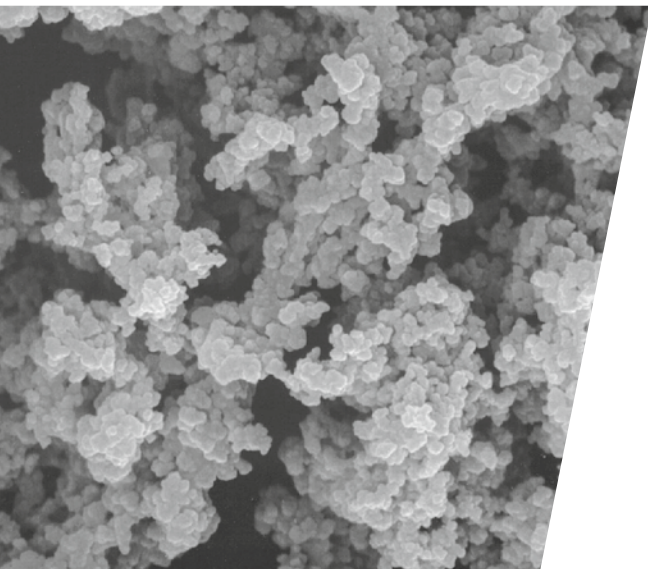




## Soft-Feel Additives

For haptical surfaces.



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

## / Deuteron additives:

Possibilities for the creation of soft-feel effects.

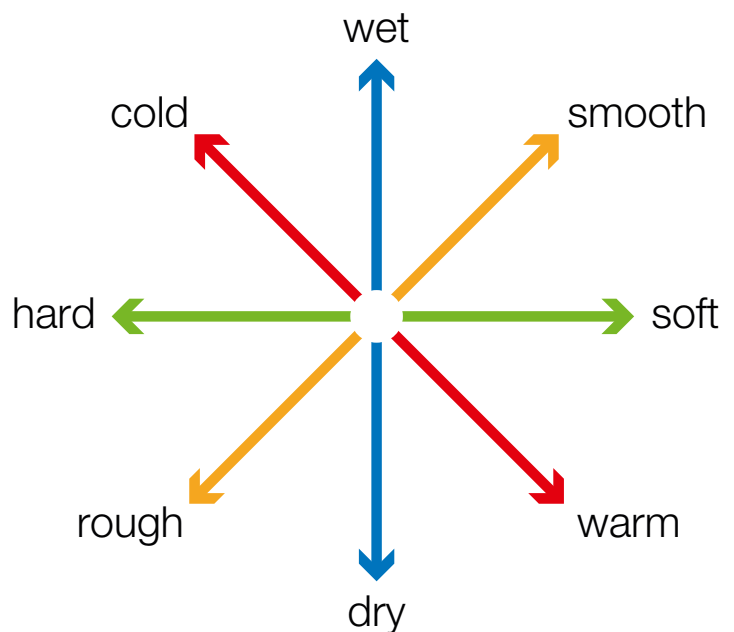
For some surfaces, there are special requirements for a haptic “soft” feel. Be it for interior coatings of vehicles, for mobile entertainment and communications electronics, on furniture and everyday utility items or on high-quality packaging, soft-feel coatings are in relatively common use today. Coating a surface with a soft-feel finish is intended to provide a soft, warm touch sensation and also to give a sense of premium quality to the object.

No tribologically quantifiable description or definition exists for the classification of soft effects. Up until now the use of these effects has been guided by subjective haptic judgements and descriptions alone, and these are naturally very individual. What may be perceived as a pleasant touch sensation by one person may be considered unattractive by another. The way something feels depends on a number of factors – such as how rough or smooth, hard or soft, wet or dry a surface is and its subjective sense of cold or warm.

For most soft-feel surfaces, low gloss levels are desirable. Therefore, good levels of abrasion and scratch resistance are necessary. The lower the gloss level, the more “fragile” particles on the surface are subject to mechanical effects.

Our Deuteron matting agents – based on organic thermoset PMU-polymers (polymethyl urea resin) – are very well suited to create mechanically and chemically resistant matt surfaces. Due to their chemical character and structure, they offer the user exceptionally favourable features. They are used as sole or additional matting agents in a wide range of coating materials. These micronised powders are “classics” for the use in conventional soft-feel coatings.

Our Deuteron-SO soft-feel additives make up another group of very effective soft-additives, which are available as elastomer dispersions for almost all ranges of coatings. They create soft effects even without requiring special elastic binders. Above this, these products also create matt surfaces. Especially in 100 % UV systems these effects work incredibly well.



Subjective evaluation of “Sensation of touch”.

The importance of soft-feel coatings is increasing in many areas. Our additives are an effective way to formulate a coatings with a soft effect of this type. We now offer two different product groups for soft-feel coatings. You can profit from the many possibilities that our additives offer in the area of soft-feel finishes.

Used for more than 30 years worldwide, our organic PMU matting agents of our Deuteron MK line are ideally suited to support the soft effect in soft-feel coatings. The new elastomer dispersions of our Deuteron SO-line support or even create soft-feel surfaces without being reliant on special soft-feel binders.

## / Advantages at a glance:

Deuteron products based on PMU

- Soft effects are strongly supported
- “Pleasant” haptic – soft touch
- Good matting effect
- Little influence on viscosity / rheology
- Highly transparent in film
- High scratch resistance compared with SiO<sub>2</sub>-matting agents and waxes
- High resistance to polishing
- Temperature resistant up to over 200 °C
- No melting point (thermoset)
- High chemical resistance
- Can be recoated and printed on
- Cross linkage via available hydroxyl groups

Deuteron SO-products

- Soft elastomer – pleasant haptic
- Additional matting effect, also in 100% UV systems
- Cross linkage via available hydroxyl groups
- Suitable for all types of binders
- No special soft-binders necessary (but possible)
- Highly transparent in film
- High scratch resistance compared with SiO<sub>2</sub>-matting agents and waxes
- High resistance to polishing



### / Deuteron products based on PMU

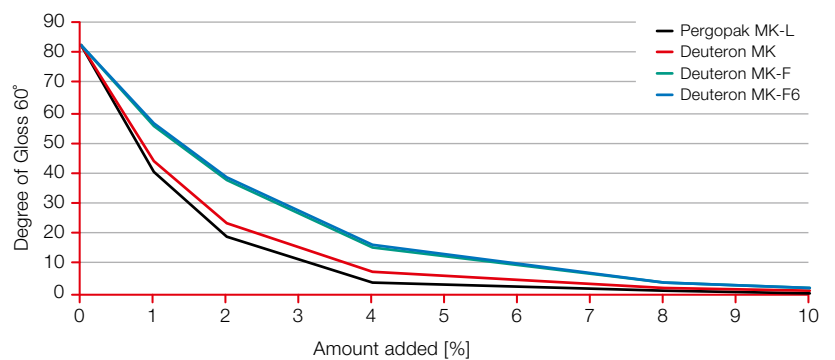
As matting agents for soft-feel paints, the products of our Deuteron MK-line have been in use for decades. The presence of these organic matting agents in soft-feel finishes, based on suitable binders, results in abrasion and scratch-resistant coatings together with the desired soft, warm touch. Alongside many positive features for matting purposes, these products stand out particularly for the following aspects:

- Soft effects are strongly supported
- Good matting effect
- “Pleasant” haptic – soft touch
- Highly transparent in film
- High scratch resistance compared with SiO<sub>2</sub>-matting agents and waxes
- High resistance to polishing
- Crosslinkable via available hydroxyl groups

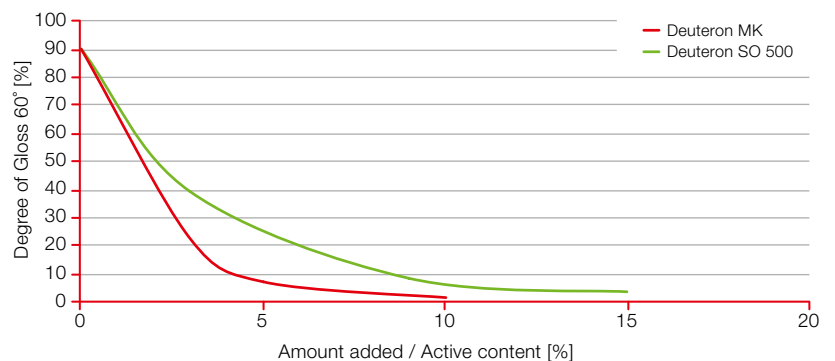
### / Deuteron SO products

The product line consisting of Deuteron SO 100, 300, 302, 500 and 510 based on fine elastomer particles, allows soft and matt surfaces through the effects of the elastic particles. Deuteron SO 302 is a special type with coarse particles which makes soft-structure effects possible. The soft effects are achieved even if the binders are no classic soft and rubber-like types. Special soft binders are not necessary, which gives the user an increased range when formulating his lacquers. By using “regular” binders, much higher mechanical and chemical resistances can be achieved than in conventional soft-feel coatings. The amount added can vary greatly and in a large range. High dosages allow very intense effects. The additives need comparatively less binder and can be cross-linked into the coating matrix by utilising the OH-functionality. This can increase the mechanical and chemical resistances even further. Compared with

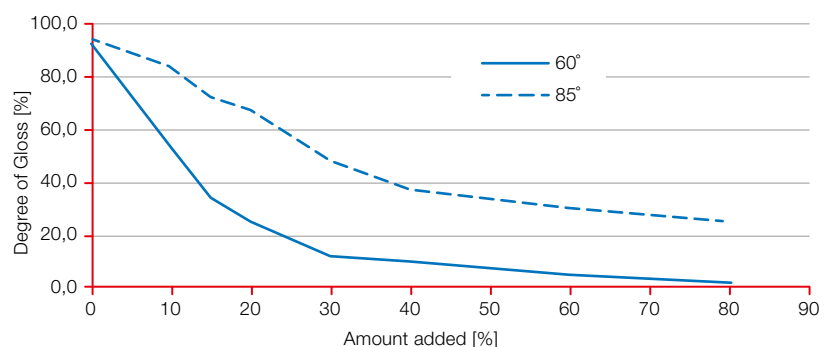
regular functional fillers and other matting agents, the transparency is influenced only slightly.



Comparison of gloss levels of Deuteron matting agents in 2 pack acrylic lacquer.

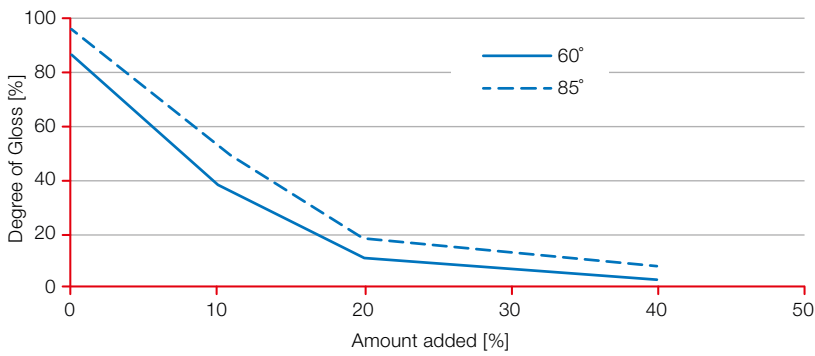


Comparison of gloss levels of 2 pack acrylic lacquer with Deuteron MK and SO.

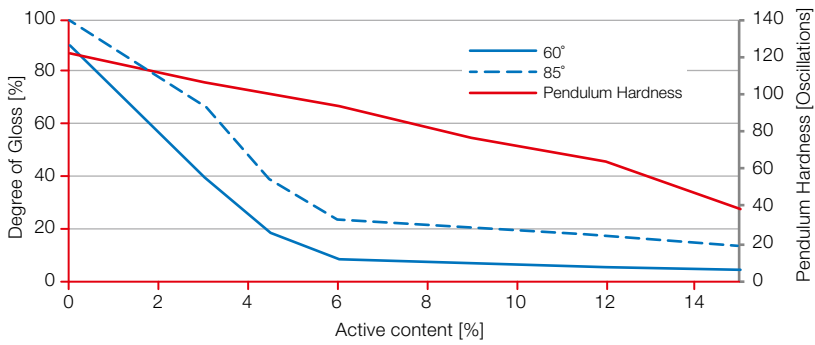


Degree of gloss of 100% UV-lacquer with Deuteron SO 100.

# Additives to your Success.

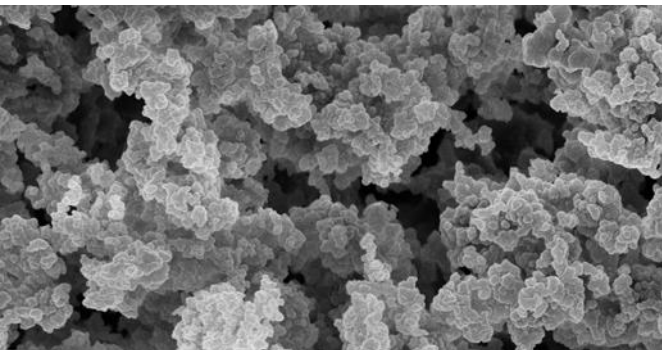


Degree of gloss of 2 pack aqueous lacquer with Deuteron SO 300.

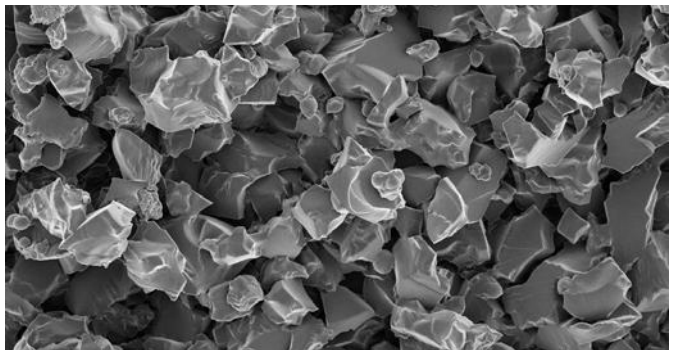


Degree of gloss of 2 pack acrylic lacquer with Deuteron SO 500 / 510.

## / Deuteron MK



## / Deuteron SO



SEM-pictures: Particle morphology of various SOFT additives.

Product	Delivery form	Type	Solvent / Reactive thinner	Active Content	Particle sizes approx.	
					d50	d90
Deuteron MK-L	Powder	Thermoset	-	100	7.3	17
Deuteron MK	Powder	Thermoset	-	100	6.3	13.8
Deuteron MK-F	Powder	Thermoset	-	100	4.6	10.6
Deuteron SO 100	Dispersion	Elastomer	DPGDA	30	7	15
Deuteron SO 300	Dispersion	Elastomer	Water	45	8	18
Deuteron SO 302	Dispersion	Elastomer	Water	45	30	60
Deuteron SO 500	Dispersion	Elastomer	Butyl acetate	30	7	15
Deuteron SO 510	Dispersion	Elastomer	Ethyl acetate	30	7	15
				%	µm	µm



### / 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 leaflet intends to give technical advice without warranty and does not claim to be complete.