

# TYPE APPROVAL CERTIFICATE

**This is to certify:**

**That the Glass Fibre Products**

with type designation(s)  
**E6DR-380 Series**

Issued to

**Jushi Group Co., Ltd.**  
**TONGXIANG ZHEJIANG, China**

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

**Application :**

**Manufacturing of fabrics and/or fibre reinforced plastics.**

Issued at **Hamburg** on **2017-03-03**

for **DNV GL**

This Certificate is valid until **2022-03-02**.

DNV GL local station: **Hamburg Materials & Welding**

Approval Engineer: **Guido Michalek**

**Thorsten Lohmann**  
**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.



## Product description

Direct Glass Roving E6DR with sizing type 380

## Approved variants

Properties	Test Method	E6DR-300 380	E6DR-600 380	E6DR-1200 380	E6DR-2400 380	E6DR-4800 380	Unit
Density	ISO 1889	300±15	600±30	1200±60	2400±120	4800±240	TEX
Filament Diameter*)	ISO 1888	13	17	17	17	24	µm
Loss on Ignition	ISO 1887	0.40-0.70	0.40-0.70	0.40-0.70	0.40-0.70	0.40-0.70	%
Moisture Content	ISO 3344	≤0.10	≤0.10	≤0.10	≤0.10	≤0.10	%
Breaking Strength	ISO 3341	≥0.40	≥0.40	≥0.40	≥0.40	≥0.40	N/tex

## Limitation

The roving complies with the applicable requirements of DNV GL and is compatible to the laminating resin. Any significant changes in design and / or quality of the material will render the approval invalid.

## Type Approval documentation

- Technical Data Sheet
- Test Reports No. BG151207101 – BG151207105 issued by the DNVGL approved Testing Laboratory (Approval No. GL-LZ 1108 HH-3) of Jushi.
- Workshop Inspection Report issued by DNV GL Shanghai
- Quality Assurance Documentation

## Assessed production sites

669 Wenhua Road (S.)  
Tongxiang Economic Development Zone  
Zhejiang 314500  
P.R. China

## Periodical assessment

A production site with a valid Approval of Manufacturer (AoM) certificate for material in question is exempted from the obligation concerning retention and renewal assessments.

For manufacturer without a valid AoM a periodical assessment after 2.5 years and at renewal after 5 years is required.

END OF CERTIFICATE