

YbF₃

Characteristics

filyxio
MATHYM

Typical values	YbF ₃ nano-dispersions
Chemical formula	YbF ₃
Crystal structure	Orthorhombic
Average Particle Size (nm)	20 & 40
Density* (g/cm ³)	8.2
Refractive index*	1.53
Dispersion solid content (wt.%) <i>Depending on dispersion medium</i>	Up to 70

*Theoretical

Nano-dispersion Characteristics	Example 1	Example 2
Nanoparticles	YbF ₃	YbF ₃
Monomer	UDMA	TEGDMA
Solid content (wt.%)	30	50
Viscosity (Pa.s)	50	6.9
Shear rate (s ⁻¹)	1	1

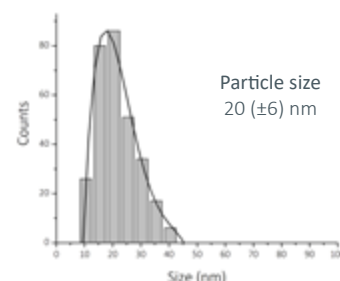
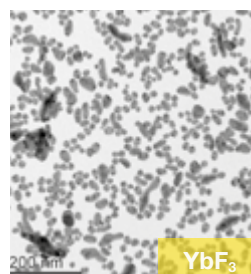
> filyxio® YbF₃ nanoparticles in suspension **main benefits:**

- High translucency of dental composites
- Higher depth of cure
- Low viscosity at high particle loading
- Improved flexural strength
- Higher filler load

The type of functionalization provided strongly depends on dispersion medium & application requirements.

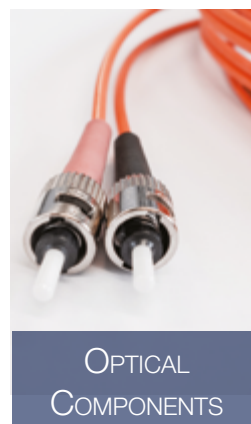
YbF₃ 20 nm50 wt.%
in monomer

> Example of **particle morphology & size distribution** - YbF₃



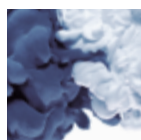
Applications

> Our dispersions contain the **smallest YbF₃ nanoparticles** on the market and exhibit the **highest available solid contents**. We advise to use these products as **radiopacifying fillers** in dental composites. They are **compatible with all dental monomers**. YbF₃ nanoparticles can also be used for the manufacturing of **optical components**.

DENTAL
COMPOSITESOPTICAL
COMPONENTSPRODUCT
DESIGN

Available dispersed in a variety of solvents & resins:

- Water
- Alcohol
- Polyol
- Acetone
- Methacrylate-based dental resin
- Custom solvent



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