

TYPE APPROVAL

Certificate No.:
TA-DNVGL-CP-0434-06941-0

Issued:
2021-07-02

Valid until:
2026-07-01

Issued for:

Carbon Fibre Products

with type designation(s)

ZOLTEK™ PX35-1 Uni-Directional Fabrics (in the range of 150 – 900g/m²)

Issued to:

Zoltek Corporation

3101 McKelvey Road
Bridgeton, MO 63044
USA

According to:

DNVGL-SE-0436:2018-04 Shop approval in renewable energy

and

DNVGL-CP-0434: 2016-04 Type approval – Uni-and multi- axial multi-ply fabrics made of carbon fibres

Applying:

DNVGL-SE-0441:2016-06 Type and component certification of wind turbines

Based on the documents listed in Annex 1:

This Type Approval consists of this page and Annex 1 which is integral part of the approval.
Any significant change in design and / or quality of the material will render this Type Approval invalid.

Hellerup, 2021-07-02

Hamburg, 2021-07-02

For DNV GL Renewables Certification
Bente Vestergaard
Service Line Leader

For DNV GL Renewables Certification
Peter Schmidt
Principal Project Manager

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Approved variants

PX35UD150-xxxx
 PX35UD300-xxxx
 PX35UD500-xxxx
 PX35UD900V-1220

PX35UD200-xxxx
 PX35UD400-xxxx
 PX35UD600-xxxx

With xxxx indicating the roll width

Product description and application:

Uni-directional fabric made of carbon fibres typically used in the field of Wind Energy, Marine and Industry

Type Approval documentation

Technical data sheet

ZOLTEK™ PX35 UNI-DIRECTIONAL FABRICS,
 received on 2020-11-04

Test report

UD fabric 600gsm Qualification, Test report
 B079/21.1, dated 2021-06-22

Inspection Report

Workshop Inspection Report, WIR-6750-6749-001
 Rev. 1, issued on 2020-10-20

Quality control documentation

Several CoAs

ISO 9001:2015 certificate valid up to 2022-10-18

Material Description

	UD150	UD200	UD300	UD400	UD500	UD600	UD900V
0° Carbon Zoltek PX35-1 50K	158	200	309	403	503	600	865
90° Glass 34 dtex	10	10	10	10	10	10	-
Polyester Veil	-	-	-	-	-	-	30
Polyester Stitch 76 dtex	6	6	6	6	6	6	5
Total Fabric Weight	182 g/m ² 5.37 oz/yd ²	224 g/m ² 6.61 oz/yd ²	333 g/m ² 9.82 oz/yd ²	419 g/m ² 12.36 oz/yd ²	516 g/m ² 15.22 oz/yd ²	624 g/m ² 18.40 oz/yd ²	900 g/m ² 26.54 oz/yd ²
Cured Thickness/Ply	0.21 mm	0.25 mm	0.37 mm	0.46mm	0.57 mm	0.69 mm	1.00 mm
Roll Width	30 cm - 61 cm - 122 cm						122 cm
Roll Length	100 m				50 m		30 m

Limitation

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

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Approved Production Site

Zoltek Zrt.

Varga József tér 1

2537 Nyergesújfalu, Hungary

Last workshop inspection: 2020-10-20

Periodical assessment

2.5 years after the last workshop inspection, Zoltek Corporation shall inform DNV GL about any modifications in production. An intermediate inspection might be needed based on the implemented changes.

For renewal, an inspection 5 years after the last workshop inspection shall be carried out.

End of Annex