

# **SIMPLE****RACK**<sup>®</sup>

## **RAIL-LESS RACKING FOR CONCRETE ROOFS**

# INSTALLATION GUIDE

**REVISION DATE:** 11/02/20

**VERSION:** v1.1



*Clicking the page name will take you to that page*

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## SIMPLERACK

The rail-less SimpleRack system is engineered specifically for use in flat concrete roofing applications. The system is ideal for fast, easy fixed-positioning mounting. Simple and straight forward hardware accommodate both low & high profile mounting. SimpleRack provides integrated bonding and is UL 2703 listed.

## FEATURES

- Rail-less racking that conforms to UL 2703
- 10° fixed-position mounting solution
- Integrated bonding

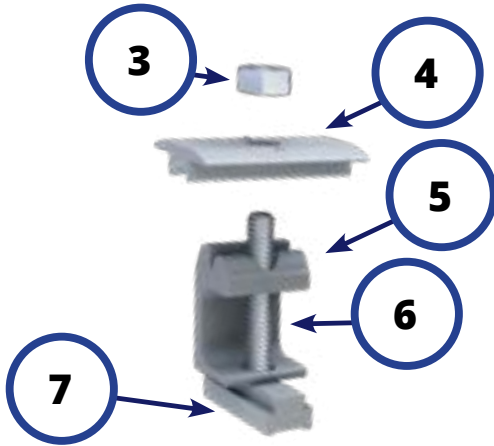
## SYSTEM COMPONENTS REQUIRED



### SIMPLERACK:

- 1. SR-X Short Leg
- 2. SR-X Tall Leg

## ADDITIONAL REQUIRED HARDWARE



- 3. Flange Nut
- 4. SR-X Mid-Clamp
- 5. End Spacer
- 6. Socket Set Screw
- 7. SR-X T-Nut

CONCRETE ANCHOR  
SOLD SEPARATELY

## AVAILABLE END SPACER HEIGHTS



32MM



35MM



40MM

## ACCESSORIES



ROCKIT CLIP 2.0

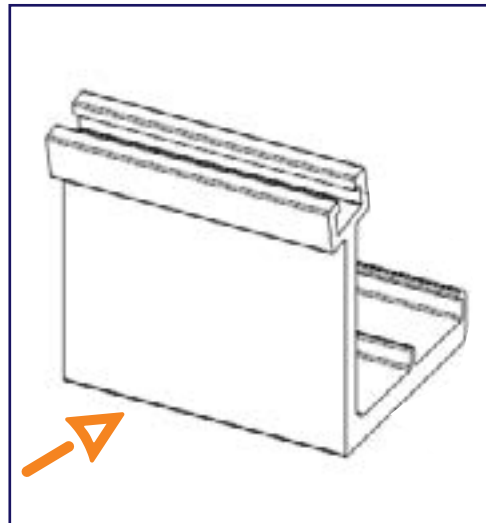
COMPONENTS



<b>Class A Fire Ratings</b>	Type 1, 2 & 3*
<b>Max System Voltage</b>	1500
<b>Max Fuse Rating</b>	30A
<b>Certification</b>	Conforms to UL STD 2703
<b>Markings</b>	Product listing label is located on SR-X Short Leg
<b>Roof Pitch</b>	1/2:12 - 2/12
<b>UL 2703 Allowable Design Load Rating</b>	30 psf downward, 30 psf upward and 5 psf lateral
<b>Max Module Size</b>	24 sq. ft.
<b>Single use Rated Components</b>	SR-X Mid-Clamp
<b>Module Orientation</b>	Portrait Only

\*Class A for Low Slope Tilt-Mount (Asymmetrical) Applications when using Type 1, 2 and 3, Listed Photovoltaic Module when installed over non-combustible roofs. This product can be installed at any tilt or any module to roof gap.

#### UL 2703 MARKING EXAMPLE:

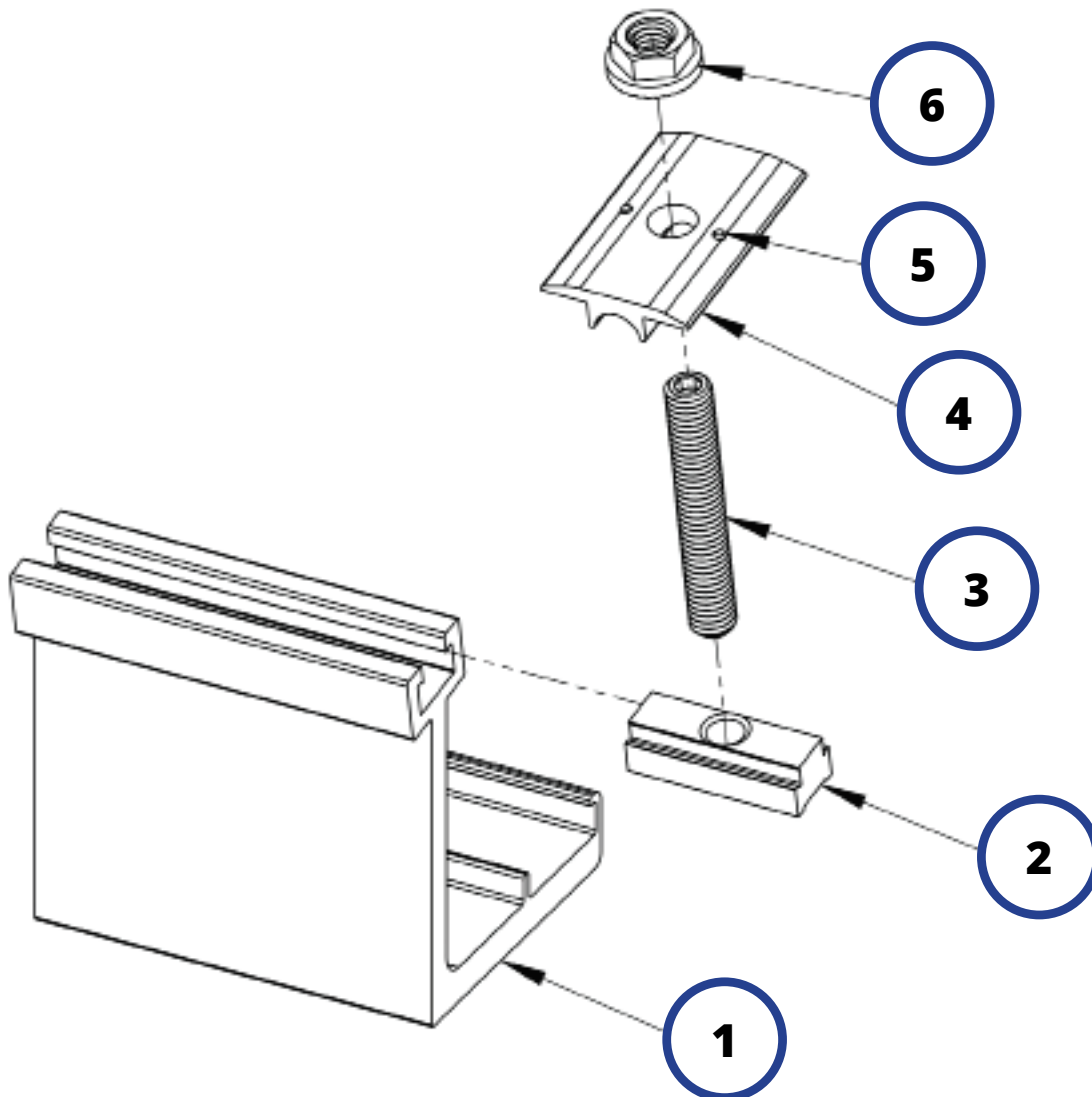


#### TORQUE SPECIFICATIONS

<b>Component</b>	<b>Torque (in-lb)</b>
<b>SR-X Mid Clamp</b>	150
<b>Socket Set Screw</b>	150
<b>RockIt Clip 2.0</b>	144

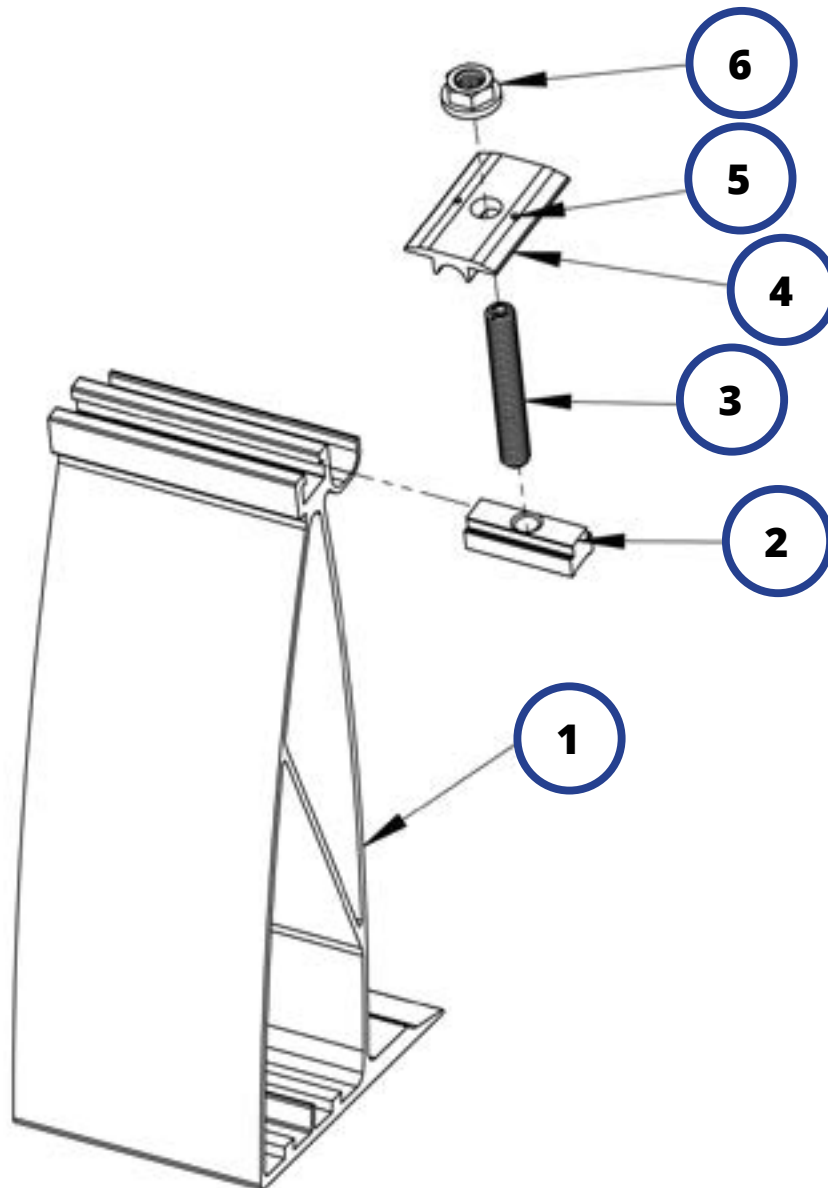
Periodic reinspection of components shall be performed to verify that there is no corrosion detrimental to system strength and electrical conductivity, no loose bolts, and/or other variables that could compromise array safety. Any corroded or damaged components shall be immediately replaced

Please Note: Review module and any 3rd party manufacturer's documentation for compatibility and compliance with warranty terms and conditions.



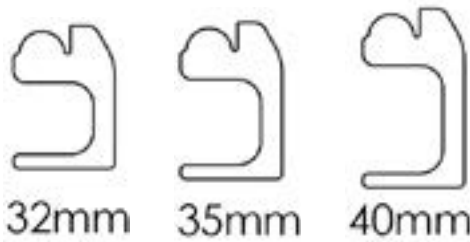
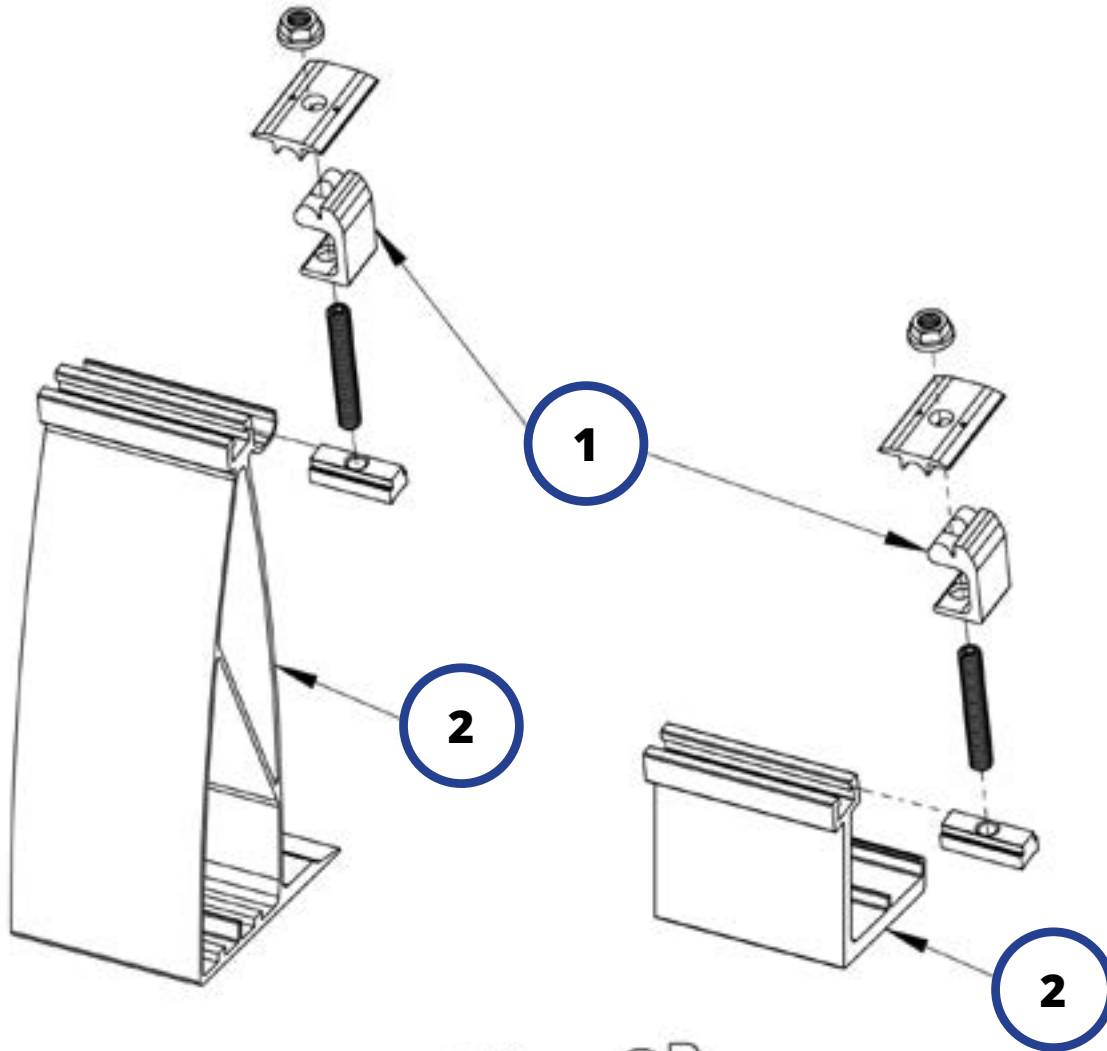
## SIMPLERACK SHORT LEG ASSEMBLY

1. SimpleRack Short Leg
2. SR-X T Nut
3. Socket Set Screw
4. SR-X Mid-Clamp
5. Bonding Pin
6. 3/8" -16 Serrated Flange Nut



## SIMPLERACK TALL LEG ASSEMBLY

1. SimpleRack Tall Leg
2. SR-X T Nut
3. Socket Set Screw
4. SR-X Mid-Clamp
5. Bonding Pin
6. 3/8"-16 Serrated Flange Nut



### SIMPLERACK END SPACER ASSEMBLY

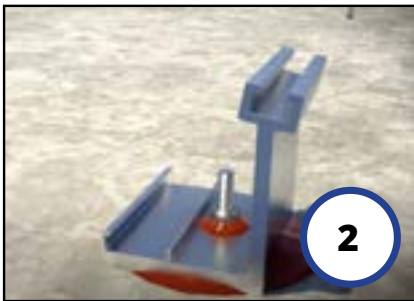
1. SR-X END 32, SR-X END 35, SR-X END 40
2. SR-X TALL LEG, SR-X SHORT LEG

ASSEMBLY

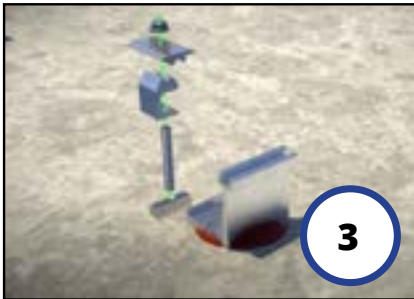


**1****STEP 1 SYSTEM LAYOUT**

- Layout and install roof compatible concrete anchors using epoxy/construction adhesive.
- E-W anchor spacing is equal to module width plus 1/2".

**2****STEP 2 INSTALL ALL LEGS**

- SR-X Tall Leg is always installed at the back of the module to ensure the proper slant (see image 5 for reference).
- Spacing between Short Leg and Tall Leg will be approximately 38" in portrait orientation, depending on module size and mounting locations.
- Epoxy should be applied on the bottom of each leg and placed over the anchors.
- Place bonded washer and flange nut over anchor. Torque to 150 in-lb.
- Epoxy should be used around flange nut.

**3****STEP 3 INSTALL END SPACERS AND CLAMPS**

- Once all legs are installed, install a SR-X End Spacer (32MM, 35MM or 40MM) on the end of the first row, clamping to the modules as you go. Torque to 150 in-lb.

**4****STEP 4 INSTALL MID-CLAMPS**

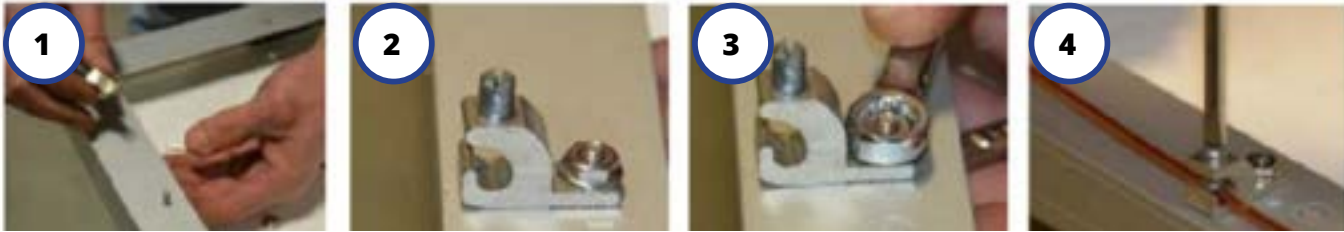
- Mid-clamps are to be placed between adjacent modules. Torque to 150 in-lb.
- Mid-clamps are compatible with all module frames.

**5****STEP 5 INSTALL END SPACERS AND MID-CLAMPS ON OPPOSITE END OF ROW**

- Repeat step 3.
- Follow the above steps for each subsequent row.



## GROUNDING LUG INSTALLATION



Install ground lug on the module per ground lug and module manufacturer's instructions

### NECESSARY COMPONENTS:

One of the following ground lugs (or any UL 2703 compliant ground lug):

- Burndy CL50-1TN Ground Lug (UL 2703 - E3514343 / UL 467-E9999)
- ILSCO SGB-4 Ground Lug (UL 2703 - E354420 / UL 467 - E34440)
- ILSCO GBL-4DBT(UL2703 - E354420 / UL467 - E344401)
- ILSCO GBL-4DBTH (UL 2703 - E354420 / UL 467 - E34440)
- ILSCO GBL-4SS (UL 2703 - E354420 I UL 467 - E34440)

This system needs to be grounded in accordance with the National Electrical Code, ANSI/NFPA 70.

\*Copper wire should not come in direct contact with aluminum at any point on the array\*



### INSTALL ROCKIT CLIP 2.0 ACCESSORY:

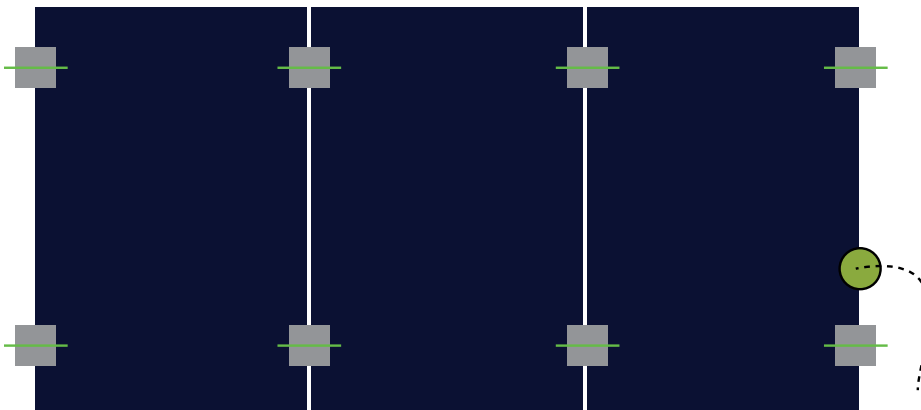
- Determine mounting location of the MLPE and RockIt Clip 2.0 on the module frame.
- Push the nut/bolt of the RockIt Clip 2.0 so the carriage bolt head is furthest away from the stainless plate.
- Slide the bolt shaft into the slot on the RockIt Clip 2.0 flange.
- Hold the carriage bolt into the RockIt Clip 2.0ing flange slot with your finger, this will keep the carriage bolt from spinning in the slot. Tighten the nut to 144 in-lbs using a 1/2" hex socket.

### ROCKIT CLIP 2.0 IS COMPATIBLE WITH:

- Enphase Products: M250-72, 250-60, M215-60, C250-72, S230, S280, IQ 6, IQ 6+, IQ, IQ7, IQ 7A, IQ 7+, IQ 7X, Q Aggregator
- SolarEdge Products: P300, P320, P340, P370, P400, P405, P485, P505, P600, P700, P730, P800p, P800s, P850, P860
- See page 12 for compatible module list with RockIt Clip 2.0



## BONDING ASSEMBLY AND BONDING PATH







### GROUNDING INFORMATION

The SimpleRack System may be used to mount and ground PV modules that comply with UL 1703 or UL 61730, only when that specific module has been evaluated for mounting and grounding, in compliance with the included installation instructions.

**NOTE:** Grounding lug must be visible to inspectors from the entire perimeter of the PV array.

### GROUNDING METHOD

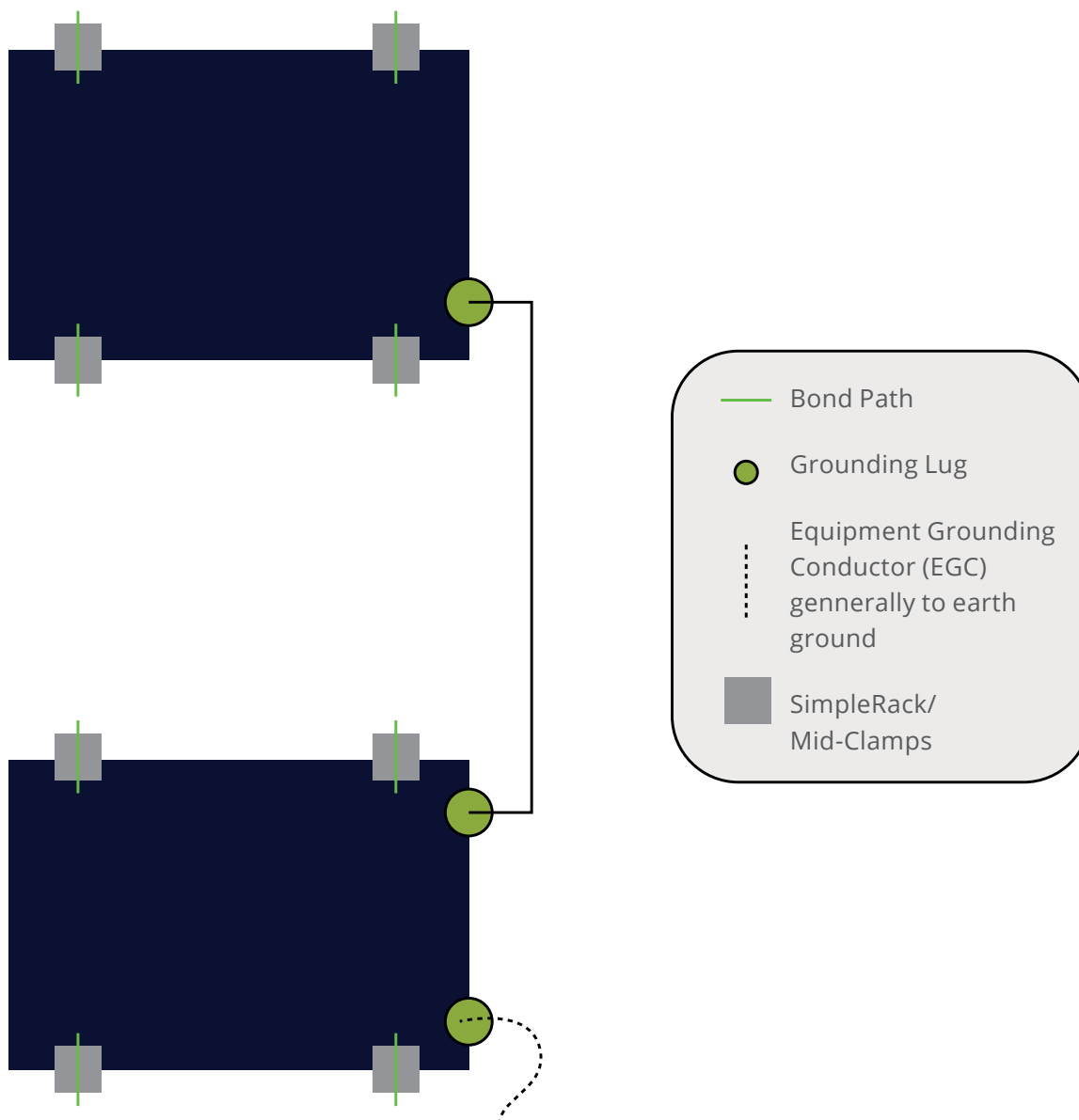
Each row of modules bonds E-W through the Mid-Clamps and End-Clamps. One approved ground lug is required per row of modules, placed on long side of module frame.

-  Bond Path
-  Grounding Lug
-  Equipment Grounding Conductor (EGC) generally to earth ground
-  Brackets/Mid-Clamps



## MAINTENANCE JUMPER BONDING PATH

Routine maintenance of a PV module or mounting system, e. g. inspection or cleaning, shall not involve breaking or disturbing the bonding path of the system. Please see diagram below for ensuring the bond path has not been broken or disturbed prior to conducting any maintenance.



## MODULE COMPATIBILITY LIST

The SimpleRack System may be used to ground and/or mount a PV module complying with UL 1703 or UL 61730 only when the specific module has been evaluated for grounding and/or mounting in compliance with the included instructions.

Unless otherwise noted, “xxx” refers to the module power rating and both black and silver frames are included in the certification.

MANUFACTURER	LIST OF UL2703 APPROVED MODULES
<b>Adani</b>	Adani modules with 35 and 40mm frames ASX-Y-ZZ-xxx Where “X” can be M or P, “Y” can be 6 or 7, and “ZZ” can be blank, PERC, B-PERC, or AB-PERC
<b>Amerisolar</b>	Amerisolar modules with 35, 40 and 50 mm frames AS-bYxxxZ Where “b” can be 5 or 6; “Y” can be M, P, M27, P27, M30, or P30; and “Z” can be blank, W or WB
<b>Aptos Solar</b>	Aptos modules with 35 and 40 mm frames DNA-yy-zz23-xxx Where “yy” can be 120 or 144; and “zz” can be MF or BF
<b>Astronergy Solar</b>	Astronergy modules with 30, 35, 40, and 45 mm frames aaSMbbyC/zz-xxx Where “aa” can be CH or A; “bb” can be 60, 66, or 72; “yy” can be blank, 10 or 12; “C” can M, P, M(BL), M-HC, M(BL)-HC, P-HC, M(DG), or M(DGT); and “zz” can be blank, HV, F-B, or F-BH
<b>ASUN</b>	ASUN modules with 35 and 40 mm frames ASUN-xxx-YYZZ-aa Where “YY” can be 60 or 72; “ZZ” can be M, or MH5; and “aa” can be blank or BB
<b>Auxin</b>	Auxin modules with 40 mm frames AXN6y6zAxxx Where “y” can be M or P; “z” can be 08, 09, 10, 11, or 12; and “A” can be F or T
<b>Axitec</b>	Axitec Modules with 35 and 40 mm frames AC-xxxY/aaZZb Where “Y” can be M, P or MH; “aa” can be blank, 125- or 156-; “ZZ” can be 54, 60, 72, 120, or 144; “b” can be S, X, V, XV, or MX



MANUFACTURER	LIST OF UL2703 APPROVED MODULES
<b>Boviet</b>	Boviet modules with 35 and 40mm frames BVM66aaYY-xxxBB Where "aa" can be 9, 10 or 12; "YY" is M or P; and "BB" can be blank or L
<b>BYD</b>	BYD modules with 35 mm frames BYDxxxAY-ZZ Where "A" can be M6, P6, MH or PH; "Y" can be C or K; and "ZZ" can be 30 or 36
<b>Canadian Solar</b>	Canadian Solar modules with 30, 35 and 40 mm frames CSbY-xxxZ Where "b" can be 1, 3 or 6; "Y" can be H, K, P, U, V, W, or X; and "Z" can be M, P, MS, PX, M-SD, P-AG, P-SD, MB-AG, PB-AG, MS-AG, or MS-SD
<b>CertainTeed</b>	CertainTeed modules with 35 and 40 frames CTxxxYZZ-AA Where "Y" can be M, P, or HC; "ZZ" can be 00,01, 10, or 11; and "AA" can be 01, 02, 03, or 04
<b>CSUN</b>	Csun modules with 35 and 40 mm frames YYxxx-zzAbb Where "YY" is CSUN or SST; "zz" is blank, 60, or 72; and "A" is blank, P or M; "bb" is blank, BB, BW, or ROOF
<b>Dehui</b>	Dehui modules with 35 and 40mm frames DH-MYYYY-xxx Where "YYY" can be 760, 772, 860, 872; and "Z" can be B or W
<b>Ecosolargy</b>	Ecosolargy modules with 35, 40, and 50 mm frames ECOxxxYzzA-bbD Where "Y" can be A, H, S, or T; "zz" can be 125 or 156; "A" can be M or P; "bb" can be 60 or 72; and "D" can be blank or B
<b>ET Solar</b>	ET Solar modules with 35, 40, and 50 mm frames ET-Y6ZZxxxAA Where "Y" can be P, L, or M; "ZZ" can be 60 or 72; and "AA" can be WB, WW, BB, WBG, WWG, WBAC, WBCO, WWCO, WWBCO or BBAC
<b>Flex</b>	Flex modules with 35, 40, and 50 mm frames FXS-xxxYY-ZZ; Where "YY" can be BB or BC; and "ZZ" can be MAA1B, MAA1W, MAB1W, SAA1B, SAA1W, SAC1B, SAC1W, SAD1W, SBA1B, SBA1W, SBC1B, or SBC1W
<b>GCL</b>	GCL modules with 35 mm and 40 mm frames GCL-ab/YY xxx Where "a" can be M or P; "b" can be 3 or 6; and "YY" can be 60, 72, 72H, or 72DH



MANUFACTURER	LIST OF UL2703 APPROVED MODULES
<b>GigaWatt Solar</b>	Gigawatt modules with 40 mm frames GWxxxYY Where "YY" can be either PB or MB
<b>Hansol</b>	Hansol modules with 35 and 40 frames HSxxxYY-zz Where "YY" can be PB, PD, PE, TB, TD, UB, UD, or UE; and "zz" can be AH2, AN1, AN3, AN4, HV1, or JH2
<b>Hanwha Solar</b>	Hanwha Solar modules with 40, 45, and 50 mm frames HSLaaP6-YY-1-xxxZ Where "aa" can be either 60 or 72; "YY" can be PA or PB; and "Z" can be blank or B
<b>Hanwha Q CELLS</b>	Hanwha Q CELLS Modules with 32, 35, 40, and 42mm frames aaYY-ZZ-xxx where "aa" can be Q. or B.; "YY" can be PLUS, PRO, PEAK, LINE PRO, LINE PLUS, PLUS DUO or PEAK DUO; and "ZZ" can be G3, G3.1, G4, G4.1, L-G2, L-G2.3, L-G3, L-G3.1, L-G3y, L-G4, L-G4.2, L-G4y, LG4.2/TAA, BFR-G3, BLK-G3, BFR-G3.1, BLK-G3.1, BFR-G4, BFR-G4.1, BFR G4.3, BLK-G4.1, G4/SC, G4.1/SC, G4.1/TAA, G4.1/MAX, BFR G4.1/TAA, BFR G4.1/MAX, BLK G4.1/TAA, BLK G4.1/SC, EC-G4.4, G5, G5/SC, G5/TS, BLK-G5, BLK-G5/SC, BLK-G5/TS, L-G5, L-G5.1, L-G5.2, L-G5.2/H, L-G5.3, G6, G6/SC, G6/TS, G6+, BLK-G6, L-G6, L-G6.1, L-G6.2, L-G6.3, G7, BLK-G6+, BLK-G6+/AC, BLK-G6+/SC, BLK-G6/TS, G6+/TS, BLK-G6+/TS, BLK-G7, G7.2, G8, BLK-G8, G8+, BLK-G8+ L-G7, L-G7.1, L-G7.2, L-G7.3, L-G8, L-G8.1, L-G8.2, L-G8.3, L-G8.3/BFF, ML-G9, BLK ML-G9, ML-G9+, BLK ML-G9+, XL-G9.2 or XL-G9.3
<b>Heliene</b>	Heliene modules with 40 mm frames YYZZxxxA Where "YY" can be 36, 60, 72, or 96; "ZZ" can be M, P, or MBLK; and "A" can be blank, HomePV, or Bifacial
<b>HT-SAAE</b>	HT-SAAE modules with 35 and 40 mm frames HTyy-156Z-xxx Where "yy" can be 60 or 72, "Z" can be M, P, M-C, P-C, M(S), M(VS), M(V), P(V), M(V)-C, P(V)-C
<b>Hyundai</b>	Hyundai modules with 33, 35, 40 and 50 mm frames HiY-SxxxZZ Where "Y" can be A, D, M or S; and "ZZ" can be HG, HI, KI, MI, MF, MG, RI, RG, RG(BF), RG(BK), SG, TI, or TG



MANUFACTURER	LIST OF UL2703 APPROVED MODULES
<b>Itek</b>	Itek Modules with 40 and 50 mm frames IT-xxx-YY Where "YY" can be blank, HE, or SE, or SE72
<b>JA Solar</b>	JA Solar modules with 30, 35, 40 and 45 mm frames JAyzz-bbww-xxx/aa Where "yy" can be M, P, M6 or P6; "zz" can be blank, (K), (L), (R), (V), (BK), (FA), (TG), (FA)(R), (L)(BK), (L)(TG), (R)(BK), (R)(TG), (V)(BK), (BK)(TG), or (L)(BK)(TG); "bb" can be 48, 60, or 72; "ww" can be D09, S01, S02, S03, S06, S09, S10, or S12; and "aa" can be BP, MP, SI, SC, PR, 3BB, 4BB, 4BB/RE, 5BB
<b>Jinko</b>	Jinko modules with 35 and 40 mm frames JKMYxxxZZ-aa Where "Y" can either be blank or S; "ZZ" can be M, P, or PP; and "aa" can be blank, 60, 60B, 60H, 60L, 60BL, 60HL, 60HB, 60HBL, 6HBL-EP, 60-J4, 60B-J4, 60B-EP, 60(Plus), 60-V, 60-MX, 72, 72B, 72-J4, 72B-J4, 72(Plus), 72-V, 72H-V, 72L-V, 72HL-V, 72-MX, 72H-BDVP, 72HL-TV, or 72HL-V-MX3
<b>Kyocera</b>	Kyocera Modules with 46mm frames KYxxxZZ-AA Where "Y" can be D or U; "ZZ" can be blank, GX, or SX; and "AA" can be LPU, LFU, UPU, LPS, LPB, LFB, LFBS, LFB2, LPB2, 3AC, 3BC, 3FC, 4AC, 4BC, 4FC, 4UC, 5AC, 5BC, 5FC, 5UC, 6BC, 6FC, 8BC, 6MCA, or 6MPA
<b>LG</b>	LG modules with 35, 40, and 46 mm frames LGxxxYaZ-bb Where "Y" can be A, E, N, Q, S; "a" can be 1 or 2; "Z" can be C, K, T, or W; and "bb" can be A3, A5, B3, G3, G4, J5, K4, L5, N5, or V5
<b>Longi</b>	Longi modules with 30, 35 and 40 mm frames LRa-YYZZ-xxxM Where "a" can be 4 or 6; "YY" can be blank, 60 or 72; and "ZZ" can be blank, BK, BP, HV, PB, PE, PH, HBD, HIB, HIH, HPB, HPH, or HIBD
<b>Mission Solar</b>	Mission Solar modules with 33 and 40 mm frames MSEbbxxxZZaa Where "bb" can be blank or 60A; "ZZ" can be blank, MM, SE, SO, SQ, SR, or TS; and "aa" can be blank, 1J, 4J, 4S, 5K, 5T, 60, 6J, 6S, 6W, 8K, 8T, or 9S
<b>Mitsubishi</b>	Mitsubishi modules with 46 mm frames PV-MYYxxxZZ Where "YY" can be LE or JE; and "ZZ" can be either HD, HD2, or FB
<b>Motech</b>	IM and XS series modules with 40, 45, and 50 mm frames





MANUFACTURER	LIST OF UL2703 APPROVED MODULES
<b>Next Energy Alliance</b>	Next Energy Alliance modules with 35 and 40mm frames yyNEA-xxxZZ where "yy" can be blank or US; "ZZ" can be M, MB or M-60
<b>Neo Solar Power</b>	Neo Solar Power modules with 35 mm frames D6YxxxZZaa Where "Y" can be M or P; "ZZ" can be B3A, B4A, E3A, E4A, H3A, H4A; and "aa" can be blank, (TF), ME or ME (TF)
<b>Panasonic</b>	Panasonic modules with 35 and 40 mm frames VBHNxxxYYzzA Where "YY" can be either KA, RA, SA or ZA; "zz" can be either 01, 02, 03, 04, 06, 06B, 11, 11B, 15, 15B, 16, 16B, 17, or 18; and "A" can be blank E, G or N
<b>Peimar</b>	Peimar modules with 40 mm frames SbxxxYzz Where "b" can be G, M or P; "Y" can be M or P; and "zz" can be blank, (BF), or (FB)
<b>Philadelphia Solar</b>	Philadelphia modules with 35 and 40 mm frames PS-YzzAA-xxx Where "Y" can be M or P; "zz" can be 60 or 72; and "AA" can be blank or (BF)
<b>Phono Solar</b>	Phono Solar modules with 35, 40, and 45 mm frames PSxxxY-ZZ/A Where "Y" can be M, M1, MH, or M1H or P; "ZZ" can be 20 or 24; and "A" can be F, T, U, or TH
<b>Recom</b>	Recom modules with 35 and 40 mm frames RCM-xxx-6yy Where "yy" can be MA, MB, ME or MF
<b>REC Solar</b>	REC modules with 30, 38 and 45 mm frames RECxxxYYZZ Where "YY" can be AA, M, NP, PE, PE72, TP, TP2, TP2M, TP2SM, or TP2S, TP3M; and "ZZ" can be blank, Black, BLK, BLK2, SLV, or 72
<b>Renesola</b>	ReneSola modules with 35, 40 and 50 mm frames AAxxxY-ZZ Where "AA" can be SPM(SLP) or JC; "Y" can be blank, F, M or S; and "ZZ" can be blank, Ab, Ab-b, Abh, Abh-b, Abv, Abv-b, Bb, Bb-b, Bbh, Bbh-b, Bbv, Bbv-b, Db, Db-b, or 24/Bb
<b>Renogy</b>	Renogy Modules with 40 and 50 mm frames RNG-xxxY Where "xxx" is the module power rating; and "Y" can be D or P



MANUFACTURER	LIST OF UL2703 APPROVED MODULES
<b>Risen</b>	Risen Modules with 35 and 40 mm frames RSMyy-6-xxxZZ Where "yy" can be 60, 72, 120, 132 or 144; and "ZZ" can be M or P
<b>S-Energy</b>	S-Energy modules with 40 frames SNxxxY-ZZ Where "Y" can be M or P; and "ZZ" can be 10, or 15
<b>Seraphim Energy Group</b>	Seraphim modules with 35 and 40 mm frames SEG-aYY-xxxZZ Where "a" can be blank, 6 or B; "YY" can be blank, MA, MB, PA, or PB; and "ZZ" can be blank, BB, BG, BW, HV, WB, WW, BMB, BMB-HV
<b>Seraphim USA</b>	Seraphim modules with 40 and 50 mm frames SRP-xxx-6YY-ZZ Where "xxx" is the module power rating; and "YY" can be MA, MB, PA, PB, QA-XX-XX, and QB-XX-XX; ZZ is blank, BB or HV
<b>Sharp</b>	Sharp modules with 35 and 40 mm frames NUYYxxx Where "YY" can be SA or SC
<b>Silfab</b>	Silfab Modules with 38 mm frames SYY-Z-xxxAb Where "YY" can be IL, SA, LA, SG or LG; "Z" can be blank, M, P, or X; "A" can be blank, B, H, M, N; and "b" can be A, L, G, or T
<b>Solaria</b>	Solaria modules with 40 mm frames PowerXT xxxY-ZZ Where "Y" can be R or C; and "ZZ" can be AC, BD, BX, BY, PD, PM, PM-AC, PX, PZ, WX or WZ
<b>Solarcity (Tesla)</b>	Solarcity modules with 40 mm frames SCxxxYY Where "YY" can be blank, B1 or B2
<b>SolarTech</b>	SolarTech modules with 42 mm frames STU-xxxYY Where "YY" can be PERC or HJT
<b>SolarWorld AG</b>	SolarWorld Sunmodule Plus, Protect, Bisun, XL, Bisun XL, may be followed by mono, poly, duo, black, bk, or clear; modules with 31, 33 or 46 mm frames SW-xxx
<b>SolarWorld Americas</b>	SolarWorld Sunmodule Plus, Protect, Bisun, XL, Bisun XL, may be followed by mono, poly, duo, black, bk, or clear; modules with 33 mm frames SWA-xxx



MANUFACTURER	LIST OF UL2703 APPROVED MODULES
<b>Sonali</b>	Sonali Modules with 40 mm frames SSxxx
<b>Stion</b>	Stion Thin film modules with 35 mm frames STO-xxx or STO-xxxA
<b>SunEdison</b>	SunEdison Modules with 35, 40 & 50 mm frames SE-YxxxZABCDE Where "Y" can be B, F, H, P, R, or Z; "Z" can be 0 or 4; "A" can be B,C,D,E,H,I,-J,K,L,M, or N; "B" can be B or W; "C" can be A or C; "D" can be 3, 7, 8, or 9; and "E" can be 0, 1 or 2
<b>Suniva</b>	Suniva modules with 35, 38, 40, 46, and 50 mm frames OPTxxx-AA-B-YYY-Z MVXxxx-AA-B-YYY-Z Where "AA" is either 60 or 72; "B" is either 4 or 5; "YYY" is either 100,101,700,1B0, or 1B1; and "Z" is blank or B
<b>Sunpower</b>	Sunpower standard (G3 or G4) or InvisiMount (G5) 40 and 46 mm frames SPR-Zb-xxx-YY Where "Z" is either A, E, P or X; "b" can be blank, 17, 18, 19, 20, 21, or 22; and "YY" can be blank, BLK, COM, C-AC, D-AC, E-AC, G-AC, BLK-C-AC, or BLK-D-AC
<b>Sunspark</b>	Sunspark modules with 40 mm frames SYY-xxxZ Where "YY" can be MX or ST; and "Z" can be M, MB, P or W
<b>Suntech</b>	Suntech Modules with 35, 40 and 50mm frames STPxxxz/aa Where "y" is blank or S; and "zz" can be 20, 24; and "aa" can be Vd, Vem, Vfw, Wdb, Wde or Wd
<b>Talesun</b>	Talesun modules with 35 and 40 frames TP6yZZaaxxx-b Where "yy" can be blank, F or H; "ZZ" can be 60 or 72; "aa" can be M or P; and "b" can be blank, B, T, or (H)
<b>Trina</b>	Trina Modules with 30, 35, 40 and 46mm frames TSM-xxxYYZZ Where "YY" can be DD05, DD06, DD14, DE14, DE15, DEG15, PA05, PC05, PD05, PD06, PA14, PC14, PD14, PE14, or PE15; and "ZZ" can be blank, .05, .08, .10, .18, .08D, .18D, 0.82, .002, .00S, 05S, 08S, A, A.05, A.08, A.10, A.18, A(II), A.05(II), A.08(II), A.082(II), A.10(II), A.18(II), H, H(II), H.05(II), H.08(II), HC.20(II), HC.20(II), M, M(II), M.05(II), MC.20(II)



MANUFACTURER	LIST OF UL2703 APPROVED MODULES
<b>URE</b>	URE modules with 35 mm frames DyZxxxHaa Where “y” can be 6 or 7; “Z” can be K or M; and “aa” can be H3A, H4A, or H8A
<b>Vikram</b>	Vikram solar modules with 40 mm frames VSyy.ZZ.AAA.bb Where “yy” can be M, P, MBB, MH, MS, MHBB, or PBB; “ZZ” can be 60 or 72; “AAA” is the module power rating; and “bb” can be 03.04 or 05
<b>VSUN</b>	VSUN modules with 35 and 40 mm frames VSUNxxx-YYz-aa Where “YY” can be 60, 72, 120, or 144; “z” can be M, P, MH, PH, or BMH; and “aa” can be blank, BB, or DG
<b>Waaree</b>	Waaree modules with 40mm frames WSyy-xxx where “yy” can be blank or M
<b>Winaico</b>	Winaico modules with 35 and 40 mm frames Wsy-xxxZa Where “y” can be either P or T; “Z” can be either M, P, or MX; and “a” can be blank or 6
<b>Yingli</b>	Panda, YGE, YGE-U, and YLM series modules with 35, 40, and 50 mm frames
<b>ZNShine</b>	ZNShine Modules with 30, 35, and 40mm frames ZXy6-ZZaa-xxx/b Where “y” can be M or P; “ZZ” can be blank, H, HLD, HLDD, LD, LDD, NH, NHLDD or NHLDD; “aa” can be 60, 72, 120 or 144; and “b” can be M or P