

## Eco Solution Q: the fiber of choice for sustainability, performance and design

Shaw Contract is defining design through intelligent solutions for today's commercial market segments. Design plays an integral role in the physical beauty of a product, as well as the characteristics that make carpet last, perform and deconstruct for recycling.

Eco Solution Q® is the branded nylon fiber used by Shaw Contract for a majority of its commercial tile and broadloom carpet solutions. Since its introduction in 1996, Eco Solution Q has rapidly grown in the marketplace where it is known for its aesthetics, durability, flexibility and recyclability. This paper will outline Shaw's fiber expertise, the attributes of Eco Solution Q nylon and the fiber's strength in the marketplace.

### Fiber Expertise

As a part of Shaw Industries, Inc., the world's largest carpet manufacturer, Shaw Contract leverages its considerable infrastructure and capital resources to produce a fiber that meets the needs of today's corporate office, healthcare, education and retail environments. Shaw is vertically integrated, allowing it to control nylon polymerization, fiber extrusion, production and cost of its products, without sacrificing performance and style. Through its acquisitions of the fiber divisions of AMOCO, Honeywell and BASF, Shaw can produce over 1.1 billion pounds of fiber for its residential and commercial business, making it the largest carpet fiber manufacturer in the world. In 2015, more than 95% percent of the total yards of carpet produced by Shaw Contract were constructed with Eco Solution Q® nylon. Shaw believes in continuous innovation in its manufacturing and makes significant investments to increase the quality and capacity of its carpet and fiber producing capabilities.

The leaders within Shaw's fiber division are veterans of the fiber industry, averaging decades of experience in carpet and fiber research and development. This group's fiber science experts include Ph.D.s in polymer and textile chemistry, chemical engineers and Six Sigma experts. Shaw utilizes more than 40 fiber and fiber production patents related to producing its fiber and yarns. Vertical integration, capital investment and expert leadership give Eco Solution Q® a competitive advantage.

### Sustainability

Shaw Contract is committed to Cradle-to-Cradle design principles, whereby products are intentionally designed with the end in mind. Eco Solution Q® is nylon 6 fiber, which means that it can be broken down into caprolactam monomer, the building block for new nylon. Shaw's recycling capabilities are extensive, boasting the largest recycling program in the industry. The company collects post-consumer carpet through a national recycling network and processes used material through its internal portfolio of recycling processes - allowing the company to recycle 100 million pounds of carpet each year (more than 800 million pounds since 2006) keeping post-consumer carpet, or raw materials, from ever entering the landfill.

The recycling advantage of nylon 6, combined with performance and aesthetics without compromise, makes it the fiber of choice for the design community and end users. Eco Solution Q® contains 25 percent post-industrial recycled content, contributes to the LEED Green Building Rating System and facilitates Shaw to take responsibility of its product over the entire life of the product. EcoWorx products manufactured with Eco Solution Q® are Cradle to Cradle Certified products and contribute to LEED v4.

### Performance

Shaw is capable of producing fiber in a wide range of sizes and shapes. The engineered and modified trilobal fiber cross-section of Eco Solution Q® is used to maximize both performance and styling. Combined with other fiber characteristics, this shape has shown to make dirt less visible, hiding soiling until cleaning can take place, providing an advantage over other

fibers. Eco Solution Q® nylon leads the industry in optimizing denier per filament (DPF), which means that the filaments hold up better to wear from walking, wheelchairs and other stresses. The large DPF has optimal performance under severe wear testing. Eco Solution Q® also leads in tensile strength, the force that the fiber can withstand before breaking, contributing to a stronger carpet with superior wear resistance.

While fiber type contributes to the performance characteristics of a carpet, performance is not defined by fiber type alone. Performance is best measured by examining installed carpet, which accounts for how the product is manufactured. The advanced manufacturing methods in place at Shaw ensure that only high quality and durable products are shipped to its customers. Seven factors influence an installed carpet's performance and appearance retention: fiber properties, yarn construction, carpet construction, color and pattern collectively, backing construction, installation quality and proper maintenance. Shaw manages the first five characteristics and provides standards for installation quality and proper maintenance.

Solution Dyed Eco Solution Q® is colored by adding pigment to the melted polymer prior to extrusion, making the color an inherent part of the fiber. Solution dyed fiber resists color fading and is impervious to cleaning with bleach based solutions and other harsh chemicals. With over 200 color options, from bright, saturated colors to a full spectrum of neutrals, Eco Solution Q® offers an extensive color palette that is functional and beautiful. Carpet made with solution dyed fiber can be aggressively cleaned without fear of damaging its color. Eco Solution Q® fiber can also be beck dyed or skein dyed.

Leading flooring publications routinely poll facility managers from corporate, healthcare and education markets to gauge their fiber preference and product satisfaction. Facility experts consistently rank Shaw #1 in design, performance, service, quality and value (Floor Focus Magazine). Shaw Contract has also been awarded 'Readers Choice' by Today's Facilities Manager in the Fibers/Treatment category. Buildings magazine also ranked Eco Solution Q® as a top 100 product among all building materials for facilities managers. While Eco Solution Q® is rated 'excellent' in clean ability, stain resistance and stain removal, Shaw Contract backs the construction and integrity of its products with an industry-leading lifetime warranty. This non-prorated warranty covers abrasive wear, static protection, stain resistance, colorfastness to light and colorfastness to atmospheric contaminants. Proper care and maintenance will ensure that flooring products last, as well as protect facilities from costly disruptions in productivity to replace products. Shaw Contract provides extensive product care information, including on-site training visits.

## Summary

Shaw Contract products constructed with Eco Solution Q® nylon are performing in spaces across the globe. Carpet made with this tough, durable fiber stands up to the rigorous conditions of commercial environments - without diminished aesthetics. Shaw's recycling program provides multiple solutions for reclaiming and repurposing used material - keeping post-consumer carpet from ever entering the landfill. The recyclability of Eco Solution Q® ensures fewer raw materials consumed and less waste is created. Eco Solution Q® continues to grow as the fiber of choice for sustainability and performance in the commercial interiors market.

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