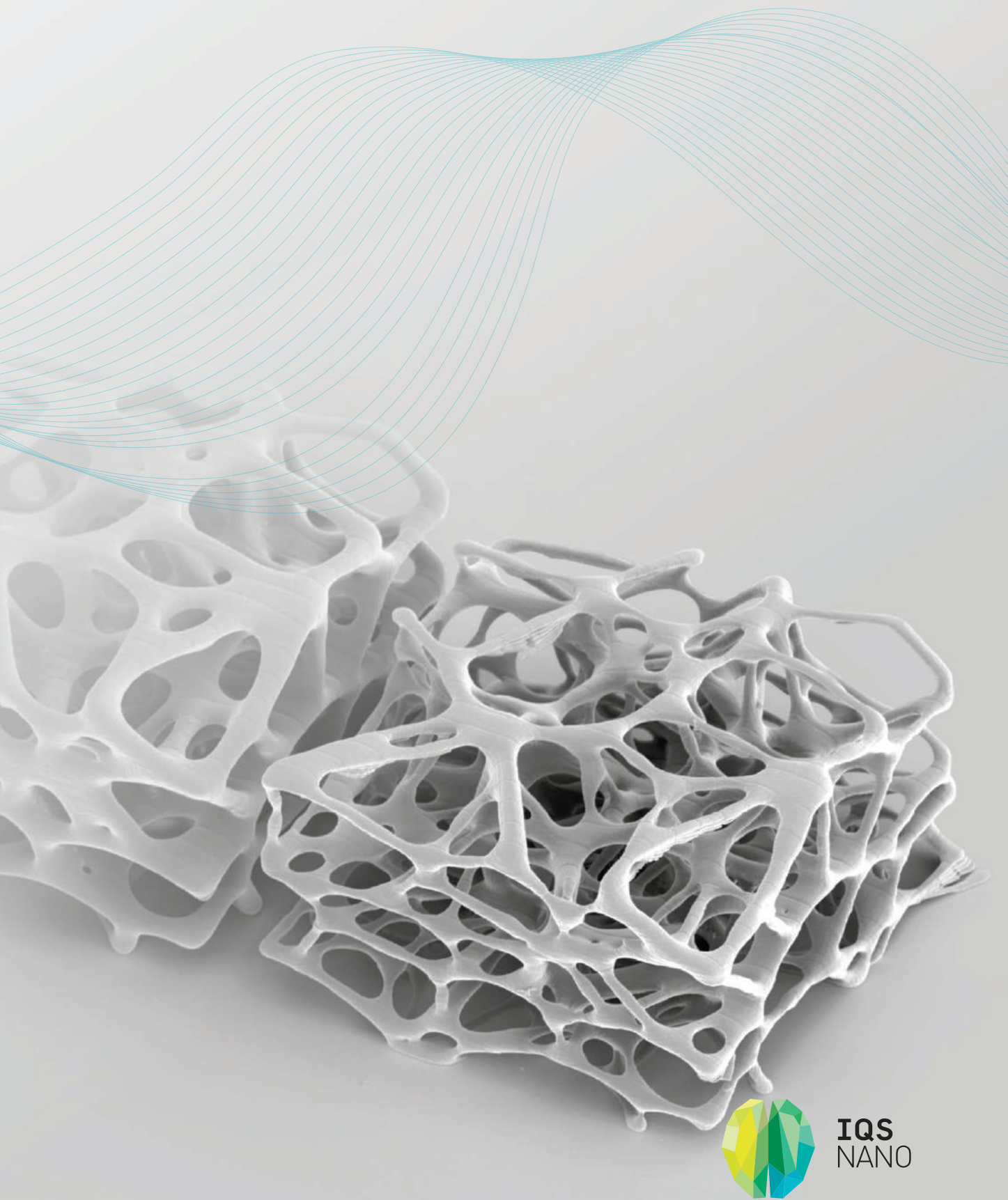




ResIQ PHOTORESINS 2025

IQ NANO 3D

Basic One

ResIQ Basic is our most accessible resin, designed for standard prototyping, quick testing, and routine applications. As an entry-level material, it delivers reliable print quality and excellent resolution at an attractive price point — ideal for costsensitive research and rapid development cycles.

Benefits of ResIQ Basic One:

- ✓ **High Print Resolution** - Captures fine details with micron-scale precision.
- ✓ **High Printing Speed** - Optimized for rapid layer-by-layer fabrication.
- ✓ **Good Adhesion** - Ensures strong bonding to substrate and within parts.
- ✓ **Cost-Effective** - Efficient performance at an accessible price point.

ResIQ Basic is suitable for:

- ✓ Proof of design
- ✓ Rapid prototyping of micro-objects
- ✓ Microcomponents
- ✓ Mastering 2.5D structures and copying them using replication technologies



Hybrid One

ResIQ Hybrid is an **inorganic-organic hybrid resin** engineered for high-performance applications in microfabrication and prototyping. Its unique chemical structure combines the mechanical robustness of inorganic materials with the flexibility of organics — delivering excellent stability, resolution, and chemical resistance. This makes it an ideal choice for MEMS components, microfluidics, and other functional 3D structures that require thermal endurance, structural integrity, and precise dimensional control.

Benefits of ResIQ Hybrid:

- ✓ **Inorganic-Organic Hybrid Matrix** - Provides chemical robustness and excellent mechanical properties
- ✓ **High Mechanical Strength** - Supports load-bearing and precision-functional designs.
- ✓ **Excellent Chemical Resistance** - Withstands acids, solvents, and harsh environments.
- ✓ **Low Shrinkage** - Maintains structural accuracy after curing.
- ✓ **Strong Adhesion** - Ensures layer-to-layer and substrate bonding.
- ✓ **High Thermal Stability** - Resists deformation at temperatures up to 270 °C.

ResIQ Hybrid is suitable for:

- ✓ Micro-optical components
- ✓ Rapid object prototyping
- ✓ PDMS castings (molds)



Bio One

ResIQ Bio is a bioinert resin designed for advanced applications in tissue engineering, microfluidics, and cell-based research. Its formulation is based on an inorganic-organic copolymer matrix, combining the structural stability of inorganic materials with the flexibility and processability of organics. This hybrid approach enables excellent performance in biological environments and under fluorescence imaging.

Benefits of ResIQ Bio:

- ✓ **Biocompatible & Non-cytotoxic** - ISO 10993 tested; supports >90% cell viability in MTT assays.
- ✓ **Low Autofluorescence** - Minimal background signal in confocal and fluorescence microscopy.
- ✓ **Thermal Stability** - Maintains integrity up to 200 °C, suitable for post-processing.
- ✓ **Sterilizable** - Compatible with UV light, autoclaving, and ethanol sterilization.
- ✓ **Inorganic-Organic Hybrid Matrix** - Provides chemical robustness and compatibility with cell culture.

ResIQ Bio is suitable for:

- ✓ Tissue engineering scaffolds with rigid structures
- ✓ Microcomponents with direct contact with cells
- ✓ PDMS molding/casting
- ✓ Microfluidic chips and components
- ✓ Optical components without unwanted staining and fluorescence



BioFlex

ResIQ BioFlex is engineered for biomedical applications enabling direct cell culture without the need for additional celladhesive coatings. The material is more flexible and suitable for a wide range of biotechnological applications.

Benefits of ResIQ BioFlex:

- ✓ **Biocompatible** - Enable adhesion and growth of cells without coatings.
- ✓ **Non-cytotoxic** - ISO 10993 tested; supports >90% cell viability in MTT assays.
- ✓ **Low Autofluorescence** - Minimal background signal in confocal and fluorescence microscopy.
- ✓ **Excellent adhesion** - Compatibility with a variety of substrates.
- ✓ **Flexibility** - Young's modulus 0.1-0.5 MPa

ResIQ BioFlex is suitable for:

- ✓ Tissue engineering scaffolds with flexible structures
- ✓ Microcomponents designed for direct cell contact
- ✓ Microfluidic chips and components



OptoBase

OptoBase photoresin is designed for standard prototyping, quick testing and routine applications in the optical field. As an affordable material, it provides reliable print quality and excellent resolution at an attractive price – ideal for cost-sensitive research and rapid development cycles. 3D printed objects offer high-optical transparency across a wide range of wavelength.

Benefits of ResIQ OptoBase:

- ✓ **High Transparency** - Optically transparent > 98% in the 400-1600nm range
- ✓ **Low Autofluorescence** - Minimal background signal provides higher SNR ration
- ✓ **Optically stable** - Long-term yellowing resistance
- ✓ **Extra-low shrinkage** - Shrinkage < 4% with reduced refractive index change
- ✓ **Cost-Effective** - Efficient performance at an accessible price point.

ResIQ OptoBase is suitable for:

- ✓ Rapid prototyping of micro-optical components and systems
- ✓ Flat optic for PDMS molding/casting
- ✓ Photonic applications in visible and NIR regions



OptoPure

OptoPure photoresin with high thermal and optical stability and transparency above 99% in wide range of wavelength 370-1600nm make it ideal for high-end micro-optics components. Transparency of 90% above 280 nm up to the infrared spectrum makes it ideal solution for UV, laser optics and photonics applications.

Benefits of ResIQ OptoPure:

- ✓ **High Transparency** - Optically transparent > 99% in range 370-1600nm
- ✓ **Thermal Stability** - Maintains integrity up to 200 °C
- ✓ **Optical stable** - Long-term yellowing resistance
- ✓ **Low Autofluorescence** - Minimal background signal offer higher SNR ration

ResIQ OptoPure is suitable for:

- ✓ Photonic applications, Optical fiber bonding and termination
- ✓ Micro-optical components, systems and Flat optic
- ✓ Suitable for application in the UVA je (320-400nm) and UVB (290-320nm) regions



PETA

The photoresin based on pentaerythritol triacrylate (PETA) is one of the most widely used basic monomers for two-photon polymerization (2PP). Triple functional acrylate groups with high reactivity and polymerization efficiency enabling rapid crosslinking even at low energy doses which result in high sensitivity, shorter exposure times and efficient 2PP process.

Benefits of ResIQ PETA:

- ✓ **High Print Resolution** - Captures fine details with micron-scale precision at lower laser energy.
- ✓ **Mechanical strength** - Rigid, solid, and durable structures
- ✓ **Gradient polymerization** - Allows tuning of mechanical and optical properties at a single structure.
- ✓ **Cost-Effective** - Efficient performance at an accessible price point.
- ✓ **Well-known** - application-proven acrylate

ResIQ PETA is suitable for:

- ✓ R&D and prototyping at nano scale
- ✓ Probes, micro-optics, micro-devices



PETA+

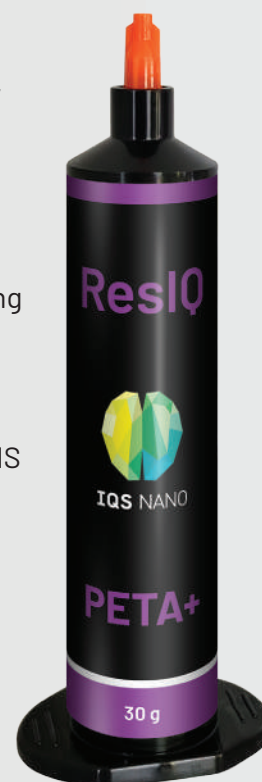
The **PETA+** is improved PETA photoresist for long-time printing microstructures without unwanted crystallisation. Like PETA, it offers high-resolution printing at lower laser energy. Improved composition allows print large scale at highest possible resolution for mastering and its replication with soft lithography (PDMS).

Benefits of ResIQ PETA+:

- ✓ **Suppressed Crystallization** - lowered melting point ($< 10^{\circ}\text{C}$) for long term 2PP printing
- ✓ **High Print Resolution** - Captures fine details with micron-scale precision at lower laser energy.
- ✓ **Mechanical strength** - Rigid, solid, and durable structures
- ✓ **Inhibition-free PDMS** - Improved composition for replication compatibility with PDMS

ResIQ PETA+ is suitable for:

- ✓ Long-term 3D printing at high resolution for mastering
- ✓ Flat optic for PDMS molding/casting
- ✓ Prototyping micro-structures



LumiBlue

The optically active printing material designed and optimized for IQnano3D system. The resin has blue fluorescence and can easily functionalized, label and identify your high-resolution 3D structures at sub-micron precision. Thanks to its fluorescence, inner structures of 3D printed object can be easily identified and inspect.

Benefits of ResIQ LumiBlue:

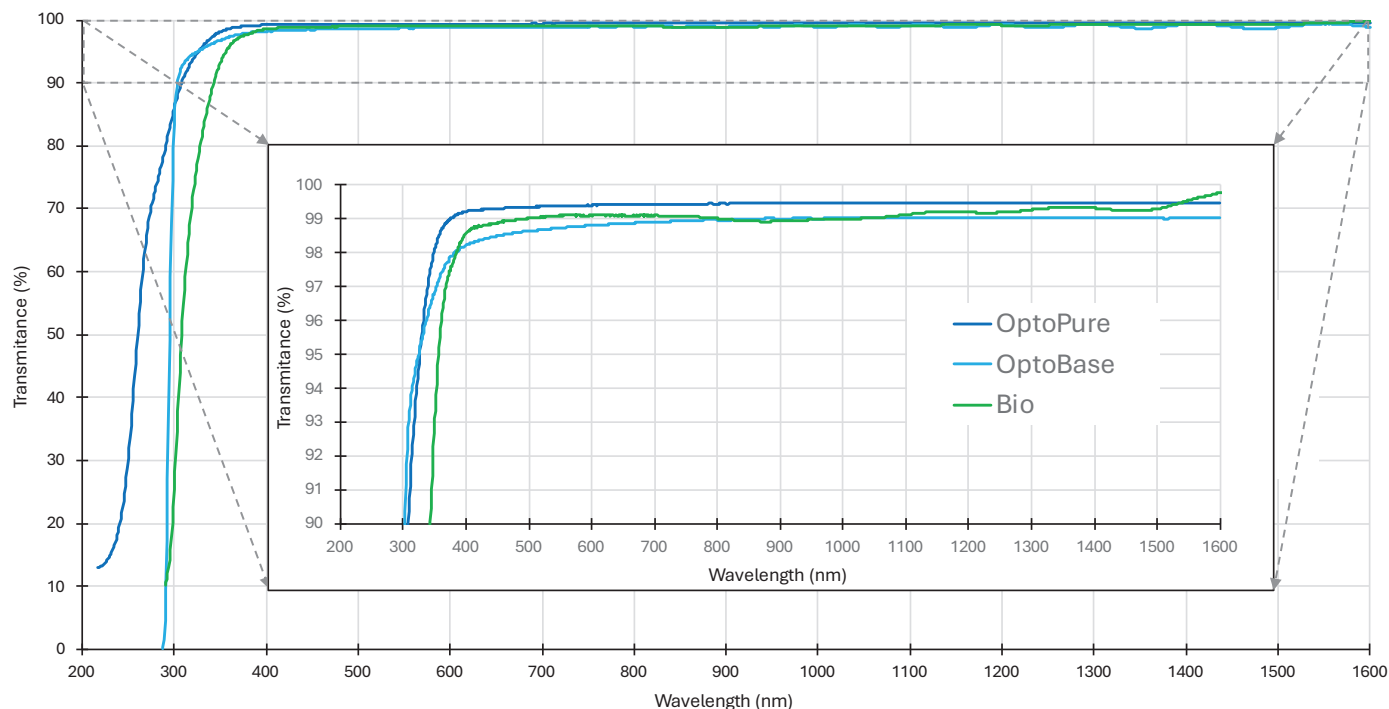
- ✓ **Fluorescence** - Absorption maximum at 374 nm, fluorescence emission maximum at 440 nm
- ✓ **Narrow spectral peak** - Full width at half maximum of only 50 nm
- ✓ **Low viscosity** - 820 mPa·s allows fast exchange for multi-material printing
- ✓ **Inspection of micro-structure** - inner inspection by fluorescence microscopy or 2PA microscopy

ResIQ LumiBlue is suitable for:

- ✓ Fluorescent markers
- ✓ Fluorescent microscopy
- ✓ Phantoms
- ✓ Multi-material printing



Transmittance spectra of ResIQ materials



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