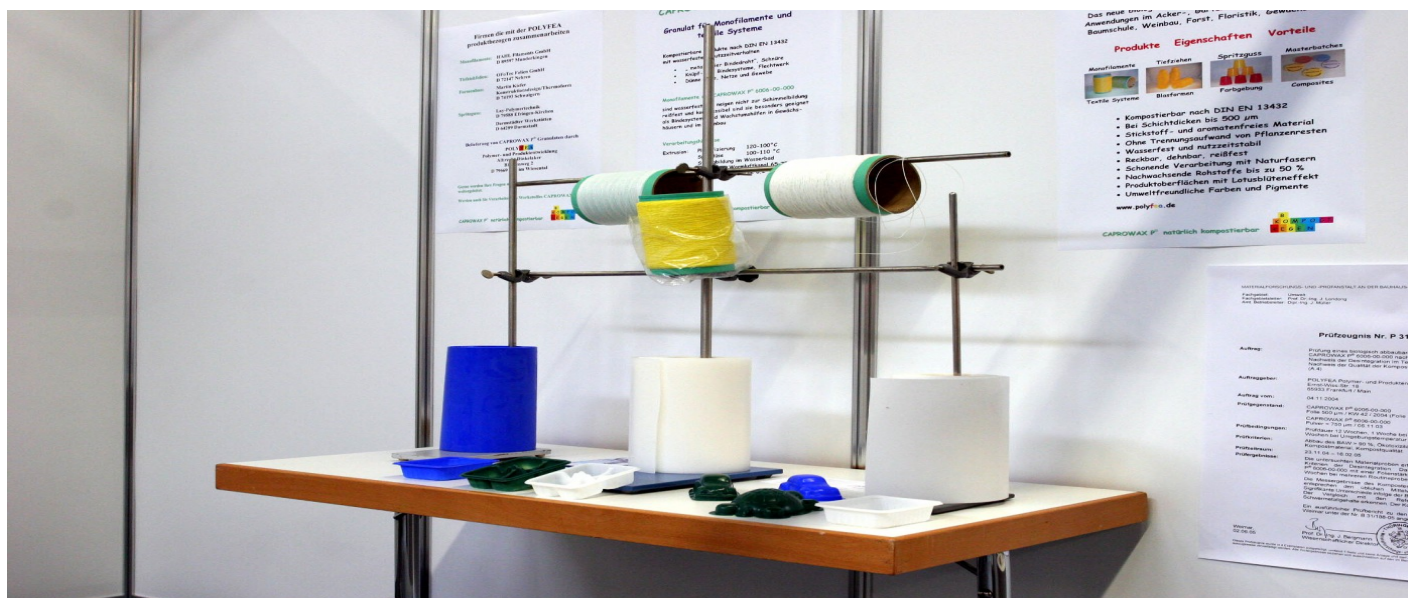


# Blow moulding, vacuum forming with BioMineralComposites



## BioMineralComposites with different content of natural Calcite

**CAPROWAX P™ 6006-C65-BM42030**

**CAPROWAX P™ 6006-C65-BM42100**

### Description

Compostable, waterproof binder  
CAPROWAX P™ 6006-C65

MFPA Weimar Test certificate:  
P31/029-05 see page 6  
) calculated

No food or feeding stuff  
Ecofriendly composition

Blow moulding  
Wall thickness 1-2 mm

Deep drawing, sheets, foils  
Orientation values  
Wall thickness 1-2 mm

Drying pellets on demand

Examples of application  
Suited for compostable and  
rotten products after use  
Masterbatches see pages 3-4

Order quantities

CAPROWAX P™ 6006-C65-BM42xxx contents 3-10% harmless, soil-similar, acid-binding, natural Biomineral Calcite. consists of aliphatic - biodegradable MARINE, home/industrial compostable - certified polyester and modified, readily biodegradable, renewable, GMO-free plant oil.

The binder material is comparable with the test material CAPROWAX P® 6006 DIN EN 13432 tested by MFPA Weimar 83,7% of organic carbon are biobased \*)

GM-free, no content of starch or PLA, no content of aromatic or nitrogenous substances. Soil-similar biomineral.

Plastification without predrying 100-130°C,  
parison die 70-100°C, mould 15°C

Extrusion without predrying 160-130°C, melting calender <100°C  
or slot die <130°C, cool-/discharge roller 15°C  
Preheating sheets/foils 75-90°C, mould 15°C

50°C /12h Avoid heating melt >90°C over long time

Products of injection moulding support material, substrate, frisbee disk, cans, plant plug signs, garden decor, soap dish, edge protection, trays, bark beetle trap, grave jewelry.  
Products comply the specifications of DIN EN 13432

0,3-2 kg sample free, 100 kg minimum order

**CAPROWAX P™ compostable of course**

**B O W**  
**R A I N** **S O I L**





CAPROWAX P-Masterbatches - without addition of TiO<sub>2</sub> - for Bioplastics/ Biocomposites/Blends/Filaments as: PLA, PBS, PHA, PCL, **CAPROWAX P™/Blends, BioMineralComposites**, Bio-NFC, Bio-WPC, Polysaccharides/Derivates, Casein, PVAc/Bioplastic-Blends, PVOH, Bio-TPE, Bio-UPR, NIPU. Carrier material **based on CAPROWAX P™ 6006** is compostable, waterproof and according to DIN EN 13432. **Customers request will be coordinated with toll manufacturer.**

## Translucent and covering colouration:

Pigments are biobased, bio-mineral, mineral, harmless inorganic from synthetic production. Moderate brightening with calcined Kaolin without addition of TiO<sub>2</sub>. They are harmless, lightfast, non-migratory, water insoluble, temperature stable, soil improving and comparable with natural pigments.

They are low-dusty incorporated in compostable carrier material and already mineralized. Masterbatches added to different bioplastics in a range of 0,5-4% can be processed at 90-200°C, short time up to 220°C. In coloured final products the content of each separate pigment is  $\leq 1\%$  colouration of bioplastics comply the specifications of DIN EN 13432.

CAPROWAX P™	Shade chromatic	CAPROWAX P™	Shade chromatic
Red 114 T		Red Y 121 T tex	AR
Yellow 310 T tex	AR	Green 427 T tex	
Green 413 T tex	MB500	Green 426 T tex	
Green AR 430 T tex	LP/AR	Blue AR 530 T tex	LP/AR
Blue G 511 T tex		Blue R 516 T tex	
Violet B 616 T		Violet R 617 T	
R: reddish      Y: yellowish      G: greenish      B: bluish      T: translucently tex: suited for colouration of filaments      LP: Laboratory prototype      AR: acid resistant <b>MB500 = 500g sample for process engineering experiments</b>			

The compostability of carrier material is examined by MFPA, University Weimar:

Test material: **CAPROWAX P° 6006**

Test certificate No.: P31029-05 according to DIN EN 13432 see page 6

Thermoplastic application for translucent to transparent, full covering and effecting colouration: Processing at 90-200°C, short time up 220°C.

## Pearlescent Masterbatches \*LP without addition of Titanium Dioxide

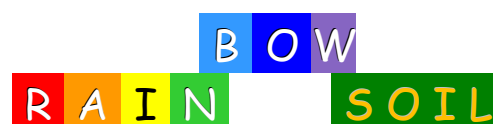
Matt Gold light 9307		Pearlescent neutral 9002	u
Matt Gold medium 9317	#	Pearlescent white 9011	u
Matt Gold dark 9314		Matt Silver classic V 9012	#
Red 9101		Matt Silver silky V 9016	#
Bronze 9701		Matt Silver grey V 9014	#
# = also for opaque or filled BioPolymers / u = matt pearlescent for all colours V = vegetable carbon black, biobased      / *LP = Laboratory prototype			

Pigment mixtures are low-dusty incorporated in compostable carrier material and masterbatch pellets are added to different bioplastics: 2-4%.

Colourations of bioplastics comply the specifications of DIN EN 13432.

Your order of CAPROWAX P™ - Products see page 5

CAPROWAX P™ compostable of course





# Masterbatches for covering colouration

page 4 of 6

CAPROWAX P™	Shades	CAPROWAX P™	Shades
Red FK 133 tex	AR	Red FK 112	LP
Lava-Red 134 QX	LP	Red FK 117	LP/AR
Orange FK 204	LP/AR	Orange FK 203	LP/AR
Orange 206 BM QX	LP/AR	Orange FK 205	LP/AR
Yellow FK 320	LP/AR	Yellow FK 306	LP/AR
Yellow 314 BM QX	LP/AR	Yellow FK 312	LP/AR
White C 004 BM QX	MB500	White FK 005 tex	MB500/AR
Grün 416 tex		Grün 417 tex	
Grün FK 446 tex	LP	Grün FK 440 tex	LP
Grün 444 BM QX	MB500	Grün FK 443 tex	LP
Blue FK G 510 tex	LP	Blue G 545 BM QX	LP
Blue FK G 512	MB 500	Blue FK G 509	LP
Violet FK B 605	LP/AR	Blue FK R 542	LP
Violet B 636 BM QX	AR	Violet FK R 608	LP/AR
Brown V 713 BM QX	LP	Violet R 637 BM QX	AR
Brown FK V 709 QX	LP	Brown V 724 BM QX	LP/AR
Lava-Brown 717 QX	LP/AR	Brown FK V 711 QX	LP
Grey 821 BM QX		Lava-Brown 715 QX	LP/AR
Lava-Grey FK 833 QX	LP	Grey FK 824 S wcb tex	LP/AR
Black 801 wcb	AR	Black V 804 QX	AR
Black V 8121 QX	LP/AR	Lava-Black 806 QX	LP
BioMineralComposite direct compound BM42030		Black V 8117 QX	AR
AR = acid-stable   S: heat stable up to 220°C   wcb = without carbon black   LP: Laboratory Prototype R: reddish   G: greenish   B: bluish   MB500 = for process engineering experiments			

## Products QX for soil improvement and fertility:

**QX** = Soil improvement, water retention capacity, fertility

**V** = Biobased: Vegetable carbon from coconut shells/Activated carbon from wood

**BM** = BioMineral, natural Calcite, acid-binding

**Lava** = Lava rock flour from the volcanic eifel

**FK** = Moderate brightening with the eco-friendly, pigmentlike, Kaolin (calcined)

Addition of CAPROWAX P - Masterbatches to different bioplastics: 0,5-4/6%.

**CO2 long-term fixation by vegetable carbon/lava rock flour**

**CAPROWAX P™ compostable of course**

**B O W**  
**R A I N** **S O I L**

## Your order of CAPROWAX P™ – Products

Deep drawing, blow moulding: CAPROWAX P™ 6006-C65-BM42030  
CAPROWAX P™ 6006-C65-BM42100

Test material: 0,3-2 kg,  
Toll manufacturing: 100 kg minimum order  
Miscellaneous: Product information and SDS

**Masterbatches:** CAPROWAX P™ + shade + code, colour palette pages 3-4

Technical samples: You can get up to 4 samples a 50g pellets free of charge  
For additional process engineering experiments  
you can get 500g MB500 samples see page 3-4

New MB-Recipes: CAPROWAX P™- Button of Laboratory prototypes (LP)

Market area: European Union  
Order quantities +/- 25 kg 100 kg, 200 kg, 500 kg / batchwise  
manufactured by toll manufacturer  
Prices: According to offer  
Payment condition: According to offer  
Delivery date: after complete delivery of raw materials  
to toll manufacturer: 6 - 7 weeks  
Miscellaneous: Product infos and SDS

### Informations, quote requests and orders at

Albrecht Dinkelaker,  
Polymer and Product Development  
Talstrasse 83 info@polyfea2.de  
D 60437 Frankfurt am Main Fon: ++49 69 76 89 39 10

Banking details/Finance office: On request VAT-No.: DE165 604 009

CAPROWAX P™ compostable of course



Department: Department of Environment  
Head of Department: Prof. Dr.-Ing. J. Londong  
Department Manager: Dipl.-Ing. J. Müller

MFPA Weimar  
Amalienstraße 13  
99423 Weimar  
Germany  
Phone. 03643 / 564 353  
Fax. 03643 / 564 201

## Test certificate No. P 31/029-05

**Order:** Test of a biodegradable polymer / wax-compound  
CAPROWAX P® 6006-00-000 to German Institute for Standardization  
DIN EN 13432 with the proof of the disintegration in a bench-scale test  
(A.3), proof of the quality of the composts (8.), including the ecotoxicological  
harmless state (A.4)

**Customer:** POLYFEA Polymer- und Produktentwicklung Albrecht Dinkelaker  
Ernst-Wiss-Str. 18  
65933 Frankfurt / Main

**Order date:** 04.11.2004

**Test object:** CAPROWAX P® 6006-00-000  
foil 500 µm / KW 42 / 2004 (foil 1), MFPA-No. BAW 4869  
CAPROWAX P® 6006-00-000  
powder < 750 µm / 06.11.03 MFPA-No. BAW 4869

**Test condition:** Test duration 12 weeks, 1 week at temperature of approximately 65 °C,  
11 weeks at temperature of approximately 45 °C

**Test criterion:** Degradation of the BAW > 90%, ecotoxicological harmless state compared  
to compost material, compost quality


**Test period:** 23.11.04 – 16.02.05

**Test results:** The examined material samples fulfil the criteria of the disintegration for the  
aerobic process of composting. The examined material CAPROWAX P® 6006-  
00-000 with a foil strength of 500 µm was degraded with several routine tests in  
each case to more than 90% within 12 weeks.  
After ending of the test period the measuring results of the compost  
corresponded to the usual averages of the RAL quality tests. Significant  
differences as a result of BAW addition were not found. The comparison with  
the authoritative control samples revealed no higher heavy metal content. At the  
end the compost was rotted sufficiently.  
A detailed test report to the investigations was given at MFPA Weimar  
(No. B 31/188-05).

Weimar,  
2005-06-02

  
Prof. Dr.-Ing. J. Bergmann  
Scientific Director



  
Dipl.-Ing. J. Müller  
Project Manager

Dieses Prüfzeugnis wurde in 4 Exemplaren ausgefertigt, umfasst 1 Seite und keine Anlage und darf ohne schriftliche Genehmigung der MFPA Weimar nicht auszugsweise vervielfältigt werden. Alle Prüfergebnisse beziehen sich ausschließlich auf den im Bericht angegebenen Prüfgegenstand.