



Certificate No.

IECRE.WE.CC.19.0004-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

Suzlon Energy Limited – Netherland Branch
Jan Tinbergenstraat 290
7559 St Hengelo (Overijssel)
The Netherlands

for the component

Rotor Blade SB59S2

wind turbine class (class, standard, year)

unspecific, IEC 61400-1:2005 and Amendment 1, 2010-10

This certificate is transferred from IEC 61400-22 to IECRE (according to WE-OMC/352/DV) and 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

included in Design Evaluation Conformity Statement

Design evaluation conformity statement
Dated

TÜV NORD Reg. No. 44 220 19482776-CD-IEC, Rev. 0
2019-01-23

Type test conformity statement
Dated

TÜV NORD Reg. No. 44 220 19482776-CT-IEC, Rev. 0
2019-01-23

Manufacturing conformity statement
Dated

TÜV NORD Reg. No. 44 220 18482774-CM-IEC, Rev. 1
2019-01-23

Final evaluation report
Dated

TÜV NORD Report No. 8116 482 776-20, Rev.0
2019-01-23

The conformity evaluation was carried out in accordance with the rules and procedures of the IECRE System
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 of TÜV NORD CERT GmbH. Without approval, the certificate loses its validity.

This certificate is valid until:
2024-01-22

Approved for issue on behalf of the IECRE
Certification Body:

Michael Lange
Deputy of Specialist Manager
Wind Energy
Essen 2019-01-23



TÜV NORD CERT GmbH
Langemarckstraße 20
45141 Essen

Machine parameters :

Design life time: 20 y

Other environmental conditions (where taken into account):

Normal temperature ranges: 0°C - +50°C
Extreme temperature ranges -10°C - +50°C

Lightning protection system (standard and protection class): IEC 61400-24:2010
IEC 62305 series
LP I

Interfaces:

Design loads for the component: SB59S2-R-01-00003, Rev. 1
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: The rotor blade consists of glass fibre reinforced epoxy material in a sandwich construction with balsa core for the shell and PVC foam core for the two shear webs.
Material: 59 m
Blade length: 59 m
Specification: SB59S2-S-01-00001, Rev. 0
Main Drawing: SB59XX-D-01-00001, Rev. 0
First natural frequency: Flap: 0.519 Hz ± 5%
Edge: 0.884 Hz ± 5%
Mass (incl. bolts): 11352 kg ± 341 kg
Blade root moment: 215712 kgm ± 10785 kgm
Blade root connection: 72 pcs. (M39) T-bolts

Manuals:

Transport & Installation: TGPM-MA-006850-S120-A, Rev. 04-01
Maintenance: TGPM-MA-006850-S120-OMS, Rev. 04