

# 3 Undeniable testimonies



**GEOMET®**

**PLUS®**

**GEOBLACK®**

Onshore and offshore wind turbines, large parts, small parts, fasteners, screws or maintenance components: **GEOMET® is the only environmentally friendly anticorrosion solution to be in aqueous phase.** Applied with an appropriate thickness, GEOMET® protects metallic parts exposed to high salinity levels and various aggressive climatic conditions.

The PLUS® range is applied on GEOMET® as a topcoat in order to improve assembly and disassembly operations and to respond to tightening and loosening issues.

The GEOBLACK® range is answering the requirements for black coatings.

**Resistance level certified and approved by the institutes GERMANISCHER LLOYD and the FRENCH CORROSION INSTITUTE.**

**Salt spray resistance of 1440 up to 2016 hours without appearance of red rust.**



**Institut de la Corrosion**  
 Centre de Recherche  
 171, Rue Pierre Béranger - 93100 Montreuil, France  
 Tél. : 01 48 20 00 00 - Fax : 01 48 20 00 01

Assessment of test panels after exposure testing according to ISO 92240 - Annex A (C5M)

Test No.	Test standard / Duration	Result	Result of testing	Result: test cycle
1000000	ISO 92240 Annex A 20 weeks	OK	OK	70 h of salt spray ISO 9227 A5.1.2.3

Panel Identification No. & Description	Result of testing	Observation
GEOMET 321 Thickness: 15-20 µm (Inf 000000_00_00)	OK	Superficial to medium white corrosion
GEOMET 321 + Plus VLH Thickness: 20-25 µm (Inf 000000_00_00)	OK	Superficial white corrosion
GEOMET 500 Thickness: 15-20 µm (Inf 000000_00_00)	OK	Superficial to medium white corrosion
GEOMET 500 + Plus GL Thickness: 20-25 µm (Inf 000000_00_00)	OK	Superficial white corrosion

Dated: December 28, 2015  
 Written by: Patricia Lohier  
 Approved by: Nathalie Le Dantec  
 Stamp: Institut de la Corrosion



Wind Turbine  
Standards

[www.nofmetalcoatings.com](http://www.nofmetalcoatings.com)



**NOF METAL COATINGS  
GROUP**

# Confirmation



This is to confirm, that the coating system:

*Hiermit wird bestätigt, dass das Beschichtungssystem:*

**GEOMET® 321 (Basecoat)**

**Plus® VLh (Topcoat)**

Data Sheet No.: InfoPrd/GEOMET321/DE/0712/05

*Datenblatt-Nr.:* InfoPrd/PLUS VLh/D/0913/01

by Messrs.. NOF Metal Coatings

*der Firma:* 60106 CREIL  
France

has been subject to an verification of a salt spray test acc. to DIN EN ISO 9227-NSS:2012 and found to fulfil the respective requirement of DIN EN ISO 12944-6:1998, C5-M High (Ri 0\* after 1440 h). An extension of the test duration to 2016 h showed same result(Ri 0\*). The scope of use is defined as follows:

*einer Salzsprühnebelprüfung gemäß DIN EN ISO 9227-NSS:2012 unterzogen wurde und die entsprechende Bedingung der DIN EN ISO 12944-6:1998 für die Korrosivitätskategorie C5-M, Schutzdauer lang erfüllt (Ri 0\* nach 1440 h). Die Verlängerung der Prüfungsdauer auf 2016 h führte ebenfalls zum Ergebnis Ri 0\*.  
Der Anwendungsbereich des oben genannten Produktes ist wie folgt festgelegt.*

Type of Area of use:

*Anwendungsbereich:*

Corrosion protection of bolts in coastal and offshore atmosphere with high salinity (other tests may further be necessary)

Surface preparation:

*Oberflächenvorbereitung:*

According to instructions of the manufacturer

Application:

*Applikation:*

By licensed party of manufacturer only

Coefficient of Friction:

*Reibwert:*

$\mu_{tot}$  : 0,09 – 0,14 (acc. to data sheet)

Verified values:

$\mu_{tot}$  : 0,09 – 0,10

Film thickness (spray application):

*Filmschichtdicke (Spritztechnik):*

GEOMET® 321 (Basecoat)

Plus® VLh (Topcoat)

} Min. 15µm

Report No..

*Prüfbericht Nr.:*

20130371 - A

# Confirmation



This is to confirm, that the coating system:

*Hiermit wird bestätigt, dass das Beschichtungssystem:*

**GEOMET® 500 (Basecoat)**

**Plus® XL (Topcoat)**

Data Sheet No.. InfoPrd/GEOMET500/DE/0312/06

*Datenblatt-Nr.:* InfoPrd/PLUS/DE/0312/04

by Messrs.: NOF Metal Coatings

*der Firma:*  
60106 CREIL  
France

has been subject to an verification of a salt spray test acc. to DIN EN ISO 9227-NSS:2012 and found to fulfil the respective requirement of DIN EN ISO 12944-6:1998, C5-M High (Ri 0\* after 1440 h). An extension of the test duration to 2016 h showed same result(Ri 0\*). The scope of use is defined as follows:

*einer Salzsprühnebelprüfung gemäß DIN EN ISO 9227-NSS:2012 unterzogen wurde und die entsprechende Bedingung der DIN EN ISO 12944-6:1998 für die Korrosivitätskategorie C5-M, Schutzdauer lang erfüllt (Ri 0\* nach 1440 h). Die Verlängerung der Prüfungsdauer auf 2016 h führte ebenfalls zum Ergebnis Ri 0\*. Der Anwendungsbereich des oben genannten Produktes ist wie folgt festgelegt:*

Type of Area of use:

*Anwendungsbereich:*

Corrosion protection of bolts in coastal and offshore atmosphere with high salinity (other tests may further be necessary)

Surface preparation:

*Oberflächenvorbereitung:*

According to instructions of the manufacturer

Application:

*Applikation:*

By licensed party of manufacturer only

Coefficient of Friction:

*Reibwert:*

$\mu_{\text{tot}}$ : 0,06 – 0,09 (acc. to data sheet)

Verified values:

$\mu_{\text{tot}}$ : 0,06 – 0,07

Film thickness (spray application):

*Filmschichtdicke (Spritztechnik):*

GEOMET® 500 (Basecoat)


Plus® XL (Topcoat)

} Min. 15µm

Report No.:

*Prüfbericht Nr.:*



20130371 - A

 <b>Institut de la Corrosion</b> French Corrosion Institute	Technopôle de Brest Iroise 220, Rue Pierre Rivoalon – 29220 Brest, France. Tel +33 (0)298 051 552 Fax +33 (0)298 050 894	NOF METALCOATINGS EUROPE SA 120 rue Galilée F 60315 CREIL FRANCE
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Assessment of test panels after exposure testing according to ISO20340 – Annex A (C5M)

Test Nr	Test standard / Duration	Start of testing	End of testing	Basic test cycle
IC89650	ISO 20340 Annex A 25 weeks	14/05/2010	05/11//2010	72 h of UVA340nm/Condensation ISO11507 72 h of Salt spray ISO7253 24 h at -20°C

Panel Identification No & Description	Degree of rusting ISO 4628-3	Observation
DACROMET® Thickness :15-20-25 µm (Ref D20-3C, 4C, 5C)	Ri0	Superficial to medium white oxidation
DACROMET® + Plus VL Silver Thickness :20-25 µm (Ref D20-3C-PS, 4C-PS)	Ri0	Superficial white oxidation
GEOMET® Thickness :15-20-25 µm (Ref G21-3C,4C,5C)	Ri0	Superficial to medium white oxidation
GEOMET® + Plus VL Silver Thickness :15-20-25 µm (Ref G21-3C-PS,4C-PS)	Ri0	Superficial white oxidation

Brest, December 23, 2010		
Written by Frédéric Lédan 	Approved by Nathalie Le Bozec 	Stamp 