



# BEHIND THE SCENES OF YOUR PRODUCTS

**CERALENE<sup>®</sup>**  
polyolefin waxes  
synthetic waxes

Get a plus   
*The additive evolution.*

# CERALENE® waxes

## For different kinds of technical applications

- colour masterbatches (dispersing additive)
- PVC (ext. release, surface improvement, int./ext. lubricant)
- technical plastics (flow/surface improvement, mould release)
- additive masterbatches (dispersing additive, compatibilizer)
- duroplasts (flow, levelling, pigment dispersion)
- pigment and fillers (surface coating)
- rubber processing (release)
- powder coatings (flow/levelling/scratch resistance)
- bitumen
- hot melt adhesives
- aqueous and solvent based coating systems (surface modification)
- toner
- also for cosmetic applications

## Packaging

- PE-bags of 20 kg net
- Big bags of 500 kg net
- Big bags of 1000 kg net

## Ecology/toxicology properties

Products are water insoluble and show no harmful effects on fish and bacteria.

## Status under food legislation

FDA/BfR and Regulation (EU) No. 10/2011 on request.



## Survey about CERALENE® types

	CERALENE® grade	wax type	appearance	density (at 23°C) g/cm <sup>3</sup>	drop point °C	viscosity <sup>1)</sup> (at 120°C) mPa · s	penetration (at 25°C) mm · 10 <sup>-1</sup>	acid value mg KOH/g
non-oxidised	1X	LDPE	white prills	0.92 - 0.94	102	160	4	0
	1M	LDPE	white prills	0.92 - 0.94	104	260	3	0
	2E	LDPE	white prills	0.92 - 0.94	106	550	2	0
	2G	LDPE	white prills	0.93 - 0.95	109	140	3	0
	2T	LDPE	white prills	0.92 - 0.94	108	1.100	2	0
	120/200	HDPE	almost white	0.95 - 0.98	120	200*	< 1	0
	120	HDPE	almost white	0.95 - 0.98	120	400*	< 1	0
	120/800	HDPE	almost white	0.95 - 0.98	122	800*	< 1	0
	882	Polyolefine	almost white prills	0.92 - 0.94	146	280**	2	0
	885	Polyolefine	almost white prills	0.92 - 0.94	150	225***	< 1	0
	850	PP	almost white prills	0.93 - 0.91	152	80***	< 1	0
functionalised	691	Polyester mod.	white prills	0.96 - 0.98	73	130	3	10
	692C	Polyester mod. cosmetic grade	white prills	0.96 - 0.98	59	300	5	12
	693	Polyester mod.	white prills	0.96 - 0.98	71	400	3	16
	694	Polyester mod.	white prills	0.96 - 0.98	70	170	3	19
	CP15M	Polar copolymer	white prills	0.92 - 0.94	103	500	4	17
	CP30M	Polar copolymer	off-white prills	0.92 - 0.94	99	600	5	28
	CP45M	Polar copolymer	off-white prills	0.92 - 0.94	97	600	7	38

<sup>1)</sup> Haake Rheostress Viscosimeter

\* at T=140 °C, \*\* at T=150 °C \*\*\* at T=170 °C

# CERALENE® waxes for plunger lubrication

Use as high performance plunger lubricant for aluminium die-casting machines.

CERALENE®	wax type	appearance	particle size (mm)	drop point °C	viscosity <sup>1)</sup> (at 120°C) mPa · s	penetration (25°C) mm · 10 <sup>-1</sup>
2E 450/2000	LDPE	white	~ 0.3 - 2.0	106	360	3
DCG	LDPE/graphite	black	~ 0.3 - 2.0	108	600	3

# CERALENE® types for a broad range of industrial applications

## Benefits

- plasticising
- viscosity reduction
- internal/external lubrication
- reduced energy input/friction
- slip and anti-blocking effect
- improved wetting of pigments, fillers and fibres

	CERALENE®	masterbatch	technical resins	PVC	wood/fibre-plastic composites	bitumen	hotmelt adhesive	powder coatings	solvent based formulations (slip abrasion resistance)	water based additives (surface modification)	
non-oxidised	1X	○		○		+		○	○ <sup>2)</sup>		
	1M	○		+					++ <sup>2)</sup>		
	2E	++		++	++			+	+ <sup>2)</sup>		
	2G	○		++							
	2T	++	○	+	++			++	○ <sup>2)</sup>		
	120/200			○		++	+				
	120	○		○		++	+				
	120/800	+		○		++	+				
	882	++		○		+	○				
	885	+				+	○				
functionalised	850	++			++	++	++				
	691	++	++	+	++		+		++		
	692C			in cosmetics – especially for the manufacturing of lip sticks							
	693	++	++	++	++		+		++		
	694	++	++	++	++		+		++		
	CP15M	++	++	++	++	++	++				
	CP30M	++	++	++	++	++	++			+	
	CP45M	++	++	++	++	++	++			++	

○ suitable + recommended ++ specially recommended

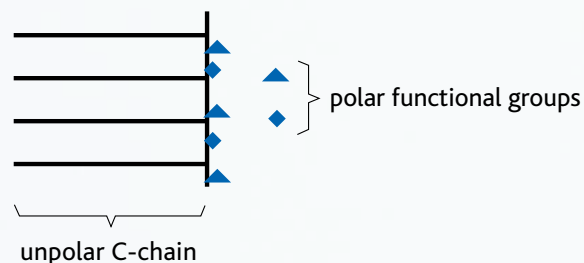
<sup>1)</sup> Haake Rheostress Viscosimeter  
<sup>2)</sup> inks

## Synthetic CERALENE® polyester waxes

### Overview

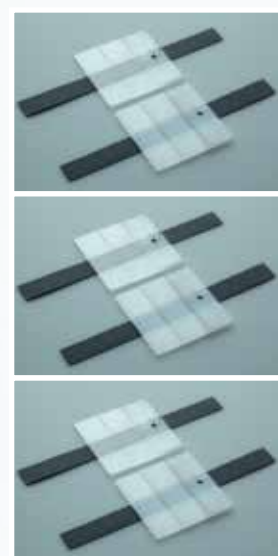
CERALENE®	drop point °C	acid value mg KOH/g	viscosity (at 120°C) mPa · s
691	73	10	130
693	71	16	400
694	70	19	170

### Structure

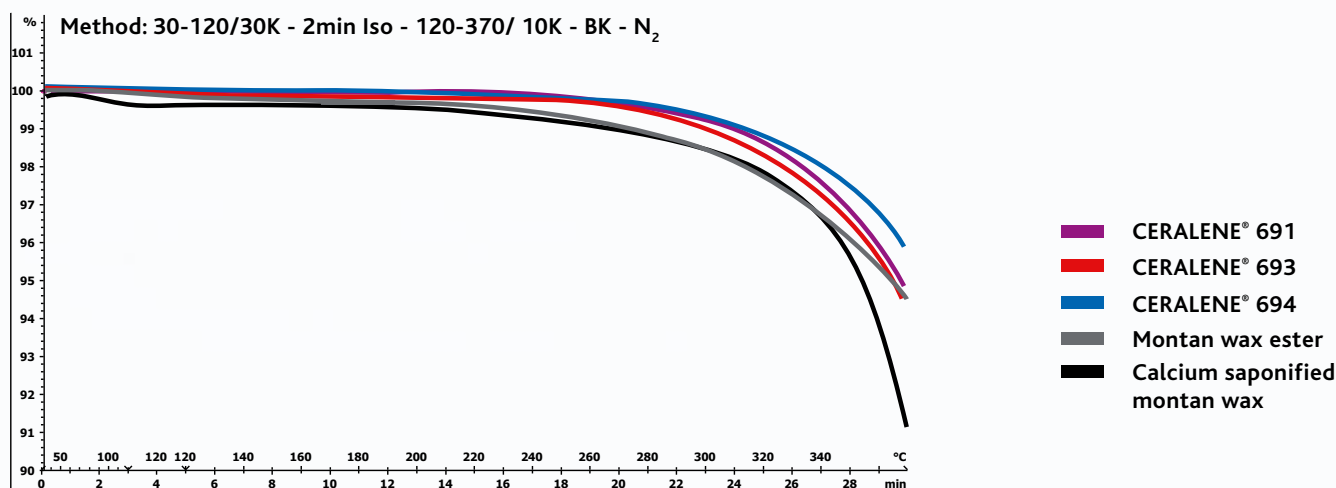


### Compatibility with different technical resins

Resin	Dosage CERALENE 694 (%)	Visual
Polycarbonate	0.4	+, slightly opaque
Polystyrene	0.5	+, slightly opaque
Polyamide	0.3	++
Polyamide	5.0	++
ABS	0.4	++
POM	0.3	++
PET	0.3	++
PP	0.3	++



### Comparison heat stability of CERALENE® Polyester waxes vs. Montan waxes by TGA



TGA range °C	CERALENE® 691	CERALENE® 693	CERALENE® 694	Montan wax ester	Calcium saponified montan wax
30-250*	0,19 %	0,30 %	0,32 %	0,70 %	0,76 %
30-300**	0,80 %	0,88 %	1,01 %	1,67 %	1,55 %

\* processing of polyolefines e.g. PE, PP    \*\* processing of technical plastics e.g. PA, PET, ABS, SAN

## Excellent temperature stability of polyester waxes

Air draft oven at 160 °C, 24 hours



## PVC processing: CERALENE® 693 and 694 – internal lubricants for PVC

- |   |   |  |
|---|---|--|
| ▪ broad lubrication<br>(internal as well as external) | → | flow promotion   |
|   | → | release effect   |
| ▪ high melt strength                                  | → | dimensional stability                                  |
| ▪ low volatility                                      | → | no condensed deposits                                  |
| ▪ compatibility/molecular weight                      | → | surface properties (smoothness, gloss)<br>no plate out |

## NEW CERALENE® CP15M, CP30M and CP45M

### Polar copolymer wax

- in PVC as internal lubricant
- as compatibiliser between polar and non polar resins as well as for fibres / fillers
- in hot melt applications / as adhesion promotor
- as dispersing additive in colour masterbatches (e.g. for PS, PC or ABS)

## NEW CERALENE® 850

### PP homopolymer wax

- as dispersing additive for PP masterbatches, especially PP fibre masterbatches
- as additive for toner production
- hot melt applications

## International distributors

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