

ADVANCED POLYMER SOLUTIONS

FOR WIND ENERGY

Enhancing Durability & Performance in Renewable Power Applications

SURLON INDIA

www.surlonindia.com | www.surlongroup.com

Surlon
Vision | Innovation | Engineering

Material Solutions for Efficient & Reliable Turbines

As wind turbines grow larger and more powerful, the components inside them face demands greater than ever before. Surlon designs polymer solutions built for this next generation, bearings, bushings, insulation sleeves, and yaw system parts engineered to perform reliably for decades to come. We believe in a future where wind energy powers more of the world, and where every turbine runs longer with less downtime. That is why our materials are tested against some of the harshest conditions on earth, from saltwater and extreme temperatures to constant vibration, so they are ready for whatever the next era of renewable energy demands.

Why Surlon Polymers Are Ideal for Wind Energy Applications

01

Lightweight

Improves energy efficiency and supports larger, more powerful turbine designs

02

Corrosion Resistance

Essential for offshore applications, protects against saltwater degradation

03

Thermal & Electrical Insulation

Ensures performance stability under extreme temperature ranges.

04

Durability

Withstands wear, fatigue, impact and high-stress loads for extended service life.

05

Cost-Effective

Reduces long-term maintenance and operational costs

06

Noise Reduction

Dampens vibrations, enabling quieter turbine operation

07

Sustainability

Many grades are recyclable and support environmentally conscious design goals

08

Low Friction

Materials offer non-stick, smooth movement with low coefficient of friction

09

Mechanical Strength

Resists deformation and maintains stability under high load conditions

10

Self-Lubricating

Ideal for extreme conditions where traditional lubrication isn't feasible



BUILT FOR

Onshore & Offshore

- Saltwater corrosion
- Offshore platforms with high humidity
- High altitude sites with thermal extremes
- Coastal regions with sand & dust erosion
- Remote sites requiring low maintenance reliability
- Long exposure to UV, moisture and temperature cycling

Turbine Component Map





Pitch Cylinder Friction Disc
Rotor Hub



Lubrication Ring
Gearbox

Parts For The **YAW RING** System



YAW GREASE RESERVOIR



RADIAL SLIDING PLATE



AXIAL SLIDING PLATE



AXIAL PAD – BLOCK



AXIAL PAD



RADIAL PAD



YAW RING BASE SCRAPER

Materials Properties

PROPERTY	METALON® – PA6	METAPET® – PET
Density	1.13–1.15 g/cm^3, lighter	1.38–1.40 g/cm^3, denser
Impact Resistance	Excellent, absorbs shock	Moderate, more rigid
Moisture Absorption	1.2% Moderate	0.07% Very low
Dimensional Stability	Good	Very high, stays rigid under load
Friction & Wear	Good, improves with additive grades	Naturally low friction, self lubricating

Where METALON® is used

Parts that take impact or repeated stress, where toughness and shock absorption matter most.

Where METAPET® is used

Parts needing precision and low friction, where rigidity and dimensional accuracy matter most.



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