

TECHNICAL DATA SHEET

- Product:** Alpha III™ Nano Light Cure Nano-Hybrid Composite
- Product Description:** Alpha III™ NANO is a light cure, Bis-GMA resin-based nano-hybrid composite containing fluorescence to provide duplication of the natural tooth surface. Alpha III™ NANO consists of 62.63% by volume of specifically synthesized inorganic fillers which range in particle size from 0.18 micron to 2 micron that provide exceptional wear resistance and radiant polishability. Alpha III™ NANO is available in 6 Vita® shades (A1, A2, A3, A3.5, B1, B2). All shades are radio-opaque for easy identification.
- Indications for Use:** Alpha III™ NANO is recommended for use in all anterior and posterior restorations.
- Appearance:** A homogeneous paste available in six Vita® and all shades are radio-opaque for easy identification.
- Curing Mechanism:** Light cured by applying an external energy activated Dental Blue Light with a minimum output of 600 mW/cm² and wavelength of 400 to 500 nanometers.
- Shelf-Life:** 30 months
- Filler Type:** Barium-alumino-boro-fluorosilicate glass and amorphous silica.

Filler % by Volume	62
Filler Particle Range (μ)	0.18 - 2
Average Filler Particle Size (μ)	0.7

Main Composition (%w/w):

Filler	64 – 84
Bis-GMA	6 – 18
Comonomers	8 – 21
Preservative	< 1
Colorant	< 1
UV light absorber	< 1
Photoinitiator	< 1

Physical /Mechanical Properties:

Water Sorption, μg/mm ³	20
Water Solubility, μg/mm ³	0.60
Diametral Tensile Strength, MPa	50
Compressive Strength, MPa	275
Flexural Strength, MPa	95
Radiopacity, 1 mm disk	equivalent to 1 mm aluminum
Polymerization shrinkage, %	2.6
Depth of cure, mm/2:	
Light shades (A1, A2, A3, B1, B2)	2.5
Dark shades (A3.5)	2.3

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