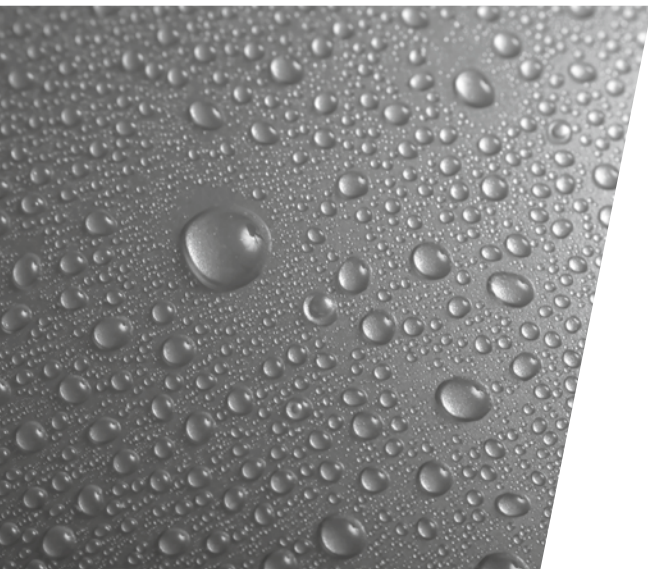




## Wax Additives

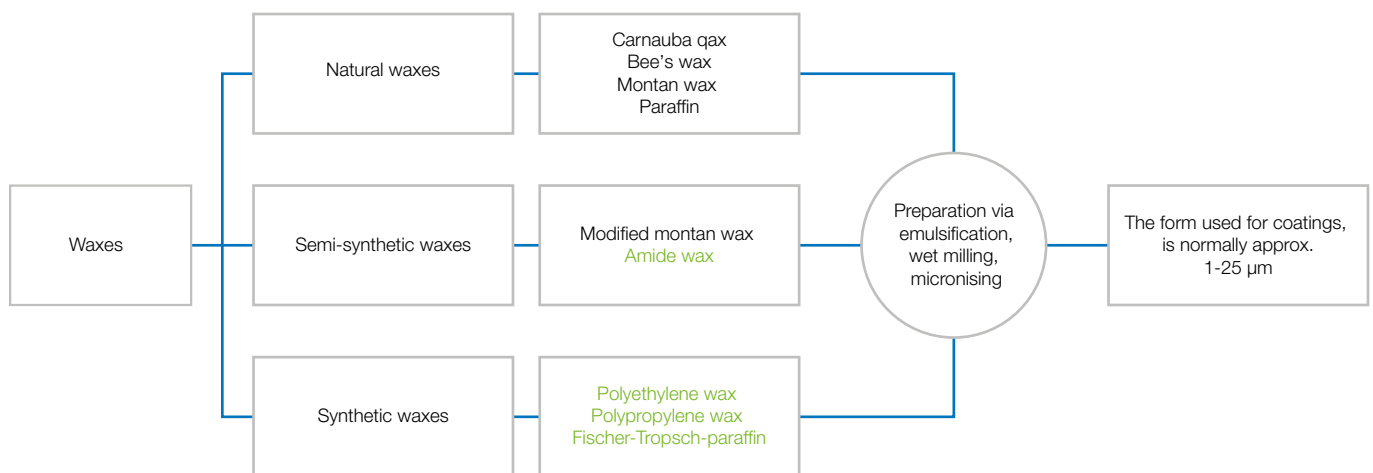
Additives to improve haptic, visual and mechanical properties.



 **Deuteron**<sup>®</sup>  
ADDITIVES TO YOUR SUCCESS

## / Wax additives from Deuteron:

Additives to improve haptic, visual and mechanical properties.



We can offer you wax additives based on the types marked **green**.

**Definition:** A substance is termed a wax if it is kneadable at 20 °C, is firm to brittle in hardness, exhibits a coarse to fine crystalline structure, has a coloured translucency or is opaque but not glassy, melts above 40 °C without decomposing and is free-flowing (with low viscosity) at only a little above the melting point, demonstrates a consistency and solubility that are highly temperature-independent and can be polished with light pressure. If one or more of the above characteristics is not given, the substance is not a wax as defined by the German Society for Fat Science (DGF).

*(Adapted from Römpp Dictionary of Chemistry)*

The addition of waxes to coatings can have a positive effect on the mechanical, haptic and visual characteristics of the surface. Waxes give the film surface a lower surface adhesion and often result in a fine, consistent surface finish. The following characteristics can be improved through the use of waxes:

- Anti-blocking effect/stackability
- Scratch resistance
- Reduced static and dynamic friction
- Surface smoothness
- Sanding properties
- Haptic/touch sensation
- Matting
- Anti-sedimentation
- Oxygen inhibition
- Release agent properties
- Dirt repellency

Our wax additives, based on polyethylene, polypropylene or polyamide, are used by our customers all over the world in a wide range of applications. The chemical characteristics of our waxes enable them to be used to influence many of the features of your surfaces and coatings. Profit from the versatility our products offer you.

## / Advantages at a glance:

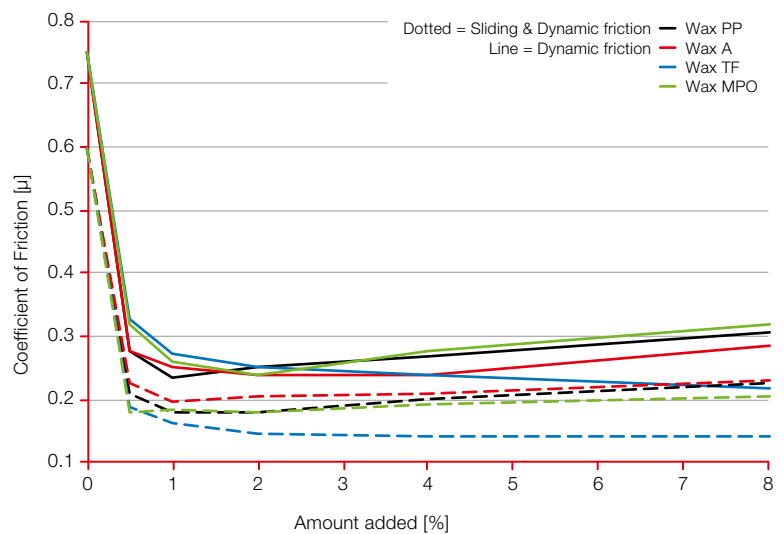
- Anti-blocking effect/stackability
- Scratch resistance
- Reduced static and dynamic friction
- Surface smoothness
- Sanding properties
- Haptic/touch sensation
- Matting
- Matting for 100 % UV-Systems
- Anti-sedimentation
- Oxygen inhibition
- Release agent properties
- Dirt repellency



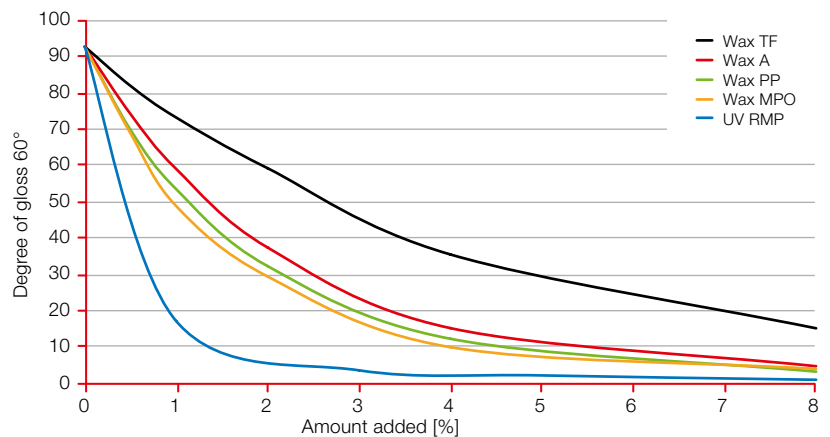
Waxes serve to improve slip and lubricating properties by creating a barrier on the surface that resists penetration or scratching. This effect is used to simulate a higher level of hardness. Depending on the system, waxes generate uniform effects from satin to matt that contribute to scratch resistance and anti-blocking. Used together with silica or other solids, systems may be created that are well stabilised against settling whose individual components could otherwise form a hard sediment.

Waxes are also used as organic matting agents or to support the matting agent. The most important waxes are unmodified and modified polyethylene (PE), polypropylene (PP) and polyamide (PA) types. For use as a matting agent or supporting additive for matting, polyolefin waxes are usually the most suitable.

The following principle also applies to the matting of coated surfaces with waxes: the larger the particles, the stronger the effect. The matting properties of waxes are however of relatively limited effectiveness compared with those of specialised matting agents. If matt or dull matt surfaces are required rather than satin gloss, additional matting agents must be used in combination. Suitable agents for combination include all organic (polymethyl urea resin) and inorganic (silica) matting agents. Generally, spherical particles do not matt as efficiently as irregularly shaped particles. This also applies to the matting agents we offer based on polymethyl urea resin, which have an amorphous structure and better mechanical properties. Apart from the type of wax, its suitability and ability to achieve specific characteristics is a function of particle size. The best types for use as sanding aids are generally polyamide waxes.



Comparison of friction values at various concentrations.



Gloss comparison in a solvent-based CN lacquer.

# Additives to your Success.

## / Deuteron-WAX A

Micronized polyamide wax with excellent heat and chemical resistance and high hardness. Matts and improves sanding properties.

## / Deuteron-WAX MPO

Non-polar micronized polyolefin wax with good matting properties. Increases mechanical and chemical resistance of the coated surface and reduces the settling of pigments and fillers in pigmented systems.

## / Deuteron-WAX PP

Micronized polypropylene wax with a very wide range of applications.

## / Deuteron-WAX TF

Micronized, PTFE-modified polyolefin wax. Polytetrafluoroethylene has the lowest coefficient of friction of all solid substances and thus exhibits the highest slip and anti-blocking performance in organic coatings.

## / Deuteron AP 348

Polyethylene wax with high hardness, supplied as prills for incorporation into the melt, e.g. in powder coatings. Reduces gloss and improves the process.

## / Deuteron UV RS20

Dispersion of PE waxes with high molecular weight in DPGDA to influence the surface gloss of radical-curing UV systems. Moderate matting effect.

## / Deuteron UV RMP

Powdered variant of Deuteron UV RM-products for matting of radical curing 100% UV-coatings. Also, suitable as a wax additive for any other systems. It improves surface smoothness, friction and abrasion resistance as well as gliding and anti-block effects. Stronger matting effect compared to other waxes.

## / Deuteron OG 250

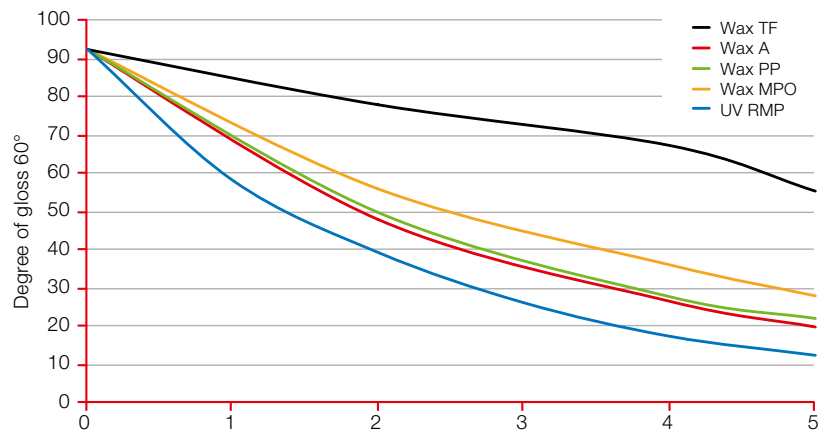
Stabilised, aqueous paraffin dispersion with low paraffin melting point; an additive for the production of aqueous "soft-feel" coatings. This product is highly hydrophobic.

## / Deuteron OG 330

Aqueous dispersion of a polyethylene wax, PTFE modified. Improves surface gloss and abrasion and rub resistance of aqueous coatings.

## / Deuterol Paraffindispersion

Stabilised, aqueous dispersion of a pure paraffin. Matting resist for water-dilutable systems. Higher viscosity than OG 250.



Gloss comparison in a solvent-based 2C acrylic lacquer.

Product	Type	Delivery form	Solvents / Reactive Thinner	Solid content approx.	Melting point approx.	Particle sizes d50	Particle sizes d90
Deuteron-Wax A	Amide wax	Micronized powder	-	100	140	6	14.4
Deuteron-Wax MPO	Polyolefine wax	Micronized powder	-	100	110	5.2	10.7
Deuteron-Wax PP	Polypropylene wax	Micronized powder	-	100	138	6.6	14.4
Deuteron-Wax TF	PTFE-modified polyolefine wax	Micronized powder	-	100	120	4.9	10.6
Deuteron AP 348	Polyethylene wax	Prills	-	100	85-90	n.a.	n.a.
Deuteron OG 330	Polyethylene wax, PTFE-modified	Dispersion	Water	46	110	5.2	10.8
Deuteron OG 250	Paraffin	Dispersion	Water	20	60	2.5	8
Deuteron Paraffindispersion	Paraffin	Dispersion	Water	20	60	2	7
Deuteron UV RMP	Wax compound	Micronized powder	-	100	105	8	17
Special dispersions for 100 % UV-Systems:							
Deuteron UV RM10	Wax compound	Dispersion	DPGDA / LA	26.4	60-115	2.5	10.5
Deuteron UV RM15	Wax compound	Dispersion	DPGDA / LA	20	60-115	4	11
Deuteron UV RM17	Wax compound	Dispersion	DPGDA / LA	35.1	60-115	2.5	9.5
Deuteron UV RM19	Wax compound	Dispersion	TMP(EO)3TA	21	60-110	7.5	16.5
Deuteron UV RS20	Polyethylene wax	Dispersion	DPGDA	25	115	4	9
Additional information in our leaflet: UV-Additives				%	°C	µm	µm

Typical values of our wax additives / wax-based additives.



### / Deuteron: First-class products for the coatings industry

DEUTERON GmbH has 30 years of experience in the production and sales of additives including: matting agents, conductivity agents and UV initiators. In the course of our company's 30-year history, we have become an important partner for the paint, lacquer and coatings industry – we operate nationally and internationally and are represented all over the globe. We serve you with the dependability and close business relationship that only an owner-operated, medium-sized company can offer – and we also have the expertise of a global provider. Get in touch with us! We are happy to be of assistance and to help find individual solutions for your needs.

### / Visit us on the Internet



You can find detailed information on all our products at [www.deuteron.com](http://www.deuteron.com). Matting and texturing agents, surface additives, UV initiators and much, much more: We supply first-class products and look back on more than 30 years of experience as an important partner for the coatings industry.

This brochure intends to give technical advice without warranty and does not claim to be complete.

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