Specification

Product Specification: Flextron CIGS Solar PV Modules

PRODUCT SUMMARY

Flexible thin-film (CIGS) solar modules for integration (lamination) at the factory or at site on to contemporary metal, single ply (TPO) membrane and polycarbonate roofs. Please check with BIPVCo for approved substrates and manufacturers.

PRODUCT GENERAL DESCRIPTION

Flextron solar panels are powered by high-performing super thin CIGS technology-based photovoltaic cells and are flexible and lightweight. These solar modules incorporate a self-cleaning top sheet, multiple internal diodes to minimise power loss from shading, bus bars, and multiple insulating layers fused together in as a hermetically sealed module that is robust (shatterproof) and durable.

The functional solar module and the integrated junction boxes are then laminated directly (the modules are supplied with a factory applied adhesive) onto a pre-coated metal roof or membrane substrate, forming a solar-powered roof panel. These components combine to create a photovoltaic roof system that can be installed in the same way as a conventional roofing system when lamination is carried out at the factory.

- High efficiency (up to 17%) CIGS cells with superior low light performance.
- Lightweight 2 – 3 Kg/M2. Avoids the need to strengthen supporting structure.
- Flexible to take required shape.
- Shatterproof and vandal resistant.
- No gap between roof and module hence no space for vermin inhabitation. Prolongs life of roof by avoiding humid and aggressive environment between module and roof sheet.
- Textured top layer reduces glare, traps light within the module and is self-cleaning to minimise maintenance and reduce loss of power of output.
- Individual diodes to protect every second cell. Power loss from shading is limited to shaded area only and the rest of the string is protected.
- Aerodynamic design that does not aggravate wind load on structures. Avoids ballasting of flat roofs.
- No perforation of weathering layer of roof with mechanical fixings.
- Avoids cold bridging and condensation risks.
- Integral roof warranty on approved substrates.
- Lower embodied energy compared to conventional solar modules and faster energy / carbon payback.
- Pre-fixed in factory-controlled conditions to assure quality of bond. Reducing site labour and cost.
- No secondary support structures for the modules when laminated to roof.
- Simple push-in MC4 cable connections with option of junction boxes on top or rear of module to suit project needs.
- The balance of systems such as cables are holistically and sympathetically integrated to the roof.
- Lower degradation of power in high temperatures than traditional crystalline silicon panels.

CONTACT DETAILS:

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GENERAL INFORMATION

MODULE DESCRIPTION

FXX F/R – YYYB1 – (ZZ).
YYY is power in watts. F/R notes front or rear junction box. ZZ notes number of cells.

POWER RANGE:

40 watts to 370 watts

SYSTEM VOLTAGE:

The PV modules may be used in PV plants at a maximum system voltage (VOC at STC) of up to 1000 VDC.

COLOUR

Module colour in finished form is Dark Green / Blue with a purple tinge with black border as edge sealant.

FINISH:

Top sheet is textured ETFE coating to facilitate self-cleaning.

MATERIAL:

Cells made from CIGS compound.

SHAPE

LENGTH:

Variable to suit project need and dependent on width.

WIDTHS:

358mm, 674mm and 990mm.

HEIGHT:

Height with adhesive = 5.5mm. Height without adhesive = 2.5mm.
Height at Junction box (top) = 19mm.

ELECTRICAL CHARACTERISTICS:

- Maximum System Voltage 1000 V
- Maximum Power of Module 370 Watts
- Tolerance of Rating 5%
- Rated Short Circuit Current 4.2 to 4.6 A
- Rated Open Circuit Voltage 37 to 107.8 V
- Over Current Protection 10A
- Application Class (IEC61730) – A
- Protection Class – Class II

WARRANTY DESCRIPTION:

10 Year Material Warranty
25 Year Performance Warranty

THIRD PARTY

SOLAR PV:

IEC61646: 2008
IEC 61730-1: 2004 + A1: 2011 + A2: 2013
IEC 61730-2: 2004 + A1: 2011
IEC 61701: 2011. Severity 3. (Salt Spray)
MCS 017 V1.3: 2019

FIRE:

BS EN ISO 11925-2: 2020
CEN/TS 1187: 2012 Test 4
EN 13501-5: 2016. Class BRooft4
BS 476: Part 3: 2004 + A1: 2006 + A2: 2007

QUALITY:

ISO 9001

COUNTRY OF ORIGIN:

United Kingdom