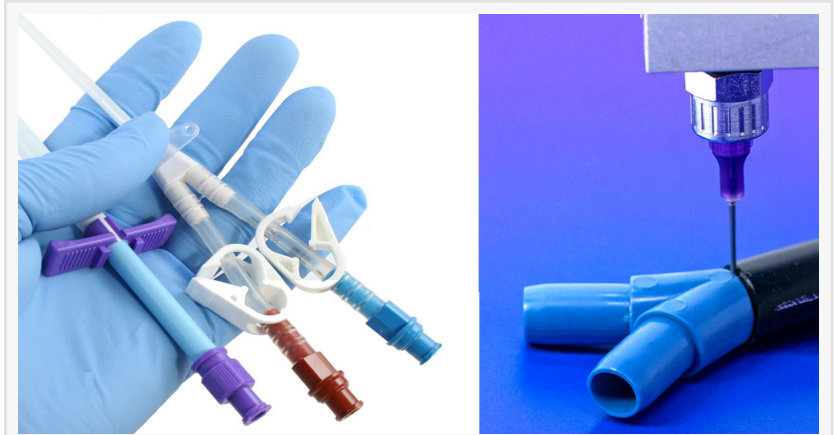


# Patent Granted for Dymax's HLC™ Technology

*Novel Adhesive Solution Offers Curing in Light and Darkness and Bonding to Various Substrates Including Opaque Materials Impermeable to Light*

TORRINGTON, CT, UNITED STATES, November 5, 2024 /EINPresswire.com/ -- [Dymax](#), a leading manufacturer of rapid curing materials and equipment, has been granted a patent for its HLC™ (Hybrid Light-Curable) adhesive platform. The new technology combines the optimal qualities of anionic polymerization and free radical chemistries into one formulation.



Dymax Receives Patent for HLC™ Technology that Enables Curing in Light and Darkness

The newly patented [HLC™ technology](#) aims to improve the curing performance of urethane (meth)acrylate compositions commonly used to formulate coatings, adhesives, sealants, and inks.

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HLC™ technology fills a gap that many manufacturers using light-curing technology face when bonding opaque substrates and is a major breakthrough for adhesion quality in the manufacturing process.”

*Dr. Ahmet Nebioglu, Dymax  
Sr. R&D Director, Global*

Primary advantages of HLC™ include fast cure, low-to-no blooming after proper light cure, better aesthetics, humidity resistance, and more flexible joints than ordinary cyanoacrylates.

While standard light-curing materials cure effectively using UV/Visible light, they often struggle in areas where the light cannot reach, leaving behind uncured areas. These shadowed regions not only compromise the reliability of the final product but can also weaken adhesive bonds over time.

HLC addresses the issue of incomplete curing in dark areas with rapid moisture/contact cure capability. Bonding to a broad range of substrates, including opaque and light-blocking materials, is also possible.

Due to the composition of their light-curing component, Dymax HLC adhesives form a cross-linked polymer framework, enabling the successful bonding of small gaps or larger joints. Light-curing also reduces the risk of "blooming," a common issue with cyanoacrylates, where a white residue forms at the edges of bond lines when they react with ambient humidity. Light-curing can significantly reduce the risk of blooming as the material cross-links before the monomer can volatilize.

Dymax [HLC-M-1000](#), the first adhesive in the series, is engineered for medical applications and meets several biocompatibility standards. Its light-curing capabilities allow for rapid curing in seconds with low-intensity light, optimizing performance even at ~20 mW/cm<sup>2</sup>. With an extremely low viscosity of 3 cP, the material is capable of wicking into extremely tight bond joints not typically accessible with other, higher-viscosity adhesives.

"HLC™ technology fills a gap that many manufacturers using light-curing technology face when bonding opaque substrates," said Dr. Ahmet Nebioglu, Dymax Sr. R&D Director, Global. "It balances the need for rapid cure in light or darkness while addressing the issues of blooming, low impact resistance, and limited long-term moisture exposure. This new technology is a major breakthrough for adhesion quality in the manufacturing process."

This advancement may provide greater product reliability for end users through improved curing, stronger bonds, and enhanced durability, contributing to the overall quality of finished components.

For technical inquiries about patented HLC technology, a team of Dymax application engineers and system integrators is available to develop customized dispensing solutions for users, assist with material handling challenges, and support customers throughout the manufacturing process.

#### About Dymax

Dymax develops innovative rapid and light-curable materials, dispense equipment, and UV/LED light-curing systems. The company's adhesives, coatings, and equipment are perfectly matched to work seamlessly with each other, providing design engineers with tools to dramatically improve manufacturing efficiencies. Major markets include aerospace and defense, medical device, and consumer and automotive electronics.

For additional information on Dymax, visit [www.dymax.com](http://www.dymax.com) or call us at 860-482-1010.

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