



Certificate No.

**IECRE.WE.CC.19.0024-R0**

IECRE - IEC System for Certification to Standards Relating to Equipment for Use in Renewable Energy Applications

## COMPONENT CERTIFICATE

### Rotor Blade

This certificate is issued to

Envision Energy (Jiangsu) Co., Ltd.  
No.3,Shenzhuang Road, Shengang Street, Jiangyin City, Jiangsu Province  
P.R.China

for the component

Rotor Blade EN68.8 A

wind turbine class (class, standard, year)

S, IEC 61400-1: 2005

This certificate attests compliance with IEC 61400 Series as specified in subsequent pages. It is based on the following reference documents:

Design basis evaluation conformity statement  
Dated

CGCSZ201846131202  
2019-12-10

Design evaluation conformity statement  
Dated

CGCSP201846131202  
2019-12-10

Type test conformity statement  
Dated

CGCXS201846131202  
2019-12-10

Manufacturing conformity statement  
Dated

CGCGS201846131202  
2019-12-10

Final evaluation report  
Dated

CGCTC201846131202  
2019-12-10

The conformity evaluation was carried out in accordance with the rules and procedures of the IECRE System [www.iecre.org](http://www.iecre.org)

The component specification begins on page 2 of this certificate.

Changes in the system design or the manufacturer's quality system are to be approved by the Certification Body. Without approval, the certificate loses its validity.

This certificate is valid until:  
2022-12-28

Approved for issue on behalf of the IECRE  
Certification Body:



  
Qin Haiyan  
General Director  
Beijing 2019-12-24

Room 1108, Yiheng Building, No.28  
North 3rd Ring Road East,  
Chaoyang District, Beijing, 100013,  
P.R.China



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### Rotor Blade

#### Machine parameters :

Power regulation:	Pitch shift
Rotor orientation:	Clockwise (facing the blade)
Design life time:	20 years

#### Other environmental conditions (where taken into account):

Normal and extreme temperature ranges:	-30°C~+50°C / -30°C~+50°C
Lightning protection system (standard and protection class):	I (IEC 61400-24: 2010)

#### Interfaces:

Design loads for the component:	EN68.8 A Blade Certification Load & Comparison, with IEC61400-1 Ed.3 SFs, Rev.: V2 ,Date.: 2019.01.31
Interface assumptions, conditions and requirements:	Blade bolt assessment based on generic pitch bearing
Other interface conditions:	See below

\*\*If not otherwise stated, the certificate holder is the manufacturer.

#### Blade:

Type:	Consists of the shell and the two shear webs.
Material:	Glass fiber reinforced epoxy resin sandwich composite material.
Blade length:	68.8m
Number of blades:	3
Manufacturer:	Envision Energy (Jiangsu) Co., Ltd.
Natural frequency:	1 <sup>st</sup> Flap: 0.45Hz 1 <sup>st</sup> Edge: 0.67Hz
Mass:	13949kg±3% (including bolts and rain spinner)
Blade root moment:	271001kgm±4.5%
Pitch diameter	2800mm
Blade root connection:	112-M36 (Class 10.9)

#### Manuals:

Operation & maintenance manual, Transport manual, Installation & commissioning manual:	EN68.8A Blade Transportation Manual, Rev.: A, Date.: 2018.06.20
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