

# Glass Dyenamics shatters its own materials durability record

*Glass Dyenamics' single-layer electrochromic dye system achieves industry-leading 120,000 cycles over 4,000 hours under ASTM-E2141 durability conditions.*



TUCSON, ARIZONA, UNITED STATES,

May 2, 2024 /EINPresswire.com/ -- [Glass Dyenamics](#), a leading manufacturer of dynamic glass has announced today that it has broken its existing ASTM E2141 materials environmental durability record for its energy-saving dynamic glass solution. The ASTM E2141 durability testing, conducted on new [electrochromic](#) dye materials, shows near-zero optical performance degradation over 4,000 hours which is well within the 5% optical degradation limit standards of ASTM E2953. Testing is ongoing at the National Renewable Energy Laboratory in Golden, CO in partnership with the United States Department of Energy.

Glass Dyenamics' durability announcement today, its second record-breaking announcement in a year, proves the numerous advantages of single-layer dye-based electrochromic technologies over alternatives including three or more layers (multi). The Company's single-layer electrochromic dye systems deliver:

1. One electrochromic layer. This solves multi-layer electrochromic systems' iterative layer material development problem. New dyes can be developed and introduced without considering additional system layer changes or changing the dynamic glass fabrication process. This reduced complexity greatly expedites dynamic glass system development and commercialization.
2. Simpler fabrication. A single layer system reduces production material requirements, reduces the number of manufacturing process steps and related utilities usage, and requires no physical vapor deposition equipment. This reduces product production and capital costs at scale by up to 75% and 95% per square foot, respectively.
3. Superior customer value. Compared to alternative technologies, single-layer electrochromic dye systems offer customers affordability, 10x faster switching speed, privacy through 10x deeper coloration, and multiple tint colors. This delivers the 'cool factor' that drives customer interest; and

4. The industry's leading environmental profile. Single-layer electrochromic dye systems offer the dynamic glass industry's lowest embedded carbon solution with a patented product end-of-life recycling solution that reduce building scope 3 emissions. The product's wide solar energy (SHGC) modulation provides for a new paradigm of all season energy efficiency as compared with state of the art static glass.

"We are thrilled to announce our technological advancement and use this durability milestone as a reminder of our system's many advantages," said Anoop Agrawal, CTO of Glass Dyenamics, who is a named inventor on over 150 patents related to electrochromic technologies. "This technology is a quantum leap above alternatives and is the result of our team's decades of experience commercializing electrochromic automotive mirrors and evaluating dozens of other electrochromic technologies."

With this result, Glass Dyenamics continues to build upon its materials innovation and commercialization. This announcement follows Glass Dyenamics' recent distribution partnership announcement with leading regional door and window distributor Davis Window and Doors and announcement with the U.S. Department of Energy (DOE) and National Renewable Energy Laboratory (NREL), that its technology has surpassed the industry's key durability standard by 3x.

"Customers like our product's 'cool factor', on-demand privacy, high durability, industry leading energy-efficiency profile, as well as the fact that the final installed product costs less than static glass alternatives due to the up to 50% investment tax credit available from the Inflation Reduction Act," said Christopher Angelo, CEO of Glass Dyenamics.

For more information about Glass Dynamics, please visit [glassdyenamics.com](https://glassdyenamics.com).

About Glass Dynamics:

Glass Dyenamics develops and is commercializing breakthrough dynamic glass technology with a mission for everyone to be a part of the global clean energy transition. The Company is the first and only electrochromic manufacturer with an affordable product to prioritize sales to the residential market, which is the result of fundamental advanced materials breakthroughs that offer a new and vast opportunity for climate impact.

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To learn more about dynamic glass, visit [www.glassdyenamics.com](https://www.glassdyenamics.com).

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