

NOTES:

1. SPACE HILTI S-BT STUDS ACCORDINGLY TO ACCOMMODATE DESIGN LOADS.
 2. S-BT STUDS SHALL BE INSTALLED PER HILTI INSTALLATION INSTRUCTIONS.
 3. HEX NUT SHALL BE USED AS NEEDED TO FACILITATE ALIGNMENT AND TIGHTENING OF ESL HANGER. ENSURE S-BT IS NOT OVERTORQUED.
- * CONTACT HILTI ENGINEERING IF THINNER BASE MATERIAL.

ESL - SS Cable Hangers			
Item #	Product ID	Max. # of slots	Packaging
2035598	X-15002-ESL-2	1	25
2035599	X-15002-ESL-3	2	25
2035720	X-15002-ESL-4	3	25
2035721	X-15002-ESL-6	5	25
2035722	X-15002-ESL-8	7	25



Information and loads are recommendations for static application, and based on the published data in the Hilti Technical Guide (including allowable load values, factors of safety, methods of calculation and limiting factors). The responsible project engineer must verify suitability for any specific application. Modification to design may alter performance and should be evaluated by engineer of record.

Drawn HAM	Developer RPB
--------------	------------------

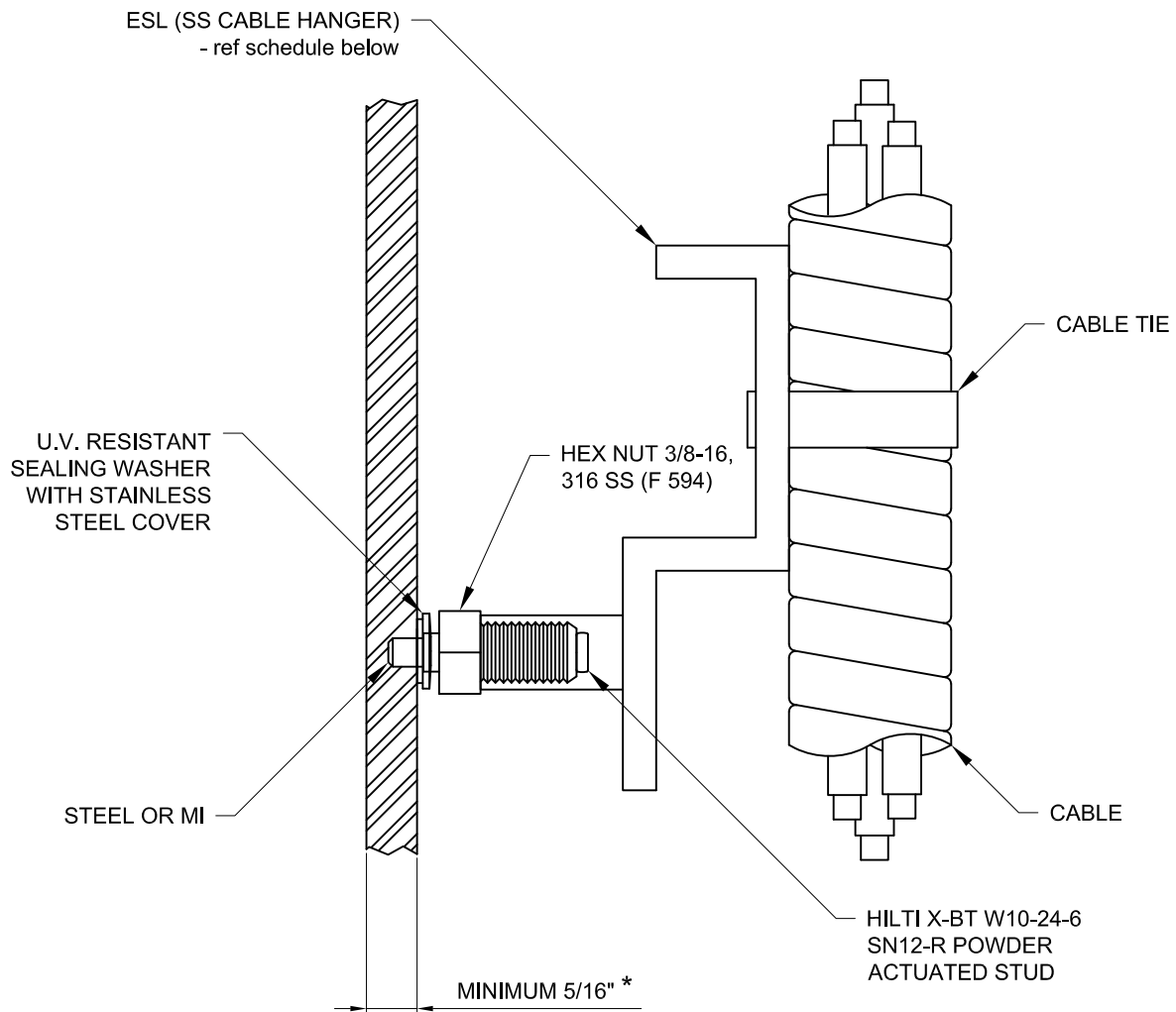
Date 21 NOV 2016

Project S-BT TYPICALS

Description ESL-SS CABLE HANGERS
--

Drawing No. 12-122-10

Index C	Sheet 1/1
------------	--------------



NOTES:

1. SPACE POWDER-ACTUATED STUDS ACCORDINGLY TO ACCOMMODATE DESIGN LOADS.
 2. POWDER-ACTUATED STUDS SHALL BE INSTALLED PER HILTI INSTALLATION INSTRUCTIONS.
 3. HEX NUT SHALL BE USED AS NEEDED TO FACILITATE ALIGNMENT AND TIGHTENING OF ESL HANGER. ENSURE X-BT IS NOT OVERTORQUED.
- * CONTACT HILTI ENGINEERING IF THINNER BASE MATERIAL.

ESL - SS Cable Hangers			
Item #	Product ID	Max. # of slots	Packaging
2035598	X-15002-ESL-2	1	25
2035599	X-15002-ESL-3	2	25
2035720	X-15002-ESL-4	3	25
2035721	X-15002-ESL-6	5	25
2035722	X-15002-ESL-8	7	25



Information and loads are recommendations for static application, and based on the published data in the Hilti Technical Guide (including allowable load values, factors of safety, methods of calculation and limiting factors). The responsible project engineer must verify suitability for any specific application. Modification to design may alter performance and should be evaluated by engineer of record.

Drawn: HAM Developer: RPB

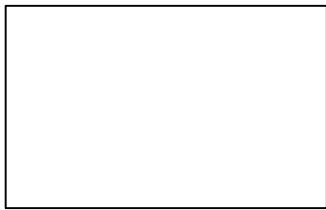
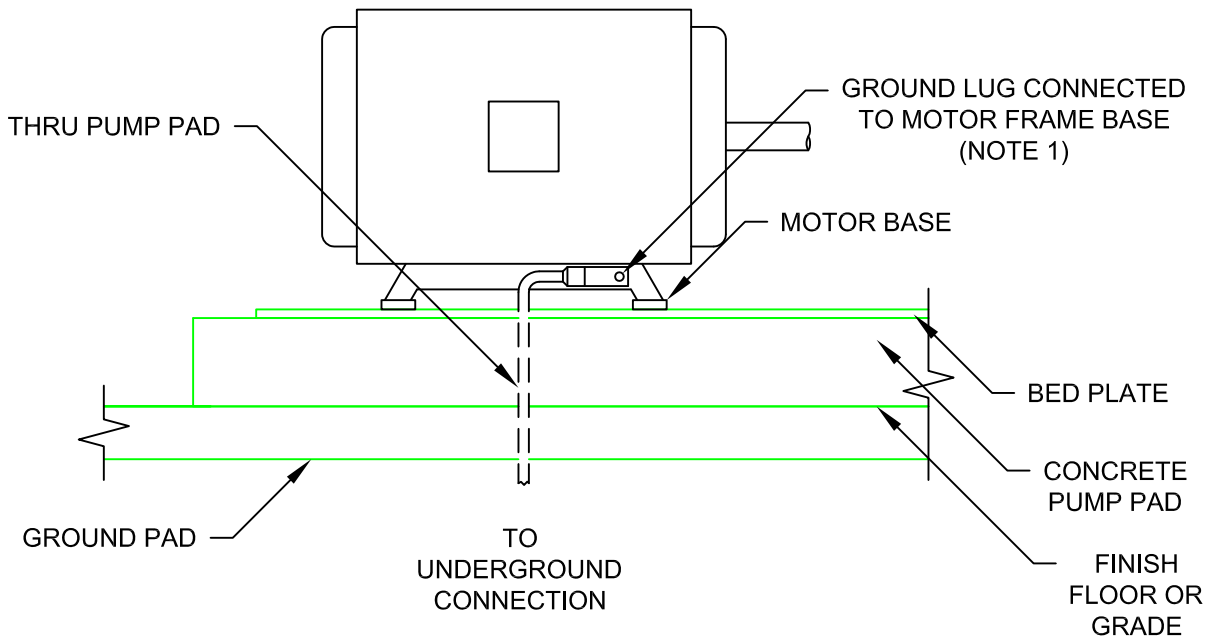
Date: 25 JUN 12

Drawing No. 12-122-10

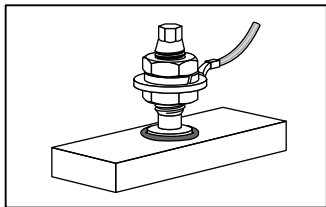
Index: C Sheet: 1/1

Project: XBT TYPICALS

Description: ESL-SS CABLE HANGERS



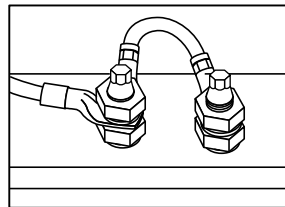
SINGLE POINT CONNECTION



- FASTENERS**
 S-BT-MR W10/15 SN6
 S-BT-MF W10/15 AN6
 S-BT-MR M10/15 SN6
 S-BT-MF M10/15 AN6
 S-BT-MR M8/15 SN6
 S-BT-MF M8/15 AN6

MAXIMUM CONNECTED CABLE SIZE
 ≤ 10 mm COPPER (8 AWG)

DOUBLE POINT CONNECTION



- FASTENERS**
 S-BT-MR W10/15 SN6
 S-BT-MF W10/15 AN6
 S-BT-MR M10/15 SN6
 S-BT-MF M10/15 AN6
 S-BT-MR M8/15 SN6
 S-BT-MF M8/15 AN6

MAXIMUM CONNECTED CABLE SIZE
 ≤ 16 mm COPPER (6 AWG)

NOTE:

1. GROUND WIRE ACCORDING TO DESIGN ENGINEERING DETAIL. MAXIMUM 8 AWG SINGLE POINT, 6 AWG DOUBLE POINT. ACCORDING TO EN 60439-1 AND EN 60204-1.
2. HILTI S-BT STUDS SHALL BE INSTALLED PER HILTI INSTALLATION INSTRUCTIONS.

THIS DRAWING REPRESENTS A COMMON APPLICATION USED ON PETROCHEMICAL PROJECTS IN UPSTREAM OR DOWNSTREAM TO THE BEST OF HILTI'S KNOWLEDGE. THIS DRAWING IS NEITHER A TECHNICAL DOCUMENTATION NOR AN ENGINEERING JUDGMENT. PLEASE REFER TO PRODUCT TECHNICAL DATA OF EACH HILTI PRODUCT TO CHECK FOR APPLICABLE LIMITATIONS.

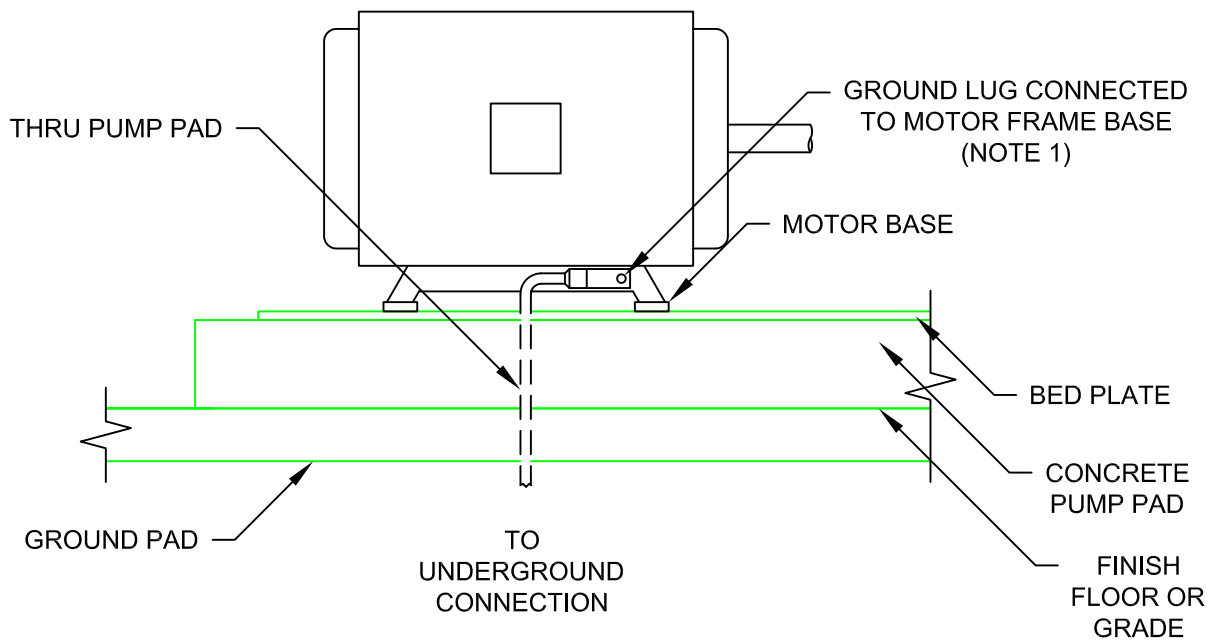


Information and loads are recommendations for static application, and based on the published data in the Hilti Technical Guide (including allowable load values, factors of safety, methods of calculation and limiting factors). The responsible project engineer must verify suitability for any specific application. Modification to design may alter performance and should be evaluated by engineer of record.

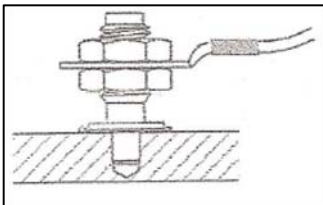
Drawn	Developer
HAM/JGB	RPB
Date	
21 NOV 2016	
Drawing No.	
12-122-06	
Index	Sheet
F	1/1

Project
DETAILS FOR ELECTRICAL ENGINEERS

Description
GROUNDING CONNECTIONS WITH S-BT



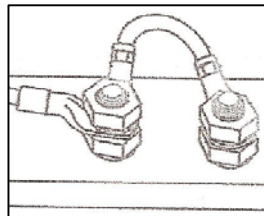
SINGLE POINT CONNECTION



FASTENERS
 X-BT M10-24-6 SN12-R,
 X-BT W10-24-6 SN12-R,
 X-BT M6-24-6 SN12-R,
 X-BT W6-24-6 SN12-R

MAXIMUM CONNECTED CABLE SIZE
 ≤ 10 mm COPPER (8 AWG)

DOUBLE POINT CONNECTION



FASTENERS
 X-BT M10-24-6 SN12-R,
 X-BT W10-24-6 SN12-R,
 X-BT M6-24-6 SN12-R,
 X-BT W6-24-6 SN12-R

MAXIMUM CONNECTED CABLE SIZE
 ≤ 16 mm COPPER (6 AWG)

NOTE:

1. GROUND WIRE ACCORDING TO DESIGN ENGINEERING DETAIL. MAXIMUM 8 AWG SINGLE POINT, 6 AWG DOUBLE POINT. ACCORDING TO EN 60439-1 AND EN 60204-1.
2. POWDER-ACTUATED STUDS SHALL BE INSTALLED PER HILTI INSTALLATION INSTRUCTIONS.

THIS DRAWING REPRESENTS A COMMON APPLICATION USED ON PETROCHEMICAL PROJECTS IN UPSTREAM OR DOWNSTREAM TO THE BEST OF HILTI'S KNOWLEDGE. THIS DRAWING IS NEITHER A TECHNICAL DOCUMENTATION NOR AN ENGINEERING JUDGMENT. PLEASE REFER TO PRODUCT TECHNICAL DATA OF EACH HILTI PRODUCT TO CHECK FOR APPLICABLE LIMITATIONS.

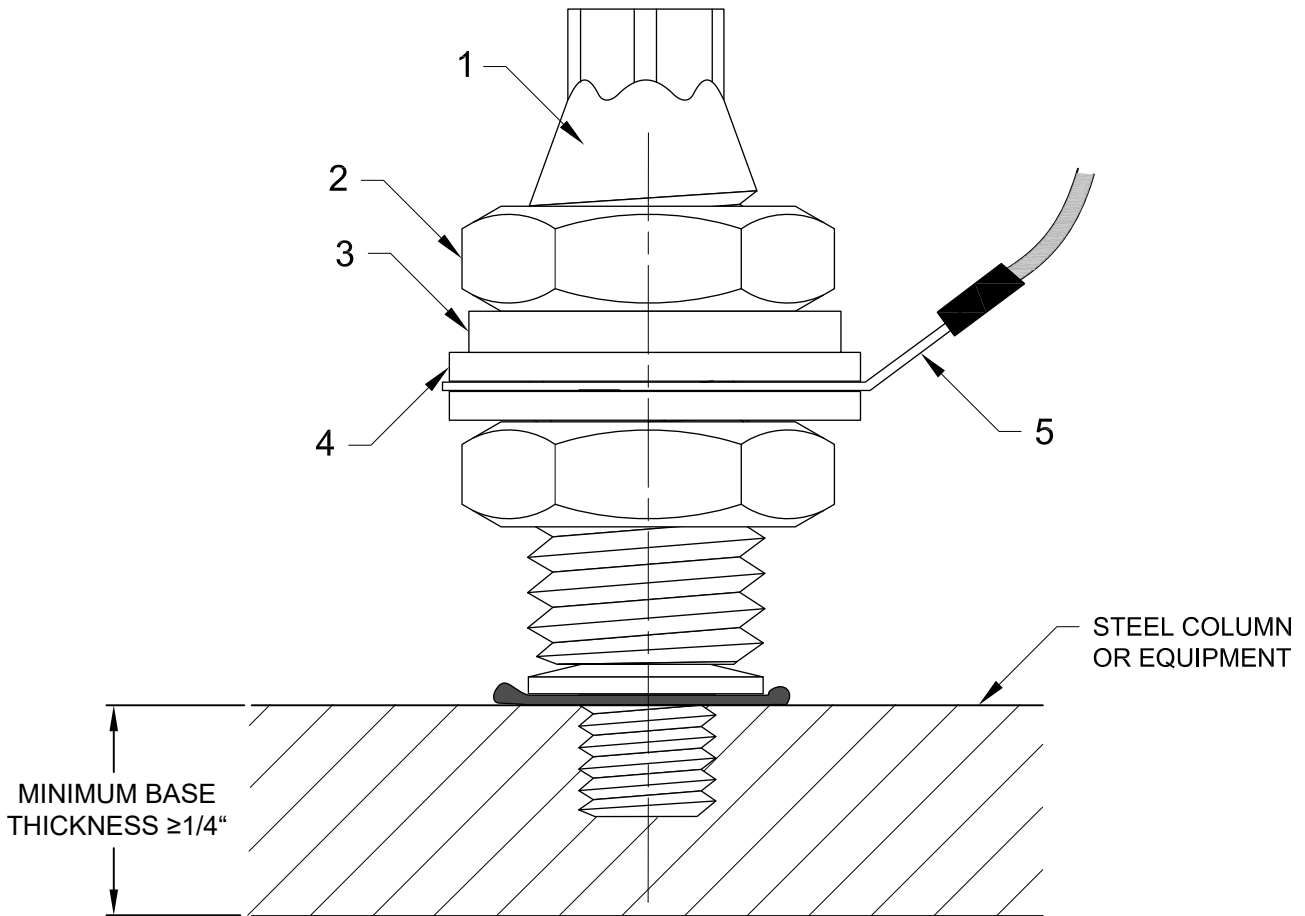


Information and loads are recommendations for static application, and based on the published data in the Hilti Technical Guide (including allowable load values, factors of safety, methods of calculation and limiting factors). The responsible project engineer must verify suitability for any specific application. Modification to design may alter performance and should be evaluated by engineer of record.

Drawn	Developer
HAM/JGB	RPB
Date	
25 JUN 12	
Drawing No.	
12-122-06	
Index	Sheet
F	1/1

Project
DETAILS FOR ELECTRICAL ENGINEERS

Description
GROUNDING CONNECTIONS



NOTES:

1. SPACE HILTI S-BT STUDS ACCORDINGLY TO ACCOMMODATE DESIGN REQUIREMENTS.
2. HILTI S-BT STUDS SHALL BE INSTALLED PER HILTI INSTALLATION INSTRUCTIONS

Item	Description	Quantity
1	HILTI S-BT-MR W10/15 SN6 #2140741	1
2	HEX JAM NUT 3/8-16, ALLOY GROUP 2 (316SS) ACCORDING TO ASTM F 594	2
3	REGULAR HELICAL SPRING LOCK WASHER ACCORDING TO B18.12.1, 316 STAINLESS STEEL ACCORDING TO SAE J405.	1
4	TYPE A PLAIN WASHER ACCORDING TO ANSI B18.22.1, MATERIAL ACCORDING TO ASTM AZ4D TYPE 316.	2
5	RING TERMINATED COPPER OR ALUMINUM CONDUCTORS	1



Information and loads are recommendations for static application, and based on the published data in the Hilti Technical Guide (including allowable load values, factors of safety, methods of calculation and limiting factors). The responsible project engineer must verify suitability for any specific application. Modification to design may alter performance and should be evaluated by engineer of record.

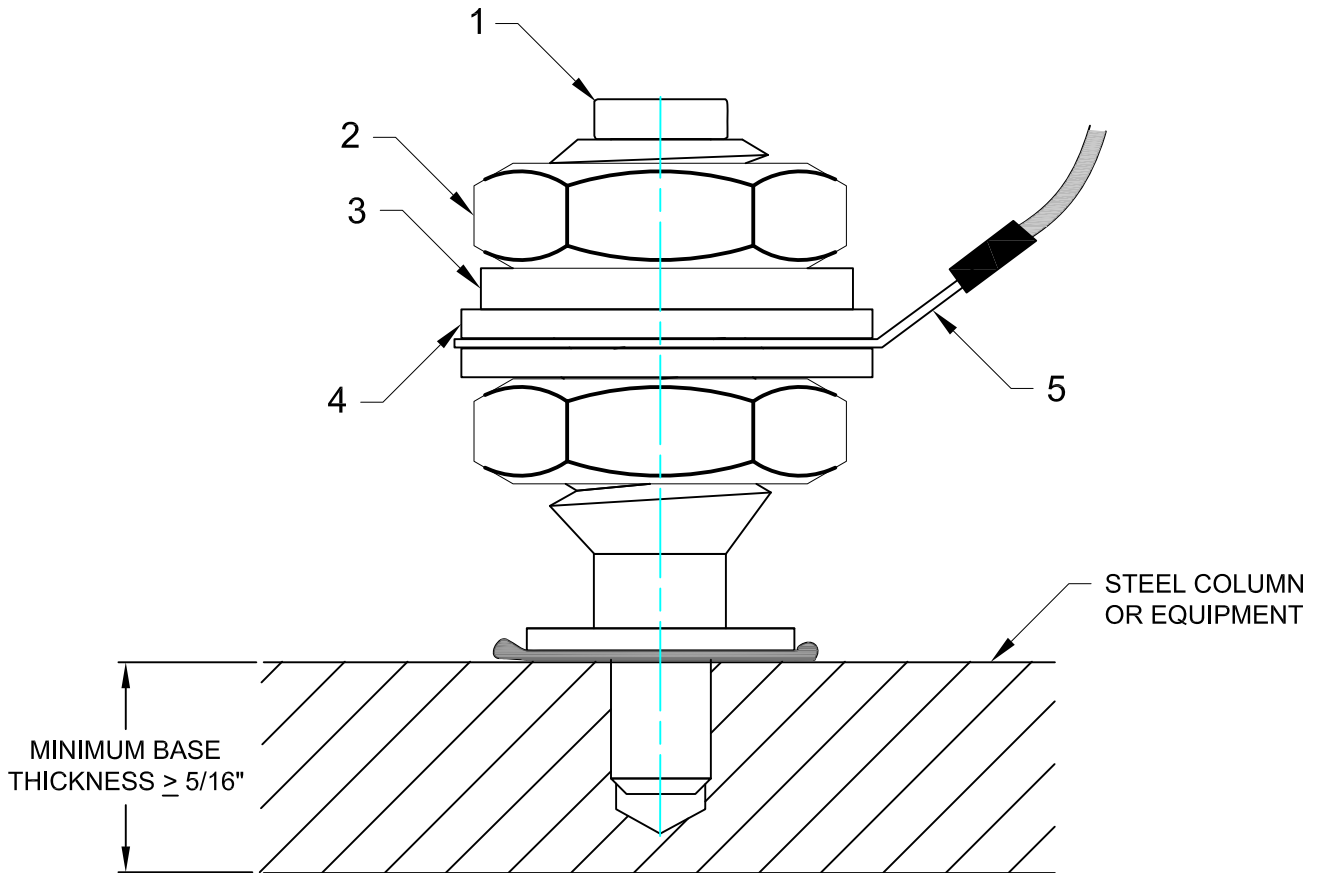
Drawn GAB	Developer RPB
--------------	------------------

Date
21 NOV 2016

Drawing No. 12-122-11

Project DETAILS FOR ELECTRICAL ENGINEERS	Description SHORT TIME CURRENT GROUNDING WITH S-BT
--	--

Index B	Sheet 1/1
------------	--------------



NOTES:

1. SPACE POWDER-ACTUATED STUDS ACCORDINGLY TO ACCOMMODATE DESIGN REQUIREMENTS.
2. POWDER-ACTUATED STUDS SHALL BE INSTALLED PER HILTI INSTALLATION INSTRUCTIONS

Item	Description	Quantity
1	HILTI X-BT W10-24-6 SN12-R #377076	1
2	HEX JAM NUT 3/8-16, ALLOY GROUP 2 (316SS) ACCORDING TO ASTM F 594	1
3	REGULAR HELICAL SPRING LOCK WASHER ACCORDING TO B18.12.1, 316 STAINLESS STEEL ACCORDING TO SAE J405.	1
4	TYPE A PLAIN WASHER ACCORDING TO ANSI B18.22.1, MATERIAL ACCORDING TO ASTM A304 TYPE 316.	2
5	RING TERMINATED COPPER OR ALUMINUM CONDUCTORS	1



Information and loads are recommendations for static application, and based on the published data in the Hilti Technical Guide (including allowable load values, factors of safety, methods of calculation and limiting factors). The responsible project engineer must verify suitability for any specific application. Modification to design may alter performance and should be evaluated by engineer of record.

Drawn GAB	Developer RPB
--------------	------------------

Date
28 JUN 12

Drawing No. 12-122-11	
--------------------------	--

Index B	Sheet 1/1
------------	--------------

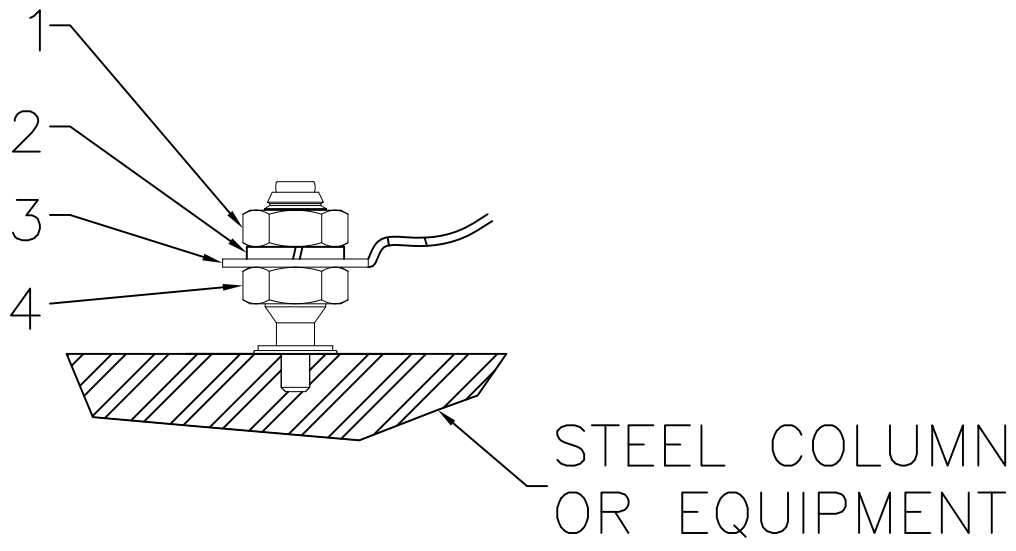
Project

**DETAILS FOR
ELECTRICAL ENGINEERS**

Description

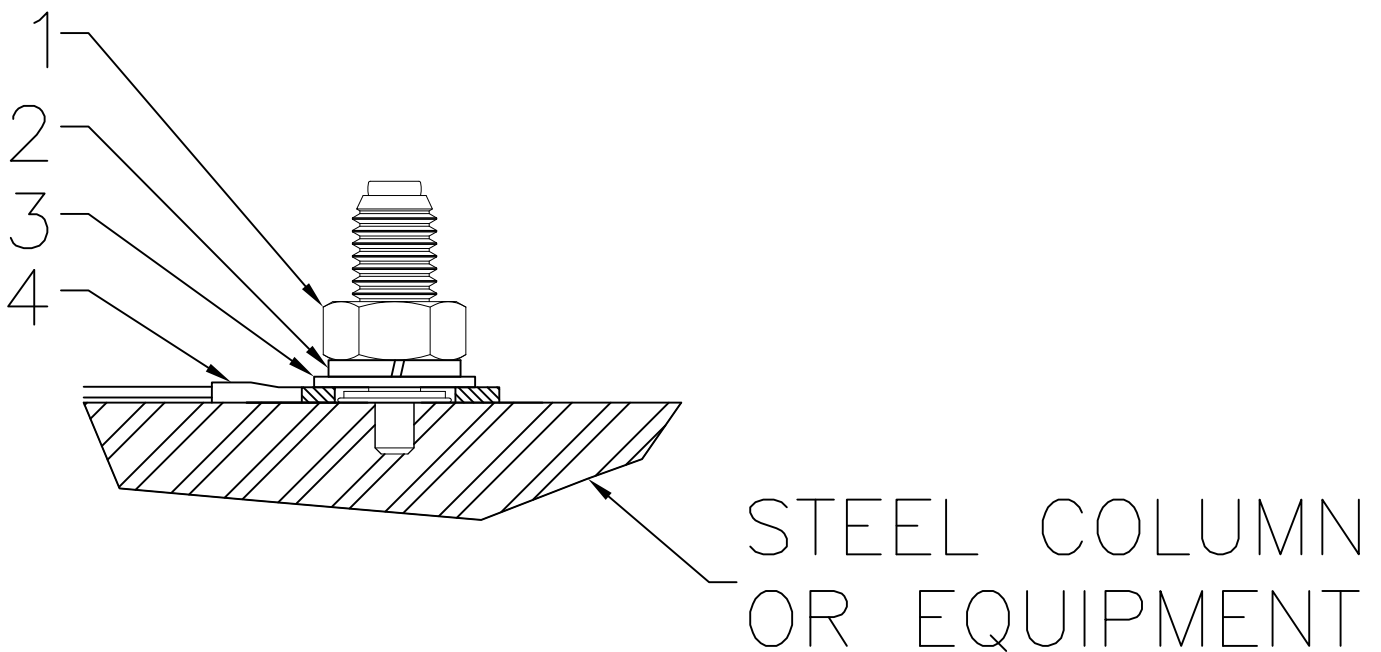
SHORT TIME CURRENT GROUNDING

HILTI X-BT-ER W10/3 SN4 ASSEMBLY FOR FUNCTIONAL BONDING AND TERMINAL CONNECTION



- 1. UPPER NUT A4 / AISI GRADE 316 MATERIAL
- 2. LOCK WASHER A4 / AISI GRADE 316 MATERIAL
- 3. CABLE LUG THICKNESS $\leq 0.12''$ (3 mm)
- 4. BOTTOM NUT A4 / AISI GRADE 316 MATERIAL
- * MAXIMUM ALLOWABLE PERMANENT CURRENT = 40A

HILTI X-BT-ER W10/3 SN4 ONE NUT CONNECTION ASSEMBLY FOR LIGHTNING PROTECTION



1. NUT A4 / AISI GRADE 316 MATERIAL
2. LOCK WASHER A4 / AISI GRADE 316 MATERIAL
3. TYPE A PLAIN WASHER ACCORDING TO ANSI B18.22.1, MATERIAL ACCORDING TO ASTM A240 TYPE 316
4. CABLE LUG THICKNESS 0.079" to 0.47" (2 mm TO 12 mm), HOLE DIAMETER \geq 0.51" (13 mm)