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SeaCell™: The natural fiber with the skin-caring properties of pure seaweed

You will be surprised to learn that textiles can include the best of seaweed, nourish your skin, and protect your body; all while also feeling incredibly soft. If textiles can do all that - and you will love that feeling - then they have the SeaCell™ effect.

The brand SeaCell™ of the fiber producer smartfiber AG has for many years been a recognizable term on the international textile market. SeaCell™ means wellness for the skin. SeaCell™ means immersing yourself and feeling good, day and night. The fiber stands for regeneration and lifestyle, and brings quality back into everyday life. It corresponds to the expectations of modern, active consumers. They want nature-based textiles with a positive effect on their skin, which SeaCell™ provides.

The SeaCell™ fiber with its skin-caring properties is needed more than ever on the market. It contains valuable seaweed and also enables an active exchange of material between the fiber and skin; this ensures a lasting feeling of well-being among its users. The fibers can be ideally used in all kinds of textiles and can already be found in numerous collections of renowned international providers. Their products provide wellness for the skin of their customers - thanks to the SeaCell™ effect.

SeaCell™ uses seaweed – the “fuel of the seas“ – for everyday, comfort promotional use in textiles

The origin of all the positive properties of the SeaCell™ fiber is located in the sea - a true fountain of youth with curative effects against many diseases. The sea is home to an unexpected variety of biologically and chemically interesting organisms. Even the traditional Chinese medicine men and the legendary Greek physician Hippocrates knew how to appreciate the healing power of the sea. After all, seaweed is considered the "fuel of the sea"; it has multiple talents and a positive impact on our health in many ways. In modern medicine, seaweed is appreciated for its skin-protecting and anti-inflammatory properties.

Seaweed contains more minerals, vitamins and trace elements than any other natural product and causes a positive stimulation of the entire organism. Seaweed stores and highly compresses the active ingredients of the sea, like amino acids, iodine and mineral salts. Thus, the active ingredients of 100,000 liters of seawater are contained in one kilogram of dried seaweed. Due to their high content of health-promoting elements, seaweed has versatility; including as a food additive. The high content of polysaccharides also makes it a popular ingredient in the cosmetics industry. Therefore SeaCell™ relies on seaweed as an elementary additive in a high quality fiber.

Brown algae from the pure ecosystem of Iceland

The SeaCell™ fibers contain brown algae called *Ascophyllum nodosum*, also known as rockweed or knotted kelp. They are made from the unique ecosystem of the Icelandic fjords. The islands' estuaries reach far into the mainland and usually harbor very steep slopes, and offer an untouched paradise for all land and marine animals. The fjords are sparsely populated. There is no waste and no ship trafficking that can pollute this naturally-sustaining microcosm. Therefore Icelandic seaweed contains little to no pollutants and represents the highest quality. The seaweed in the SeaCell™ fiber is authorized under the strict guidelines of the United States, even in the food market. The fiber is certified by the USDA (U.S. Department of Agriculture).

The Icelandic seaweed is rich in vital substances. The main reason is Iceland's geothermal water, which constitutes an important part of the island's unique ecosystem. The geothermal water has its origin 2000 meters deep in the sea, where temperatures reach 240 °C and the pressure is 36 times greater than on the Earth's surface. There the sea water comes into contact with cooling magma, where it absorbs large amounts of various minerals.

Advantages: revitalization and combat of free radicals in conjunction with softness and care - this is the SeaCell™ effect

The SeaCell™ fiber contains the most active compounds of the Icelandic seaweed - Vitamin E, for example - and then uses the secrets of the sea to give to the wearer. The seaweed in SeaCell™ protects against environmental factors and reduces skin damage and premature skin aging caused by free radicals. Free radicals interfere with important functions in the body and promote the aging process. Nature has developed its own protection against free radicals: the antioxidants. Antioxidants include certain vitamins, minerals, enzymes and phytochemicals. These agents react quickly with aggressive oxygen compounds and render them harmless. SeaCell™ fibers and textiles have exactly these properties, and their ability to fight free radicals effectively has been tested by the University of Jena through ABEL® (Analysis By Emitted Light).

In addition to this skin-protective property SeaCell™ lends every fabric a distinctively supple and soft feel. Anyone who wears the textiles will feel that typical wellness effect on their skin, and once experiencing that feeling will not want to do without it. In our often hectic everyday lives, SeaCell™ provides comfort and care, all while letting you enjoy the calming effect the seaweed has on your skin. Rejuvenate your body and soul so much better from daily stress. SeaCell™ - time to relax.

The special combination of exceptional softness together with gentle care and protection for the skin that SeaCell™ offers brings the best of nature back to the consumer. Here is another testament to the SeaCell™ effect: it meets all requirements according to Oeko-Tex® Standard 100, class 1, and is safe enough for baby products.

Sustainable harvest of the SeaCell™ seaweed

smartfiber AG puts great value in using careful practice while reaping the SeaCell™ seaweed on Iceland. It is important that a certain part of the seaweed is cut off above the regenerative region only once every four years. The cutting of the upper portion of the seaweed sheets will ensure the seaweed to sprout once more. For this, smartfiber AG employs special harvesting machines with blade wheels that do not affect the ecosystem. The obtained seaweed sheets are then dried in a natural process and coarsely chopped. They are left completely untreated and as a result retain their biological compounds. The Executive Board of smartfiber AG was completely persuaded when observing this sustainable harvesting technique on location in Iceland.

The technology: Cellulose + seaweed = SeaCell™

smartfiber AG has succeeded with SeaCell™ after years of intensive research to develop a fiber made from renewable resources. This cellulose fiber serves as a host for the seaweed, and therefore also contains the seaweed's revitalizing properties for the skin. It is produced through the natural lyocell process, which is an environmentally friendly production method. The lyocell process is virtually closed and integrated into the nature cycle process, and meets the expectations of an industry of the future. This is also why the European Union awarded the procedure the European Environmental Award 2000 in the category "technology for sustainable developments".

Thanks to this technology the sea can be experienced up close - in the truest sense of the word. The valuable ingredients offer an indescribable feeling of well-being. This feeling is retained even after numerous washes. SeaCell™ ensures a healthy combination of comfort, numerous processing options, and good compatibility with other fibers in crocheted fabrics and nonwovens.

The areas of application for SeaCell™ – comfort and well-being for clothing with added value

SeaCell™ fiber stands for the highest comfort and an environmentally conscious lifestyle. It corresponds to the expectations of modern, active consumers who prefer nature-based clothing that is also good for their well-being. Whether at work, at home, or during aerobic activities; whether for babies, children, or adults: SeaCell™ cares for your skin anytime and anywhere. The fibers can be used in various areas of applications - from fashion clothing to home textiles, and more.

Because of their extraordinary properties to protect and nourish, these fibers are suitable for all textiles that come in contact with the skin. During physical activity the fiber offers breathability and nourishment for the skin. This holds true also for medical and semi-medical applications, business applications, sports and casual wear, underwear, and the home textile industry. Therefore SeaCell™'s proactive, nature-based textiles are greatly suitable for those with skin-dependent needs. For example, the fiber allows for a better quality of life for those suffering from allergies or from skin conditions like atopic dermatitis. Textiles containing SeaCell™ feel natural and gentle to the skin even when blended with synthetics.

Excellent quality - tested and confirmed by independent institutes

Numerous tests at independent institutions have confirmed the effects of SeaCell™ fiber. Various certificates prove the SeaCell™ effect.

Both the SeaCell™ fiber and the textiles made from this particular fiber have to undergo various tests to receive their labels. These tests guarantee the effect of the nutrients through the active exchange of material between fiber and skin. For this reason all fabrics are re-examined after the completion of testing for the necessary nutrient content. When they meet the criteria, the products receive the SeaCell™ label as a seal of quality. It makes them instantly recognizable as products with a unique feature, and makes them a real added value for customers.

All certificates and tests are listed on the website of smartfiber AG www.smartfiber.de in the “customer center”.

About smartfiber AG: smartfiber AG, with its headquarters in Rudolstadt (Thuringia, Germany), was founded in 2005. The company develops and markets lyocell fibers with different functionalities for the international market. The technology is based on research and development of the renowned Thuringian Institute for Textile and Plastics Research (TITK) in Rudolstadt, Germany. smartfiber AG succeeded with permanently incorporating natural additives into cellulosic fibers known as lyocell, with positive effects on the skin and body. These high-tech fibers with the internationally protected trademarks SeaCell™ and smartcel™ sensitive are today the basis for innovative products in the textile and nonwoven industry. On this account smartfiber AG sets greatest value on quality controls implemented by independent institutes and laboratories. To ensure the premium processing of the fibers, the company cooperates with selected international production partners in the entire textile-processing industry. Since late 2011, Lenzing AG, the world market leader for industrially produced cellulose fibers, exclusively produces the lyocell fibers developed by smartfiber AG. The fiber technology received several awards; among others, the famous “Deutscher Innovationspreis” (German Innovation Prize) in 2010. The Board of Directors consists of CEO Michael Kohne and COO Thomas P. Daue. For further information please go to www.smartfiber.de, www.facebook.com/smartfiberAG, www.twitter.com/smartfiberNews and www.youtube.com/user/smartfiberAG.