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*Near-Coast Installation Guide for
Suntech Power Photovoltaic Module*

Version 20150101

Purpose of This Guide

- This guide contains information regarding the installation and safe handling of Wuxi Suntech Power Co., Ltd photovoltaic module (hereafter referred to as "module"). Wuxi Suntech power Co., Ltd referred to as "Suntech".
- This Installation Guide serves as a supplement to the standard Installation Guide for Wuxi Suntech Power Photovoltaic Module. Specifically this guide defines special anti-corrosion application or attention required to install Solar PV systems in coastal areas.
- Please review the guide prior to installing Suntech solar modules closer than 500 meters to any salt water coastal waterway. Any violation may potentially induce salt-mist corrosion which will not be covered by our standard product and performance warranty. If you have further inquiries, please contact Suntech's Global Quality & Customer Service Department or our local representatives for more detailed information.

Coastal installation classification

Based on the distance to seashore, Suntech generally classifies coastal PV installation into three different levels:

- From 0 up to 50 meters, Suntech does not recommend any installation due to concerns for salt-mist corrosion.
- From 50 to 500 meters, Suntech regards this as "Near-Coast" installation requiring adherence to salt-mist corrosion prevention.
- From 500 meters and onwards, Suntech estimates the risk of salt mist corrosion is minor and only requires annual preventive maintenance.

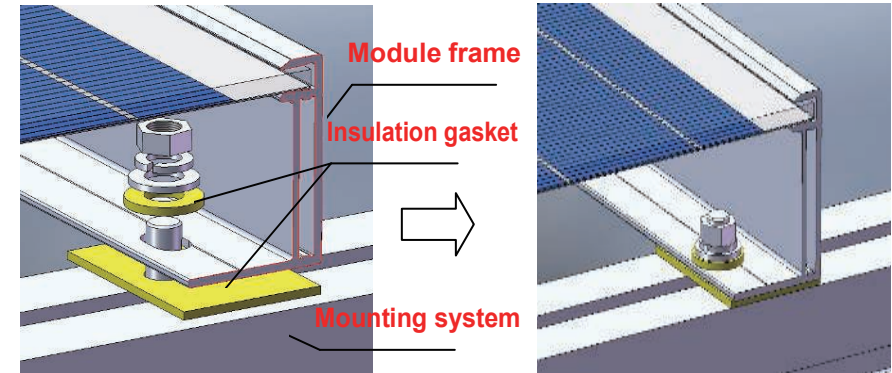
Mechanical Installation

Anti-corrosion application

In general, Suntech recommends close observance of the coastal installation methods as described below:

- During the installation, do not scratch or break the corrosion-resistant coating (e.g. electroplated layer, oxidized coating, etc.) on the modules and mounting systems.
- Use corrosion-resistant materials (e.g. stainless steel SUS 316) for components (nut, bolt, gasket, etc.) to connect/tighten the modules and mounting systems.
- Use gaskets to insulate the installation joint points, where mounting and grounding hardware attached to the frame.
- For insulation gasket we recommend mica lamination, or other silicone, or fluoride made insulating materials.

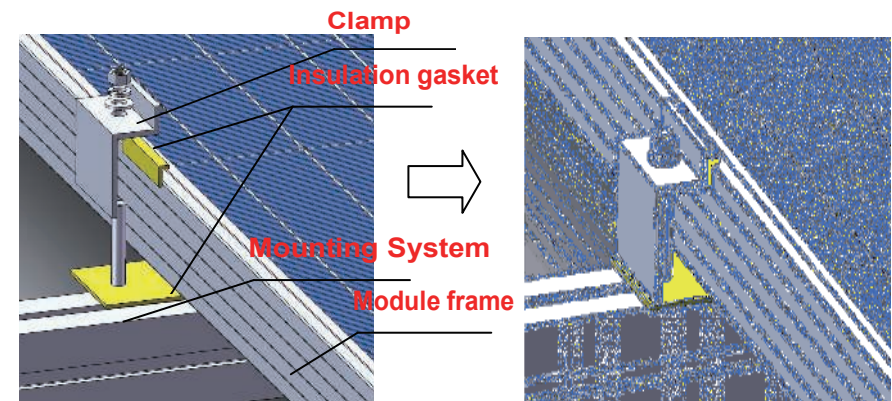
- For Mounting System installation method, please refer to Picture 1 and 2:



Picture 1

Picture 2

- For Clamping System installation method, please refer to Picture 3 and 4:



Picture 3

Picture 4

Grounding

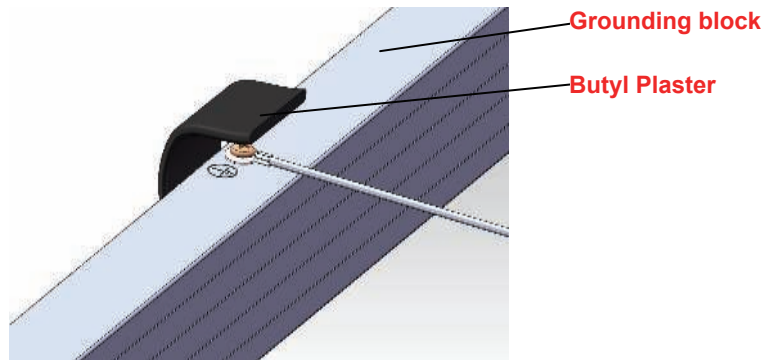
Anti-corrosion application

We recommend two special anti-corrosion methods to protect the grounding points of the system.

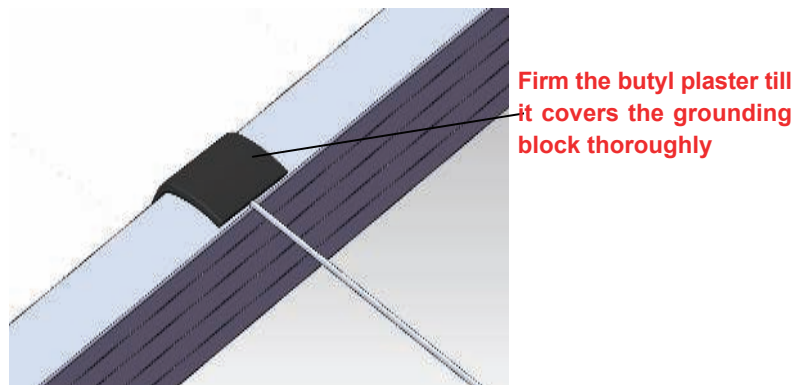
Option #1: Butyl Plaster

- Clean the grounding block and surrounding area to make sure it is dry.
- Make pads of butyl plasters, size of approximately 50mmx70mm.

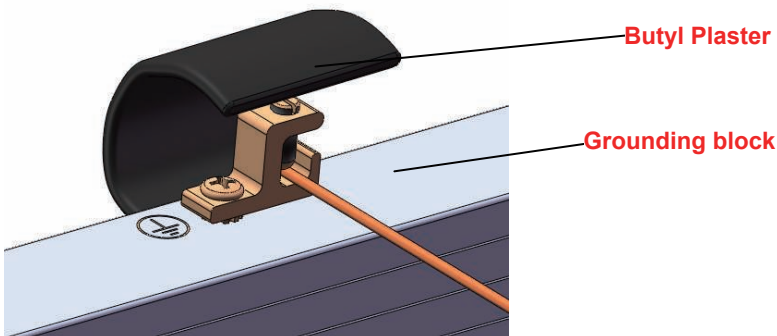
- Place a pad of butyl plaster covering the grounding block. Firm the butyl plaster till it covers the block thoroughly. Please refer to the pictures below (Picture 5, 6, 7 and 8) for more details.



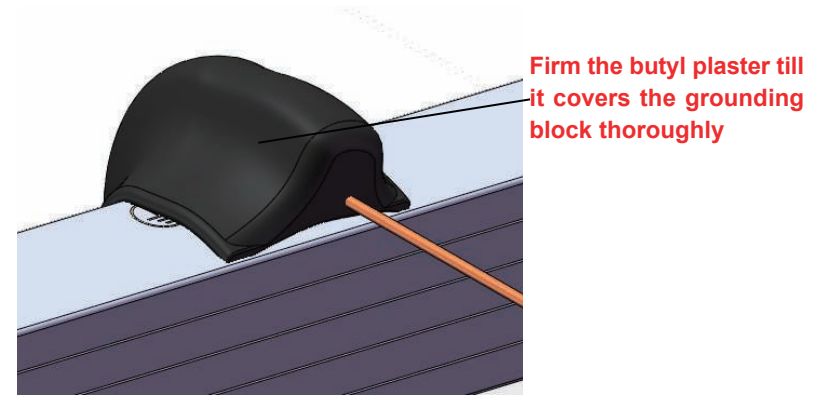
Picture 5



Picture 6



Picture 7



Picture 8

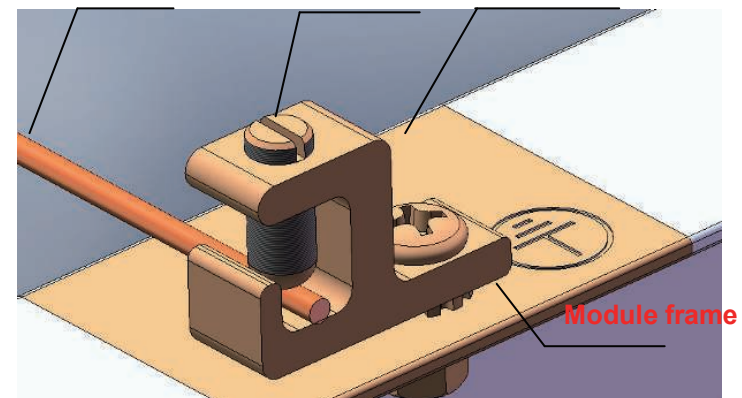
With this anti-corrosion application, Suntech modules pass the certification test of:

- IEC61701 salt-mist corrosion test for PV modules
- IEC 61730-2 2004 PV module safety qualification-part 2 requirements for test

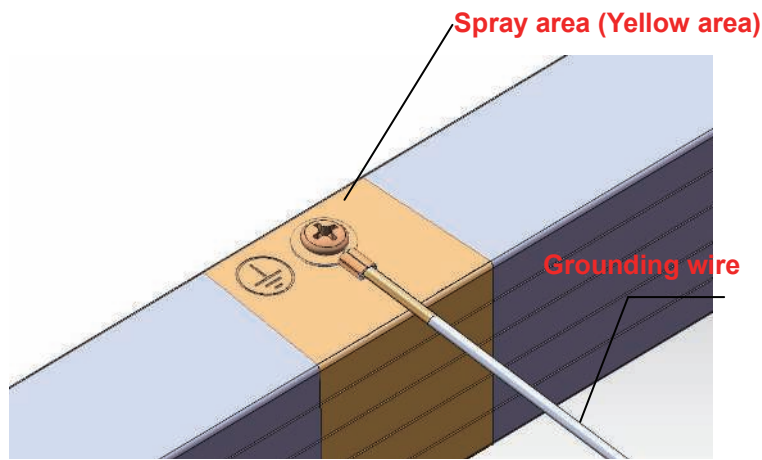
Option #2: Fluorocarbon Application

- Clean the grounding block and surrounding area to make sure it is dry.
- Ground the system according to the standard grounding methods.
- Spray fluorocarbon varnish on the grounding block to form an anti-corrosion coating. This coating shall cover the whole grounding block and junction area of the module frame or mounting system. Please refer to Pictures below (Picture 9 and 10) for more details.

Grounding wire Grounding bolt Spray area (Yellow area)



Picture 9



Picture 10

With this anti-corrosion application, Suntech modules pass the certification test of:

- IEC61701 salt mist corrosion test for PV modules
- IEC 61730-2 2004 PV module safety qualification-part 2 requirements for test

General safety

- Components in anti-corrosive products carry certain properties that may pose safety risks to workers handling the module. Suntech urges anyone working with or near anti-corrosive solutions to obtain the Material Safety Data Sheet (MSDS) for the selected corrosive application.
- Please read carefully the user manual for either the fluorocarbon solution, or the butyl plaster product and abide strictly by the instructions. Special protective equipment may be needed before and during operation. Always consult the product MSDS.
- To better protect the system from corrosion, the varnish coating layer must be thicker than 40µm, or equivalently we recommend spraying it twice - the second coating shall be applied after the first one dries completely.
- Because it contains a special solvent, un-used anti-corrosive coating may begin to deteriorate approximately 3 hours after its first exposure to the open air. Therefore we recommend a careful calculation of the amount of coating needed, keeping the coating close to the working area, and replacing the lid on the container when not in use.

Maintenance

To ensure optimum module performance for near-coast installation, a system maintenance service of every three months is generally recommended and additionally the following maintenance measures shall be taken:

- Check the frame, mounting system, grounding block and other junction areas for potential signs of corrosion.
- Clean the frame, mounting system, grounding block and other junction areas from salt and dust accumulation.
- Recommended actions to repair the rusty areas:
 - #1. Clean the salt and other dust accumulations around the rusty areas.
 - #2. Apply butyl plaster or fluorocarbon varnish spray to cover the area thoroughly.
 - #3. Operate and maintain according to standard near-coast installation.

Disclaimer of liability

- As the adherence to this manual and the conditions or methods of installation, operation, use and maintenance of photovoltaic (PV) products are beyond Suntech's control. Suntech does not accept responsibility and expressly disclaims liability for any loss, damage, or expense arising out of or in any way connected with such installation, operation, use or maintenance.
- No responsibility is assumed by Suntech for any infringement of patents or other rights of third parties, which may result from the use of the PV product. No license is granted by implication or otherwise under any patent or patent rights.
- The information in this manual is based on Suntech's best knowledge and experience and is believed to be reliable; but such information including product specification (without limitations) and suggestions do not constitute a warranty, express or implied. Suntech reserves the right to change the manual, the PV produce, the specifications, or product information sheets without prior notice.

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