



Black Diamond Structures

Black Diamond Structures opens new advanced Battery Testing Facility

Black Diamond Structures, a developer and manufacturer of innovative nanomaterial products and solutions for the lead acid and Li Ion battery market, recently announced the opening of its new advanced Battery Testing Laboratory. The lab is one of the most advanced facilities of its kind in the world and is a significant step in supporting the company's global customers along with its ongoing work to provide the most comprehensive performance data on the effects of its proprietary technology, MOLECULAR REBAR®, when added to a battery's active material.



Above: Left to Right: Dr. John HacsKaylo (CEO), Steve Swogger (Product Dev. Director), Dru Kefalos (CMO), and Tim Knaus (VP of Global Sales)

Right: Lab interior baths and circuits



Black Diamond Structures This Changes Everything

For further information
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Black Diamonds Chief Executive Officer, Dr. John HacsKaylo, explained, "We are making great strides in battery development by partnering with some of the largest manufacturers around the world. Using our highly advanced testing capabilities, together with the manufacturers we are building a vast base of scientific knowledge of battery performance when MOLECULAR REBAR® is introduced into the active material."



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Since its beginning in December of 2014, Black Diamond Structures has engaged with and is in various phases of testing and product commercialization with well over 100 lead acid battery manufacturers globally. A sizeable investment in testing capabilities has been an integral part in helping BDS keep up with the ever-increasing demand from its customers.

The new lab features 129 12-Volt testing channels and another 77 channels for testing below 12 Volts, allowing Black Diamond Structures to accelerate certain product development and solution optimization for key customers.

WHAT IT MEANS

Black Diamond Structures now boasts one of the largest and most advanced battery labs in the World for material suppliers servicing the lead acid battery industry.

Right: Customer battery wired and ready for testing



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Commenting on the importance and scope of the new Battery Testing Lab, Dr. Jeremy Meyers, Director of R&D for Lead-Acid Batteries, explained “We’ve observed and documented the improvements brought to battery performance with MOLECULAR REBAR® in tens of thousands of batteries built on full-scale production lines around the world. To meet rapidly growing global customer demands, we have made significant investments in testing, automation, and data analysis to help our customers optimize our technology for their batteries. “



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Notes to Editors

ABOUT MOLECULAR REBAR®

The MOLECULAR REBAR® technology is made up of discrete, open ended, and highly functionalized multi-wall carbon nanotubes (CNTs) that are free from catalysts and waste matter. The technology is a scientific breakthrough in CNTs, providing opportunities for development and commercialization of these innovative new materials for a wide variety of products and market segments. The addition of MOLECULAR REBAR® to a battery's active material significantly enhances mechanical, physical, and electrochemical properties.

Black Diamond Structures is currently working with well over 100 lead acid battery manufacturers across the globe to enhance performance utilizing this technology.

MOLECULAR REBAR® can easily be implemented into existing battery manufacturing processes efficiently and provide substantial benefits in most applications:

- Improving consistency in capacity
- Increasing charge acceptance
- Increasing cycle life

ABOUT BLACK DIAMOND STRUCTURES

Black Diamond Structures LLC is a joint venture between Molecular Rebar Design, a leading nanomaterial innovator, and SABIC, the world's second largest diversified chemical company. Created in 2014, Black Diamond Structures develops and innovates ground-breaking products and solutions for the energy storage, coatings, and composites industries using the MOLECULAR REBAR® technology platform.



Above: Venkat Subramanian (West and South Asia Commercial Sales) and Mohamed Sharif (West and South Asia Development Engineer) working the Black Diamond Structures Booth at PowerOn 2017 in India

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ABOUT OUR PARTNERS:

Molecular Rebar Design, LLC (MRD)

Molecular Rebar Design, LLC, based in Austin, Texas, was established to develop and commercialize a breakthrough form of modified carbon nanotubes (CNT's), called MOLECULAR REBAR®. These are the world's first CNT's that are disentangled from the usual clumped balls and individualized through a patent-protected process which enables significantly enhanced performance for a myriad of high-value materials.

SABIC

SABIC ranks as the world's second largest diversified chemical company. The company is among the world's market leaders in the production of polyethylene, polypropylene and other advanced thermoplastics, glycols, methanol and fertilizers.

SABIC's businesses are grouped into Chemicals, Polymers, Performance Chemicals, Fertilizers, Metals and Innovative Plastics. SABIC has significant research resources with 19 dedicated Technology & Innovation facilities in Saudi Arabia, the USA, the Netherlands, Spain, Japan, India, China and South Korea. The company operates in more than 45 countries across the world with around 40,000 employees worldwide.



Above: Black Diamond Structures manufacturing facility.. Currently with a capacity to produce 3 million liters of MOLECULAR REBAR® annually

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