

High-performance chemical and mineral specialties. Since 1894.



LUVOFIL® TEC
Product Range

SURFACE TECHNOLOGY

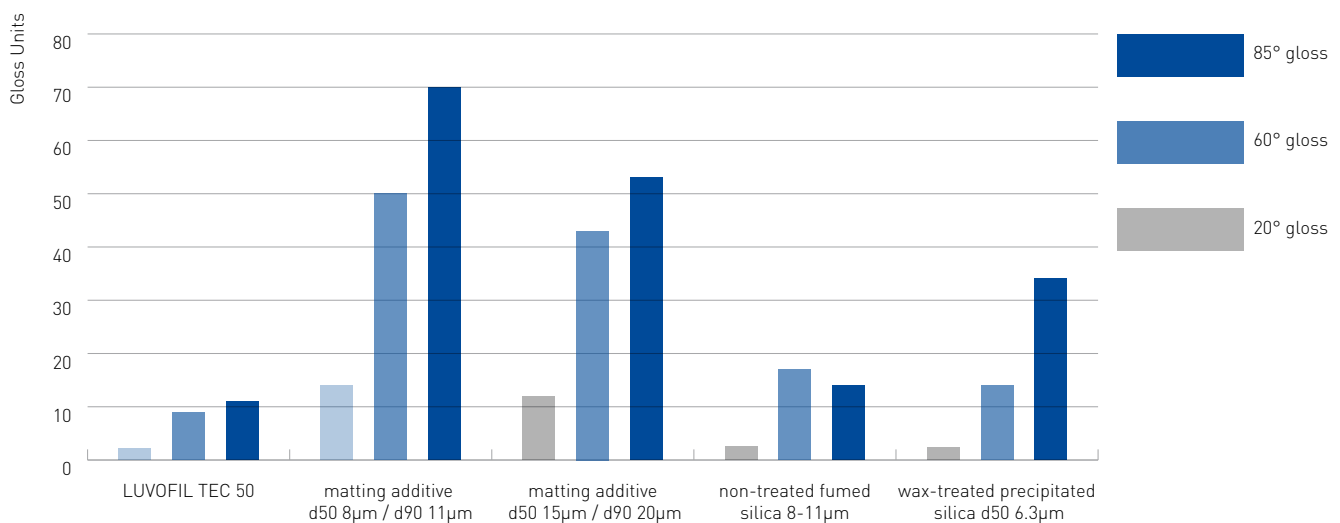
LUVOFIL® TEC 50

for Matting of Paints, Coatings, and Sealants

Chemical properties of matting agents, such as pore volume, average particle size, and particle size distribution, affect their matting performance. An increased concentration of matting agent reduces system gloss.

LUVOFIL® TEC 50: Highly Transparent Deep Matt Coatings

Due to its particle size and unique particle morphology, LUVOFIL® TEC provides excellent matting with excellent transparency

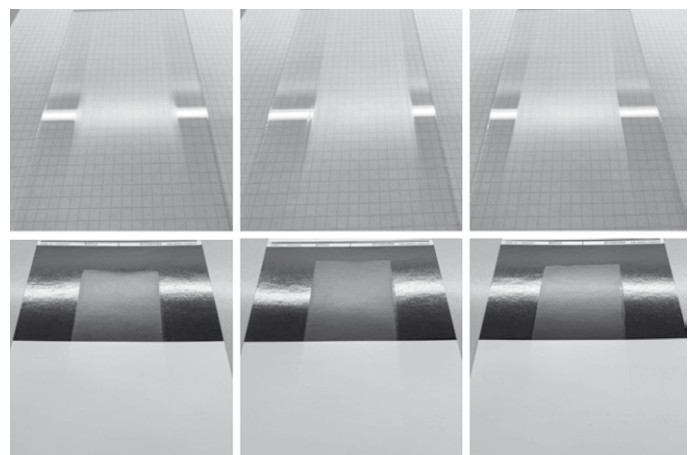


Test system: Water-borne, white, glossy, based on acrylate dispersion, 1 % matting agent, 120 µm wet film

Gloss development

	GU @ 20 °	GU @ 60 °	GU @ 85 °
+1.0 % LUVOFIL® TEC 50	29.2	56.2	52.0
+ 2.0 % LUVOFIL® TEC 50	13.5	33.0	34.8
+1.4 % non-treated fumed silica 8-11µm	60.2	77.8	84.3

Test system: Water-borne wood coating based on Alberdingk AC 3630



+1.0 % LUVOFIL® TEC 50

+ 2.0 % LUVOFIL® TEC 50

+1.4 % non-treated fumed silica 8-11µm

Advantages Excellent matting efficiency

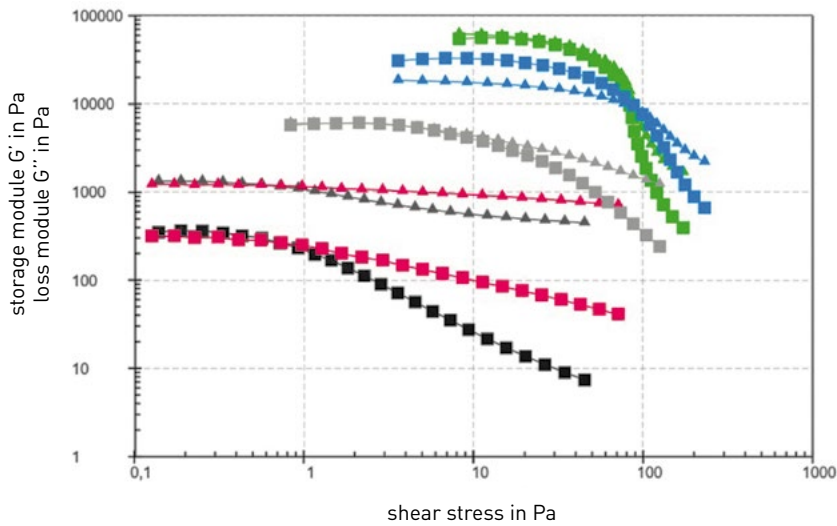
- Excellent transparency
- Improved mechanical properties
- Good storage stability, no hard settling

LUVOFIL® TEC 50 for Fumed Silica Replacement

The larger the matting agent particles, the more effective is the matting.
This holds especially true for fumed silica.

Common types of fumed silica were tested with 3 % LUVOFIL® TEC 50 and compared to a blank test:

Amplitude sweep after 20 min, component A + 3 % rheology additive



Component A – blank

3 % fumed silica BET 90-130 m²/g (CAS 68611-44-9)

3 % fumed silica BET 135-185 m²/g (CAS 68909-20-6)

3 % fumed silica BET 195-245 m²/g (CAS 68909-20-6)

3 % LUVOFIL® TEC BET 100 m²/g

Summary

LUVOFIL® TEC 50 shows similar properties to hydrophobic fumed silica with BET 195-245 m²/g and builds up the highest viscosity, thixotropy and yield points.



LUVOFIL® TEC 300 and 1000

for DRY LIQUID and SLOW RELEASE applications

Nanoporous LUVOFIL® TEC are the perfect carriers for a multitude of lipophilic liquids. LUVOFIL® TEC can absorb more than six times its weight in liquid depending on the chemical nature, polarity, and viscosity of the liquid.

LUVOFIL® TEC: Liquid Carrier for Extrusion Processes, Dry Liquids & Drymix Systems

The nanoporous structure leads to extraordinary carrier capacity for a multitude of liquids. Possibility to absorb more than 600 w%. Depending on chemical nature, polarity, and viscosity of the liquid

Advantages

- Easy dosage
- Safe handling
- No liquid leaking or migration
- Excellent distribution of the liquid component
- No inorganic residues
- Full liquid transfer into matrix



Liquid Carrier for Slow Release Applications

The nanoporous structure exhibits extraordinary carrier capacity for a variety of liquids.

LUVOFIL® TEC

Simple processing

- Self-loading
- No additional substances required
- Loading within seconds



High performance

- Extraordinary capacity
- Long-lasting release
- Reloadable



Conventional Capsule

Complex processing

- Complex loading process
- Expensive equipment required
- Preparation time of several hours



Standard performance

- Medium to low capacity
- Rapid release
- Not reusable



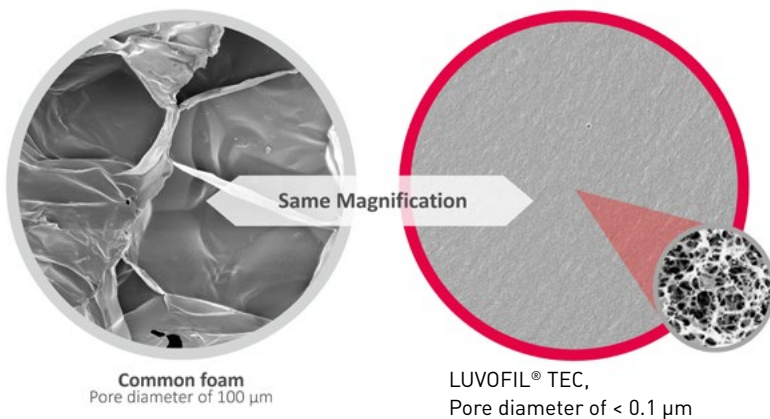
LUVOFIL® TEC 50, 300 and 1000 for Construction applications

A unique class of last-generation multipurpose functional fillers, LUVOFIL® TEC offers a portfolio of materials based on the first polymer foam with nanometer-sized pores. LUVOFIL® TEC is produced under a patented process and expanded with a 100-% climate-friendly blowing agent. LUVOFIL® TEC is an entirely new class of materials with pore sizes 1000 smaller than those of conventional polymer foams, exhibiting a unique and multipurpose performance profile.

LUVOFIL® TEC: an expanded, highly hydrophobic, thermoplastic polymer in powder form with very low packed density.

Applications:

- **Cementitious systems – Lightweight filler, thermal insulation plaster, diffusion-open barrier properties**
- **Tile adhesives and silicone based sealants – Lightweight filler, rheology control**
- **Blow-in insulation systems – Thermal insulation**



Pore size 1,000x reduced vs. conventional foam (e.g. EPS)

LUVOFIL® TEC's functionality extends to insulation systems where it serves as a filler, offering weight reduction, thermal insulation, and diffusion-open barrier properties.



Talk to our experts.

Scan the code for contact details.

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