

BERGOLIN WIND POWER COATINGS



Bergolin Wind Power Coatings

Naturally Strong



BERGOLIN
Creating Your Coatings

Naturally Strong

Rotor blade coatings for all weather conditions

Naturally Strong - an apt description for the properties of Bergolin corrosion protection systems. They are very resilient so they remain intact even when subjected to high loads under different weather conditions.

Rain, snow, UV radiation and strong temperature fluctuations are just some of the stresses where our coating systems have proven their effectiveness for over 15 years, both onshore and offshore.

Thanks to our specialisation in rotor blade coatings, we have become a technology leader in this segment and our many years of experience means we have an extensive expertise.

Our highly specialised product range covers all areas of rotor blade coatings. All our products, from gel-coat to topcoat, are precisely matched to the needs of our customers and meet the highest international quality and environmental standards.

In addition, as part of a partnership-based project management, we make our experience available for the purposes of process and system optimisation.



Coating suggestions

Customisable solutions for rotor blade coatings

	Basic System	Gelcoat System	Inmould System
Inmould	n/a	n/a	Steodur PUR Gelcoat (transparent) 1 x ca. 250–400 µm R
Manufacture of the blade, removing the release agent			
Correcting irregularities	Steodur PUR Putty (pigmented) S		
Pore closure	Steodur Pore Filler (pigmented) S		
Gelcoat	n/a	Steodur PUR Gelcoat (pigmented) R	n/a
Leading Edge Protection (optional)	Steodur PUR Leading Edge Protection (pigmented) 2 x ca. 250 µm R B		
Topcoat	Superplast Topcoat (pigmented) 2 x ca. 100–125 µm wet A R	Superplast HS Topcoat / Superplast Aqua Topcoat (pigmented) 1–2 x ca. 150–200 µm wet A R	
Layer thickness surface (dry)	ca. 100–150 µm	ca. 220–270 µm	ca. 370–520 µm
Layer thickness leading edge (dry)	(ca. 600–650 µm)	(ca. 720–770 µm)	(ca. 870–1020 µm)
Benefits			
	<ul style="list-style-type: none"> Few individual operations Finish independent of blade production Can be applied without additional investment costs for spray equipment Inexpensive coating Meets the minimum requirements 	<ul style="list-style-type: none"> Few individual operations Finish independent of blade production Minimal investment costs, processing by conventional spray equipment Good price-performance ratio High UV, rain and abrasion resistance 	<ul style="list-style-type: none"> Few individual operations Quick drying, short mould cycle times Minimal investment costs, processing by conventional spray equipment Best grouting between laminate and gelcoat High UV, rain and abrasion resistance Easy detection of faults in lamination thanks to transparent inmould gelcoat Extremely easy to sand Good mould removal

Application

A Airmix/Airless **B** Brush **R** Roller **S** Spatula

8 Reasons

for Bergolin Wind Power Coatings

01

Specialisation

Specialisation

Wind turbines are subject to extreme loads, especially the rotor blades. Our specialisation in this area means we have a comprehensive range of products and expertise, so you can be sure that you always have the right partner at your side to meet your needs.



02

PUR-System

PUR-System

For the coating of rotor blades we use polyurethane coatings in particular. Our years of experience and continuous development have enabled us to perfect this system, meaning you can benefit from many advantages:

- Enormous durability, regardless of weather and temperature
- Operating periods of around 20 years
- Low environmental impact
- Extremely easy processing and optimal results

03

LEP

Leading Edge Protection

Rotor blades consist of two shells which are precisely bonded to the blade edge by an adhesive seam. This sensitive area is the most vulnerable to erosion, and so special attention must be paid to its protection. Until a few years ago, just a so-called erosion protection film was bonded to the leading edge. However this was very difficult to handle and could not be repaired if it became damaged.

To solve this problem, Bergolin developed a special edge protection which is now the leader in the market. Application is easy and safe; it is repairable and extremely durable.

04

Application

Automated application

Automation is becoming increasingly important in the manufacture of rotor blades. The reasons for this include the consistently high quality and material saving resulting from complying strictly with minimum layer thicknesses.

Many of Bergolin's coating systems are for fully automated application, e.g. by a spraying robot, and have been successfully employed used in the market many times.

05

Experience

15 years of experience

We have over 15 years experience over which we have become the technology leader in the field of rotor blade coatings. Our systems are tested for years in the field and are already well proven with over 75,000 coated rotor blades on the market. Another 7,000 to 8,000 rotor blades a year are also being added to this number.

This large number of successfully completed projects means that we have exceptional problem-solving skills that will meet your requirements in every respect.

06

Repair

Repair

Bergolin rotor blade coatings are extremely durable and therefore easily reach operating periods of around 20 years. Nevertheless, erosion, abrasion during operation, lightning strikes or transport damage may occur. For such cases we have an efficient coating system that offers easy and safe processing and gives a fresh appearance and durability.

Our products are designed specifically for original equipment manufacturers (OEM) and authorised wholesalers that offer qualified advice.

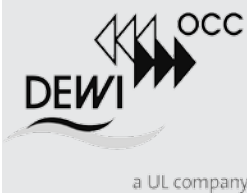


07

Certificates

Certificates

Bergolin wishes to make their development and testing methods as transparent as possible for their customers, so standardised tests are all carried out according to DIN standards. So that this transparency can prove the suitability of our products for use under extreme weather conditions, our rotor blade coatings have been certified by the DEWI-OCC and DNV GL.



08

Tests

Tests

In addition to the certificates awarded by DEWI-OCC and Germanischer Lloyd, we set ourselves high standards so that we can always meet the quality demanded by our customers. For example, we have made the 3,000 hour UV and the rain erosion test standard. We can carry these out on our own equipment at any time.



Rain erosion test rig (RET)

6 Reasons

to work with Bergolin

01

Plant

Modern Plant

Bergolin moved to a new factory in 2012. Among other aspects, this modern facility offers a large application technology centre in which the majority of tests can be carried out. We also have large research and testing laboratories in which we continuously develop our products ensuring consistent quality.



02

Problem solving

Individual Problem Solving

Many vendors work with a standard range with which in principle good coatings can be produced. In practice, this often leads to problems such as failing to adapt the product to the application plant or the environmental conditions prevailing on site. For this reason, users are obliged to continuously make concessions, leading to, for example, longer processing times or higher rejection rates and consequently higher costs.

Bergolin not only adjusts its coating systems to meet your needs, but develops completely new solutions with you, so you no longer have to accept any compromises.

03

Technical support

Technical Support

Our application engineers are fully trained and have many years of experience with a wide variety of products and equipment. Whether in the planning and implementation of new systems or in solving application problems, our technicians always provide you with competent help. For us, a comprehensive onsite service is a matter of course.

We are in constant dialogue with processors and equipment manufacturers to continuously improve our expertise, enabling us to help our clients optimise their processes.

Research and Development

04

R&D

About 30% of our employees come from the R & D sector – so we can guarantee that our products are always up to date. Working together with our customers we develop individual coating solutions that meet our customers' demands for innovation and efficiency- and even surpass them.



Application Technology Centre

05

ATC

Our extensive application technology centre not only enables us to perform numerous tests directly in-house, thus avoiding any potential problems in advance, but also serves as a training centre. Here we are able to train your staff and prepare them for future tasks.

At these training courses, your employees learn how to use our coating systems in the most efficient way, so that mistakes and the associated poor coatings are minimised, saving both money and time.

Quality Management (DIN EN ISO 9001:2008)

06

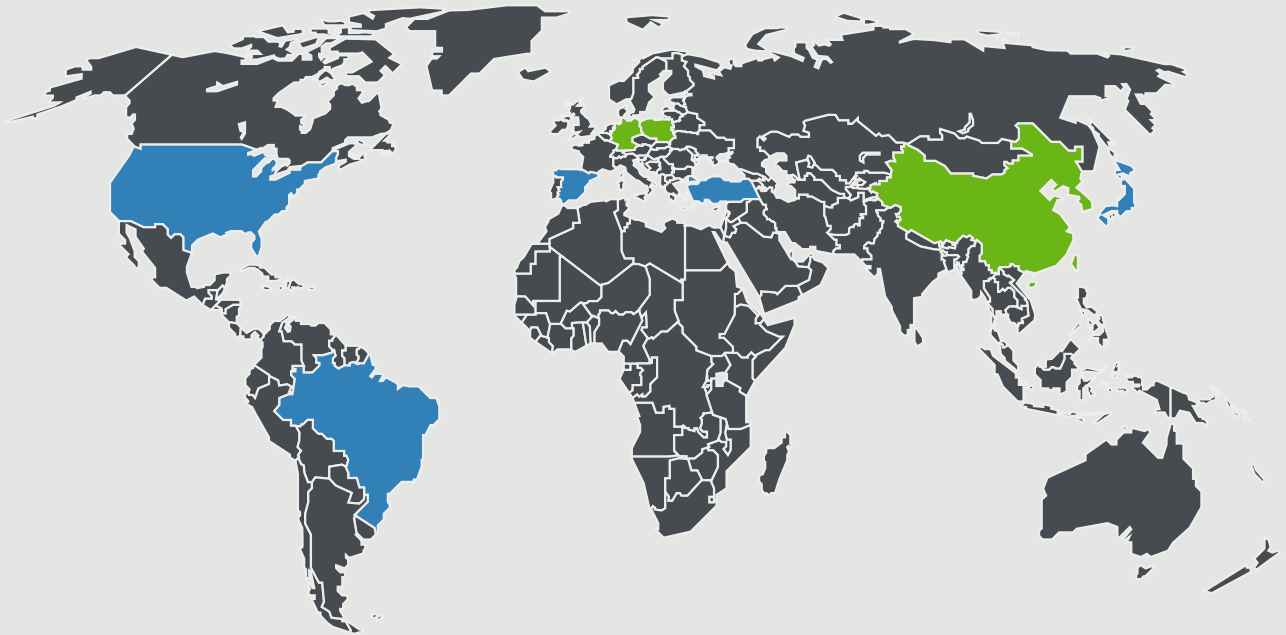
QM

At Bergolin, our focus has always been on the customer. We place the highest demands on our products and related services and meet comprehensive ranges of technical and environmental standards.

In order to be able to offer our customers the best possible mix of functionality and economy in the future, we are constantly working to improve our products and processes. This traditional corporate culture also finds expression in our certification to **DIN EN ISO 9001:2008**.



BERGOLIN WORLDWIDE



■ Bergolin Branch Offices ■ Sales Representation

Bergolin Germany

Bergolin GmbH & Co. KG
Sachsenring 1
27711 Osterholz-Scharmbeck

Tel.: +49 4795 95899-0
Fax: +49 4795 95899-290
E-Mail: info@bergolin.de
Web: www.bergolin.de

Bergolin China

Bergolin Coatings Trading
(Shanghai) Co., Ltd.
Unit 2706 Wenjing Building
No. 66 Shanxi North Road
Shanghai, P.R. China 200041

Tel.: +86 21 511688-80/-78
Fax: +86 21 511688-79

Bergolin Poland

Bergolin-Polska Sp. z o.o.
ul. Staszica 2/18
60-527 Poznań

Tel.: +48 61 8480-701/-801
Fax: +48 61 8480-834

Sales Representation

USA, Brazil,
Spain, Turkey,
Japan

