DNV·GL

Certificate No:
TAK00000FE

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Glass Fibre Products

with type designation(s)
Direct Roving; E6-CR 380-Series

Issued to
Jushi Egypt for Fiberglass Industry S.A.E.
Ain Sokhna, Egypt

is found to comply with
DNV GL class programme DNVGL-CP-0082 – Type approval – Glass fibre rovings

Application :

For use in marine vessels according to stated Rules/Standards.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until **2021-08-24**.

Issued at **Høvik** on **2016-08-25**

for **DNV GL**

DNV GL local station: **Alexandria**

Approval Engineer: **Gisle Hersvik**

Martin Strande
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Job Id: **262.1-023613-1**
Certificate No: **TAK00000FE**

Product description

Direct Roving; **E6-CR 380 Series**, for Filament Winding and Weaving.

Glass type: E6-CR
Size Type: Silane
Size Code: 380

Linear density, tex	300	600	1200	2400
Filament diameter, µm	13	17	17	17

Variants:
E6-CR13-300-380
E6-CR17-600-380
E6-CR17-1200-380
E6-CR17-2400-380

Application/Limitation

The approval is valid for the above listed linear densities.

Designed for use with (both amine and anhydride cured) epoxy resins.

Intended for use in uni- and multi-axial multi-ply fabrics, wind energy blade etc.

Type Approval documentation

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.

Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**.

Marking of product

Product shall be marked with *manufacturer's name*; **Jushi Egypt of Fiberglass Industry S.A.E.** and *type designation*.

The marking is to be carried out in such a way that it is visible, legible and indelible. The marking of product is to enable traceability to the DNV GL Type Approval Certificate.

Periodical assessment

The scope of the Periodical Assessment is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.

Periodical Assessment to be performed after 2 years (Certificate Retention) and at renewal after 5 years (Certificate Renewal).

The main elements of the Periodical Assessment are to:

- Ensure that **Type Approval documentation** is available.
- Review design, materials, production process, and performance with respect to possible changes, in order to ensure compliance with **Type Approval documentation** and/or referenced material specifications.
- Ensure traceability between manufacturer's product marking and the DNV GL Type Approval Certificate.

END OF CERTIFICATE