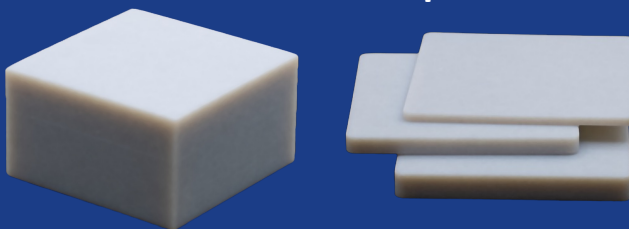




OptiBlox®: Customized Tissue Equivalent Optical Phantoms

Overview and Standard OptiBlox®



Standard OptiBlox® sizes: 50 mm x 50 mm x 3, 4, 5, or 20 mm thickness

- Solid optical phantom
- Wide range of tissue equivalent optical properties available
- Tunable absorption and reduced scattering coefficient in VIS, NIR, SWIR regions
- Optical characterization of absorption and reduced scattering coefficients

Custom optical properties, shapes, and complex geometries

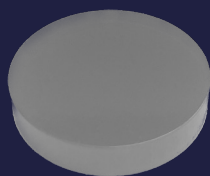
- Customizable to have multiple layers/components with different optical properties (400 – 1500 nm)
- Minimum layer thickness: ~200 μm
- Minimum phantom thickness: 1 mm
- Maximum phantom size: 10 cm x 10 cm x 5 cm

Want your own customized OptiBlox®?

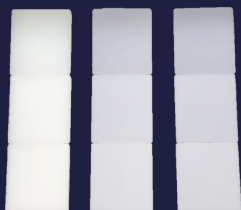
Contact us here for more information:



Examples



Cylinder/Disk Geometry



3 x 3 grid of μ_a and μ_s' values



Anatomical Geometry



Mouse Atlas

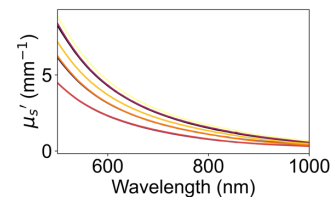
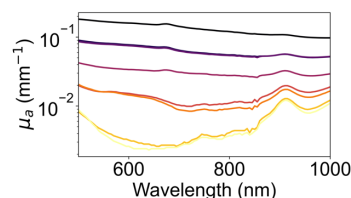
Optical Property Tuning and Measurements

Optical Property Tuning

- μ_a and μ_s' are tunable between 400 – 1500 nm

Optical Property Measurements

- μ_a and μ_s' determined by Inverse Adding Doubling algorithm from total transmittance and total reflectance measurements
- Transmittance and reflectance measured on commercial dual beam spectrophotometer with equipped an integrating sphere
- Samples are co-manufactured alongside custom geometry for optical property measurements



Resources

For frequency asked questions and other resources about OptiBlox®, please visit:
shop.quelimaging.com/resources.





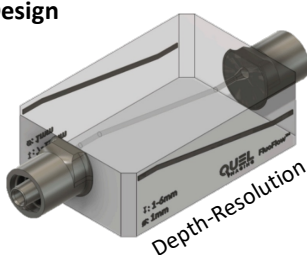
FluoFlow™: Dynamic Flow Phantom

Need a flow channel for your fluorophore, contrast agent, or liquid?

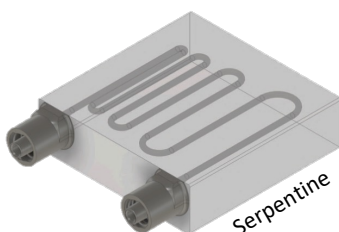
- FluoFlow™ phantoms incorporate flow channels embedded in our proprietary tissue-equivalent material formulations (custom optical properties available)
- Adaptors are incorporated into the phantom for easy connections with a pump system
- Ideal for probe development and testing dynamic image analysis algorithms
- BYOF: Bring your own fluorophore, contrast agent, or liquid!

Example FluoFlow™ Designs

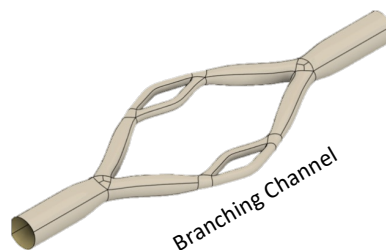
Design



Depth-Resolution

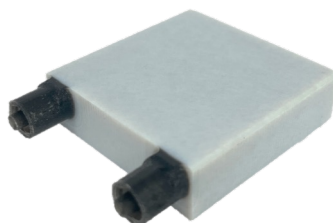


Serpentine

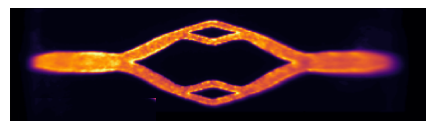
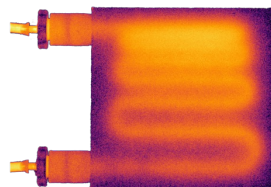
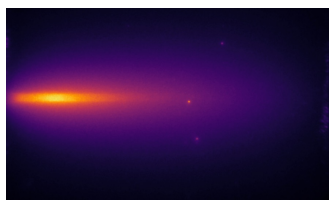


Branching Channel

Phantom



Fluorescence Image



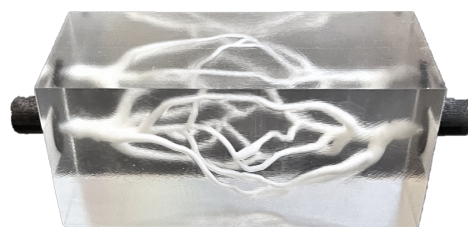
Customizable to your needs!

- Customizable dimensions, flow channel geometry (depth, diameter, etc.)
- Tuned optical properties (μ_a and μ_s') between 400 – 1500 nm with optical characterization

Contact us here for more information:



New Development: Branching Network FluoFlow™ Phantom



Phantom designed with intricate vessel branching networks, simulating realistic in vivo conditions