

# How to avoid oil leakages and the ingress of water, salt and dust?



Explore how you  
can secure an  
optimal sealing  
in wind turbines

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**Tested and documented  
sealing solutions**

Want to **benefit** from  
**durable sealings** that  
can **withstand hard**  
**conditions**?

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... we have made it **easy for you** - with  
**long-lasting sealing solutions** made for  
an industry more vibrant than ever.





## Blades

Benefit from DAFA's sealing solutions that enhance the design and strength of the wind turbine blades, making them last longer.

Choose DAFA's sealing solutions for blades to prevent oil and water from passing through the joints around the rotating pitch systems.



## Nacelle

Benefit from better performance and less maintenance with DAFA's quality solutions for all sealing needs in the nacelle. This includes keeping vital parts of the nacelle, such as the rotating parts, free of salt, sand, water, and dust, as well as efficient sealing of cables and pipes penetrating walls.

We also provide flexible solutions to protect against shear stress and absorb the tolerances where different materials are joined.




## Tower

Benefit from increased service life and less maintenance by selecting the right sealing solutions for the wind turbine tower. Avoid the entrance of salt, sand, water, and dust by using DAFA's sealings for joining tower sections.

Count on our solutions to efficiently seal between the nacelle bottom cover and the top of the tower and sealings for inside the tower, so you prevent oil from leaking down inside the construction.

**Draw on our extensive materials knowledge. Our expertise and insight make us a constructive and innovative partner**





**Solutions to  
withstand hard and  
tough weather  
conditions and oil  
leakages**



# Quality is key in an industry as **vibrant as ever**

The performance of a wind turbine depends on the combined performance and reliability of all components in the construction. Whether you are a manufacturer, supplier, or any other stakeholder in the wind turbine industry, you have much to gain from always using optimal sealing solutions.

Protecting both the inside of the wind turbine and its surroundings makes sealings essential components in all wind turbine parts.

**Prevent extensive and costly consequences** such as system breakdowns, excessive maintenance needs, and downtime by choosing quality sealings that properly protect against oil leakages and the entrance of water, salt, sand, and dust.

Are you facing increased demands for even more durable solutions due to the extensive development in the wind turbine industry? DAFA can help you get ahead of the curve.

We invest heavily in innovation and constantly challenge ourselves to **develop more sustainable solutions**. Rely on our thoroughly tested products to deliver excellent performance and levelized cost of energy.

More than 100.000 onshore and offshore wind turbines globally are built with DAFA's solutions. Based on 30 years of experience in the industry, we know what matters to the industry - and to you.

With DAFA as your supplier of sealing solutions, you gain a strong business partner who values close collaboration and is driven by the **great results we achieve together**.

## Gaskets, profiles, and sealings strips

To withstand stress, improve safety, and help extend the service life of the products, they are part of.







# DAFA supplies solutions to some of the world's largest wind turbines

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*We have close, long-standing business relationships with most of the largest global wind turbine manufacturers and suppliers. If you are interested in becoming our next partner, we would like to talk about how we can optimize your business.*

- Thomas Bønnelykke-Behrndtz, Key Account Manager  
**DAFA Group**

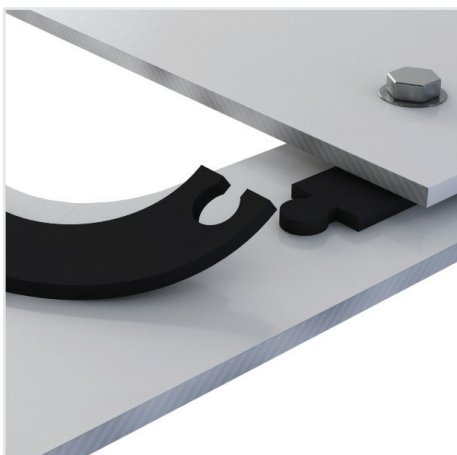
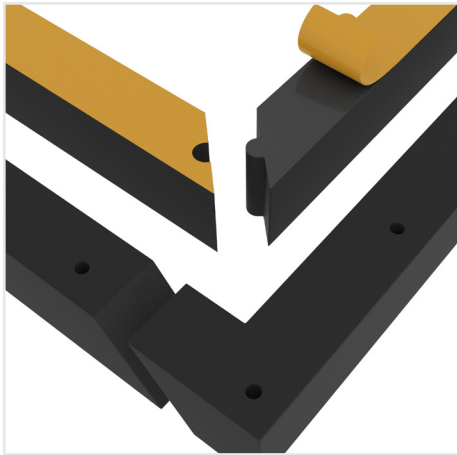


# Create the **perfect seal** between **different materials**

It can be challenging to **prevent water, salt, sand, and dust from entering the wind turbine** when different materials meet. Our **special gaskets** for aluminum, fiberglass, steel, and other structures **provide the optimal seal.**

## Advantages

- Flexible products that absorb tolerances
- Solutions that lead to optimized durability
- Quick and easy mounting
- Adherence to steel, fiberglass, and other materials



DAFA Soft, DAFA Cell, DAFA Flex, cellular rubber profiles, and self-adhesive EPDM profiles are some of our tested and proven products used as gaskets in a variety of structures.




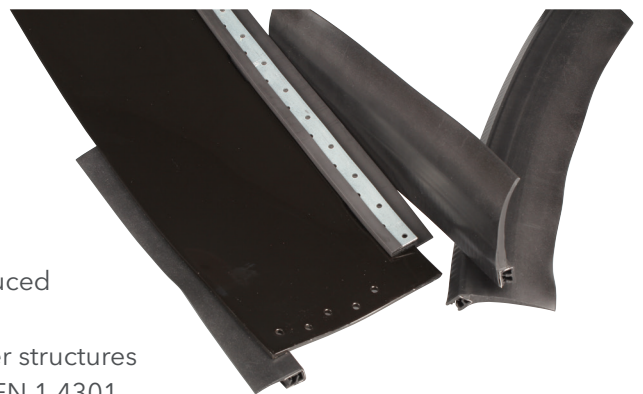


# Seal easily rotating parts from both ingress and leaks

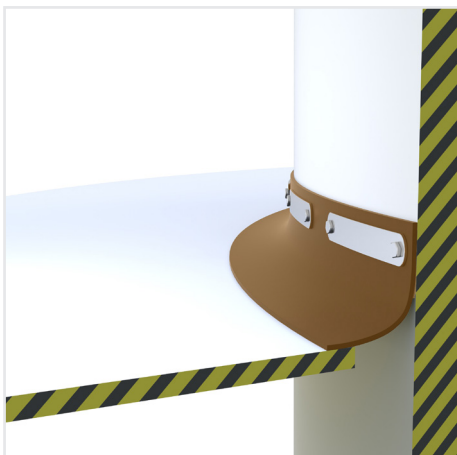
DAFA RotaSeal® is **designed for rotating parts** in the wind turbine and **prevents salt, sand, water, and dust from entering vital parts**. Use also DAFA RotaSeal® to **avoid leakages** coming from the turbine. The solutions **meet the most stringent requirements** for sealing the wind turbine.

## Advantages

- Long-lasting and durable solutions
- Fast and safe mounting
- Efficient absorption and equalization of tolerances
- Designed with a focus on low friction and abrasion
- Dampening of cold, heat, and sound
- Reduced entrance of salt, sand, water, and dust
- Optimized uptime, as the ingress into critical parts is reduced
- Designed for several constructions
- Ideal for fiberglass, steel, and aluminum flanges and other structures
- Steel inserts in profiles are produced with stainless steel EN 1.4301
- Tested up against common hydraulic and gear oils, antifreeze fluids, and greases according to DIN 53504
- Tested for abrasion properties according to DIN ISO 4649
- Tested for wear according to ASTM G99



DAFA RotaSeal® solutions are designed for optimal long-life sealing solutions for rotating parts in wind turbines.



*DAFA RotaSeal® PUR S sealing for rotating parts. Mechanically fastened on the tower or nacelle bottom cover.*

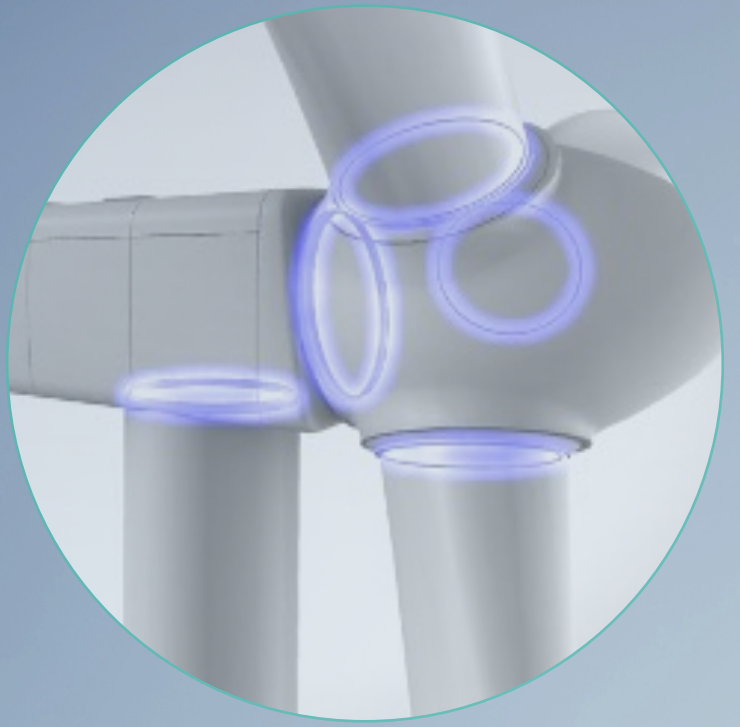


*DAFA RotaSeal® Straight Profile sealing for rotating parts. Mechanically fastened on the horizontal flange on the nacelle bottom cover.*



*DAFA RotaSeal® Angle Profile sealing for rotating parts. Mechanically fastened on the vertical flange on the nacelle bottom cover.*





**DAFA RotaSeal®**  
**Preventing particles from  
entering critical parts**



**DAFA supplies  
solutions to some of  
the world's largest  
wind turbines**



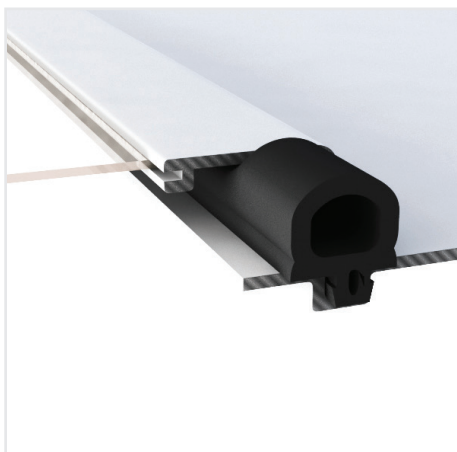
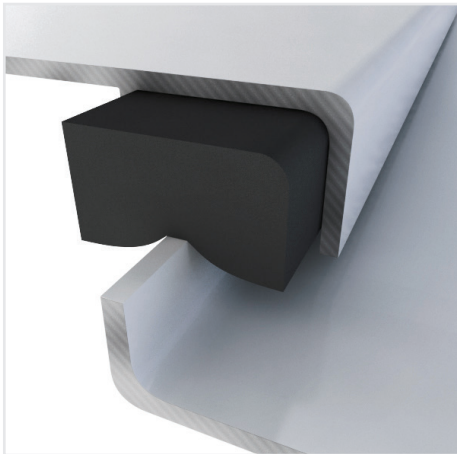


# Sealing of **large surfaces** – ideal for roof hatches

The roof hatch of the nacelle has **large surfaces with large tolerances**, which must be sealed and capable of diverting water. DAFA offers standard solutions, but we also design and produce customized solutions to **fit your specific needs**.

## Advantages

- Solutions that lead to optimized durability
- Capable of absorbing large tolerances and movements
- Based on proven and tested technology and materials
- Fast and safe mounting



EPDM cellular rubber gaskets and large EPDM profiles are particularly suitable for large roof hatches.

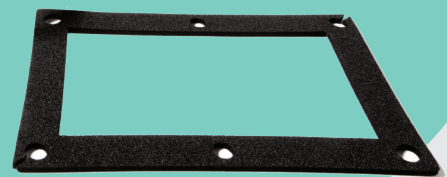
## Folding gaskets

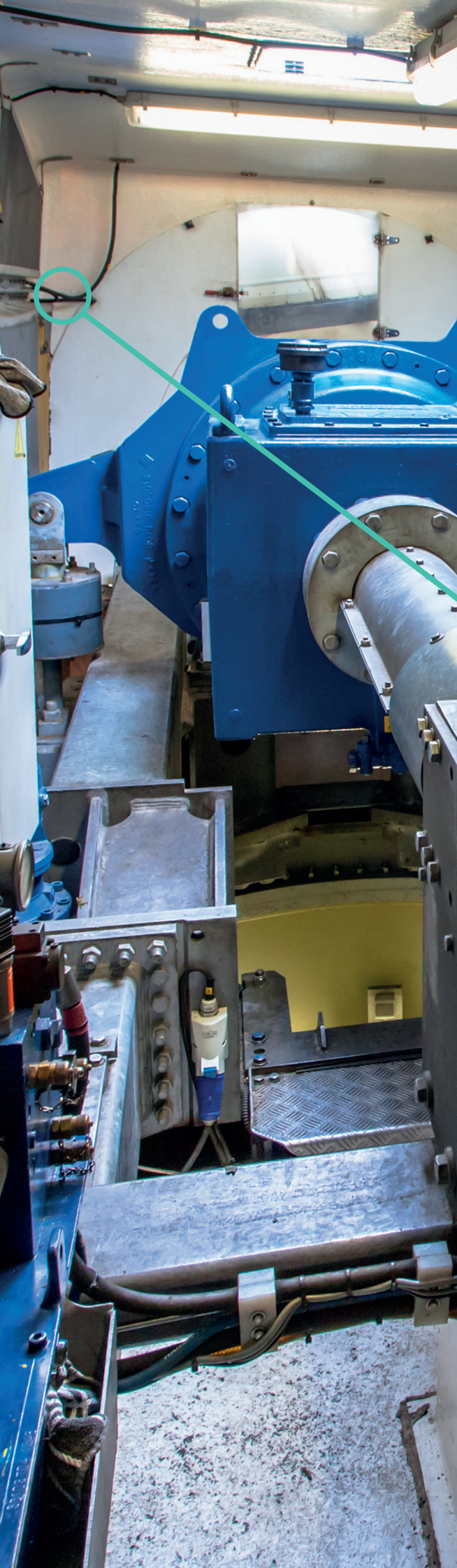
Our folding gaskets are delivered in a compact and practical format to be easily unfolded and mounted on-site, which generates a minimum of waste and takes up less space during transportation.

1



2




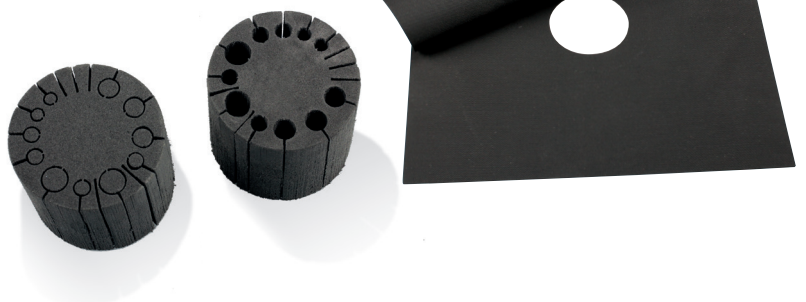
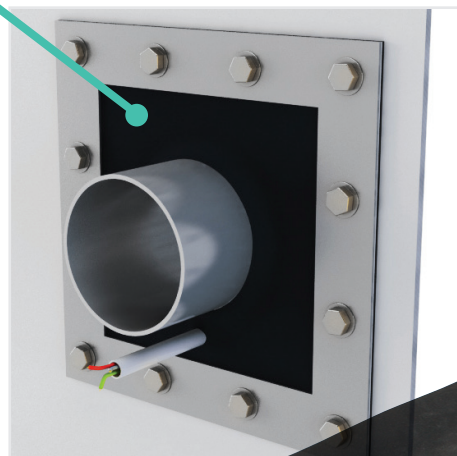


## Prevent leaks around cables and pipes

Insufficient **sealing around cables and pipes** can lead to leaks. That is why **effective sealing products** are essential when cables, leads, and pipes have to penetrate walls, floors, and other structures.

### Advantages

- Flexible, universal products
- Standard or customized solutions
- No special tools, sealing, or glue required
- Reduced repair and maintenance costs
- Can be designed to comply with IP (ingress protection) requirements



Prevent leaks around the pipes and cables and create a tight seal using pipe collars and cable seals.



## Ensure a **tight seal** with **strips**

For **sealing components** in the **nacelle construction**, such as wall or roof panels, **DAFA's rubber profiles** are ideal. Use **self-adhesive strips** and **expanding DAFA Flex sealing strips** for easy mounting and fitting doors, hatches, and panels. Benefit from these strips during service and maintenance processes.

### Advantages

- Optimal sealing with customized sealing strips or profiles
- Solutions that lead to better durability
- Minimized risk in mounting and dismantling
- Quick and easy mounting at the production facility or on-site
- No waste of precious time for curing, as with joint sealant
- Excellent elasticity to withstand extreme movements
- Expanding sealing strips for structures with large tolerances

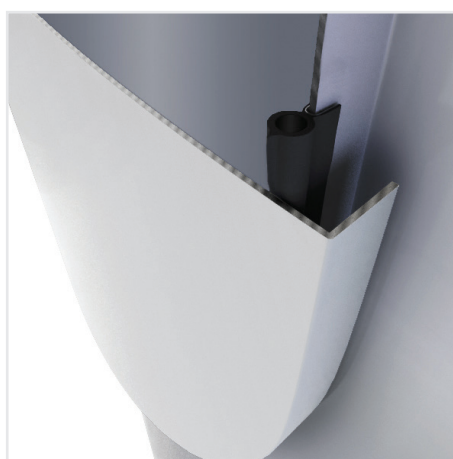


# First-class sealing of doors using standard or customized profiles

Ensuring that the **tower door can withstand rain, dust, and sand is crucial**. Seal the door efficiently using a standard or customized **sealing profile with or without joints**. Mounting is simple – both when installing the seal and during maintenance.

## Advantages

- Quick and efficient mounting
- Easy to retrofit
- Effective absorption of tolerances and movements
- Superior durability and exceptional service life
- Delivered in running meters or customized sealing rings to avoid manual cutting and gluing process



EPDM cellular rubber profile with steel or plastic insert for sealing tower doors.







**Protect doors  
against ingress**



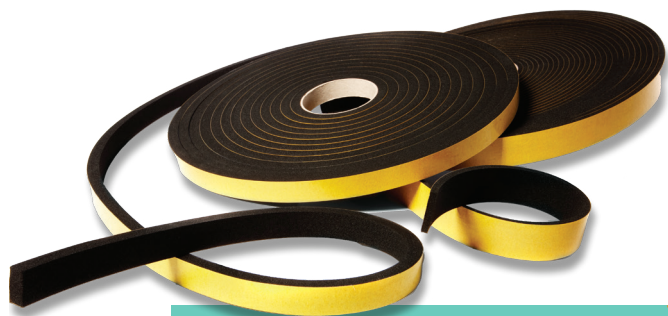


## Ensure a **safe** and **durable seal** between **tower sections**

A **tight and strong seal** is required when **tower sections are assembled**. When you use DAFA's rubber profiles or self-adhesive and flexible sealing strips, you secure tight sealing and avoid leakages. **Sealing of cross-sections** in modular towers with horizontal or vertical joints/sealings is essential. DAFA offers total sealing solutions that efficiently **seal these critical joints** and the whole tower construction.

### Advantages

- Weather-resistant
- For cross-sections in modular towers
- Quick and easy mounting with no curing time
- Retained flexibility and elasticity over time
- For both concrete and steel towers
- Solutions with high-bonding adhesives for various constructions and surfaces



DAFA Cell cellular rubber is suitable for sealing platform joints.

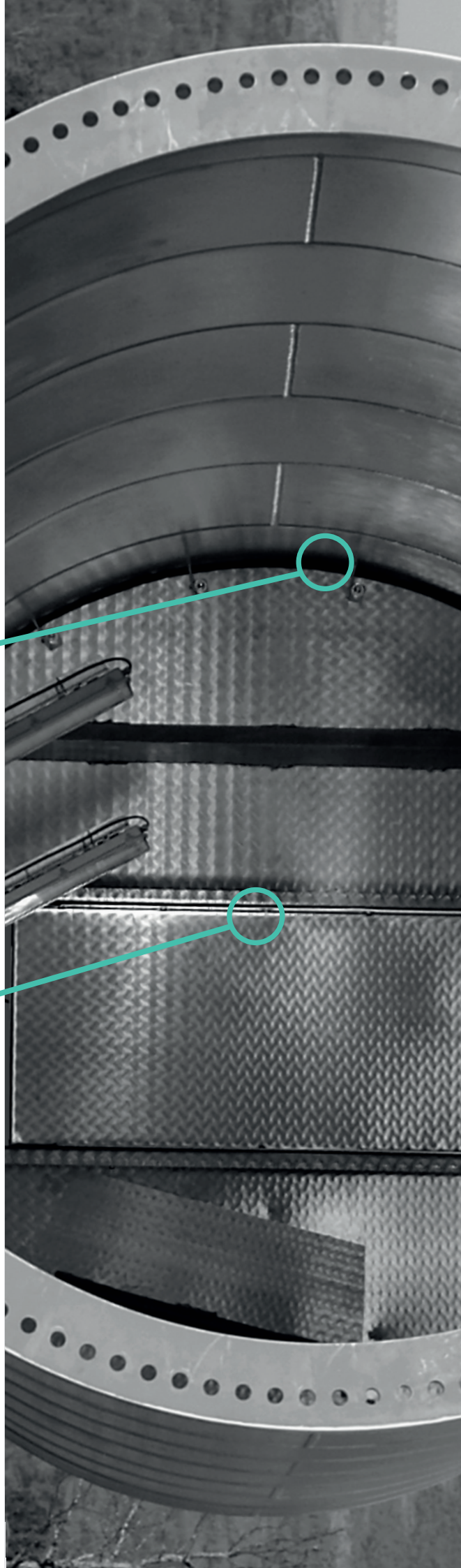
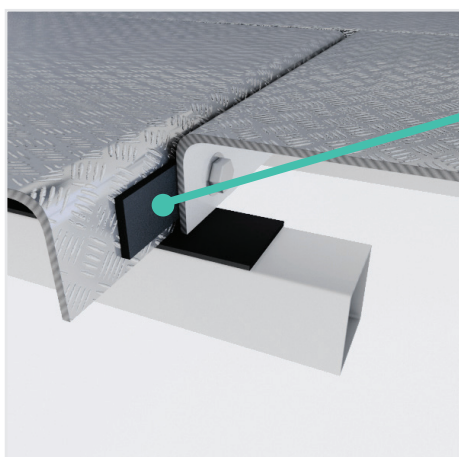


# Prevent oil and other liquids from leaking inside the tower

Dampen vibrations and **equalize tolerances** to **prevent water and oil from leaking downwards inside the tower**.  
Use DAFA's sealing strips and profiles for platforms.

## Advantages

- Quick and efficient mounting
- Easy to retrofit
- Effective absorption of tolerances and movements
- Superior durability







**Test and documentation  
for quality and safety**

***Staff certified in  
APQP4Wind***

**Test your  
products in our  
climate chamber**

***- learn more***



# Test and documentation for **quality** and **safety**

When collaborating with DAFA, you can count on **documented sealings** that meet the relevant standards and **your specific requirements**.

We have staff certified in **APQP4Wind**, meaning we guarantee you consistent quality and a faster product release process.

In our **advanced test center**, we simulate the most commonly used and recognized international standards.

We subject products not only to age tests but to **harsh climate impacts** from heat, cold, UV light, and moisture as well.

In other words, our solutions can **withstand the most common impacts** that wind turbines are exposed to.

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## We can test in terms of:

- Friction on customer-specific surfaces
- Aging in relation to customer-specific impacts such as oil and greases
- Wear and abrasion properties

Besides testing our solutions in an advanced test center, DAFA's solutions are put to the ultimate **test in real-life applications worldwide**. For 30 years, we have supplied solutions to the wind turbine industry. In fact, our solutions are **part of more than 100.000 onshore and offshore wind turbines globally**. As we always engage in close collaborations, we benefit from good customer feedback, enabling us to continuously improve our solutions.



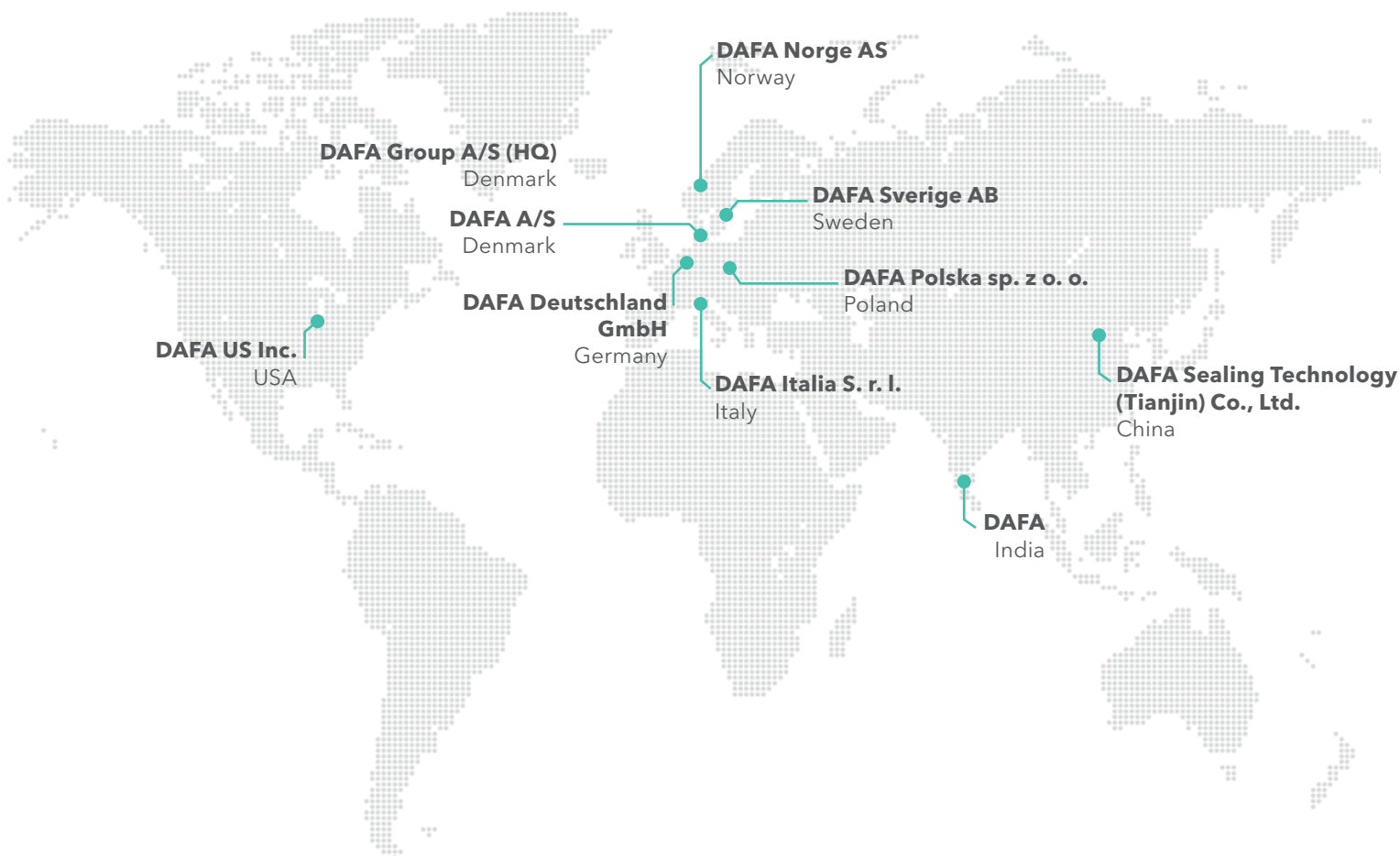
# Close to the markets – close to you

Collaborate with DAFA and **gain an experienced and established business partner** who operates across Europe, Asia, and the United States. You can **count on support** from our dedicated teams in development, production, and logistics across time zones.


You have **one point of contact** in your daily interactions with DAFA, as our account managers across several countries handle global agreements.

We guarantee **cost-efficient processes** throughout the entire supply chain because of our **high-tech production** and warehouse facilities worldwide.

Finally, DAFA is an active part of a **global network** of external suppliers to the wind turbine industry, so we know about the latest industry challenges **and what matters to you.**





A photograph of an offshore wind farm at sunset. The sky is filled with soft, golden clouds. In the foreground, a large white wind turbine blade curves from the left side of the frame towards the center. In the background, a line of similar wind turbines extends across the calm sea towards the horizon. The water reflects the warm light of the setting sun.

## **Solutions that seal, absorb and protect**

Besides durable sealing solutions, we also have a series of protective foam and rubber solutions that protect blades and towers during transportation and storage.

We also offer efficient sound, vibration, and dampening solutions.



# Part of **100.000** wind turbines globally, and **30 years** of experience

We know **what matters to you** when finding the right sealing, dampening, and protecting solution for various wind turbine parts and constructions.

Collaborate with DAFA and gain a strong business partner with **85 years of experience in sealing solutions** and 30 years of experience within the wind turbine industry.

Get customized as well as standard solutions for various applications. Our focus on **quality and innovation** combined with our flexible approach **reduces time to market** and **improves your competitiveness**. In short, as your total solution provider, we help you procure in the leanest possible manner.



We combine decades of experience and technical insight with principles of sustainability in our business decisions to create value for both you and the environment.

We constantly innovate your options for customization so that you can choose less environmentally impacting materials when finding your solution.

## Unique benefits when choosing DAFA:



More than 30 years of experience within the wind turbine industry



In-house innovation departments



Extensive material knowledge



Staff certified in APQP4Wind



Advanced, in-house test center, including climate chamber



Global Supply Chain with 9 subsidiaries and 4 production facilities



Ultra-modern production facilities using the latest technology

