

bluephase G2 Curing Light (Ivoclar-Vivadent)
(Project #08-15) (10/10)



The bluephase G2 is described to provide 1200 mW/cm² irradiance with its 10 mm light guide and is said to possess the ability to polymerize all dental materials due to the development of their new polywave LED chip, which purportedly produces light in the 380-515 nanometer range. The bluephase G2 is advertised to have a quiet, internal cooling fan which allows lengthy periods of operation without shut down to allow for cooling as required with other LED units. This curing unit offers cordless function with lithium polymer batteries and is advertised to provide 60 minutes of function with a two-hour recharging time. In the event of low battery power, the bluephase G2 converts to corded power by connecting the charging base power cord to the curing unit's handpiece. Ivoclar-Vivadent also offers the bluephase meter, a battery-powered radiometer that is said to provide irradiance value feedback for all types of VLC units that possess a circular light guide.



Manufacturer:

Ivoclar Vivadent Inc.
175 Pineview Drive
Amherst, NY 14228
(800) 533 6825
(716) 691-0010
(716) 691 2285 FAX

www.ivoclarvivadent.us.com

Suggested Retail Price:

\$1,200.00 bluephase G2 (item #607920)

Contains:

- bluephase G2 Handpiece
- 10 mm light guide
- Charging Base
- Power cord
- Lithium polymer battery
- 50 bluephase sleeves
- Instructions for use

Government Price:

\$685.00 bluephase G2 (item number and contents as listed above)

ADVANTAGES:

- + Degree of cure somewhat enhanced as compared to a typical halogen curing light
- + Bi-modal spectral emission cures both CQ and near-UV-based photoinitiators
- + Most resins can be adequately polymerized in 10 seconds
- + Internal fan provides adequate cooling for function and prevents unit shutdown due to overheating
- + Competitively priced
- + High irradiance output: approximately 1000 mW/cm²
- + Long LED life compared with halogen bulbs
- + Long battery life with minimal loss of irradiance on a single charge
- + Allows two power modes (battery and corded)
- + Provides good intraoral access
- + Three program settings
- + Ergonomically-placed controls
- + Lithium-ion rechargeable battery
- + Protective eye shield included

DISADVANTAGES:

- Darker shades may require longer curing times than that stated by the manufacturer

SUMMARY AND CONCLUSIONS:

The bluephase G2 is a competitively-priced, quiet, lightweight, light-emitting diode (LED) curing light and was capable of providing continuous, 20-second exposures at high power for over 90 minutes with minimal loss of irradiance on a single battery charge. Depth of cure was similar to popular halogen- and LED-based curing units. The bluephase G2 possesses a bi-modal emission spectra that initiates both CQ and photoinitiators in the near-UV range. A ten-second exposure at the high power setting was found to adequately polymerize most resin composites but darker shades may require further exposure times. The bluephase G2's light guide was found to maintain irradiance over the first five-millimeter distance from the light guide exit port similar to other halogen and LED curing units evaluated by DECS. However, increased distances may require further polymerization times. During battery testing the bluephase G2 internal fan efficiently prevented any shutdown due to excessive heat to internal circuitry during continuous high-power exposures. Clinical users appreciated the cordless design, quiet operation, and high-irradiance output of the unit, reporting that the bluephase G2 was ergonomically designed and provided good intraoral access during restorative procedures. All of the clinical users rated the clinical performance of the unit above average, rating the bluephase G2 as "Excellent." The **bluephase G2** curing light is rated **Excellent** for use in US Air Force dental facilities.