# TYPE APPROVAL

Certificate No.: TA-DNVGL-CP-0434-06940-0

Issued: 2020-11-23

Valid until: 2025-11-22

Issued for:

# **Carbon Fibre Products**

with type designation(s)

# **ZOLTEK™ PX35-7 Uni-Directional Fabrics**

(VE compatible in the range of 150 - 900g/m<sup>2</sup>)

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, 2020-11-23

Hamburg, 2020-11-23

For DNV GL Renewables Certification Bente Vestergaard Service Line Leader For DNV GL Renewables Certification Florian Willers Senior Project Manager

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#### **Approved variants**

PX35UD150-xxxxVE PX35UD300-xxxxVE PX35UD500-xxxxVE PX35UD900V-1220VE

With xxxx indicating the roll width

PX35UD200-xxxxVE PX35UD400-xxxxVE PX35UD600-xxxxVE

## **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

Inspection Report Work inspection report, WIR-06750-001-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 PX35-7 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 <sup>2</sup> 5.37 oz/yd <sup>2</sup>	224 g/m <sup>2</sup> 6.61 oz/yd <sup>2</sup>	333 g/m <sup>2</sup> 9.82 oz/yd <sup>2</sup>	419 g/m <sup>2</sup> 12.36 oz/yd <sup>2</sup>	516 g/m <sup>2</sup> 15.22 oz/yd <sup>2</sup>	624 g/m <sup>2</sup> 18.40 oz/yd <sup>2</sup>	900 g/m <sup>2</sup> 26.54 oz/yd <sup>2</sup>
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**