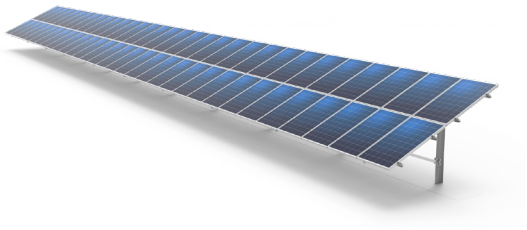
POWER PEAK™

INTEGRATED GROUNDING GUIDELINES



⚠ WARNING

Electrical hazard will exist if Ground Clips are not installed per these instructions. Failure to do so could lead to severe personal injury or death. All surfaces that mate to the Ground Clip must be free of burrs or debris from drilling or other actions which could interfere with the electrical bond.

CAUTION

Ground Clips are designed for one time use only. After torque pressures have been applied they cannot be removed and reused. If removed, they must be discarded and replaced with new Ground Clips.

The POWER PEAK large scale solar mounting system features a third party tested, integrated grounding method that meets UL 2703 for bonding all PV Modules and exposed metal framework components to earth as required by the National Electrical Code (NEC) for safety. Per NEC article 690.43©, PV mounting structures may be used as an equipment grounding conductor connected to earth to create a system level bonding and grounding solution.

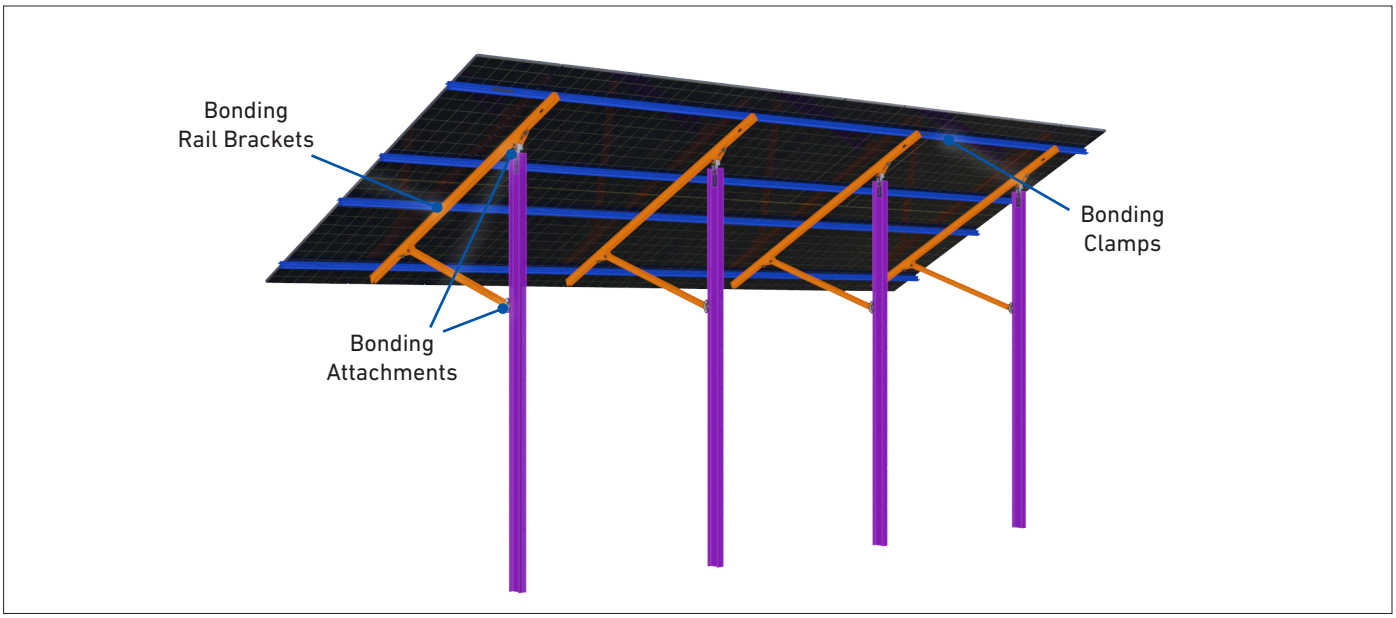
The POWER PEAK large scale solar mounting system is designed and tested to meet or exceed applicable code requirements. These guidelines provide the necessary information for proper electrical bonding and grounding the POWER PEAK mounting system to the equipment grounding conductor or to ground rods employed at the site. For additional information, review the site-specific permit package and construction drawings as well as the POWER PEAK installation instructions.

These guidelines include:

- POWER PEAK primary component overview
- Electrical bonding guidelines for the following connections:
    - PV Module to Mounting Rail Bonding
    - Rail-to-Rail Bonding via Splice Plates
    - PV Module Mounting Rail to Strongback Bonding Bracket
    - Strongback to Vertical Beam Bonding Attachments
    - Structure to Structure Electrical Bonding
    - Bonding Structure(s) to Equipment or Earth Ground

POWER PEAK™ Mounting System Component Overview

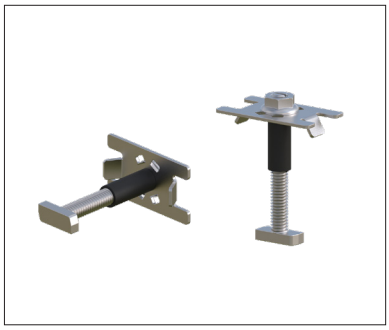
The POWER PEAK system includes three main structural components: Steel Beams, Strongback Assemblies, and PV Module Mounting Rails. Collectively, these components form an electrically bonded unit. In addition, the PV Modules are secured to the PV Module Rails using factory preassembled module clamps that include integrated grounding components.



PV Module to Mounting Rail Bonding

The POWER PEAK system includes factory preassembled module clamps (both end and mid clamps) used to secure PV Modules to the mounting rails.

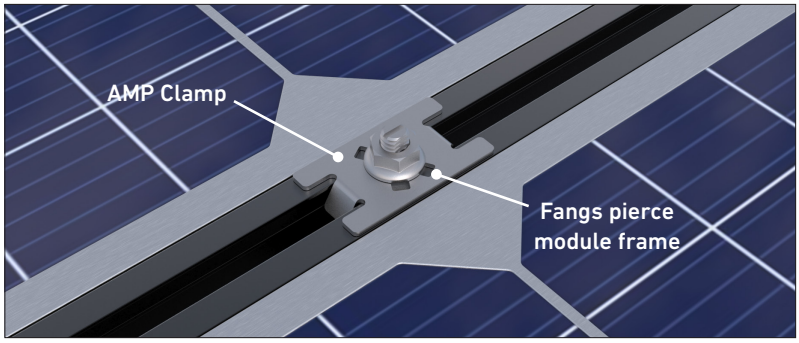
End Clamp Assembly



Mid Clamp Assembly

AMP™ Clamp - Module Rail to Electrical Bonding

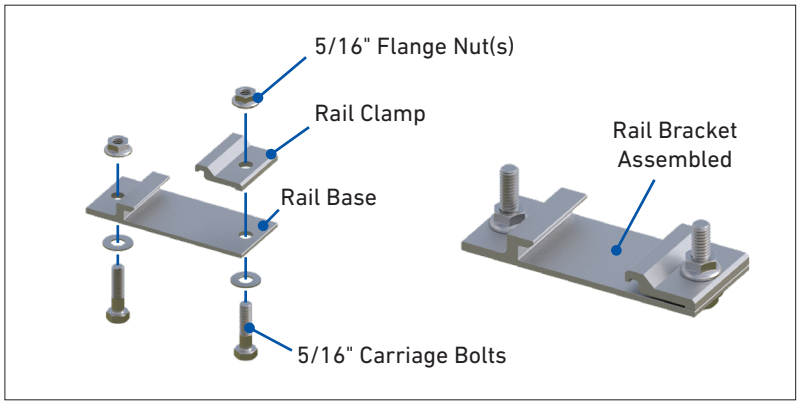
Third-party tested and certified, the AMP Clamp penetrates and electrically bonds the module to rail by penetrating the anodized module frame, effectively bonding the modules to the mounting rails and eliminating the need for separate bonding washers.



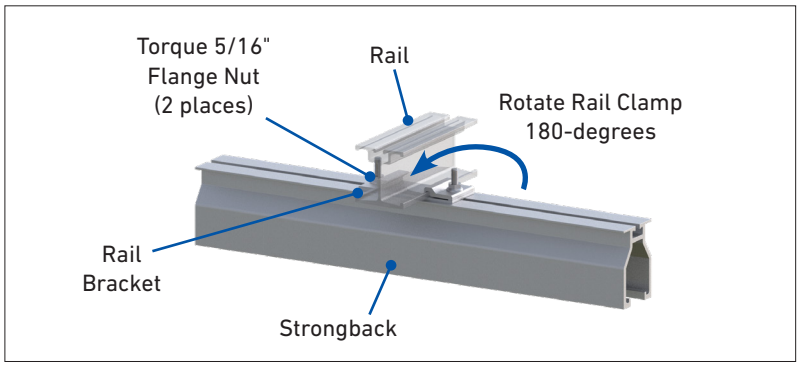
Rail-to-Rail Splice Bonding

The POWER PEAK™ system includes factory preassembled Strongbacks for supporting the PV Module Mounting Rails. One component of the Strongback Assembly is the Rail Bracket Assembly, used to secure the east/west Mounting Rails to the Strongbacks. The Rail Bracket has been third party tested and certified to UL 2703.

For purposes of the illustration shown on the right, short sections of the Module Rail and the Strongback are shown.



Rail Bracket Assembly



Installing the Rail (Strongback application)

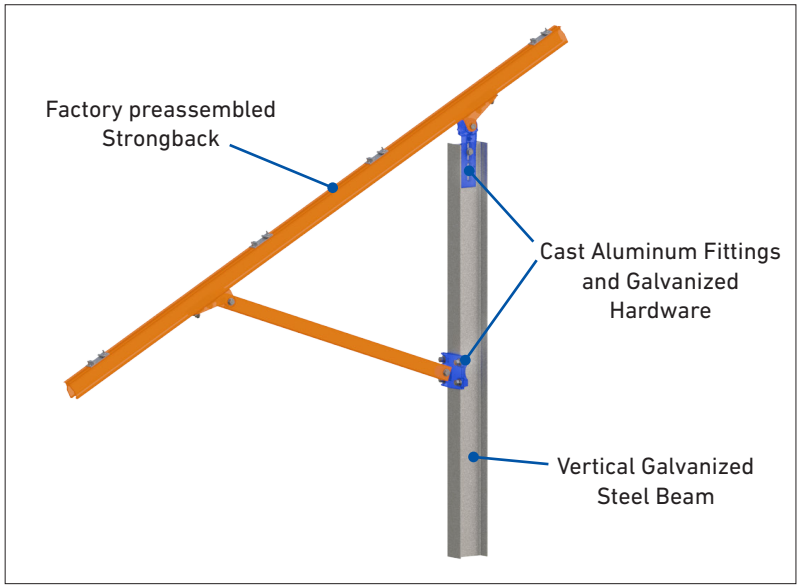
Strongback to Vertical Beam Bonding Attachments

⚠ WARNING

All bonding devices and grounding devices **MUST** be tightened to the proper manufacturer's recommendation. Failure to do so could lead to electrocution, serious personal injury, and/or death.

CAUTION

A bare copper conductor is **NOT** to be in contact with the PV Module Mounting Rails or Strongbacks. The direct interface between bare copper and aluminum will exhibit accelerated galvanic corrosion and may cause premature failure.



The POWER PEAK factory preassembled Strongbacks are attached to the galvanized vertical support beams at two points. Both attachment points include casted fittings and galvanized hardware. When bolted together with the galvanized beam, the connections provide electrical continuity. Reference the POWER PEAK installation instructions for proper torque requirements.
The attachment points have been third party tested and certified to UL 2703.

Structure to Structure Electrical Bonding

A typical large scale solar installation consists of multiple POWER PEAK mounting structures. Since each structure is an electrically bonded unit, two or more adjacent structures may be bonded together from a single point with an NEC approved wire conductor.

An approved grounding lug may be used to connect the copper wire at either of the following recommended locations:

- The end of any one of the four PV Module Mounting Rails on each structure; or
- The end of any one of the Strongback aluminum extrusions on each structure

Bonding Structure(s) to Equipment or Earth Ground

Each structure or group of bonded structures is to be connected to an equipment ground or earth ground via an NEC approved wire conductor. The copper wire conductor may be connected to the structure at any one of the PV Module Mounting Rails or Strongbacks using an approved lug.

Module to Rail Electrical Bonding

When used in conjunction with the listed minimum torque values and installation methods within the installation guidelines, the AMP™ Clamp has been tested to be utilized as a grounding/bonding device equivalent to 6 AWG copper wire and has been tested to meet or exceed the requirements of UL 2703.

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