



MASTERBATCH

WAX ADDITIVES



CERETAN[®] micronized waxes for Colour Masterbatch


Today all typical processes of the plastics industry use Masterbatches. They are to be found in processes of extrusion, injection moulding and blow moulding. Masterbatches consist of a polymer, pigments

and waxes. Compared to traditionally used wax powders CERETAN[®] waxes offer various advantages. This brochure helps to find the best suitable products and enables you to optimize your Masterbatch as well.

High performance dispersing agents

- » Reduction of wax usage
- » Increased colour strength by 5%–15%
- » Reduction of pigment costs
- » Lower filter pressure
- » Reduced clogging of filters
- » Less mixing time necessary
- » Less extrusions necessary

Comparison of the particle size

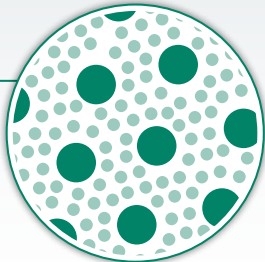


■ Wax powder (500 µm)
● Pigment (1 µm)

Micronized waxes

The spherical shape guarantees:

- » Very good dispersibility
- » Constant and consistent colour output
- » No film tearing
- » Reduced clogging of filters and centrifuges



● CERETAN[®] micronized waxes (e.g. CERETAN[®] MX 9825, D₅₀ < 8 µm)
● Pigment (1 µm)

Level of addition

The dosage level of our waxes depends on various factors, such as your individual Masterbatch formulation, the kind of application, the used pigments and plastics. According to your requirements, a dosage of 5%–15% of CERETAN[®] waxes is advisable.

Advantages of wax usage in Masterbatch

MÜNZING – a leading manufacturer of spray micronized waxes – produces up to 100 times smaller particles than traditional powder waxes. Offering identical chemical properties CERETAN® waxes are more effective due to their particle size and shape.

Dispersing agent

The excellent wetting properties of CERETAN® waxes provide an improved dispersion of the components, especially in SPC (Single Pigment Concentrate).

Increased colour strength by 5 - 15%

Improved pigment wetting properties of CERETAN® waxes will result in an increased colour output.

Lower filter pressure

By using CERETAN® micronized waxes the flow capability of the processed material will be improved. Therefore, clogging of filters is reduced and mounting of the product can be eliminated (test results on page 4).

Reduced usage of micronized waxes

The much finer particle size reduces the amount of waxes used. The expected results are achieved faster by incorporating CERETAN® waxes instead of non micronized waxes. The amount of foreign substances (such as agglomerates) in the formulation and sedimentation in the processing tubes is reduced or even eliminated.

Product	Filter pressure (bar/g), Filter 24 µm
no wax used	6,50
non-micronized wax	4,50
CERETAN® ME 0825	0,70
CERETAN® MV 0330	0,60

Figure | PE and PP Colour Batches

Masterbatch production process

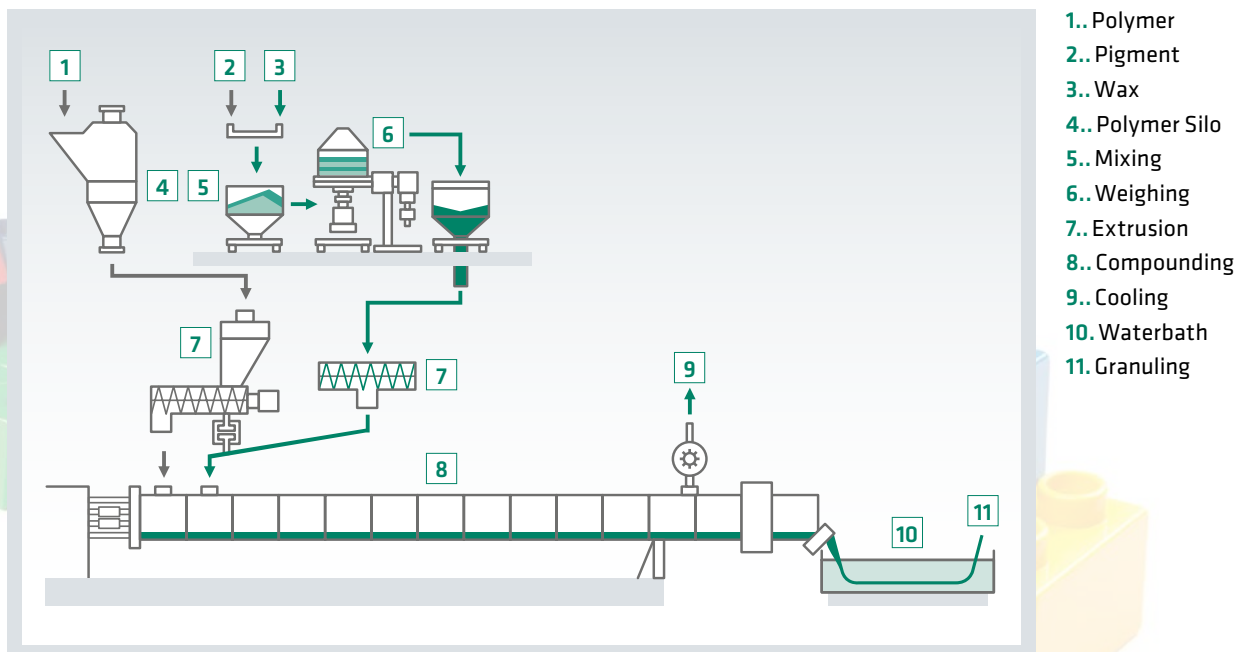


Figure | Production Process of Masterbatch

CERETAN[®] waxes for colour Masterbatch

Micronized Products

Amide waxes: CERETAN[®] MA - Series

These micronized amide waxes show very good performances with all pigment and plastic applications, especially PS and ABS.

Polyethylene waxes: CERETAN[®] ME 0825

This micronized PE wax can be used for the production of SPC (Single Pigment Concentrate), as well as for mixed colours. Even in very high concentrated colour batches CERETAN[®] ME 0825 is the best suitable dispersing agent. It can be used universally in many kinds of plastics and for the dispersion of all kinds of pigments. Generally speaking, PE waxes have excellent release properties.

Montan waxes: CERETAN[®] MM 8120 / MM 8220

Spray micronized Montan „E“ and „OP“ waxes, which are recommended for all kinds of inorganic and organic pigments. They can be used in more or less the whole range of plastics.

Polypropylene waxes: CERETAN[®] MP 2140

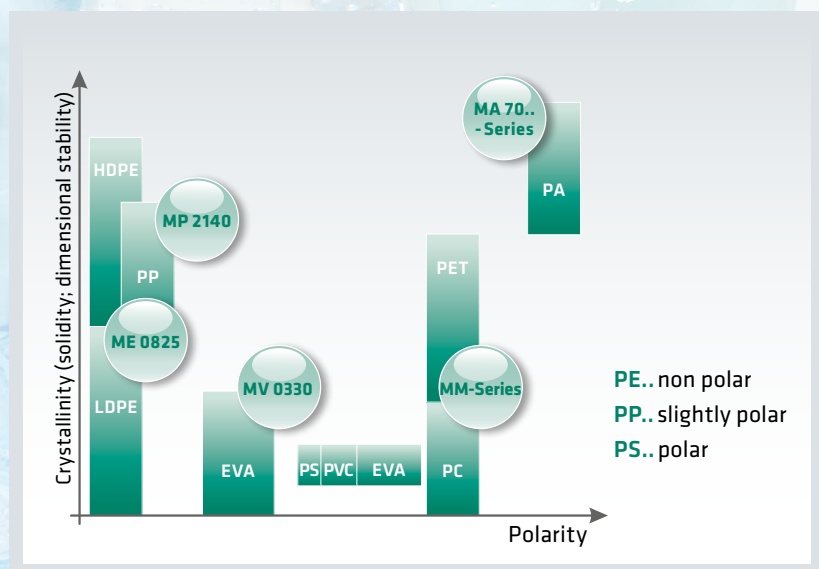
This micronized Polypropylene is used for all polyolefin applications and some technical plastics. You can apply it for all kinds of pigments. CERETAN[®] MP 2140 works more effective in your processes. Due to the fine particle size, the dispersibility is much better compared to the usage of a non micronized wax.

Functional blends: MV 0330 and MX 9825

Compared to other products CERETAN[®] MV 0330 shows the best results in reducing filter pressure. Ethylene-Vinyl-Acetate is suitable for all kinds of plastics, especially for Carbon Black and pigments that are difficult to disperse, but also for all other pigments. Due to the micronized particles your processes will work more effectively.

MX 9825 is a spray micronized blend of PE and FT can be used in all kinds of applications. Because of the combination of different chemistries it provides excellent dispersion and lubrication properties.

Crystallinity and polarity of CERETAN[®] waxes



This graph shows you the correlation of crystallinity and polarity among various kinds of Masterbatches. The rectangular shapes in the graph represent the main types of plastic used in this particular industry. The spheres next to the rectangular boxes show you the best suitable CERETAN[®] wax grades for the specific kind of plastic.

Product range for your Masterbatches

SPRAY MICRONIZED WAXES

Product	Wax type	Particle size	Drop point	Viscosity at 140° C	Density
		D ₉₉	°C	mPas	g/cm ³
CERETAN® MA 7019	EBS	19	143–151	20–40 *	0,98–0,99
CERETAN® MA 7020	EBS	20	143–151	20–40 *	0,98–0,99
CERETAN® MA 7025	EBS	25	143–151	20–40 *	0,98–0,99
CERETAN® MA 7050	EBS	50	143–151	20–40 *	0,98–0,99
CERETAN® MA 7080	EBS	80	143–151	20–40 *	0,98–0,99
CERETAN® ME 0825	Polyethylene	25	110–118	400–600	0,93–0,96
CERETAN® MM 8015	Montan	15	90–98	10–20	1,00–1,02
CERETAN® MM 8120	Montan	20	81–89	10–20	1,00–1,02
CERETAN® MM 8220	Partially saponified Montan	20	96–104	200–400	1,00–1,02
CERETAN® MO 3220	Oxid. Polyethylene	20	104–112	150–300	0,93–0,95
CERETAN® MP 2140	Polypropylene	40	156–164	100–200 **	0,87–0,89
CERETAN® MV 0330	Functional blend modified with EVA	30	105–113	200–600	0,93–0,95
CERETAN® MX 9620	Functional blend	20	139–149	40–60 *	0,97–0,99
CERETAN® MX 9825	Polyolefin	25	111–119	20–60	0,94–0,95

* at 150°C ** at 170°C

Areas of Application depending on...

TYPE OF PLASTIC

Product	LDPE	HDPE	PP	PET	PBT	PC	PS	PVC	ABS	PA	PES
CERETAN® MA 7019	●			●		●●	●●	●●	●	●	●
CERETAN® MA 7020	●			●		●●	●●	●●	●	●	●
CERETAN® MA 7025	●			●		●●	●●	●●	●	●	●
CERETAN® MA 7050	●			●		●●	●●	●●	●	●	●
CERETAN® MA 7080	●			●		●●	●●	●●	●	●	●
CERETAN® ME 0825	●●	●●	●						●	●●	
CERETAN® MM 8015	●●			●		●●	●	●	●	●	●●
CERETAN® MM 8120	●●			●		●●	●●	●●	●	●	●
CERETAN® MM 8220	●●			●		●	●	●●	●	●	●
CERETAN® MO 3220				●		●	●	●		●	●●
CERETAN® MP 2140	●●	●	●●							●●	
CERETAN® MV 0330	●●	●●	●●	●●		●●	●●	●●	●●	●●	●●
CERETAN® MX 9825	●●	●●	●								

● Recommended ●● Highly recommended

ABS = Acrylnitrile-Butadiene-Styrene-Copolymers
 HDPE = High density polyethylene
 LDPE = Low density polyethylene
 PA = Polyamide

PBT = Polybutylene-Terephthalate
 PC = Polycarbonate
 PE = Polyethylene
 PES = Polyester

PET = Polyethylene-Terephthalate
 PP = Polypropylene
 PS = Polystyrene
 PVC = Poly-Vinyl- Chloride

Areas of Application depending on...

TYPE OF PIGMENT

Product	Inorganic pigments	Organic pigments	TiO ₂	Carbon black	Phthalocyanine	Difficult to disperse pigments
CERETAN® MA 7019	●	●			●	
CERETAN® MA 7020	●	●			●	
CERETAN® MA 7025	●	●			●	
CERETAN® MA 7050	●	●			●	
CERETAN® MA 7080	●	●			●	
CERETAN® ME 0825	●●	●●	●●	●	●●	●
CERETAN® MM 8015	●	●			●	
CERETAN® MM 8120	●	●			●	
CERETAN® MM 8220	●	●			●	
CERETAN® MO 3220	●	●	●	●	●	
CERETAN® MP 2140	●●	●●	●●	●	●●	
CERETAN® MV 0330	●●	●●	●●	●●	●●	●●
CERETAN® MX 9825	●●	●●	●●	●	●	●

● Recommended ●● Highly recommended

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Contact

MÜNZING CHEMIE GmbH

Münzingstrasse 2
74232 Abstatt
GERMANY
Phone +49 7131 987-0
Fax +49 7131 987-125
E-Mail info@munzing.com

MÜNZING CHEMIE Iberia S.A.U.

Carrer Temple, 15 1° derecha
ES08911 Badalona (Barcelona)
SPAIN
Phone +34 93 5722075
Fax +34 93 5722683
E-Mail iberia@munzing.com

MÜNZING

Micro Technologies GmbH

Dr.-Bergius-Strasse 16-24
06729 Elsteraue
GERMANY
Phone +49 3441 829 10-22
Fax +49 3441 829 10-20
E-Mail ceretan@munzing.com

MÜNZING North America

1455 Broad Street, Suite #3
Bloomfield
NJ 07003-3003
USA
Phone +1 973 279-1306
Toll Free +1 800 524-0055
Fax +1 973 338-0420
E-Mail info@munzing.us

MUNZING Mumbai Pvt. Ltd.

Raheja Chambers 2nd Floor,
233 DBS Business Center,
Nariman Point
Mumbai 400021
INDIA
Phone +91 982 0853126
E-Mail india@munzing.com

MÜNZING

International S.a.r.L.

23, rue Aldringen
L-1118 LUXEMBOURG
Phone +352 2627 1520
Fax +352 2627 1530
E-Mail benelux@munzing.com

MÜNZING Shanghai Co.Ltd.

Rm 1701B-1703A
No. 20, Lane 1228, ZRT Tower
Jiangchang Rd.
Shanghai 200072
P.R. CHINA
Phone +86 21 6149 1561
Fax +86 21 6149 1563
E-Mail info@munzing.cn

