

TYPE APPROVAL

Certificate No.: TA-DNV-CP-0434-10732-0 lssued: 2024-04-26 Valid until: 2028-07-03

Issued for:

Unidirectional fabric made from carbon fibres

with type designation(s)

U-C-Series, N-C-Series

As specified in Annex 1

Issued to:

SAERTEX GmbH & Co. KG

Brochterbecker Damm 52, 48369 Saerbeck, Germany

According to:

DNV-SE-0436:2022-09 Shop approval in renewable energy

and

DNV-CP-0434:2021-09 Type approval – Uni- and multi-axial multi-ply fabrics made of carbon fibres

Applying:

DNV-SE-0441:2021-10 Type and component certification of wind turbines

Based on the documents listed in Annex 1.

This Type Approval supersedes the Type Approval TAK00000N4 Rev. 1

Any significant changes in the design and/or quality of the material will render this Type Approval invalid.

Hellerup, 2024-04-26 For DNV Renewables Certification

Bente Vestergaard

Service Line Leader



By DAkkS according DIN EN IEC/ISO 17065 accredited Certification Body for products. The accreditation is valid for the fields of certification listed in the certificate. Hamburg, 2024-04-26 For DNV Renewables Certification

Bernhard Krüger Project Manager



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Product description and application

Unidirectional fabrics made of PAN carbon fibres for application in FRP components of wind turbine generators (rotor blades, nacelle covers, spinners) and other applications.

Approved variants

U-C-XXg/m²-YYmm N-C-XXg/m²-YYmm

With:

vvitri.		
U:	Ply construction 0°	
N:	Ply construction 90°	
C:	Carbon	
XX:	Total areal weight in g/m ²	
YY:	Width of the fabric in mm	
With the following ranges:		
Total areal weight range		

Total areal weight range	Width
80 – 1500 g/m²	30 – 3810 mm

The fabrics consist of roving in the range of 12K to 60K.

Type Approval documentation

Technical data sheet(s)	30004044, Technical data sheet for U-C-603g/m²-1230mm
	30015048, Technical data sheet for U-C-631g/m²-305mm
	30003201, Technical data sheet for U-C-882g/m²-500mm
Safety data sheet(s)	Safety data sheet according to Regulation (EC) No 1907/2006, Annex II for Carbon Fabric, revision 2, dated 2022-11-09
Test report(s)	LA-23-3502, test report tensile and bending, dated 2024-02-12
	LA-23-3511, test report compression, dated 2024-01-15
Inspection documentation	WIR-10728/29/30/31/32/33/34/35-001-0, workshop inspection report for Saerbeck Germany, DNV, dated 2024-01-10
Quality control documentation	ISO 9001:2015 certificate no. 80116044/3, DEKRA Certification GmbH, dated 2023-11-16
	ISO 9001:2015 certificate no. LT005629 for Saertex Baltics UAB, Bureau Veritas, dated 2021-08-20
	Inspection certificates for batch no's. 1304245 and 1311868

Approved production sites

Saertex Germany Gmbh & Co. KG Brochterbecker Damm 62 48369 Saerbeck Germany

Saertex USA, LLC. 12200 Mt. Holly-Huntersville Rd. Suite A Huntersville, NC 28078 USA Saertex France SAS 2 lot Parc d'activités d'Arandon 38510 Arandon France

Saertex Turkey Organize Sanayi Bölgesi Mahallesi 2. Cadde. No:14 Torbali / Ízmir Turkey



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Saertex Baltics UAB Pramonès g. 20 D 81123 Kuršénai Lithuania

Certificate maintenance

In the case of major changes of the approved production processes and methods during the validity time of the Type Approval, the changes shall be reported to DNV. A periodical assessment needs to be carried out 2.5 years after the issue date of the Type Approval. An intermediate inspection of the production workshop(s) might be needed based on the implemented changes. The workshops Saertex Germany had been inspected in connection with the recertification. All remaining workshops need to be inspected during the validity period of the Type Approval to maintain the certificate's validity. Evidence for the inspections will be provided through separate workshop inspection reports.