



Trelleborg Industrial Antivibration Systems



Windfarm Technology



Polymer Solutions in Partnership

Trelleborg is a global industrial group exclusively focused on polymer technologies. Operating in 40 countries, employing 20,000 people and with annual sales of approximately €2.5 billion, Trelleborg consists of four business areas:

- ▼ **Trelleborg Automotive**
- ▼ **Trelleborg Wheel Systems**
- ▼ **Trelleborg Sealing Solutions**
- ▼ **Trelleborg Engineered Systems**
(of which Trelleborg Industrial AVS is a part)

Trelleborg Industrial Antivibration Systems (TIAVS)

Trelleborg Industrial AVS is a world leader in the design and manufacture of rubber/metal bonded components for noise and vibration isolation in engine mounting and suspension systems across a wide variety of industrial, engineering and power generation applications. The head office in Leicester, UK also houses the main Technical centre and extensive research and development facilities. Production is divided between Europe, India and China and all plants are approved to ISO 9001:2000 and ISO 14001.

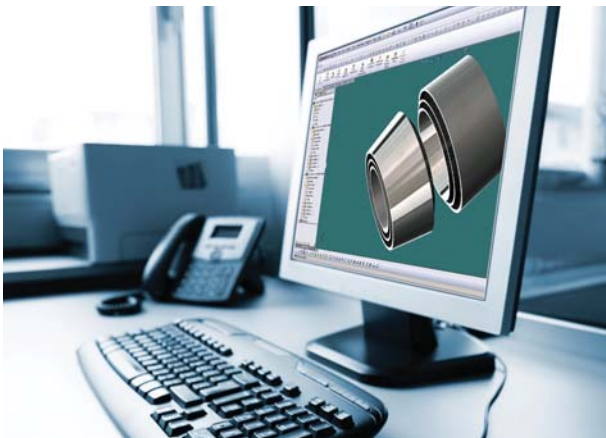
The active catalogue of designs and polymer formulations is a benchmark for the world's anti-vibration industry. In the power generation sector, Metalastik and Novibra-branded components are specified for mounting and isolating engines, gearboxes, ancillary equipment such as pumps, generators and air conditioning units, electronic equipment and instrument panels. However, even more important than the range of bearings, suspension bushings, mountings and couplings, is the experience, engineering and development capability embodied in Trelleborg Industrial AVS.





Customer Solutions

What makes Trelleborg Industrial AVS stand out is its ability to develop solutions tailored to the real needs of a customer and a specific application. No two installations are identical in terms of noise and vibration, particularly in a technology such as windfarms, where topography, meteorology and the sensitivity of local populations all play a part.



Today, OEMs often provide data relating to the design and specification of the turbine, including the structural characteristics and known/predicted performance. Our Applications team works closely with the customer's own engineers modifying standard solutions or developing custom components, measuring and testing both before and after installation.

Sophisticated test and measurement equipment both in Leicester and deployed in the field allows Trelleborg Industrial AVS to analyse prototypes and measure the effect of different designs and modifications within the context of the whole system.

Stringent manufacturing and quality disciplines ensure that Trelleborg products continue to meet specified performance standards throughout their working life. A comprehensive record of all parts, compounds and components provides full traceability and Trelleborg Industrial AVS is able to provide noise and vibration analysis on turbines in the field to customers who need this support.

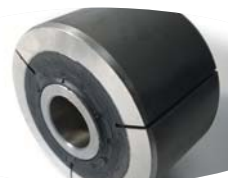
Experience and Reliability

Trelleborg Industrial AVS has been supplying anti-vibration bearings to the wind energy sector ever since the 1990s without a single failure. Since the first British application at Cemmaes in Wales, Trelleborg anti-vibration products have been specified by leaders in power generation and windfarms around the world.

During this time, Trelleborg Industrial AVS has been responsible for a number of technical innovations, including the Spherilastik "teeter" bearing which was originally introduced as a noise attenuation feature to counter one of the most common causes of public concern. It works by allowing the rotor blade to tilt on its hub, so counteracting the see-saw motion caused by gusting wind. In addition to acting as a resilient spherical joint, the compact, precisely formulated rubber/metal component also keeps vibration to a minimum. Spherilastik bearings are designed for un-lubricated, maintenance-free operation and have a long track record in demanding applications where a high duty bearing of compact size is required.

With the rapid expansion of the industry, Trelleborg Industrial AVS' expertise in the design of custom solutions has come to play an increasing role. We now frequently design complex isolation systems that will bring a windfarm's overall noise levels within specified and environmentally acceptable norms. In one typical package, a combination of Spherilastik and Metalastik® Cushyfloats achieved a reduction of 4 dBA in structure-borne noise.

In the relatively short history of the wind power industry, Trelleborg Industrial AVS technology has travelled round the world. For example, Trelleborg's Spherilastik bearings play a key role within the pitch-teeter mechanism of the revolutionary two-bladed turbine from Windflow Technology of New Zealand. The Trelleborg bearing not only suppresses noise and vibration but also provides articulation, helping to reduce bending forces on the turbine shaft, gearbox, tower and foundations, which can therefore be lighter and less expensive.



Technology you can trust...

Trelleborg Industrial AVS believes that its strength lies in the ability to work in partnership with the customer. TIAVS focuses its resources of advanced technology and design on the customer's real and specific needs. Our know-how, skill and specialist expertise delivers cost-effective solutions and intelligent innovation.

We work to understand the environment in which you operate and the performance requirements that it dictates. Our reputation stands on products that you can rely on to perform in the most extreme conditions.

Working in close co-operation with the customer, our R&D team is constantly improving the function, durability and service life of Trelleborg products. Trelleborg Industrial AVS uses state-of-the-art FMEA and simulation techniques to assess and overcome future challenges. Constantly looking for new and alternative materials, Trelleborg aims to advance polymer technology and develop the products of the future, ready to meet the life-expectancy and environmental demands of our expanding global customer base.



For more information please contact:
sales@flexico.nl

Alternatively please visit our web pages: www.flexico.nl



Flexico Technische Handelsonderneming B.V.

Achterzeedijk 57-8
2992 SB Barendrecht
The Netherlands
+31 (0)180 624 589