

The future belongs to wind



On coastal plains, on the high seas, or in the mountains – wind turbines are everywhere. After all, wind power is the world's cleanest, safest, and most environmentally friendly sources of energy, which means it will be taking on a central role in energy generation of the future. The transition to sustainable energy sources serves as the framework for one of the most important, forward-looking projects of our time: between now and 2050 Germany will gradually replace conventional energy sources such as nuclear power and coal with renewable energy. As a result, the trend is toward bigger and bigger turbines that can harvest more and more wind – according to one study of the European Wind Energy Association, rotor diameter will reach 252 meters by 2020 for a rated power output of 20,000 kilowatts. But size is not the only reason why special attention is paid to the rotor blades of a wind turbine, which convert wind energy into mechanical energy. During their service life of ten or more years, the blades will have to withstand many weather extremes and survive sunlight, storms, and rain unscathed – and they have to do that with the rotor tips moving at speeds of up to 400 kilometers per hour. High-performance solutions from Evonik Resource Efficiency play a prominent role in the production and operation of durable rotor blades and, as such, make an important contribution to environmentally friendly energy generation throughout the entire world. A cross-linker developed for the liquid epoxy resins used in rotor blades, VESTAMIN® makes rotors extremely robust and long-lasting, and reduces moisture absorption. For a longer service life of the gearboxes with fewer maintenance intervals, NUFLUX™ technology, a synthetic base oil as a key ingredient in lubricants, has received

the approvals required from all major gear manufacturers and, with Resource Efficiency, provides its customers with high, in-depth formulation expertise provides.

AEROSIL® and the Dynasytan® bonding agent further improve the mechanical properties and aging resistance of adhesives in rotor blades, which is a great advantage especially for installations built at sea. Because of the constant wind tunnel and salty sea air, the environmental conditions there are much rougher than inland.

The name says it all: Resource Efficiency GmbH is where Evonik bundles its global specialty chemicals business, supplying customers in a variety of industries with environmentally friendly system solutions that make efficient use of energy and raw materials. The segment's motto?

More value. Less resource.

More value. Less resource. A response to two megatrends – sustainability and resource conservation – this mission is about protecting the planet and securing the well-being of future generations.

VESTAMIN®, NUFLUX™ DYNASYLAN® und AEROSIL® are part of the Resource Efficiency product portfolio.

Resource Efficiency delivers sustainability and longevity.

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