

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 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 minimum output of 600 mW/cm ² and wavelength 400 to 500 nanometers.
Shelf-Life:	30 months
Filler Type:	Barium glass, 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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