DNV·GL

CONFORMITY STATEMENT

Statement No.:
ADA-GL-IV-1-03269-0

Issued:
2017-09-07

Issued for:

A-Design Assessment

of

Rotor blade
ETA 24m

Specified in Annex 1

Issued to:

eTa wind blade solutions s.r.l.

Via Papiria 92
61032 Fano, Italy

According to:

GL-IV-1: GL Rules and Guidelines - IV Industrial Services - Part 1 - Guideline for the Certification of Wind Turbines, Edition 2010

Based on the document:
CR-ADA-GL-IV-1-03269-0 A-Design Assessment, Certification Report dated 2017-09-07

Changes of the design are to be approved by DNV GL.

Hamburg, 2017-09-07

For DNV GL Renewables Certification

ppa. Mike Wöbbeking
Head of Certification Body

DAkkS
Deutsche Akkreditierungsstelle
D-ZE-11053-01-00

By DAkkS according DIN EN IEC/ISO 17065 accredited Certification Body for products. The accreditation is valid for the fields of certification listed in the certificate.

Hamburg, 2017-09-07

For DNV GL Renewables Certification

i.A. Markus Selinka
Senior Engineer Rotor Blades

CONFORMITY STATEMENT – ANNEX 1

Blade Description

Length	23.9 m
Root flange outside diameter	0.940 m
Maximum chord	1.837 m
Maximum twist	21.0 deg
Material General	Glass fiber reinforced epoxy resin and SAN foam
Material Spar Cap	Carbon fiber reinforced epoxy resin
Blade mass	1,437 kg (± 2%)
Centre of gravity (from root)	16.00 m
Blade prebending at tip	0.0 m
1st flapwise natural frequency	1.34 Hz (± 5%)
2nd flapwise natural frequency	2.45 Hz (± 5%)
1st edgewise natural frequency	3.45 Hz (± 5%)
2nd edgewise natural frequency	7.65 Hz (± 5%)
Number of inserts	60
Bolt circle diameter	0.920 m
Bushing type	M20 Cross Bolts

Design loads

Design lifetime	20 years
Design load envelope	GU4507-4003 Rev. A

Environmental conditions

Minimum design temperature	-20°C
Maximum design temperature	+50°C

Interface to other components or systems

- The present assessment covers the blade including blade root with cross bolts and tension bolts.
- For every specific wind energy converter type which is intended to be equipped with ETA 24m rotor blades, the tower clearance has to be calculated and verified. Under consideration of the load case submitted for tip to tower clearance, a clearance between the unloaded rotor blade and the outer tower surface of 4.7 m is required.
- The lightning protection system is not covered in this assessment.
- Manuals are not covered in this assessment.
- Aerodynamic devices are not covered in this assessment.