

Engineering Plastics for Renewable Energy Generation





WE HELP YOU EXPLOIT ENERGY AT ITS FULL VALUE

Abrasion, erosion and wear of critical parts in a facility and the equipment within the production chain cause immense costs. Related maintenance services and production downtime can impact the financial performance of a project and business significantly.

Valves, bearings, seals, guiders and rolls... Our engineering plastics solutions can increase equipment life time, improve mean time between repairs, reduce waste and limit replacement needs. Our plastics meet the highest challenges concerning temperatures, chemical resistance, corrosion, wear and stability.



ENDLESS POWER SOURCES – OPPORTUNITIES FOR ENGINEERING PLASTICS

Alternative energy sources account for a significant part of the total global energy production today and their importance is constantly increasing.

Engineers are using our plastics worldwide to improve product quality and increase profitability of manufacturing processes and equipment.

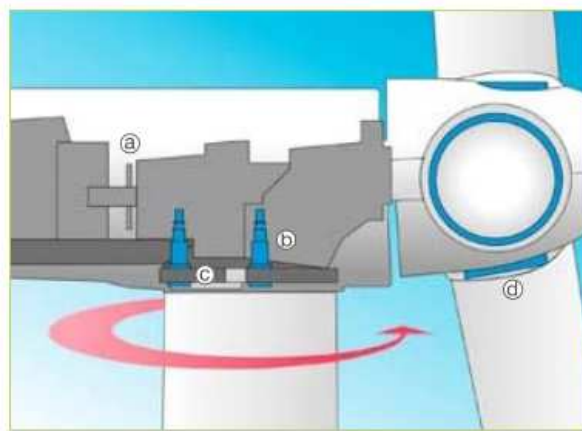
Parts and components made from our materials support the technical development in all major sectors of alternative energy generation.

Preserving and maximising energy is your and our business, and in everyone's mind today. No matter if your focus is photovoltaic or wind energy, tidal, fuel cell or biogas power, our superior solutions help you maximise productivity and safety – today and in the future.

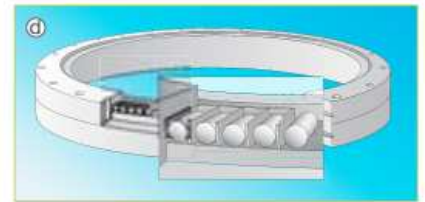


Worldwide wind farms are rising from the Earth and oceans, helping to fill the increasing demand for electricity. We work alongside major equipment manufacturers to improve the overall efficiency and reliability, and to substantially reduce the need for e.g. giant cranes used for emergency maintenance or very costly ongoing or supplementary greasing of the turbines.

TYPICAL APPLICATIONS FOR PARTS AND COMPONENTS MADE OF QUADRANT PLASTICS



- a) Power transmission sealing ring
Ertalon® 6 PLA, Nylatron® GSM
- b) Yaw brake pucks in yaw braking system
Ketron® PEEK HPV, Techtron® HPV PPS
- c) Thrust washer ring segments in yaw bearing
Ertalyte® TX
- d) Rotor pitch bearing elements, ball bearing
spacers Nylatron® 703 XL, Ertalon® 6PLA



Property profile of Quadrant materials

- High wear resistance
- High temperature resistance
- High load bearing capability
- Self-lubrication
- Dimensional stability
- Low coefficient of friction
- Low weight

Customer benefits

- Higher productivity
- Longer life in use
- Reduced maintenance costs
- Reduced noise
- Less downtime

Recommended Quadrant Products

TIVAR® TECH 7000
 TIVAR® Ceram P
 Nylatron® LFX, Nylatron® NSM
 Nylatron® 703 XL
 Ketron® PEEK
 Techtron® HPV PPS
 Ertalyte® TX

Parts and components

Sliding ring segments in yaw bearings
Power transmission sealing rings
Wear pucks in yaw bearing and breaks
Bearing cages for giant ball bearings
Bearing elements and spacers



Our solutions help producers to improve productivity through a higher level of automation in the manufacturing and handling process. Thinner wafers require even more careful handling and exact positioning to lower breakage rates. Our materials allow a higher chemical concentration or more aggressive chemicals to shorten cleaning and etching time, and to increase deposition quality, resulting in improved efficiency of the solar cells.

TYPICAL APPLICATION ENVIRONMENT FOR COMPONENTS AND PARTS MADE OF PLASTICS

Photovoltaic production lines

- ❖ Crystalline silicon cells
- ❖ Amorphous silicon panels
- ❖ Micromorphous thin film panels

Photovoltaic installations

- ❖ Bushings in solar tracking systems

Property profile of Quadrant materials	Customer benefits
<ul style="list-style-type: none"> ■ High wear resistance ■ High temperature resistance ■ Low out gassing ■ Self-lubrication ■ Dimensional stability ■ Purity ■ Friendly surfaces ■ Low coefficient of friction ■ Excellent chemical resistance 	<ul style="list-style-type: none"> ■ Longer life in use ■ Higher output ■ Reduced cleaning and preparation effort ■ Improved cell efficiency ■ No contamination risk ■ Higher reliability ■ Lower maintenance costs

Recommended Quadrant Products

Symalit® ECTFE, Symalit® PVDF, Symalit® PFA
 Fluorosint® HPV, Fluorosint® 500
 Ketron® PEEK TX, Ketron® PEEK 1000
 Ertalyte® TX
 Techtron® HPV PPS
 Duratron® PBI

Parts and components

Wafer holder	Rolls
Wet bench liners	Spray units
Bath recipients	Sprockets/Guides
Wafer combs	Bushings
Grippers	Sliders
Tips	Suction heads

Renewable Energies



Wind Power Generation



Solar Power Generation



Tidal and Waves Power Generation



Biogas Power Generation



Fuel Cells Power Generation

Contact us for more information and for individual consulting.