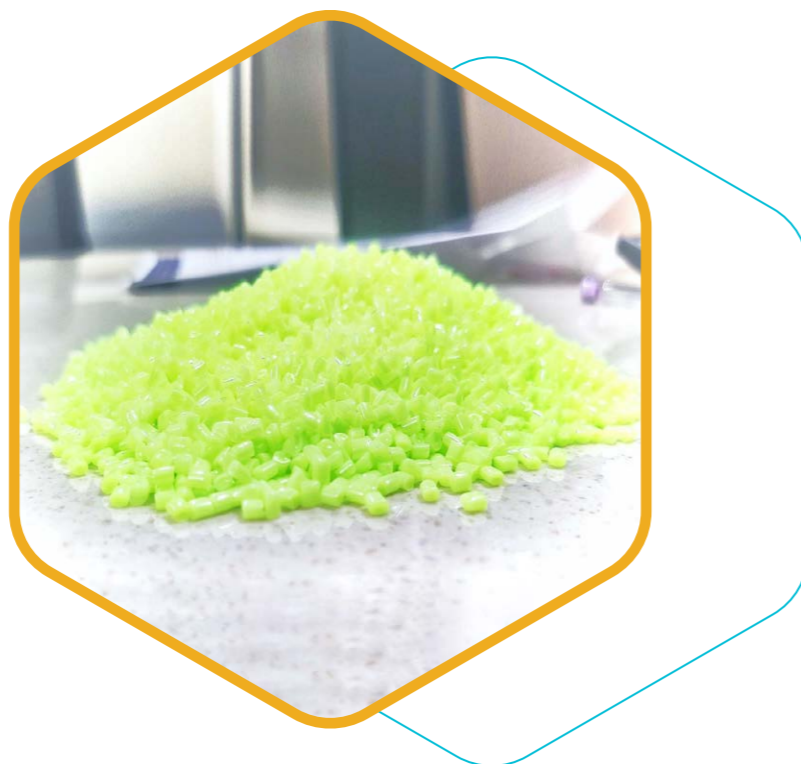


Advantages

- ▶ Improves optical properties
- ▶ Smooth surface
- ▶ Glossy surface
- ▶ Imparts bluish – purple tin
- ▶ Improve initial color

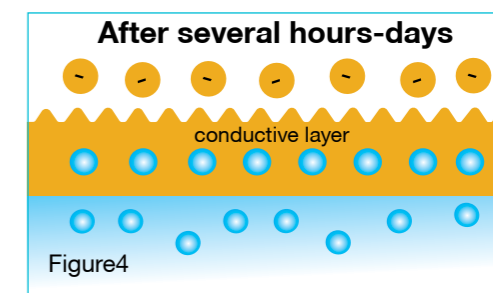
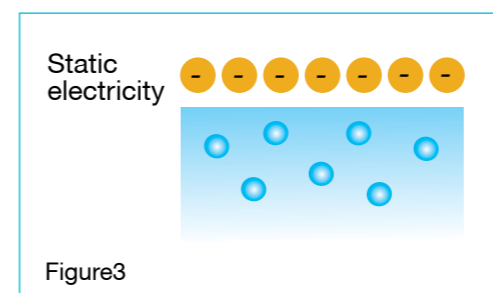
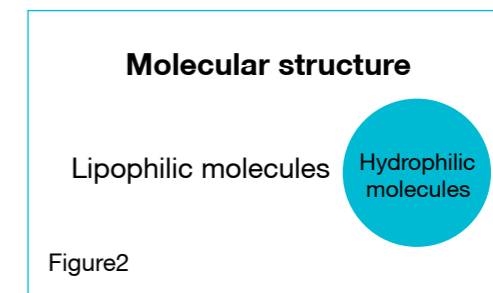
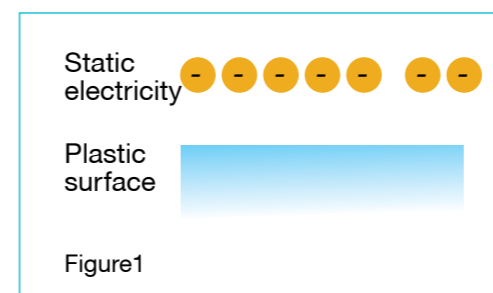
Applications

- ▶ Containers
- ▶ Bottles
- ▶ Films
- ▶ Sheet
- ▶ Electrical appliances
- ▶ Fibers



ANTI-STATIC

Anti-static masterbatches minimize the build-up of static charges on the surface of plastic articles that can attract dust or be a hazard in environments containing flammable materials. Anti-static masterbatches are often used to simplify manufacturing processes by replacing more expensive and messy secondary coating operations.



Advantages

- ▶ Control static build-up on article surfaces
- ▶ Replace fragile, often short-lived surfactant coatings
- ▶ Enhance resin flow and mold release characteristics
- ▶ Fully colorable

Applications

- ▶ Containers
- ▶ Bottles
- ▶ Films
- ▶ Sheet
- ▶ Electrical appliances
- ▶ Fibers



Flame retardant masterbatch

The use of flame retardant technologies to reduce fire hazards is a basic element of product safety. Flame retardance is achieved through chemical reactions that moderate one or more of the elements (fuel, heat, or oxygen) necessary for combustion. When you need a flame retardant solution, we can provide guidance on several factors: Flammability specifications to be met, End-use environment application, Resin processing method and conditions.

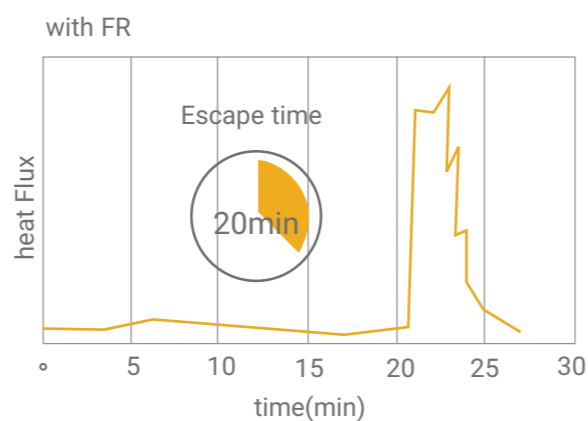
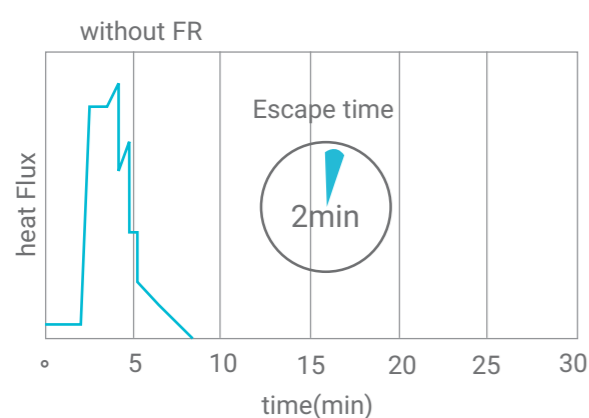
Advantages

- ▶ Provide ignition resistance
- ▶ Reduce rate of flame spread
- ▶ Reduce heat release rate
- ▶ Reduce smoke production and toxic by-products
- ▶ Environmental compliance



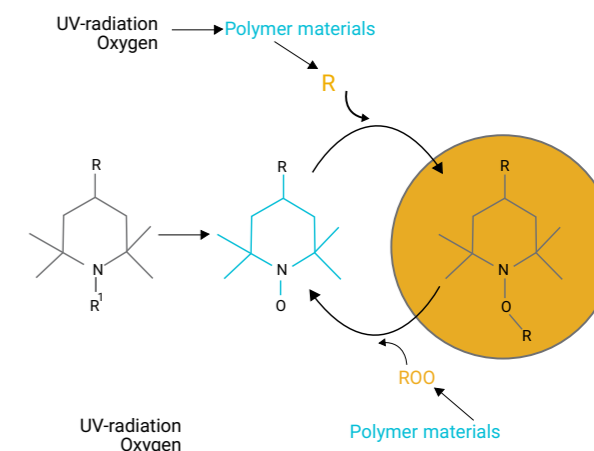
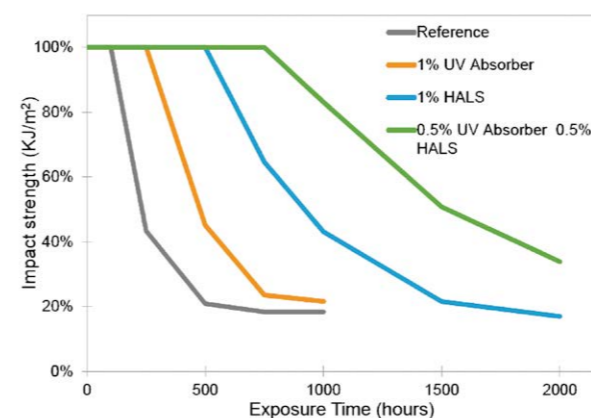
Applications

- ▶ Material Handling
- ▶ Construction
- ▶ Sheet or film products
- ▶ Fiber or filaments
- ▶ Extruded profiles



UV light Stabilizer

UV light Stabilizer Masterbatch can protect plastic parts from degradation due to exposure to sunlight and weathering that can lead to brittleness, discoloration, chalking, or surface crazing. For UV protection, two different additive technologies are available: hindered amine light stabilizers (HALS) and UV absorbers. HALS function by trapping free radicals formed during the photo-oxidation process, whereas UV absorbers convert UV radiation to thermal energy. Combinations of these can provide overlapping protection.



Advantages

- ▶ Most reliable and highly efficient performance
- ▶ Prevent discoloration
- ▶ Prevent surface crazing

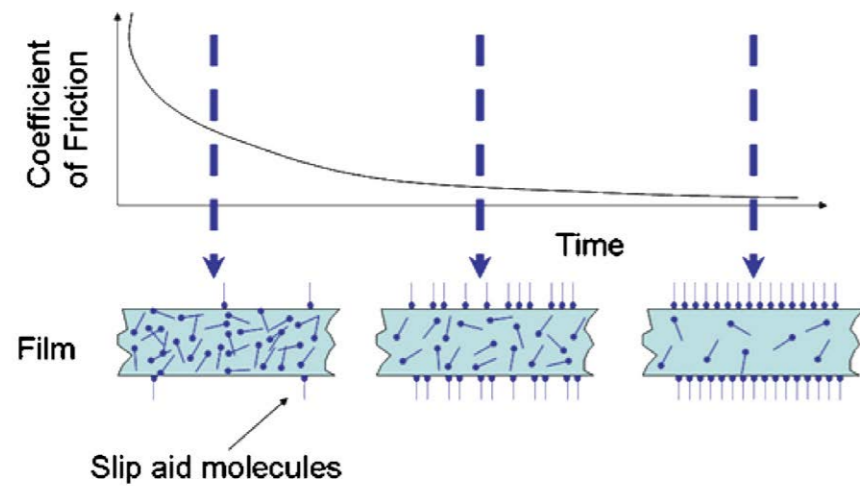
Applications

- ▶ Green house films
- ▶ Mulch films
- ▶ Raffia
- ▶ Containers
- ▶ Packaging



Slip

Slip Masterbatch are added to reduce the surface coefficient of friction of polymers and are used to enhance either processing or end applications. Typically slip Agent have a low compatibility with the polymer which allow migration to the film surface. A good control of the compatibility controls the migration speed and thus the speed of acting performance can be engineered.



Advantages

- ▶ Reduce the coefficient of friction (COF) of the surface
- ▶ Optimum print ability
- ▶ Excellent laminating and metallizing properties

Applications

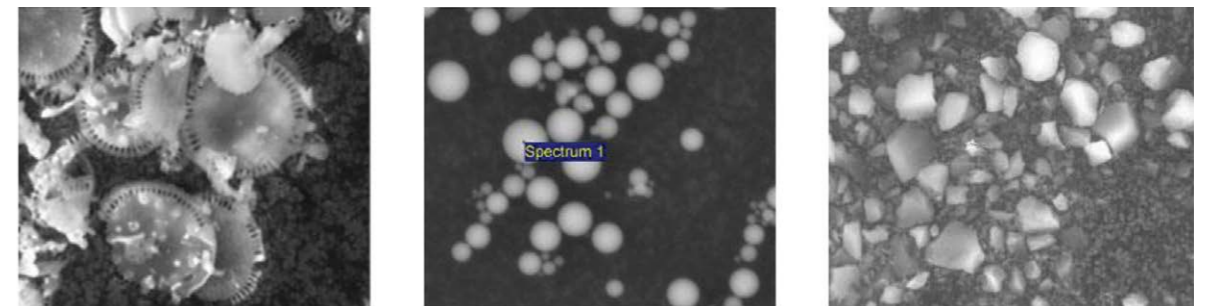
- ▶ Blown film
- ▶ Cast film
- ▶ BOPP film
- ▶ Injection molding



Anti-Block

In all kind of plastic films for flexible packaging and industrial applications, anti-blocking properties are very important for further handling and converting. Plastic layers tend to stick together. The addition of an anti-blocking agent creates space between two plastic layers (surface roughness) preventing so-called blocking. Mostly anti-blocking agents are used in multilayer structure films in order to have the highest benefit.

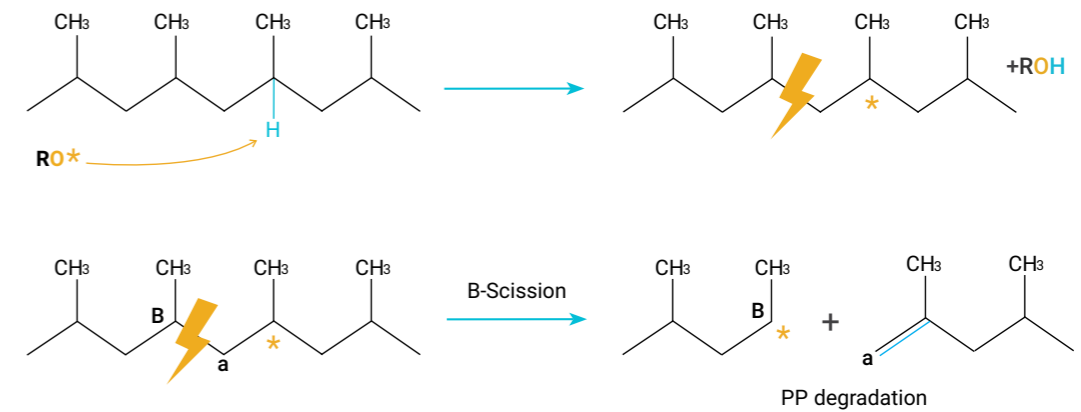
Types of Anti-blocks



Natural anti-blocking agent

Organic particle

Synthetic silica



Advantages

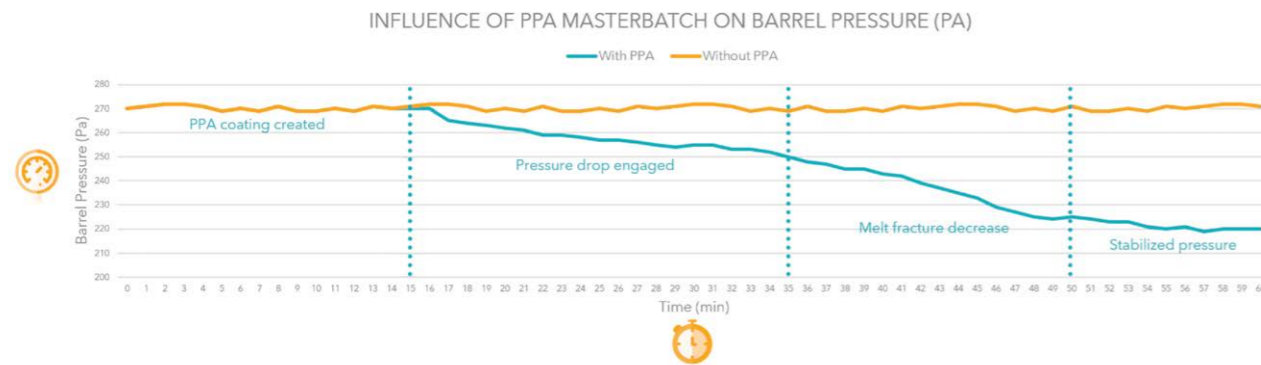
- ▶ Reduces the adhesion effect of plastic products distinctly
- ▶ Reduce friction between films
- ▶ Increase output of packaging lines

Applications

- ▶ Films
- ▶ Injection molding

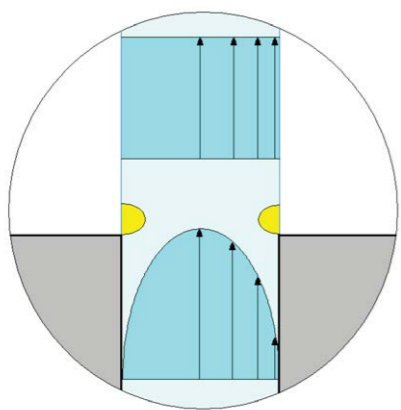
Processing Aid

Processing Aid Masterbatches contain fluoropolymer-based Polymer Processing Additives. Because of the incompatibility of the fluoropolymers with the plastics and the high affinity for the metal, a thin coating is formed in the extruder die. The friction between the molten plastic and the metal die-wall reduces, resulting in a reduced stress on the plastic.

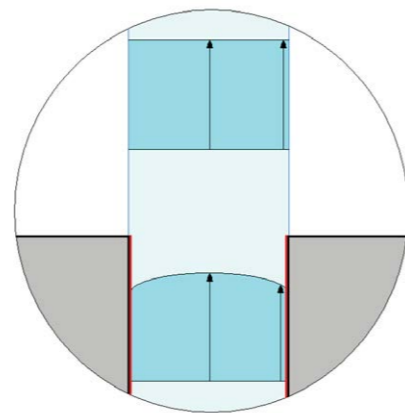


Advantages

- ▶ Elimination of melt fracture
- ▶ Reduction of die build-up
- ▶ Reduce operating pressures
- ▶ Increase output
- ▶ Increase gloss and improve surface smoothness



Velocity profile without PPA



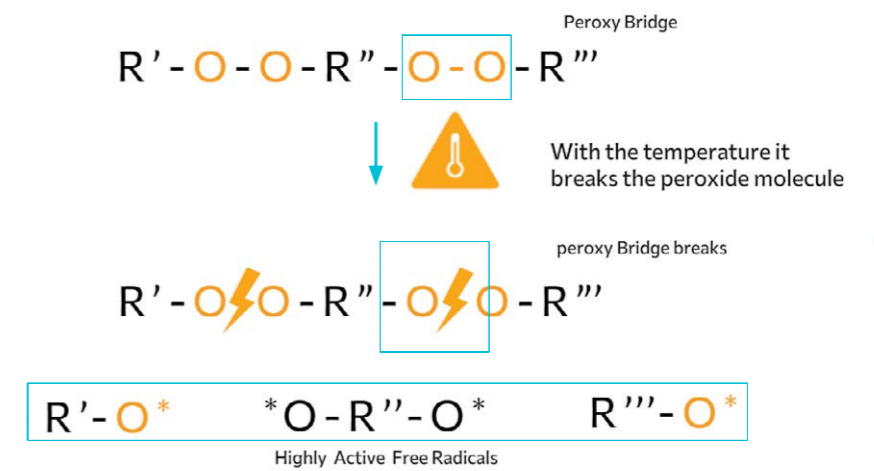
Velocity profile with PPA

Applications

- ▶ Film
- ▶ Pipe
- ▶ Sheet
- ▶ Wire & cable

MFI Modifier

MFI Modifier masterbatch are added to improve flowability, decrease the viscosity and adjust MFI during processing via chain breaking of Polypropylene by peroxide initiator.



Antimicrobial

Antimicrobial masterbatches protect plastic goods from microbial growth such as fungi (mold and mildew), algae, and other microbes that cause fouling, which can lead to polymer degradation, staining, and odors in untreated articles.

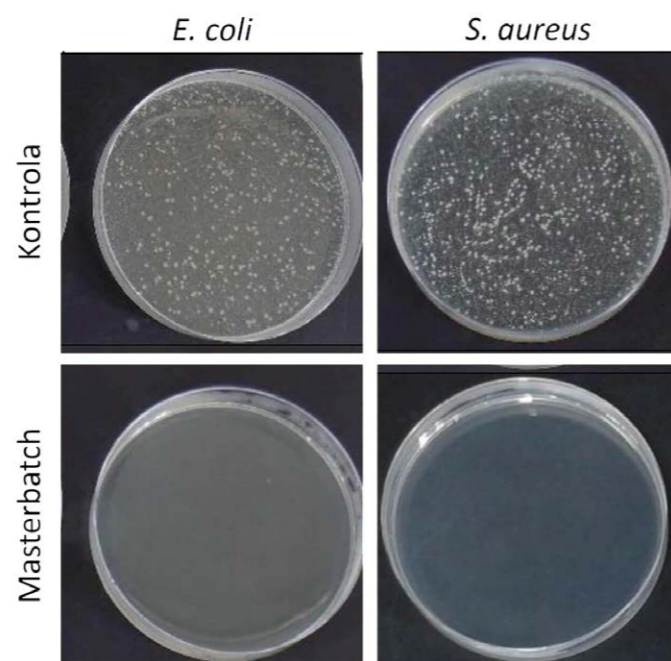


Advantages

- ▶ Excellent protection against bacteria
- ▶ Without affecting the appearance

Applications

- ▶ Consumer goods
- ▶ Sports and recreation equipment
- ▶ Food Packaging



Nucleating

The rate of crystallization and the size of the crystals have a strong impact on the mechanical and optical properties after conversion of the plastic, especially (but not exclusive) in polypropylene. The addition of nucleating agents to the semi-crystalline polymers provides a surface on which the crystal growth can start. As a consequence, fast crystal formation will result in many small crystal domains.

Advantages

- ▶ Easy processing
- ▶ Soft surface
- ▶ Colorless

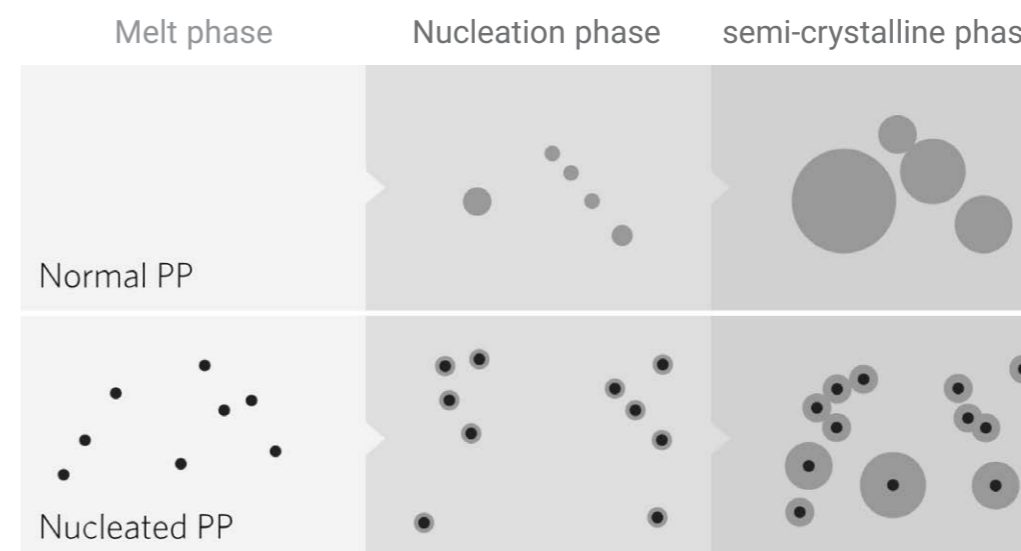
Applications

- ▶ Melt blown
- ▶ Spun bond
- ▶ Injection Molding



Without Nucleating Masterbatch

With Nucleating Masterbatch



Advantages

- ▶ Increased mechanical properties
- ▶ Improve clarity and transmittance

Applications

- ▶ Film
- ▶ Sheet
- ▶ Injection molding

Anti-Oxidant

Generally during polymer degradation free radicals are formed, resulting in uncontrolled chain reactions. Anti-oxidants masterbatch are used to decrease the amount of free radicals by different mechanisms. Antioxidants are used to protect polymers from degradation, both during processing (short term stabilization) and during use (long term stabilization).

Advantages

- ▶ Preventing the gel formation
- ▶ Increasing the lifecycle

Applications

- ▶ Recyclable polymers
- ▶ Green house films
- ▶ Sheet
- ▶ Blow molding



Before After

Light Diffuser

Light Diffuser masterbatch are used to eliminate the uncomfortable glare that can occur when direct sunlight comes through a clear PC, PMMA or any type of clear polymer cover with maximize light transmission while providing high quality of light diffusion.

Advantages

- ▶ High light transmission
- ▶ Very good dispersion
- ▶ Eliminates hot-spots
- ▶ High thermal stability

Applications

- ▶ indoor and outdoor signage,
- ▶ lighting components
- ▶ consumer electronics



COLOR MASTERBATCHES

We have a range of color masterbatches. All batches are maintained within a close tolerance of ΔE 0.5. We have a total new range of Special effect masterbatch such fluorescent, pearl, transparent, metallic etc. color masterbatches customizable color solutions for a wide range of industries and uses, including high temperature applications. Creating each color requires a specific pigment and the formulation and percentage of the final masterbatch vary based on the final color requirements.

Advantages

- ▶ low usage ratio
- ▶ Using pigments with high light stability
- ▶ Excellent Dispersion

Applications

- ▶ Raffia
- ▶ Automotive
- ▶ Home appliance
- ▶ Textile
- ▶ Film & Sheet
- ▶ Rotational molding



WHITE MASTERBATCHES

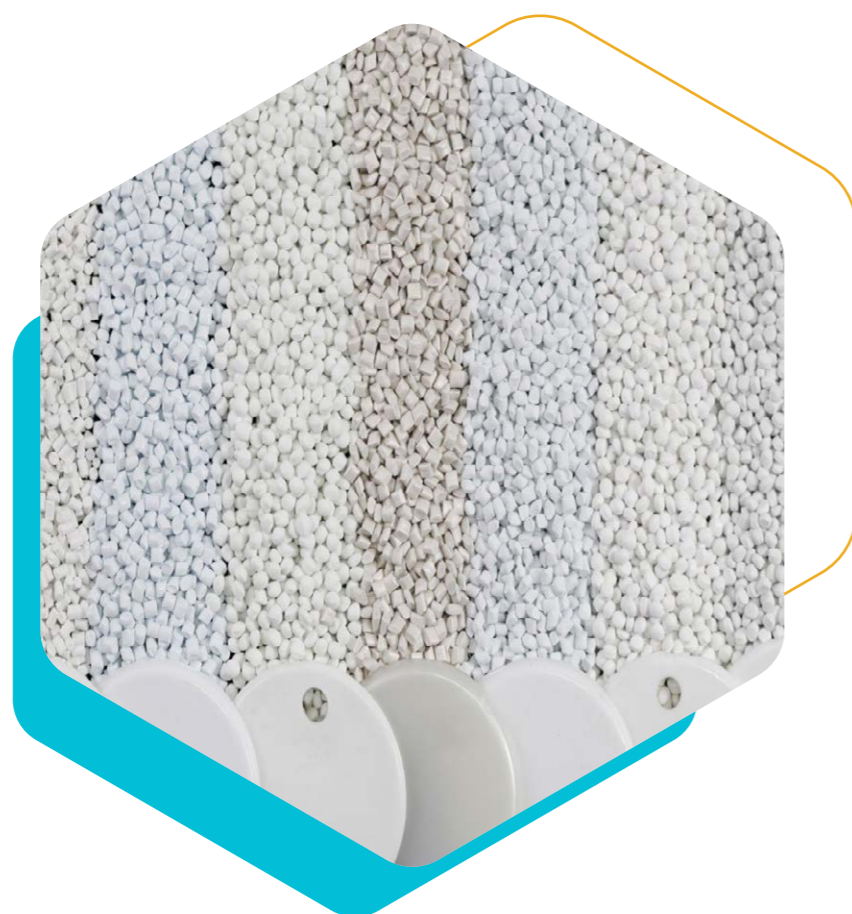
Wide range of finest quality white masterbatches with up to %75 of premium grade titanium oxide suitable for applications and markets demanding high opacity and superior lasting whiteness. These grades are made out of best titanium dioxide pigment with high purity. Available in milky, ultra, high ultra and also super white based on optical brightener added grades.

Advantages

- ▶ Suitable coating
- ▶ Ultraviolet light resistance
- ▶ Improved apparent quality

Applications

- ▶ Raffia
- ▶ Film & Sheet
- ▶ Rotational molding
- ▶ Injection molding
- ▶ Blow molding



BLACK MASTERBATCHES

BCS offers a range of black masterbatches. The range include grade from %30 to %55 carbon black loading. These grades are made out of best carbon black to give you the best performance. Available in high jet, economy black and super glossy carbon black masterbatches.

Advantages

- ▶ High tinting and covering power
- ▶ Surface smoothness
- ▶ High jetness
- ▶ Easy dispersion

Applications

- ▶ Mulch film
- ▶ Pipe
- ▶ Home appliance
- ▶ Automotive
- ▶ Multilayer film



Research & innovation center...

The baspar chemi sepidan Tech center, which has internationally accredited facilities, offers excellent technical services for customers.

Market Development



Technical Service Capabilities

Injection Molding

- ▶ Optimization of injection molding process
- ▶ Troubleshooting

Extrusion

- ▶ Compounding process
- ▶ Process analysis by CFD

Material Properties Evaluation

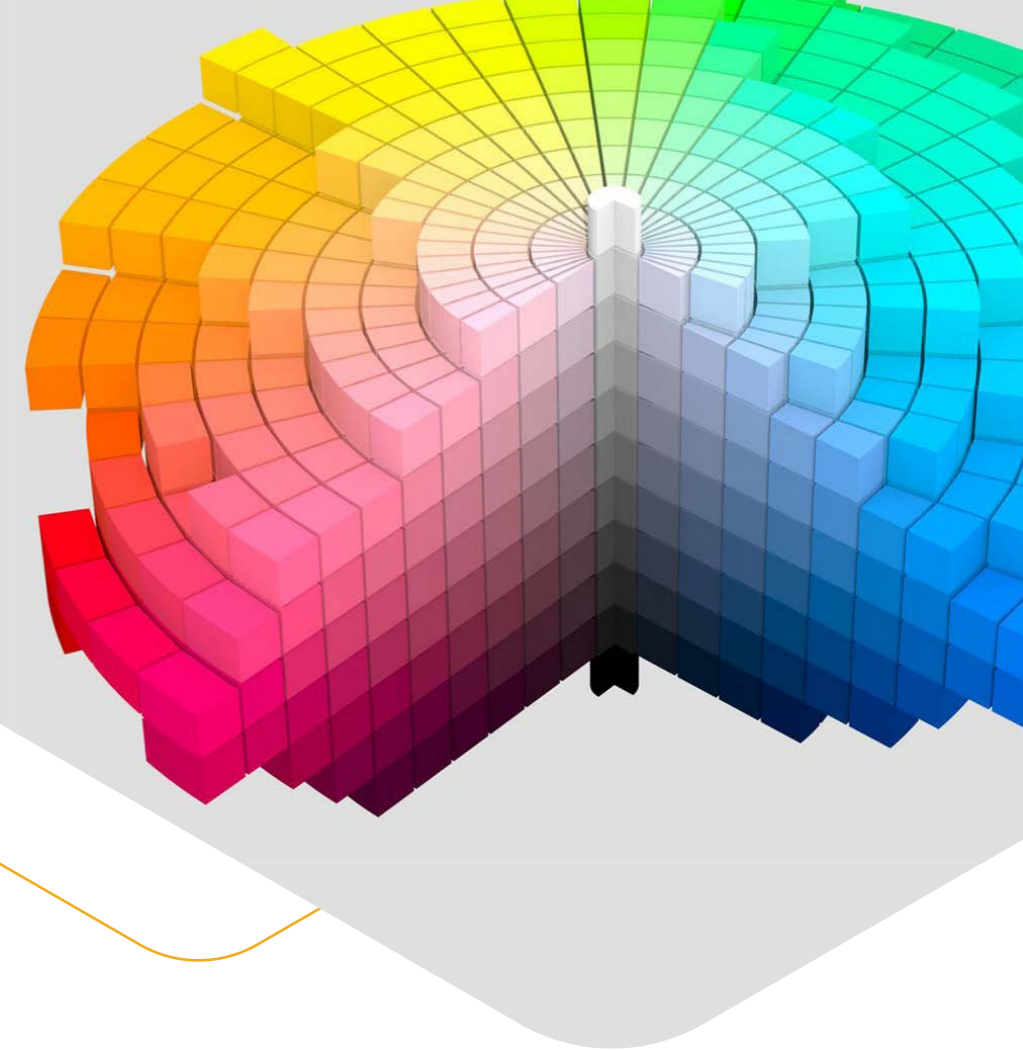
- ▶ Laboratory Services
- ▶ Material Database
- ▶ Reliability Evaluation
- ▶ Long - Term Material properties

Product Design

- ▶ Design Optimization
- ▶ Structural analysis
- ▶ Thermal & Mechanical Analysis

Color Development

- ▶ Speed
- ▶ Accuracy
- ▶ Capacity





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