



Coloring of rigid PVC



HEUCOBATCH™ & HEUCOPLAST™

heubach
COMPETENCE IN COLOR



Coloring PVC

PVC is used in a large number of indoor and outdoor applications.

Especially rigid PVC offers a combination of fastness and processing properties with excellent cost efficiency.

Most PVC-products in the building industry are colored, either with TiO_2 or color pigments.

The producers use tailor made pigment preparations to allow an efficient production of pipes or profiles in many different colors.

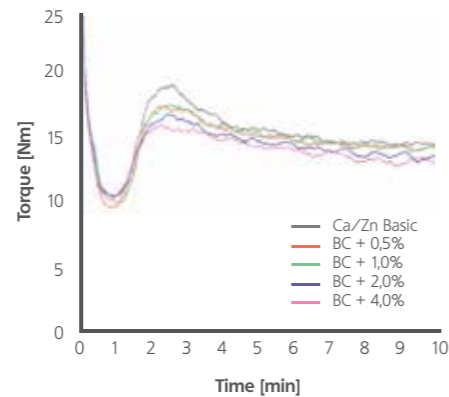
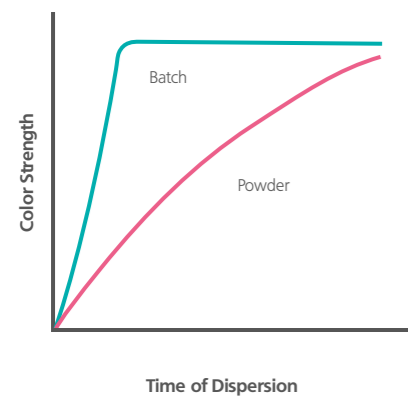
These preparations often contain specially designed carrier systems that allow easy flowing and mixing of the base compounds and the colors.

Heubach offers two types of pigment preparations for these applications:

HEUCOBATCH™ a wax based micro granule masterbatch offers unlimited possibilities to color PVC-pipes and fittings, window profiles, vinyl sidings, gutters or technical profiles in a cost effective way.

HEUCOPLAST™ a PVC based powder preparation for the coloration of rigid PVC, mainly tailor made and used to tint white profiles in the customer's proprietary color.

HEUCOBATCH™



Product Properties

Carrier System

The carrier consists of an EVA/wax composition which has excellent compatibility with rigid PVC. The melting range of 95-105°C has been carefully selected in order to prevent early conglomeration and guarantee quick plastification and streak free distribution.

Shape

HEUCOBATCH™'s micro-granulate is uniform in shape having a diameter of approx. 0.8mm. It is completely dust-free and has excellent free-flowing properties. Because of this HEUCOBATCH™ can be dosed very easily and exactly, even if only small quantities are involved. The product therefore offers clean solutions also with frequent color changes.

HEUCOBATCH™ micro granulate offers unlimited possibilities to color all kinds of rigid PVC systems in a cost-effective, dust free manner including heavy metal free systems.

Utilized Pigments

HEUCOBATCH™ contains optimally dispersed pigments which guarantee maximum color strength and low coloring costs.

Heubach connects manufacturing expertise with global access to High-Performance Pigments and downstream processing into preparations for plastics.

The backwards integration into organic and inorganic pigments allows for a highly economic and quality controlled manufacturing of pigment preparations such as HEUCOBATCH™. Only high performance pigments are utilized in order to prevent migration even at low dosing levels.

Applications

HEUCOBATCH™ is equally suited for injection molding machines, counter-rotating twin screw extruders and mixer dosing and ensures in all cases the coloring without any streaking.

HEUCOBATCH™ is suitable for the coloration of :

- › PVC pipes and fittings such as mono and multi layered or foamed pipes used for sewage, sanitary, drinking water, drainage, etc.
- › Window profiles in beige (RAL 9001), bright brown to dark brown mass tones which will be foiled with wood decor
- › Vinyl sidings (interior/exterior) – Heubach utilizes the most durable pigment chemistry such as the complex inorganic colored pigments namely HEUCODUR® for pantone (highest TiO₂-levels) and a full range of brilliant colors
- › Gutters – white, dark brown and dark red
- › Technical profiles – edge bends, cable guard
- › Foamed and solid extruded sheets

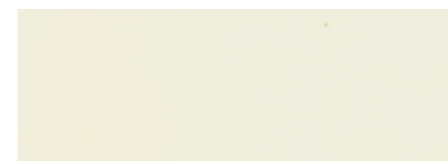
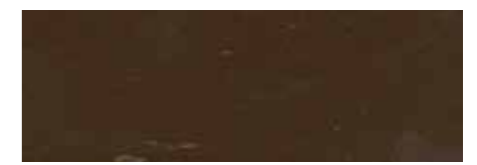
HEUCOBATCH™ is also applicable in Polyolefins as well as in cross linked PE - pipes.



Stabilisation of PVC compounds

Influence on color due to different stabilisation systems of PVC compounds.

Different stabilisation systems such as Pb/Ca/Zn/Ca-Organic/OBS will influence the final color of the products.



HEUCOBATCH™ for pipes

Full Shade	HEUCOBATCH™	RAL (appr.)	Color	Light Fastness of Pigments	Base	
					organic	inorganic
	121 003	1021	Colza Yellow	7	x	
	390 014	3000	Red	6 - 7	x	x
	515 002	5015	Blue	6 - 7	x	x
	690 002	6016	Green	6 - 7	x	
	711 003	7011	Iron Grey	7		x
	735 002	7035	Light Grey	7		x
	737 004	7037	Dust Grey	7		x
	823 153	8023	Orange Brown	7 - 8		x
	823 299	8023	Orange Brown	7 - 8	x	x

HEUCOBATCH™ for window profiles

Full Shade	HEUCOBATCH™	RAL (appr.)	Color	Light Fastness of Pigments	Base	
					organic	inorganic
	801 045	8001	Ocher Brown	7 - 8		x
	890 103	8017	Dark Brown	8		x
	890 113	8017	Dark Brown	7	x	
	890 124	8017	Dark Brown	6 - 7		x
	790 191	-	Grey	7 - 8		x
	190 107	-	Beige	7 - 8		x

HEUCOBATCH™ for sidings

Full Shade	HEUCOBATCH™	RAL (appr.)	Color	Light Fastness of Pigments	Base	
					organic	inorganic
	190 132	-	Curry	8		x
	190 117	-	Beige	8		x
	190 090	-	Yellow	8		x
	190 118	-	Bright Yellow	8		x
	390 055	-	Red	7		x
	590 082	-	Blue	8		x
	690 047	-	Green	8		x
	790 105	-	Light Grey	8		x
	990 051	-	Black	8		x

HEUCOBATCH™ for gutters

Full Shade	HEUCOBATCH™	RAL (appr.)	Color	Light Fastness of Pigments	Base	
					organic	inorganic
	390 042	-	Dark Red	7	x	x
	890 103	8017	Dark Brown	8		x
	890 173	-	Dark Brown	7 - 8		x

HEUCOBATCH™ portfolio completion

Full Shade	HEUCOBATCH™	RAL (appr.)	Color	Light Fastness of Pigments	Base	
					organic	inorganic
	990 014	9003	Signal White	8		x
	990 021	9011	Graphite Black	8	x	
	990 052	9005	Deep Black	8	x	

In addition a large variety of customized colors are available on demand for all kind of applications.

Our Service

Heubach provides full service to our customers in order to provide tailor made solutions. We are developing HEUCOBATCH™ products based on customer specific requirements regarding performance, stabilisation, compounds and production process.

Our service consists not only of color matching but we are custom developing products to our customer's process.



HEUCOPLAST™

Professional shading of rigid PVC

HEUCOPLAST™ is a ready to use pigment preparation for the coloration of rigid PVC, consisting of organic and/or inorganic pigments as well as PVC powder. The color shades of the HEUCOPLAST™ grades are in most cases customer – tailored matches which have been developed with respect to the individual PVC – compound properties.



Product Properties

As opposed to most powder colorants, the preparations show good flowability and do not show a tendency to dust therefore enabling easy dosing and handling. Even direct dosing at the extruder is possible since pre-mixing is not necessary in each application. The dosage depends, of course, on the final application and required color shades, but it is usually in the range of 0.1 to 1.0 parts per hundred.

Production Process

The manufacturing process combines state-of-the-art high volume mixers and milling technology to a unique finishing procedure which allows for highest reproducibility.



Product Range

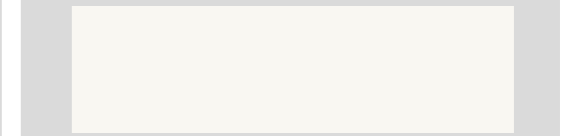
Several HEUCOPLAST™ grades have been specially developed for the shading of white window profiles. They contain a reduced pigment loading, enabling accurate dosing of even very small amounts. Particularly for this purpose black, blue and violet HEUCOPLAST™ colors are available.

Full Shade ¹⁾	HEUCOPLAST™	RAL (appr.)	Color	Light Fastness of Pigment	Base	
					organic	inorganic
	190 53 *	-	Yellow	7 - 8		x
	490 01	-	Violet	7 - 8		x
	590 11	-	Blue	7 - 8		x
	590 12	-	Blue	7 - 8		x
	690 15 *	-	Green	7 - 8	x	x
	990 23	-	Black	7 - 8	x	
	990 02	-	Black	8	x	

* Further customized shades are available on demand. / ¹⁾ Full shade measured in Ca/Zn compound with 5% pigmentation.

Examples of shading in a Ca/Zn stabilized compound (6% TiO₂)

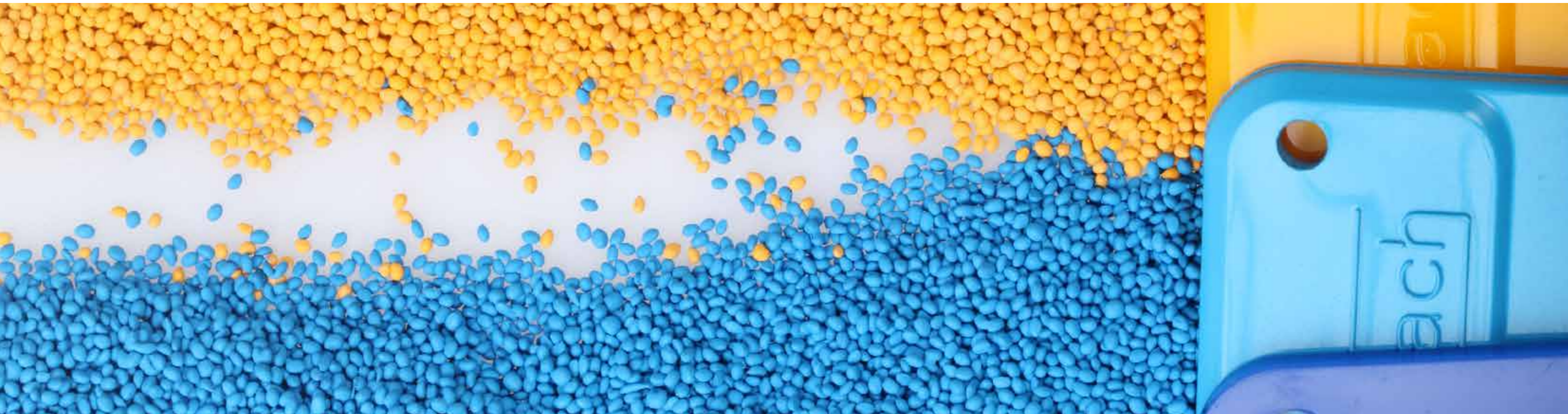
**High variety of white.
Create your own white.**



Shading Examples

HEUCOPLAST™	Ca / Zn compound, + 0.1% of pigment	Δ L*	Δ a*	Δ b*	Ca / Zn compound, + 0.2% of pigment	Δ L*	Δ a*	Δ b*
190 53 *		-	- 0.3	+ 0.7		-	- 0.4	+ 1.2
490 01		- 0.8	+ 0.4	- 0.9		- 1.5	+ 0.8	- 1.8
590 12		- 2.0	- 1.2	- 3.3		- 3.3	- 1.7	- 5.4
690 15 *		- 0.3	- 1.0	- 0.2		- 0.5	- 1.8	- 0.5
990 33		- 2.0	-	- 0.7		- 3.7	-	- 1.1

* Customized products. Further shades are available on demand.



Custom solutions to color raw polymer

Heubach tailor-made colors are pigment preparations that have been specifically prepared for compounders, formulators and extruders. These come in the form of masterbatch micro-granules and are suitable for a wide range of plastic applications, including window profiles and pipes. This custom pigment solution enables processors to color raw polymer efficiently at a reduced cost.

Global expertise in matching colors

With globally active production facilities and service centers, Heubach is able to develop pigment preparations to suit its customers' specific needs. For pipes alone, Heubach can provide over 200 colorants. This depth, combined with its ability to match colors on the basis of detailed pigment analyses, enables Heubach to supply its customers with precisely matched solutions within short periods of time.

More performance for your plastics

Heubach tailor-made color solutions open up design options for plastic manufacturers, producers and processors, enabling them to enhance the performance of their plastic products both in terms of visual impact and user benefits. With support provided from the laboratory through to final production, customers are able to leverage Heubach's extensive expertise to maximize process efficiency as well as end results.





Our product specifications, application information and any other information in this document is based on our current state of knowledge at the Revision Date mentioned below. They are non-binding and cannot be taken as a guarantee. The processing company must establish the suitability of individual products itself. As their use lies beyond our knowledge and control, we cannot accept any liability relating to the use of our products in particular applications. In addition to that, the legal rights of third parties must always be considered. The specification agreed between the customer and ourselves is the basis upon which our general sales and delivery conditions are set and is the deciding factor concerning any liabilities. Our standard specification is then valid if no specification has been agreed upon between the customer and ourselves.

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08/2018