

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

Version 20210101

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**\* Please read carefully. This document is binding for any warranty case.**

**\* Any installed PV system less than 500m from coastline, please refer to the Near-coast installation manual.**

## ***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, please contact Suntech technical team to assess the solution 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***

### **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.

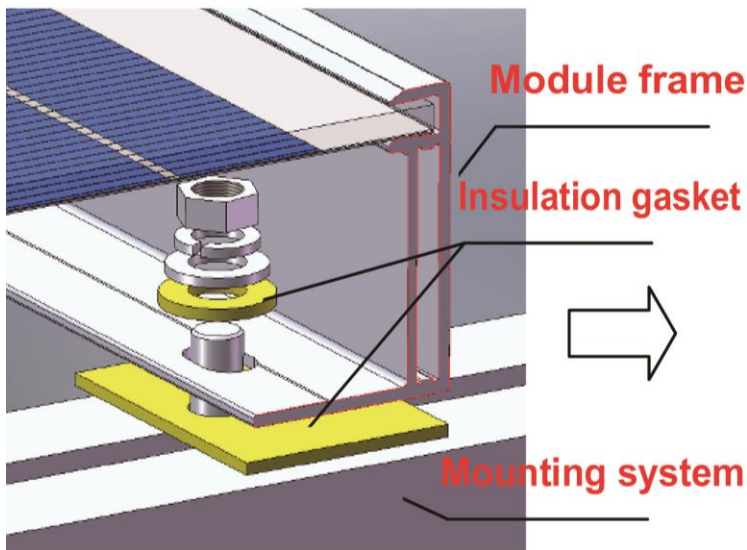
Use corrosion-resistant materials (e.g. stainless steel SUS 316) for components (nut, bolt, gasket, etc.) to connect/tighten the modules and mounting systems.

Use gaskets to insulate the installation joint points, where mounting and grounding hardware attached to the frame.

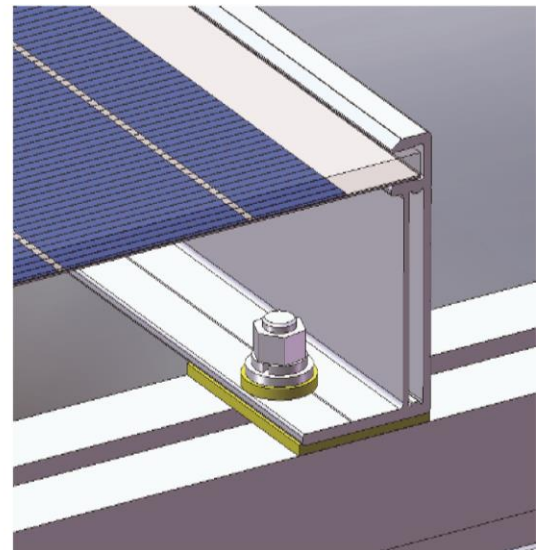
For insulation gasket we recommend mica lamination, or other silicone, or fluoride

made insulating materials.

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

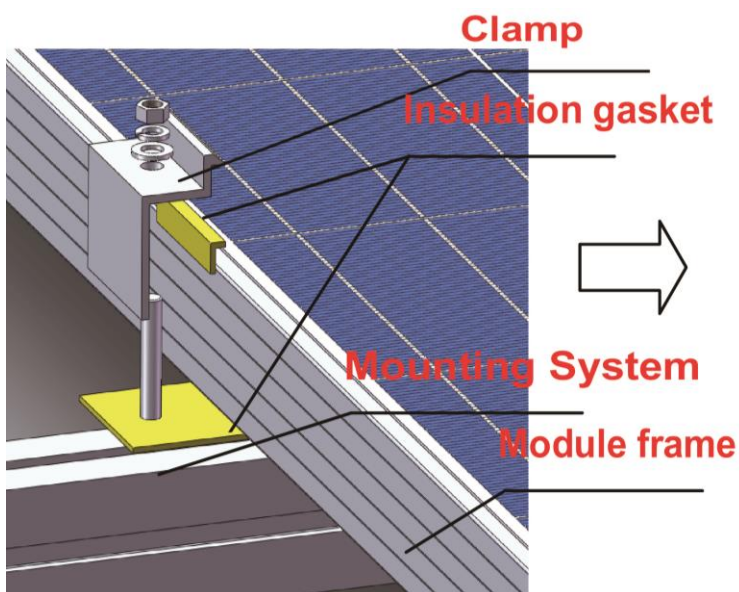


Picture 1

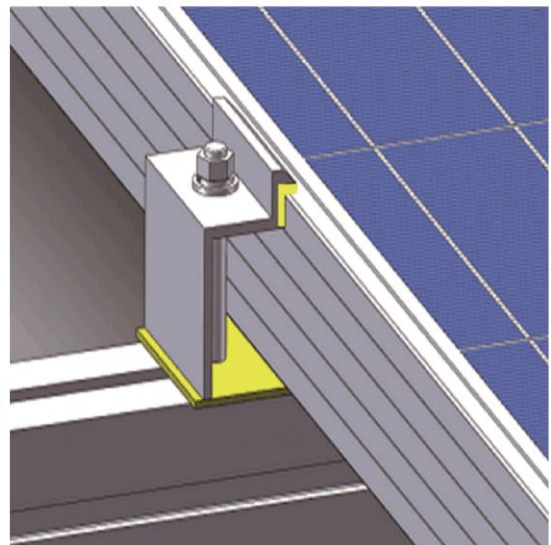


Picture 2

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



Picture 3



Picture 4

## Grounding

### Anti-corrosion application

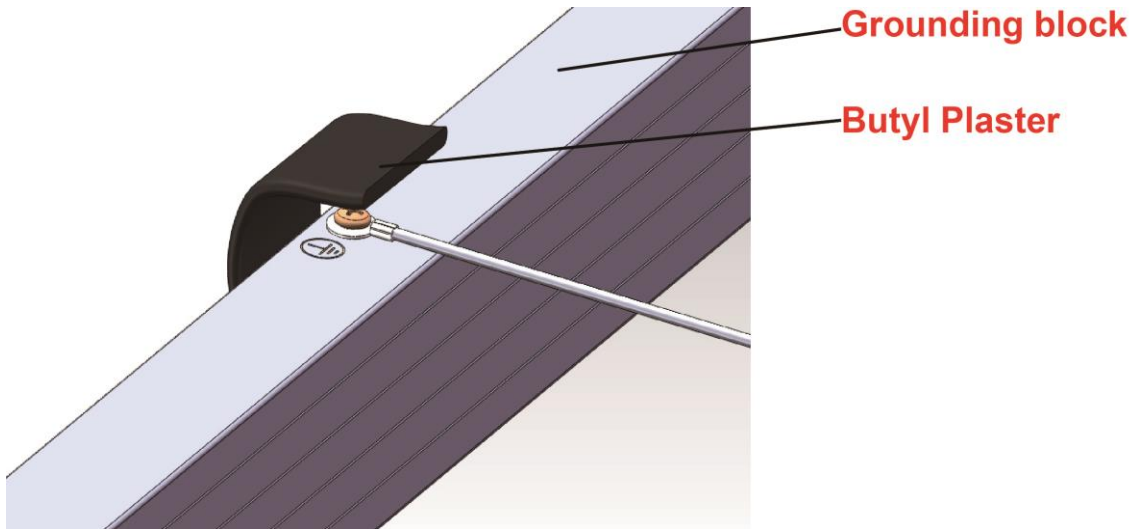
We recommend two special anti-corrosion methods to protect the grounding points of the system.

#### Option #1: Butyl Plaster

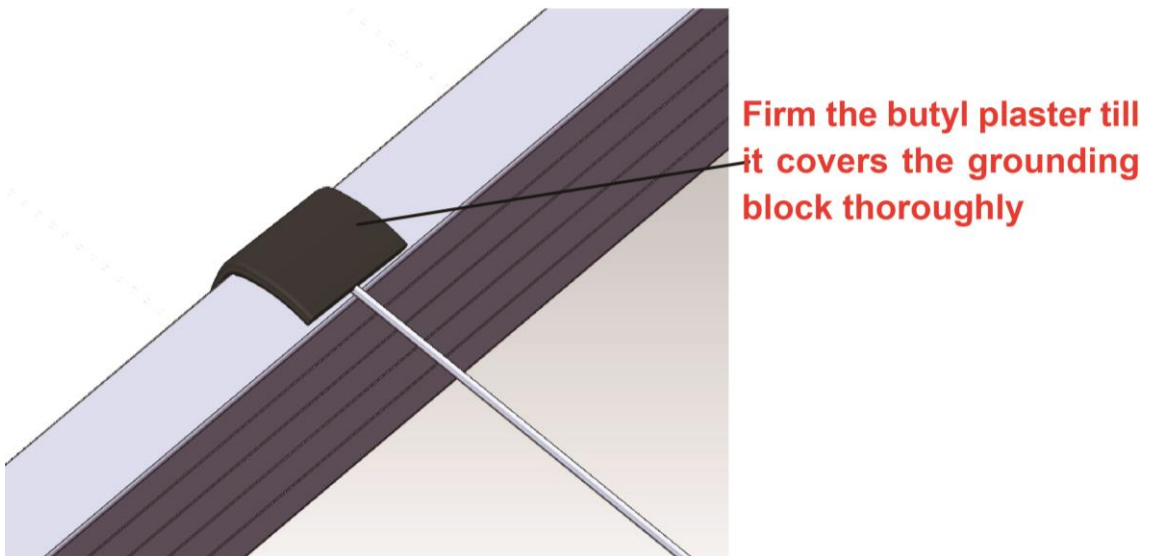
Clean the grounding block and surrounding area to make sure it is dry.

Make pads of butyl plasters, size of approximately 50 mm x 70 mm.

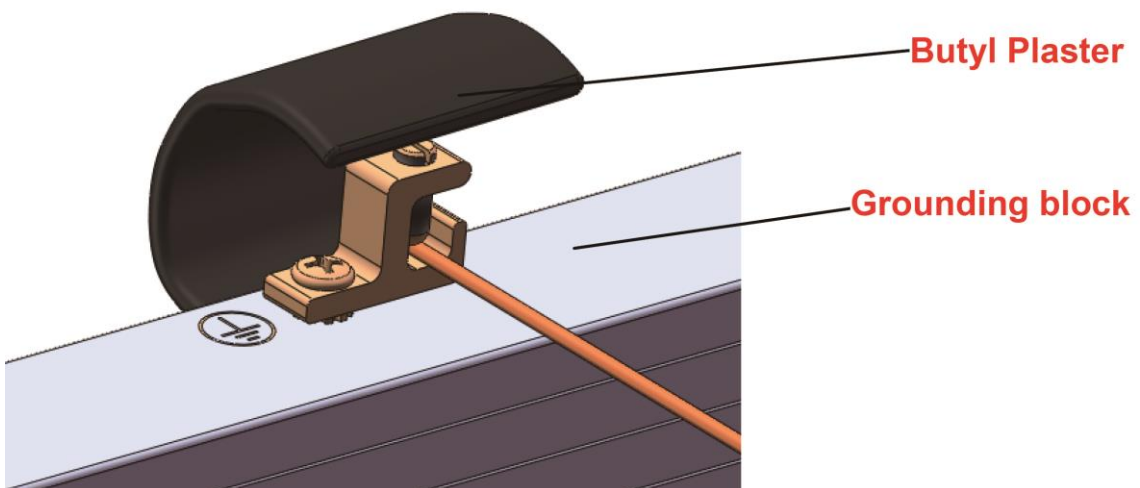
Place a pad of butyl plaster covering the grounding block. Firm the butyl plaster till it covers the block thoroughly. Please refer to the pictures below (Picture 5, 6, 7 and 8) for more details.



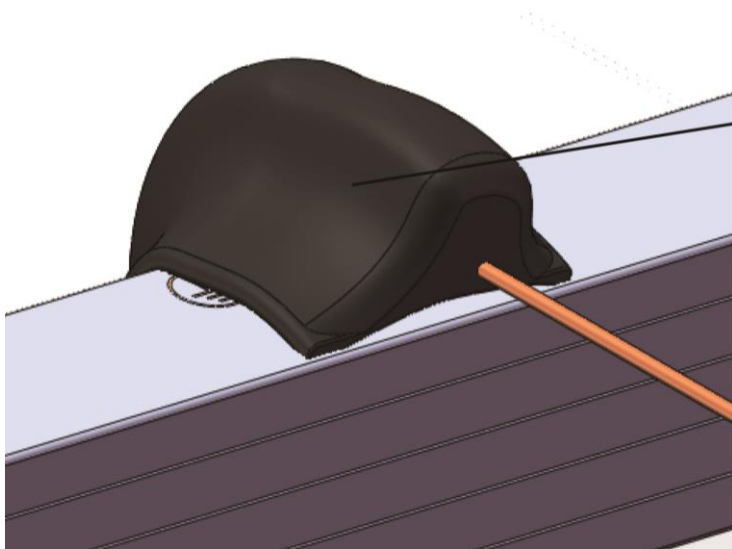
Picture 5



Picture 6



Picture 7



**Firm the butyl plaster till it covers the grounding block thoroughly**

**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 2016 PV module safety qualification-part 2 requirements for test

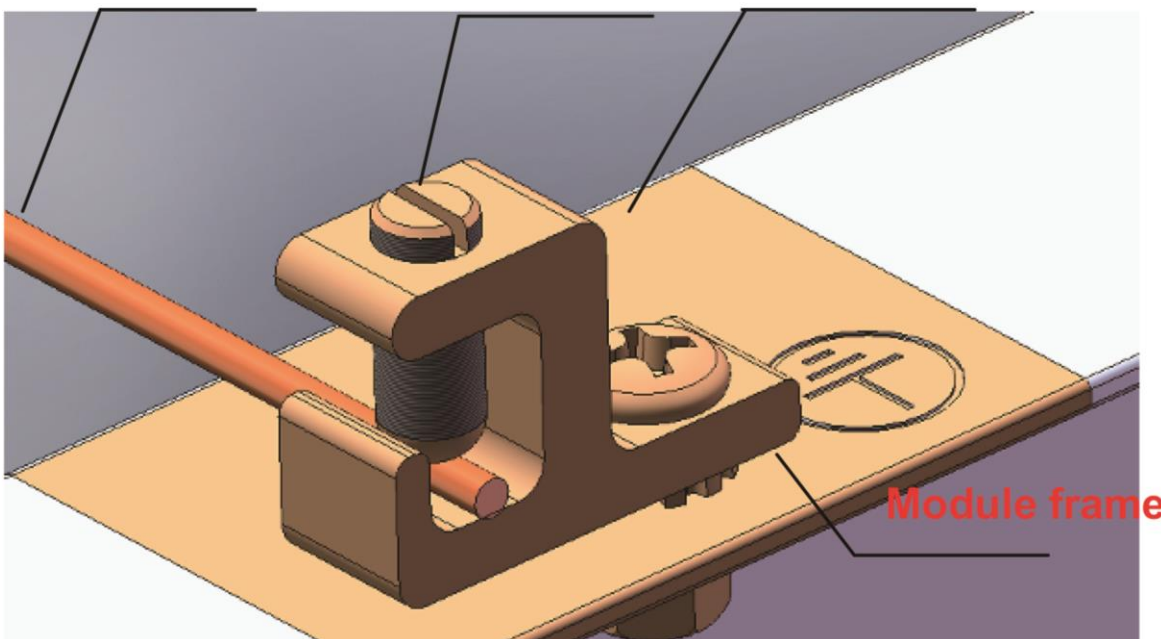
**Option #2: Fluorocarbon Application**

Clean the grounding block and surrounding area to make sure it is dry.

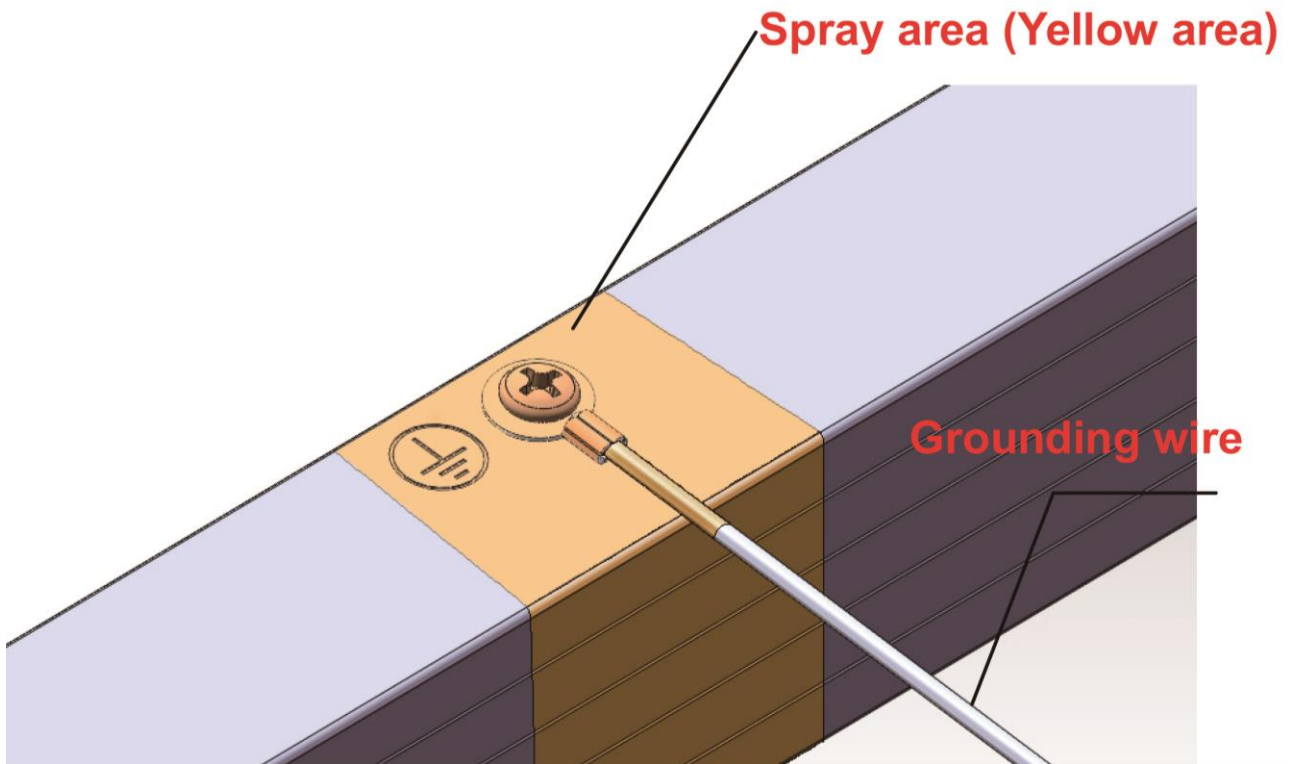
Ground the system according to the standard grounding methods.

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

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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\*请仔细阅读。该文件对任何保修情况都具有约束力。

\*距海岸线 500 米内安装光伏系统，请参考近海安装手册。

# 安装指南

本指南包含有关无锡尚德太阳能电力有限公司光伏组件（以下简称为“组件”）的安装方式和安全操作的相关信息。无锡尚德太阳能电力有限公司简称为“尚德”。

本指南为无锡尚德光伏组件标准安装手册的补充。特别是，本指南规定了在沿海地区安装太阳能光伏系统所需的特殊防腐蚀应用或注意事项。

距海岸线500米内安装尚德光伏组件前，安装人员必须阅读并理解该指南。如有任何违反，可能导致盐雾腐蚀，这将导致尚德标准产品和性能保证失效。如有任何问题，请联系尚德全球质量与客户服务部或当地代表获得更详细的信息。

## 沿海安装类别

根据距离海岸的距离，尚德通常将光伏系统的沿海安装分为3个类别：

0米到50米，由于担心盐雾腐蚀，建议联系尚德技术团队评估得出解决方案。

50米到500米，尚德将其视为“近海”安装，必须遵守盐雾腐蚀预防措施。

500米及以上，尚德认为盐雾腐蚀风险较低，仅需每年进行预防性检修。

# 机械安装

## 防腐蚀应用

通常，尚德建议严格遵守以下所述的沿海安装方法：

在安装过程中，不得刮伤、破坏组件和支架系统上的防腐蚀涂层（如电镀层、氧化涂层等）。

连接/紧固组件和支撑系统的元件采用防腐蚀材料（如不锈钢SUS 316）。

使用垫圈使连接至支架的支撑和接地硬件的安装连接点绝缘。

对于绝缘垫圈，尚德推荐云母片或其他硅树脂或氟化物制成的绝缘材料。

支撑系统绝缘方法，请参考图1和图2：

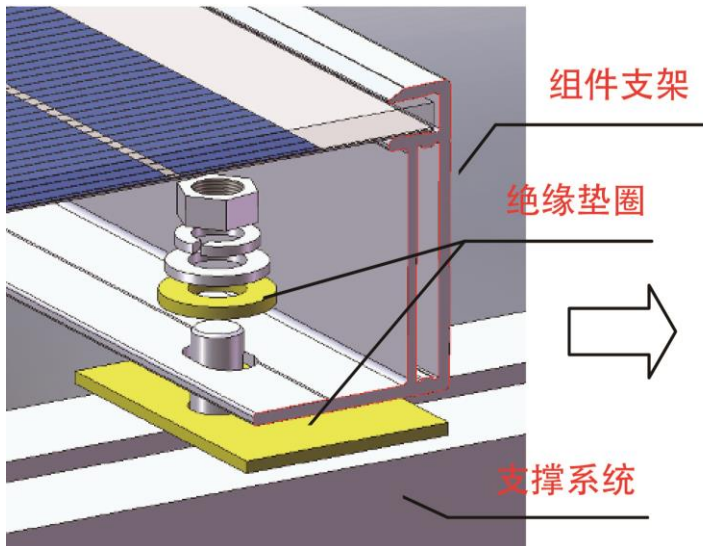


图1

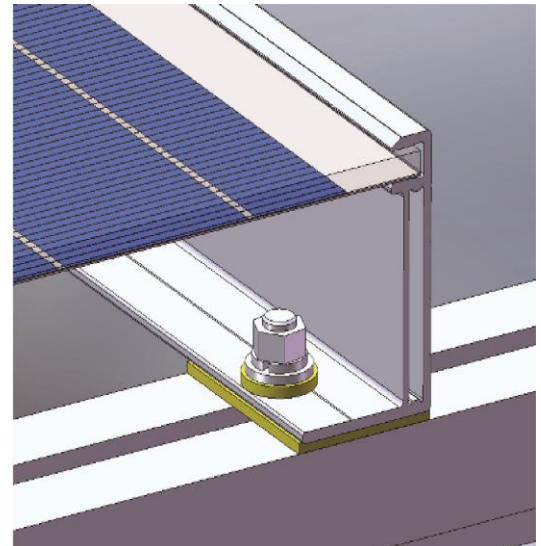


图2

夹紧系统绝缘方法，请参考图3和图4：

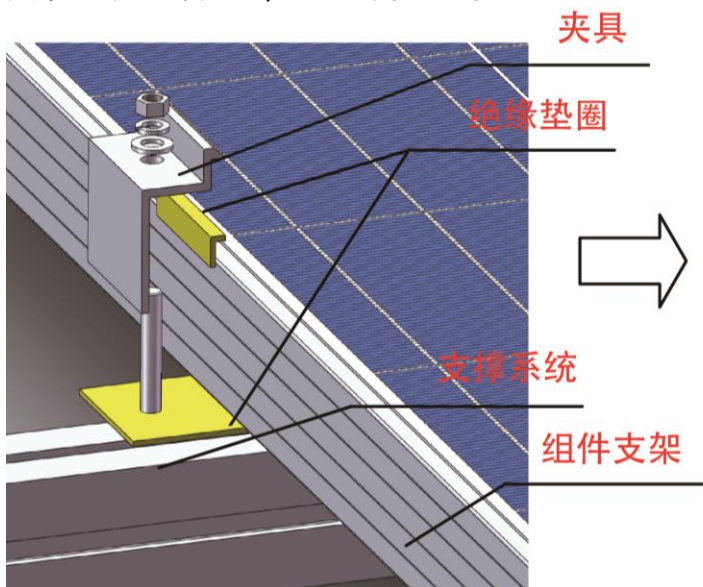


图3

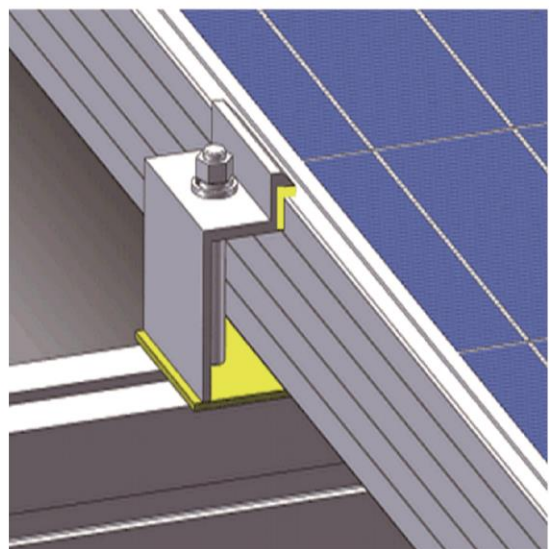


图4

## 接地

### 防腐蚀应用

尚德建议采用两种特殊的防腐蚀方法保护系统的接地点。

#### 方法1：丁基胶带

清洁接地装置和周围区域，确保其干燥。

准备好丁基胶带块，尺寸大约为50 mm × 70 mm。

将一块丁基胶带覆盖接地装置。固定丁基胶带直至其完全覆盖装置。请参考以下图片（图

5、图6、图7、图8）获得更多详情。

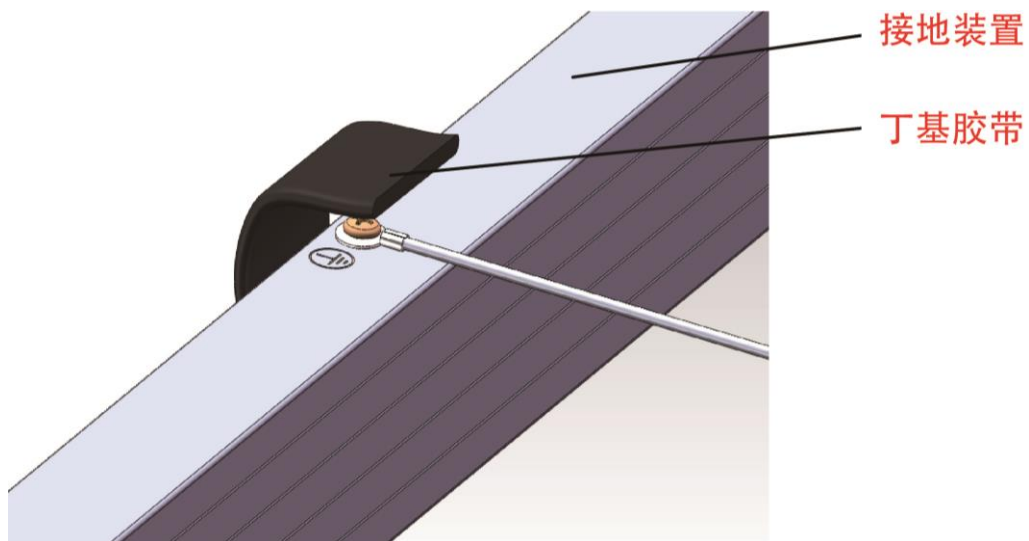


图5

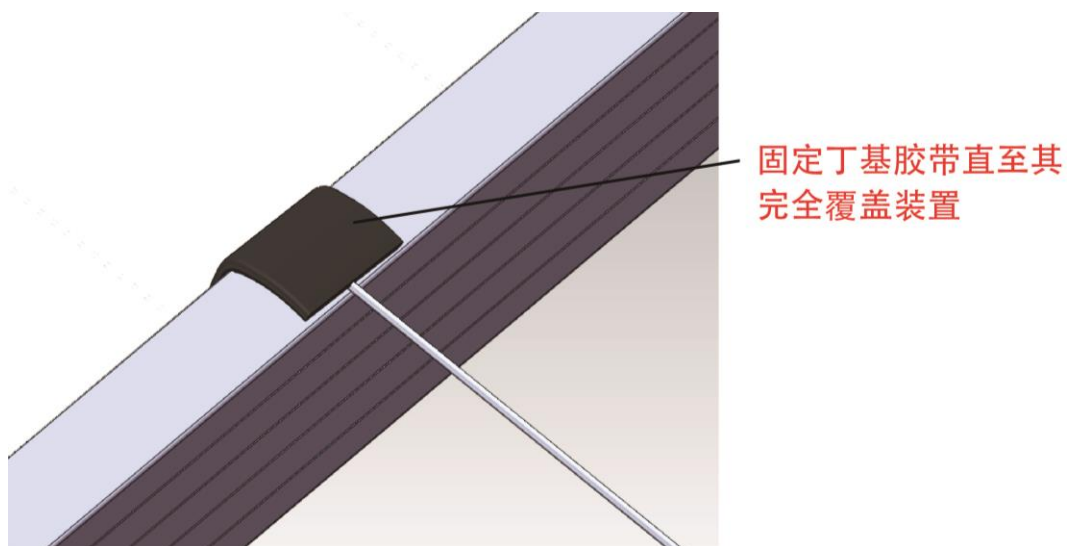


图6

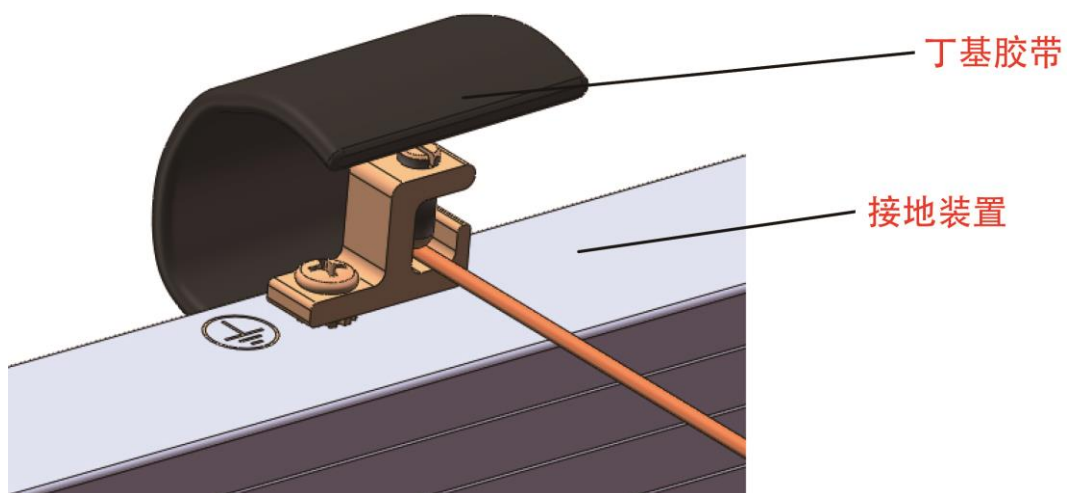


图7

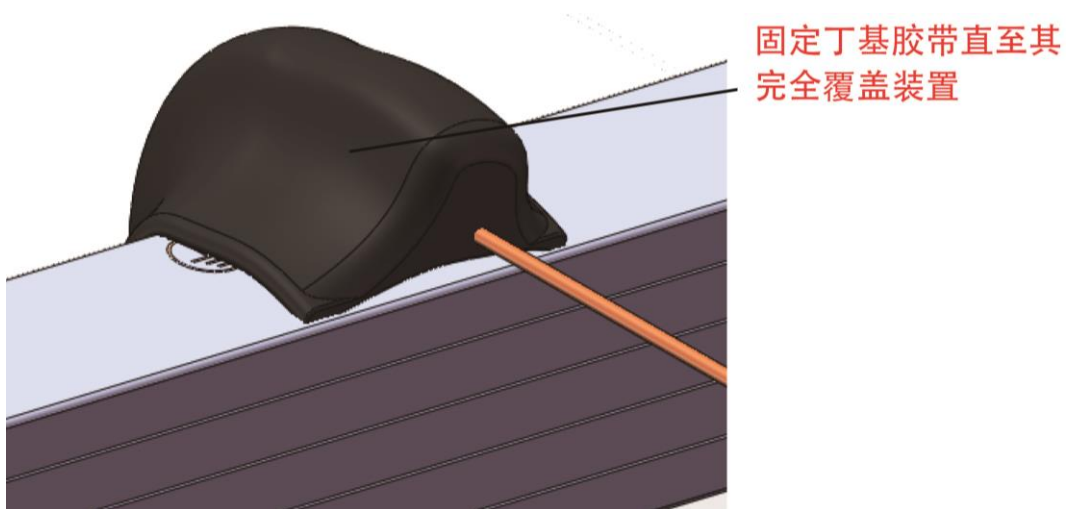


图8

通过上述防腐蚀应用，尚德组件已通过以下认证测试：

IEC 61701光伏组件盐雾腐蚀测试

IEC 61730光伏组件安全资格-第2部分 测试要求

## 方法2：氟碳应用

清洁接地装置和周围区域，确保其干燥。

按照标准接地方法，使系统接地。

在接地装置上喷射氟碳漆以形成防腐蚀涂层。该涂层应覆盖整个接地装置及组件支架或支撑系统的连接区域。请参考以下图片（图9、图10）获得更多详情。

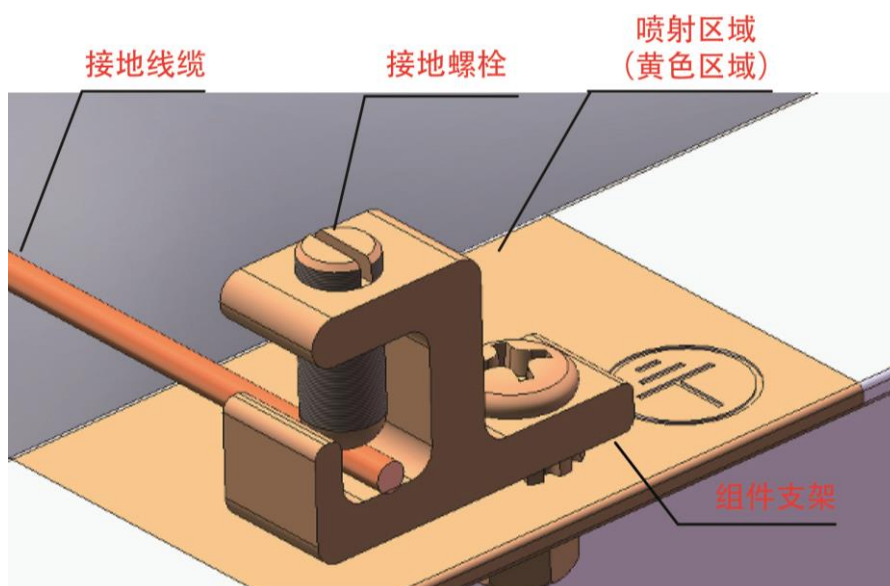


图9

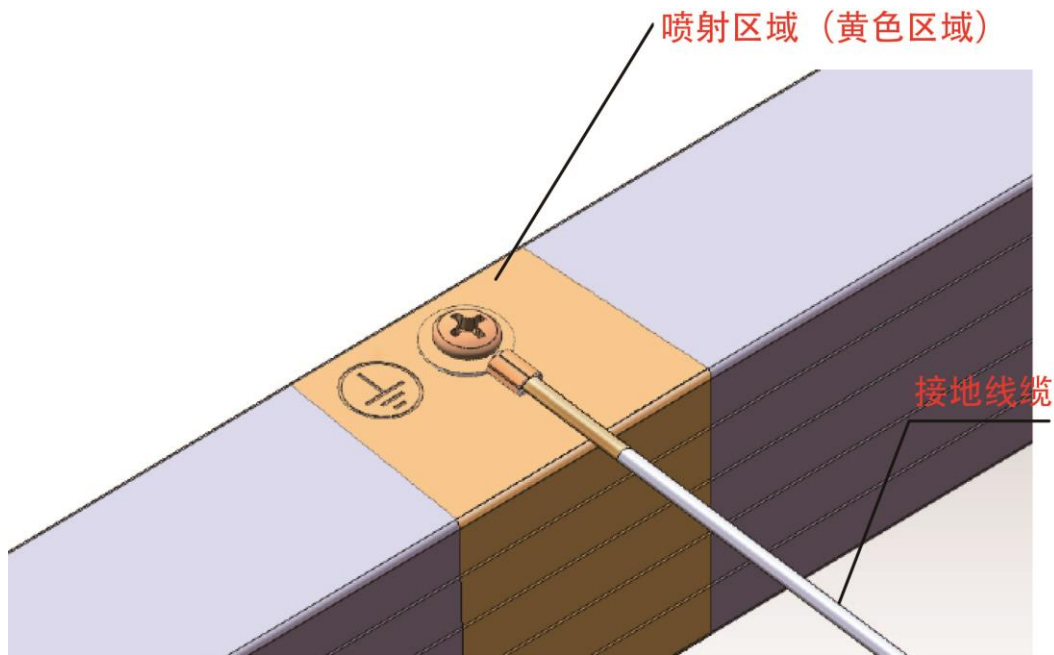


图10

通过上述防腐蚀应用，尚德组件已通过以下认证测试：

IEC 61701光伏组件盐雾腐蚀测试

IEC 61730光伏组件安全资格-第2部分 测试要求

## 总体安全

防腐蚀产品的元件有某些可能对安装组件的工作人员造成安全风险的性能。尚德敦促参与或接近防腐蚀解决方案的任何人取得对所选的防腐蚀应用的物料安全数据表（MSDS）。

无论选择氟碳解决方案还是丁基胶带产品，均仔细阅读并严格遵守本用户手册。在运行前或运行期间可能需要特殊的保护设备。请查阅产品的物料安全数据表。

为更好保护系统使其免受腐蚀，氟碳漆涂层的厚度必须大于40  $\mu\text{m}$ ，或尚德建议喷射两次：第一次喷漆完全干燥后，再喷射一次氟碳漆。

由于包含特殊溶剂，未使用的防腐蚀漆在其首次暴露在空气后的大约3小时后开始变质。因此，尚德建议仔细计算所需的氟碳漆的量，确保氟碳漆靠近工作区域，且在不使用时更换容器上的盖子。

# 接地

为确保近海安装的组件的最佳性能，尚德建议通常每3个月进行一次系统维护，并采取下列维护措施：

检查支架、支撑系统、接地装置和其他连接区域是否有潜在的腐蚀迹象。

清洁支架、支撑系统、接地装置和其他连接区域，使其免受盐份和灰尘积聚。

维修腐蚀区域的建议措施：

- #1. 清洁腐蚀区域周围积聚的盐分和其他灰尘。
- #2. 使用丁基胶带或喷射氟碳漆完全覆盖腐蚀区域。
- #3. 接近海安装标准操作和维护。

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