Certificate no.:
TAK00002GV

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Glass Fibre Products

with type designation(s)
WE, Direct Roving For Weaving Applications

issued to
BESLER TEKSTIL SAN VE TIC AS
KAYSERI, **Türkiye**

is found to comply with

DNV class programme DNV-CP-0082 – Type approval – Glass fibre rovings

Application:

Manufacturing of fabrics and/or fibre reinforced plastics.

Issued at **Hamburg** on **2025-04-11**
This Certificate is valid until **2030-04-10**.
DNV local unit: **Istanbul**

for **DNV**

Approval Engineer: **Gisle Hersvik**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description

WE, Direct Roving For Weaving Applications: Boron-free ECR-Glass

Sizing type: Silane
Twist: Without

Approved variants

Properties	Test Method	WE600	WE1200	WE2400	WE4800	Unit
Density	ISO 1889	600±30	1200±60	2400±120	4800±240	tex
Filament Diameter, nominal	ISO 1888	16	17	17	24	µm
Loss on Ignition	ISO 1887	0.55±0.15				%
Moisture Content	ISO 3344	<0.1				%

Application/Limitation

Direct roving for filament winding, pultrusion and weaving.
The approval is valid for the above listed linear densities.
Designed for use with unsaturated polyester, vinyl ester and epoxy resins.
Intended for use in uni- and multi-axial multi-ply fabrics, wind energy blade etc.

The roving complies with the applicable DNV requirement 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

Marking of product

Product/package shall be marked with *manufacturer's name:* **BESLER TEKSTIL SAN VE TIC AS, Turkey**, *type designation:* ***WE***, *roving diameter* and *roving tex*.

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 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 assessments (for Certificate Retention / Certificate Renewal) shall be performed according to DNV-CP-0338.

This certificate is only valid if required Periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com

END OF CERTIFICATE