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Seismic Brace Installation Details

Electrical Services

May 2024

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NOTE: ANY SUBSTITUTION MUST BE APPROVED BY KUSCH PRIOR TO INSTALLATION

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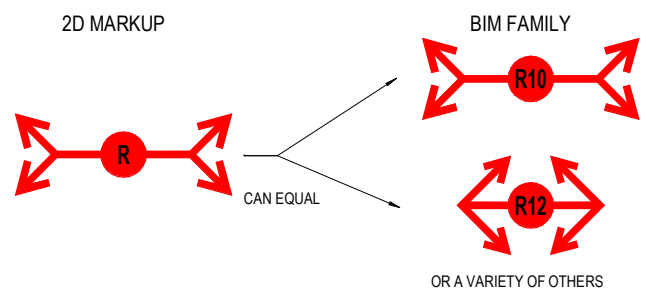
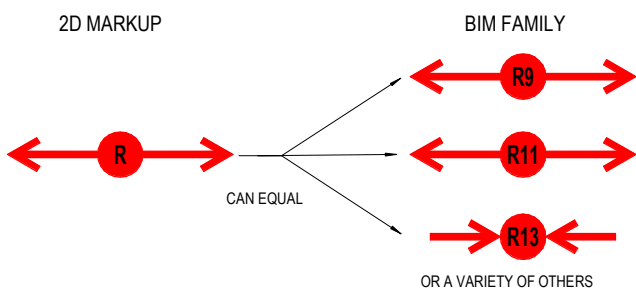
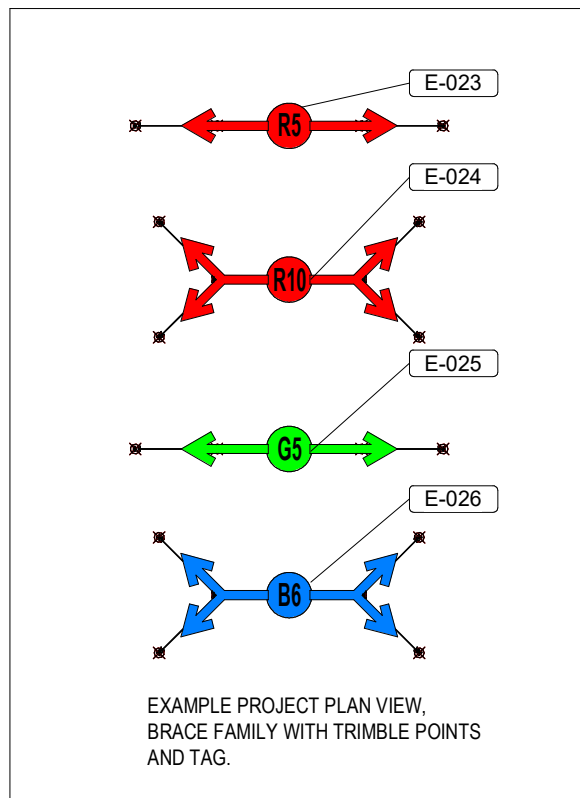
CABLE BRACE COMPONENT SCHEDULE

A COMPLETE BILL OF MATERIALS AND FULL COORDINATION CAN BE ACHIEVED WHERE THE PROJECT IS MODELED IN REVIT (BUILDING INFORMATION MODELING), HERE IS AN EXAMPLE SCHEDULE OF FAMILIES IN A PROJECT AND COMPONENTS WITHIN EACH FAMILY.

CABLE BRACE SCHEDULE ELECTRICAL													
Family	Type	Id#	Cable Kit Colour	M10 Rod	41mm Strut TRAPEZE + STIFFENER STRUT	2m Cable Qty	3m Cable Qty	5m Cable Qty	Cable Anchors	Rod Anchors	Rod Stiffener Fixing	41mm Strut Washer	M10 Hexnut
TRAY 2WAY TYPICAL	1	E- 023	R	1720	1025	2	0	0	2	2	0	4	4
TRAY 4WAY	2	E- 024	R	2909	2340	4	0	0	4	2	6	4	4
TRAY 2WAY STACKED MIDMOUNT	5	E- 025	G	3171	3036	2	0	0	2	2	4	4	4
TRAY 4WAY STACKED MIDMOUNT	6	E- 026	B	3171	3036	4	0	0	4	2	4	8	8

UNIQUE ID ENGINEERS' SPECIFICATION VALUES WILL VARY WITH EACH INSTANCE BILL OF MATERIALS FOR EACH TYPE

'Id#' IS A UNIQUE IDENTIFIER ASSIGNED TO EACH INSTANCE WITHIN A PROJECT TO AID IN QUALITY ASSURANCE, INSTALLATION TRACKING AND INSPECTION. THE Id# WILL BE TAGGED TO THE INSTANCE OF A BRACE FAMILY ON A PLAN VIEW.



TWO-WAY CABLE KITS OF THE SAME KIT COLOUR ARE INTERCHANGEABLE WITH THESE CONFIGURATIONS: TYPICAL, MID-MOUNT, INTERNAL.

FOUR-WAY CABLE KITS OF THE SAME KIT COLOUR ARE INTERCHANGEABLE WITH THESE CONFIGURATIONS: TYPICAL, MID-MOUNT, INTERNAL.

STRUT BRACE COMPONENT SCHEDULE

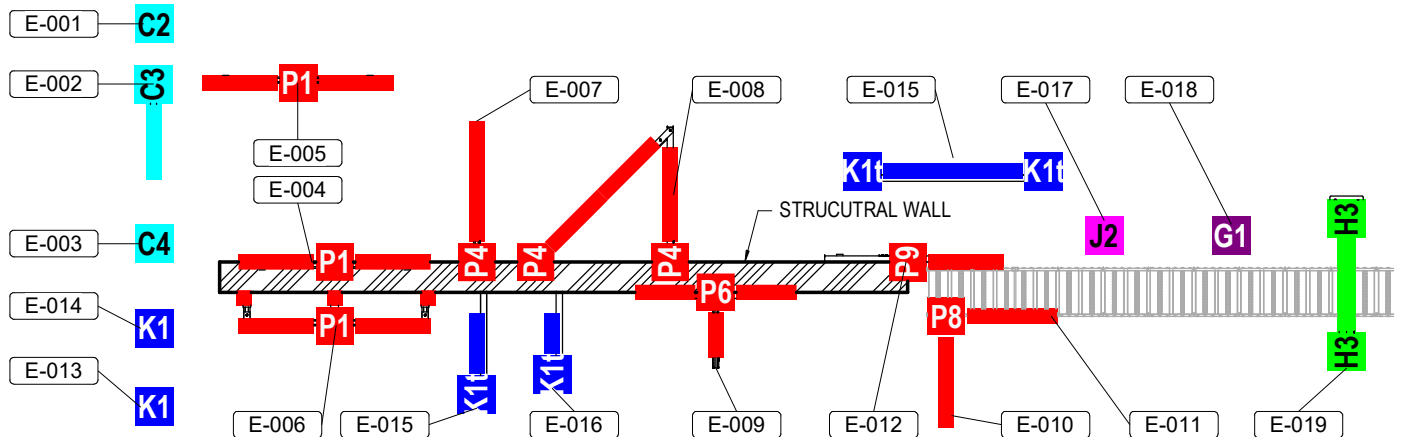


A COMPLETE BILL OF MATERIALS AND FULL COORDINATION CAN BE ACHIEVED WHERE THE PROJECT IS MODELED IN REVIT (BUILDING INFORMATION MODELING), HERE IS AN EXAMPLE SCHEDULE OF FAMILIES IN A PROJECT AND COMPONENTS WITHIN EACH FAMILY.

STRUT BRACE SCHEDULE ELECTRICAL																														
Family	Type	Id#	M10 Rod	41mm Strut	50x5 Slotted EA	K1 750	K1 1000	K1 1500	FM1026	FM2346	FM2324	FM2072	FM1546	FM1346	FM1036	FM1031	41mm Strut Washer	SP50	SP80	SP100	SP50 2072 Baseplate	SP80 2072 Baseplate	SP100 2072 Baseplate	SPBOLT M10S	SPBOLT M12S	Baseplate Anchors	M10x35 Hexhead Bolt	M10 Hexnut	Channel Nut	
C2 POST	C2	E- 001		600	0																					4	0		0	
C3_TRAY_PIPE	C3	E- 002		521																										
C4 POST	C4	E- 003		600	0						1															4	0		0	
P1	P1	E- 004		1000				2	0				0																2	
P1 to Steel	P1	E- 005		995				0	0				2																2	
P1 STANDOFF_3LEG	P3	E- 006		1880				0	2	0			0	2	1												0		0	
P4	P4	E- 007		933				1					0																	
P4T	P4T	E- 008		2041				2	1				0																5	
P6_TRAY&PIPE	P6	E- 009		1000				2	0				0																2	
P8	P8	E- 010	1640	1127								2					2												2	
P8	P8	E- 011	1640	1127								2					2												2	
P9	P9	E- 012		1076				2	0				0																2	
K1 POST	K1	E- 013		0	0	0	0	1	0								0									4	0		0	
K1 POST w STRUT	K1	E- 014		1000	0	0	0	1	0								2									4	0		2	
K1 TRAPEZE to Wall_DOUBLE	K1T	E- 015		1410		0	0	1	1																	5	1		1	
K1 TRAPEZE DOUBLE TALL	K1T	E- 015		5548		0	0	2	4																	8	8		4	
K1 TRAPEZE to Wall_SINGLE	K1T	E- 016		574		0	0	1	1																	5	1		1	
J2 POST	J2	E- 017		0															1200			1			6	4				
G1 POST	G1	E- 018		0														3000			2		4		8					
H3 HURDLE	H3	E- 019																		3820		2		28	8					

ENGINEERS' SPECIFICATION UNIQUE ID VALUES WILL VARY WITH EACH INSTANCE BILL OF MATERIALS FOR EACH TYPE VALUES WILL VARY WITH EACH INSTANCE BILL OF MATERIALS FOR EACH TYPE

*Id# IS A UNIQUE IDENTIFIER ASSIGNED TO EACH INSTANCE WITHIN A PROJECT TO AID IN QUALITY ASSURANCE, INSTALLATION TRACKING AND INSPECTION. THE Id# WILL BE TAGGED TO THE INSTANCE OF A BRACE FAMILY ON A PLAN VIEW (EXAMPLE BELOW).



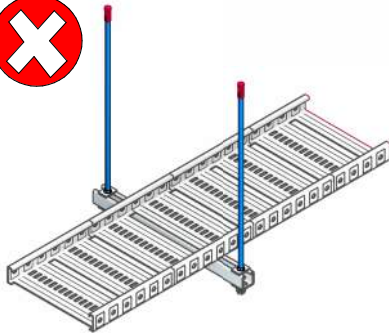
TYPICAL INSTALLATION PRINCIPLES - GUIDELINES



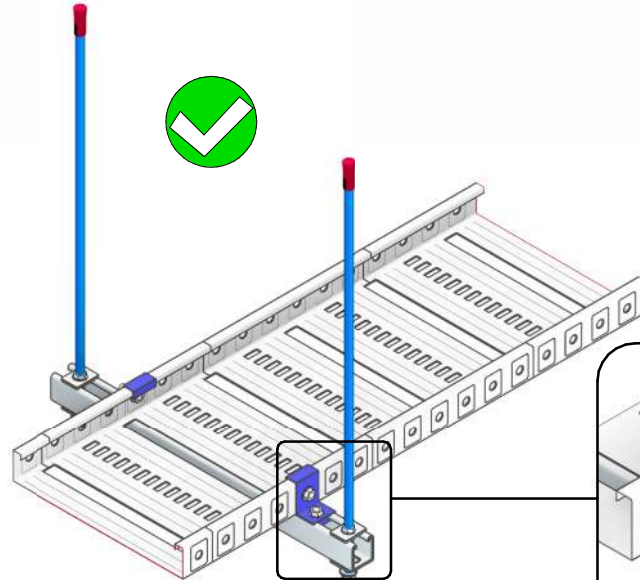
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AT EVERY INSTANCE, USE:

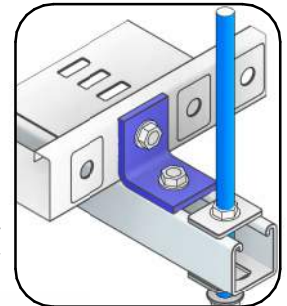
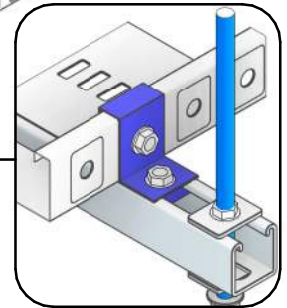
- SEISMIC RATED CONCRETE ANCHORS AS APPROVED BY KUSCH
- 41mm STRUT WASHER AND LOCKING NUT ABOVE AND BELOW TRAPEZE
- STIFFENERS TO ROD AS PER ROD STIFFENER INSTALLATION GUIDELINES.
- M10 (MINIMUM) ROD HANGERS



CABLE TRAY MUST BE INSTALLED WITH HOLD-DOWN BRACKETS AT EACH TRAPEZE HANGER

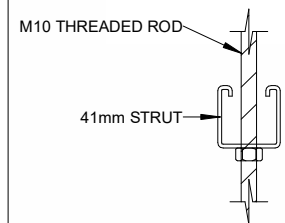
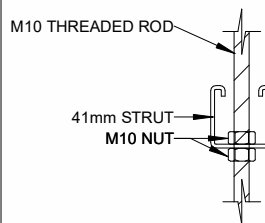
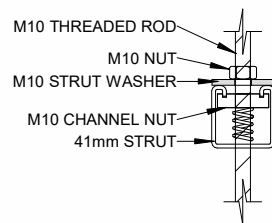
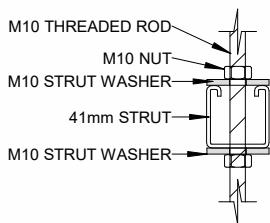


CABLE TRAY HOLD-DOWN BRACKETS WITH M10 NUT/BOLT TO BOTH CABLE TRAY AND 41mm STRUT TRAPEZE. TYPICALLY, DOME HEAD BOLTS TO TRAY TO PREVENT BOLT HEAD TEARING CABLES AS THEY ARE PULLED.



ALTERNATIVELY, FM1026 ANGLE BRACKET WITH M10 DOME HEAD BOLTS THROUGH BOTH TRAY AND 41mm CHANNEL

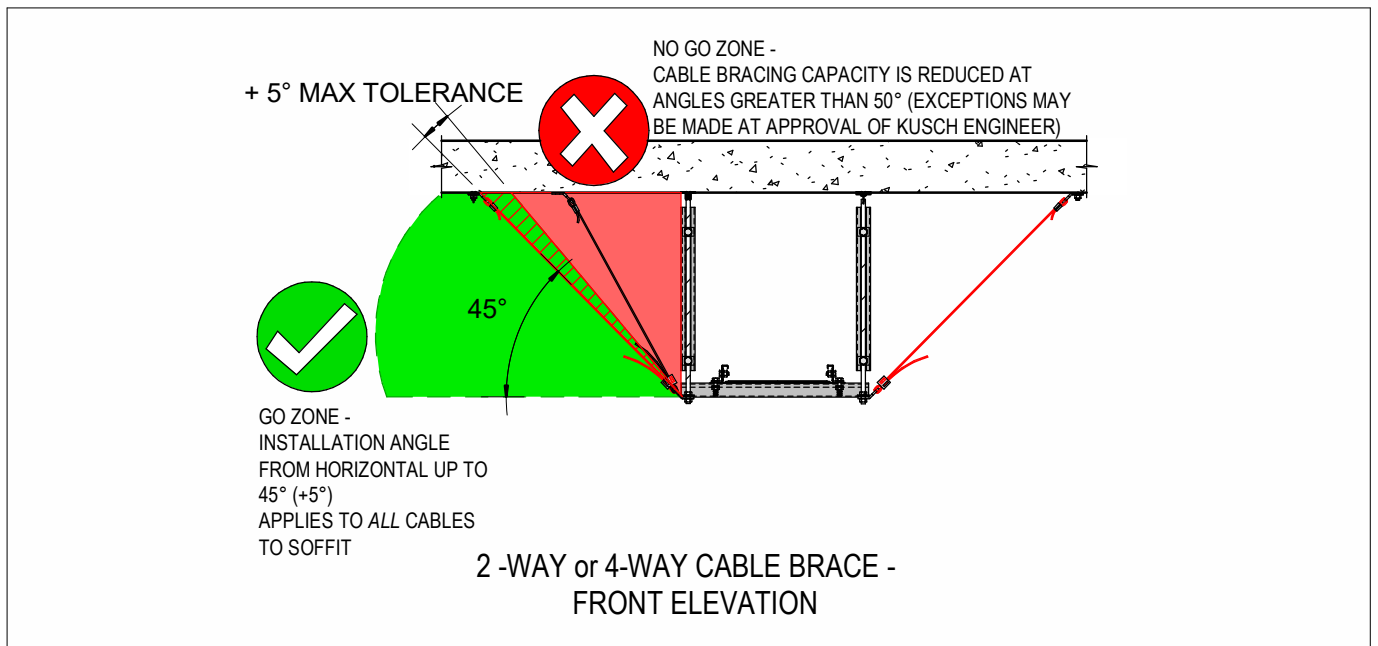
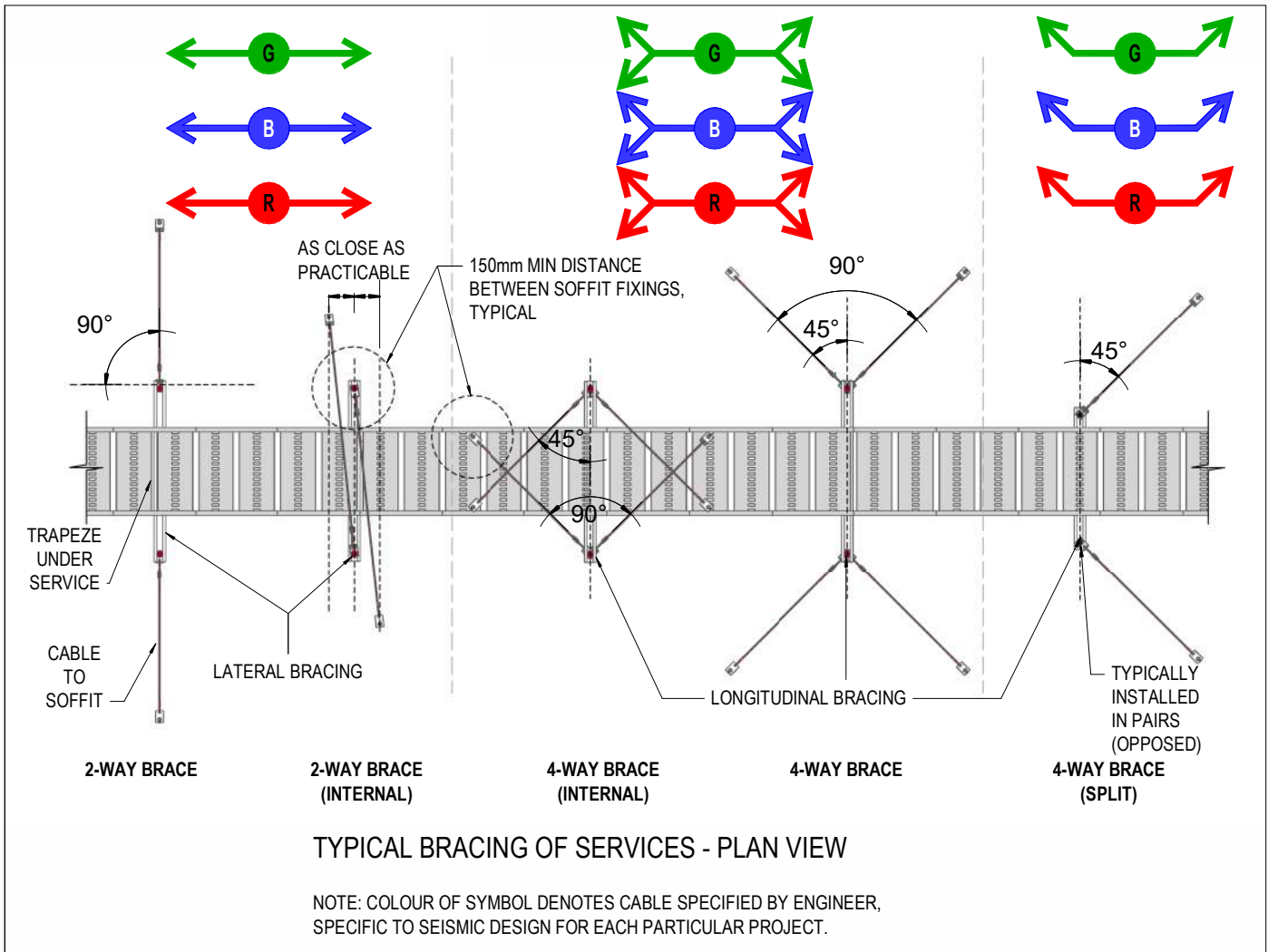
PIPE AND TRAY TRAPEZE DETAIL SECTION



CABLE BRACE INSTALLATION ANGLES

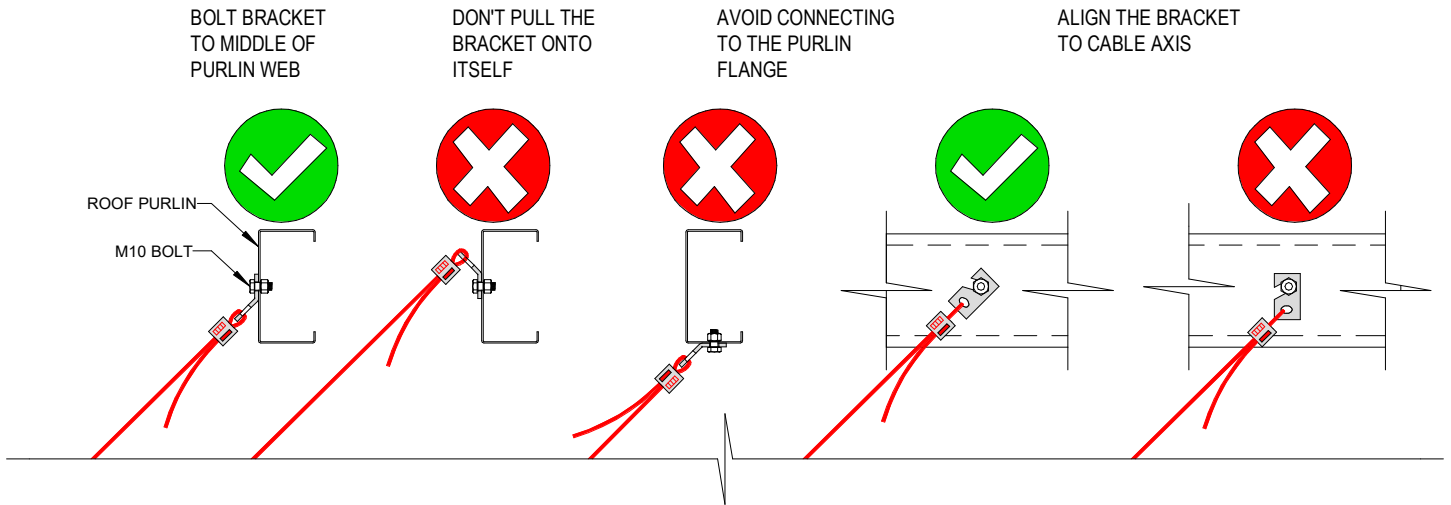


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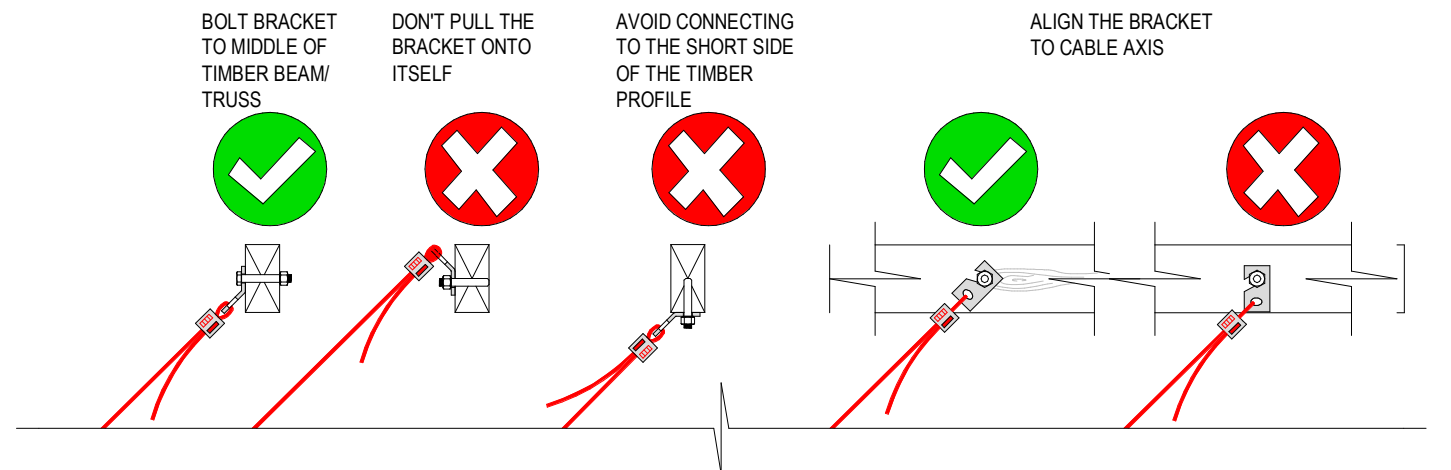


CABLE BRACE CONNECTION TO PURLIN/TRUSS

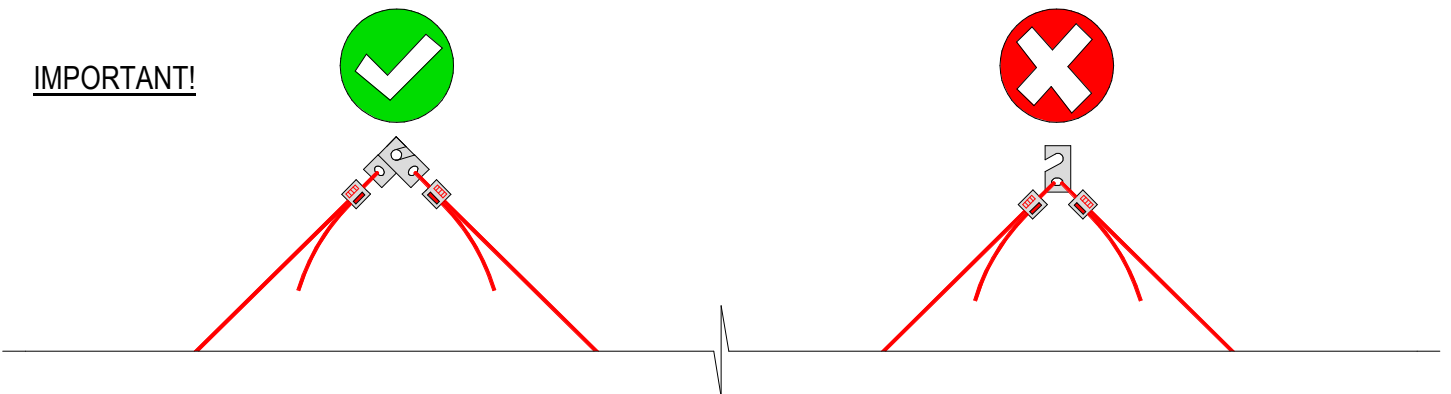
SEISMIC CABLE TO PURLIN CONNECTION DETAIL



SEISMIC CABLE TO TIMBER TRUSS CONNECTION DETAIL



IMPORTANT!



DO:

- HAND TIGHTEN CABLE USING ZIP-CLIP CABLE JOINER.
- ADJUST Zip-Clip CABLE JOINER USING RELEASE PINS IF REQUIRED.
- LEAVE A TAIL AT FREE END OF CABLE PASSING THROUGH Zip-Clip CABLE JOINER, MIN. 150mm.
- ALIGN 45° ANGLE BRACKETS AT EACH END SO THAT BOTH HOLES ON ANGLE BRACKETS ARE IN LINE WITH CABLE, AND CABLE IS PULLING ON NEAREST HOLE.
- USE ROD STIFFENERS FOR HANGING RODS >750mm LONG.

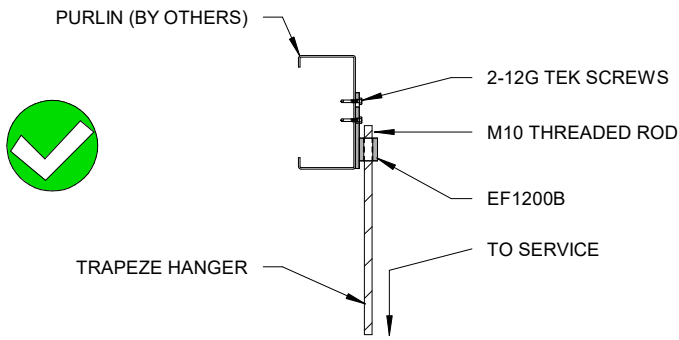
DO NOT:

- DO NOT ALLOW CABLE TO CONTACT ANY SERVICE, STRUCTURE, PLANT, HANGING ROD, BRACE ETC. ALONG ITS ENTIRE LENGTH.
- DO NOT ATTACH 2off OR MORE CABLES TO 1off SB /NR 45° ANGLE BRACKET.
- DO NOT OVER-TIGHTEN CABLE IN ABSENCE OF ROD-STIFFENER. IF HANGING ROD BUCKLES, THE CABLE CANNOT PROVIDE ADEQUATE RESTRAINT.
- DO NOT BOLT 45° BRACKETS TO PURLIN FLANGES.

REFER ANY QUESTIONS TO KUSCH

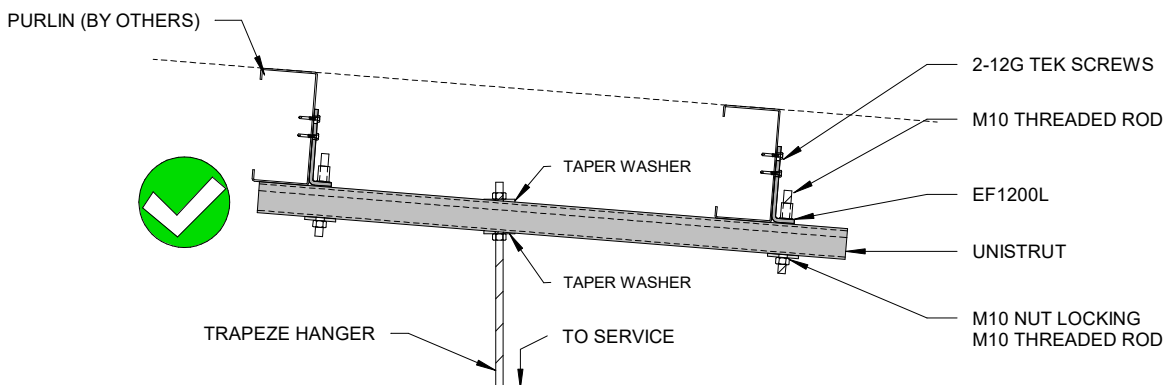
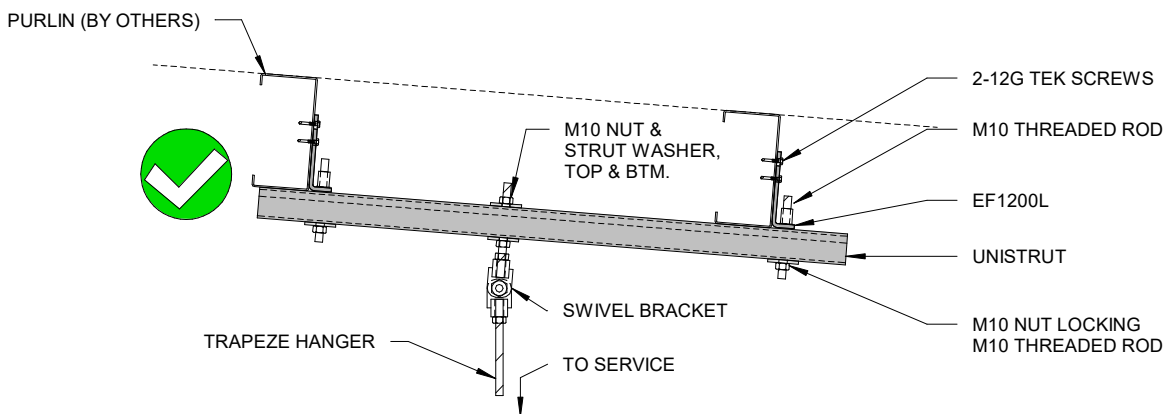
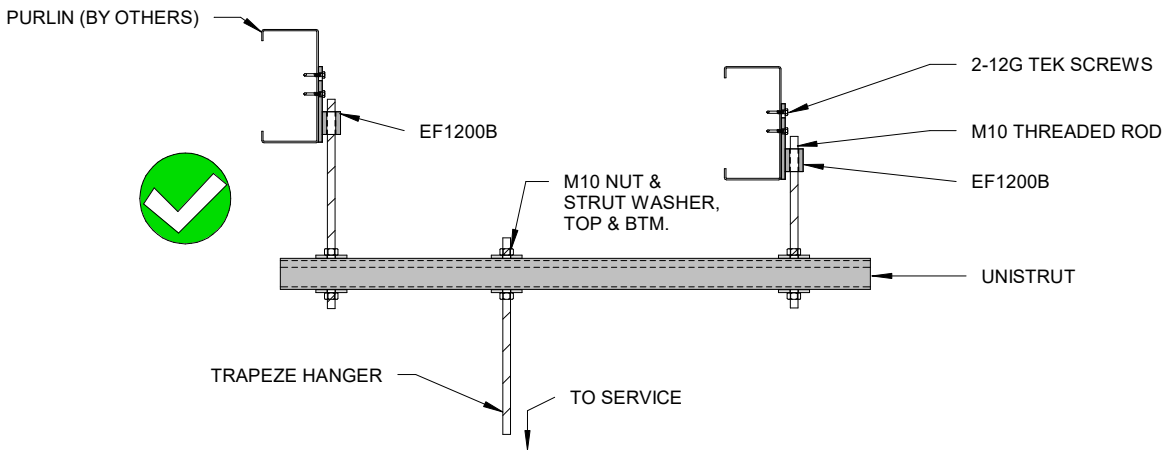


SERVICE HANGER DIRECTLY FROM PURLIN



NOTE: FOR STAINLESS STEEL APPLICATIONS,
2-M10 NUTS REQUIRED, TYPICAL.
(ABOVE AND BELOW EF1200B)

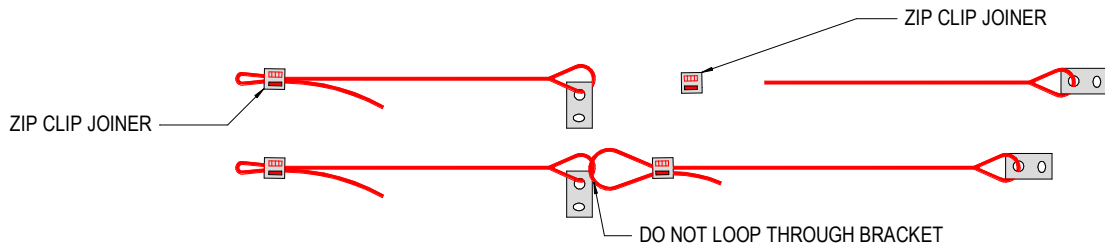
WHERE SERVICE HANGER IS NOT DIRECTLY BELOW PURLIN



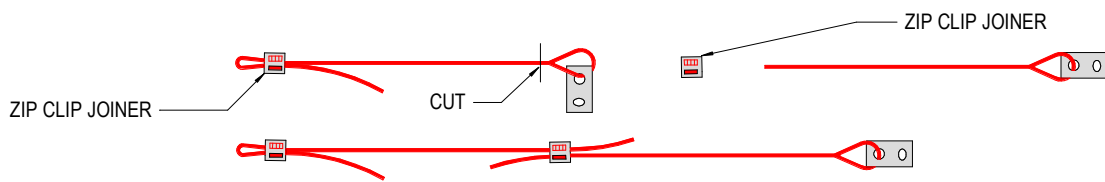
CABLE BRACE INSTALLATION - JOINING CABLES







OPTION 1: ELIMINATE BRACKET AND JOIN LOOP-TO-LOOP







OPTION 2: ELIMINATE BRACKET, REMOVE FIXED LOOP WITH WIRE CUTTERS AND JOIN WITH ZIP CLIP JOINER



REFER ANY QUESTIONS TO KUSCH

 ZIP-CLIP SEISMIC RATED BRACE SCHEDULE C1 ANCHORS Brace Angle MAX 45°					
BRACE SYMBOL	Zip-Clip Cable Type	DEWALT Slab Connection	ICCONS Thru-bolt Slab Connection	HILTI HST3	ICCONS FM753 Slab Connection
	RED (2mm)	M10x90 PTB-ETA1-PRO	M10x90 Thru-bolt	M10x90 HST3	M10x90 ICCONS-FM753
	BLUE (3mm)	/	M12x140 Thru-bolt	M10x90 HST3	M10x90 ICCONS-FM753
	GREEN/YELLOW (4mm)	/	M12x140 Thru-bolt	M12x115 HST3	M12x110 ICCONS-FM753

 ZIP-CLIP SEISMIC RATED BRACE SCHEDULE C2 ANCHORS Brace Angle MAX 45°				
Brace Symbol	Zip-Clip Cable Type	HILTI Slab Connection	ICCONS Thru-bolt Slab Connection	ICCONS FM753 Slab Connection
	RED (2mm)	M10x90 HST3	M10x90 Thru-bolt	M10x90 ICCONS-FM753
	BLUE (3mm)	M10x90 HST3	M12x140 Thru-bolt	M10x90 ICCONS-FM753
	GREEN/YELLOW (4mm)	M12x115 HST3	/	/

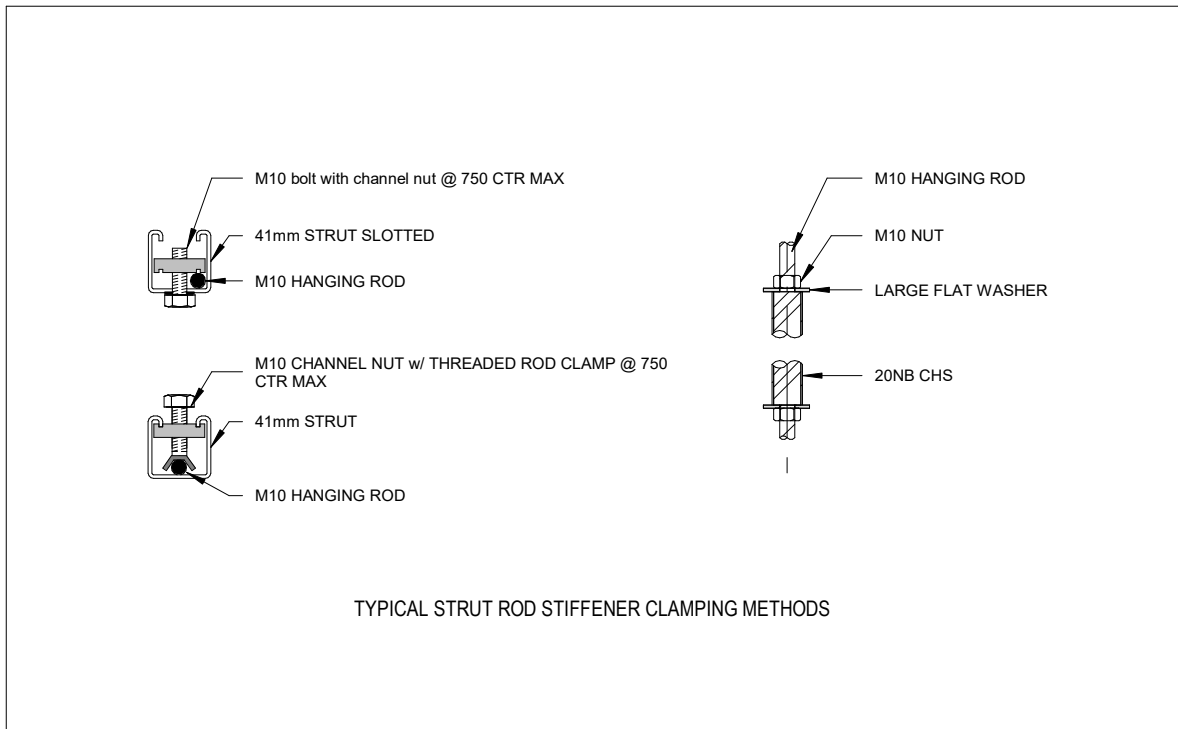
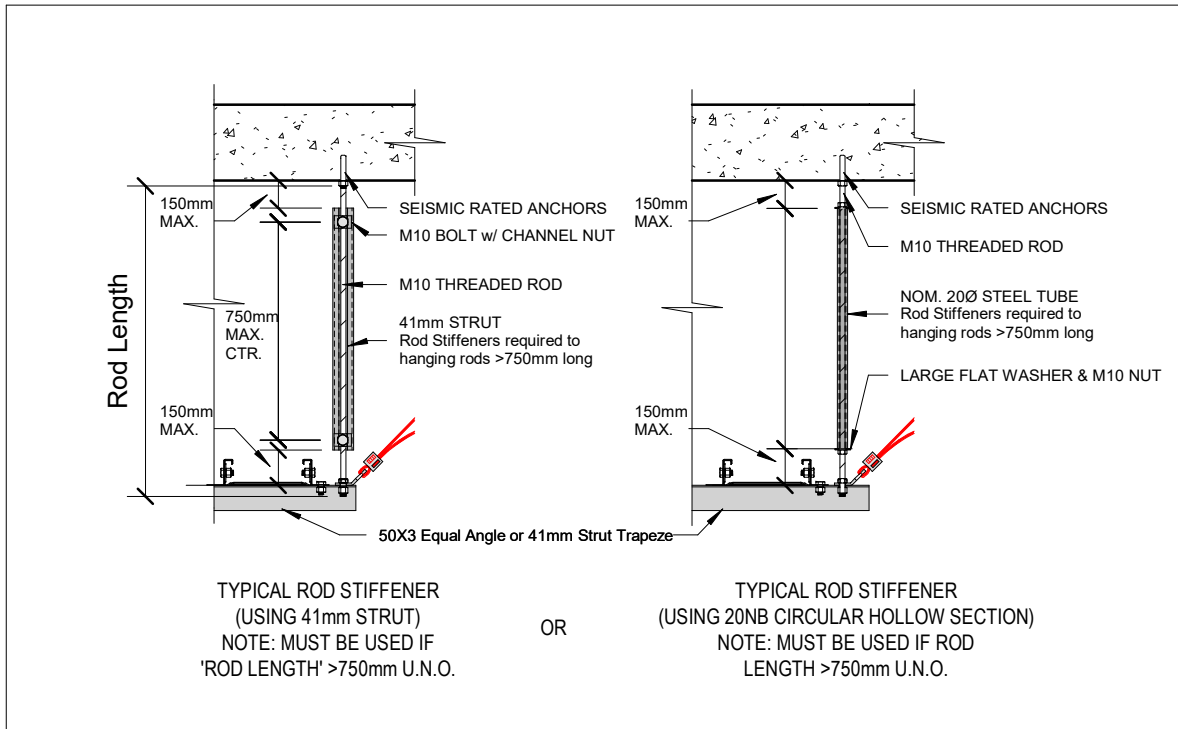
USING M12x110 ICCONS FM753 FOR A BLUE KIT REQUIRES A SEPARATE PURCHASE OF AN ANGLE BRACKET WITH A 13mm DIAMETER HOLE

C2 ANCHORS ARE USUALLY REQUIRED IN IMPORTANCE LEVEL 4 (IL4) BUILDINGS. PLEASE CONTACT KUSCH FOR CLARIFICATION IF YOU ARE UNSURE WHETHER C1 OR C2 ANCHORS ARE REQUIRED. IF YOU WOULD LIKE TO USE AN ANCHOR NOT LISTED ABOVE, PLEASE CONTACT KUSCH AND WE CAN ASSESS THE ANCHOR TO DETERMINE IT'S SUITABILITY.

ROD STIFFENER INSTALLATION



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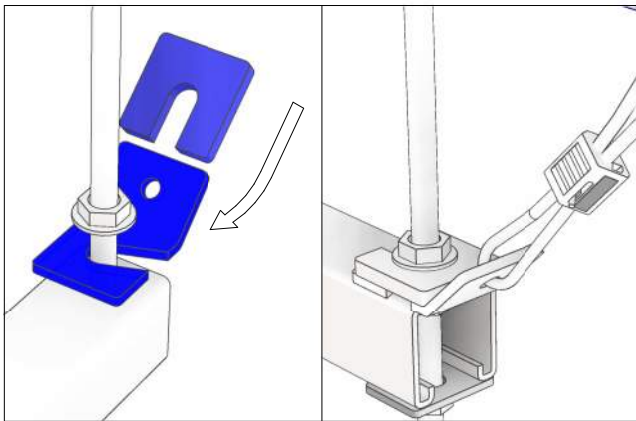
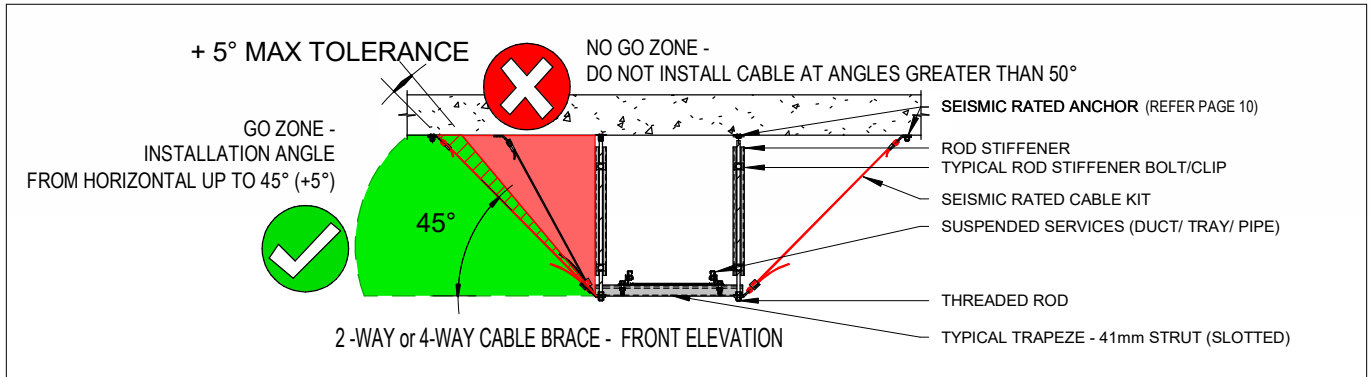
TWO-WAY CABLE BRACE



COLOURS DENOTE CABLE SPECIFIED BY SEISMIC DESIGN ENGINEER

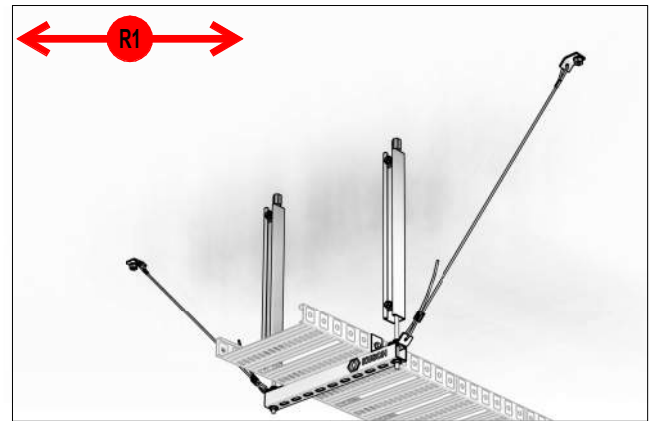
READ THESE INSTRUCTIONS IN CONJUNCTION WITH THE PLANS AND DETAILS ON PAGES 3-11 TO ACHIEVE OPTIMAL CAPACITY FROM CABLE.

LATERAL BRACE - CABLE RUNS PERPENDICULAR (90°) TO THE SUSPENDED SERVICE.



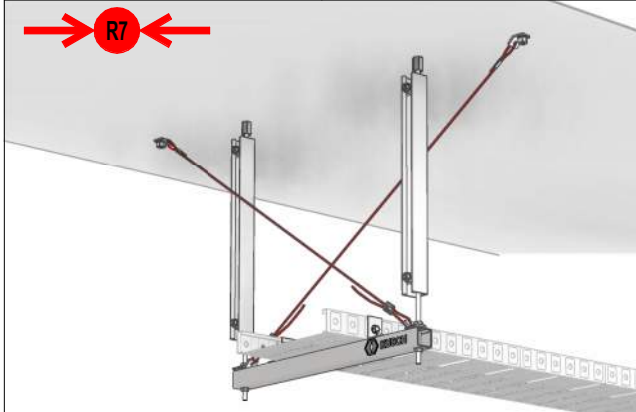
CABLE KIT BRACKET 'HOOKS' ONTO THREADED ROD. FIT SLOTTED SQUARE WASHER OVER THE CABLE BRACKET WITH EVERY KIT, IN THE ORIENTATION SHOWN.

TIGHTEN TOP LOCKING NUT AND THREAD CABLE THROUGH CABLE LOCK AND BRACKET. TIGHTEN CABLE AS PER KIT INSTRUCTIONS. STRUT WASHER AND LOCKING NUT UNDER 41mm TRAPEZE.



TYPICAL 2-WAY CABLE KIT TO TYPICAL TRAPEZE, SHOWN WITH ROD STIFFENERS FITTED.

VARIATION TO TYPICAL 2-WAY CABLE FIXED TO TRAPEZE, ORIENTED INTERNALLY ALLOWS FOR GREATER CLEARANCE TO ADJACENT SERVICES



CABLE IN LINE WITH TRAPEZE - AS CLOSE AS PRACTICABLE, WHILE MAINTAINING MINIMUM 150mm BETWEEN SOFFIT FIXINGS.

TWO-WAY CABLE BRACE STACKED TRAY VARIATION



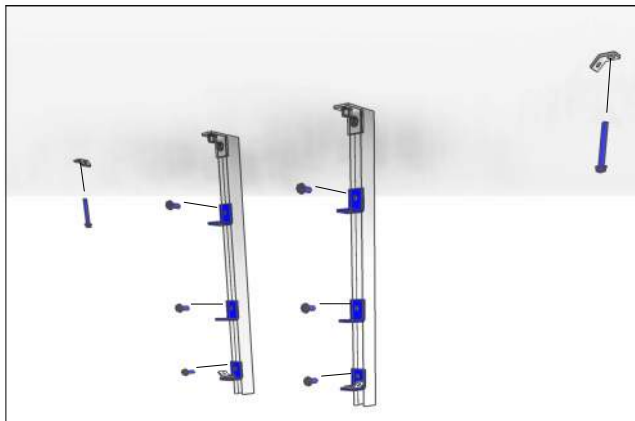
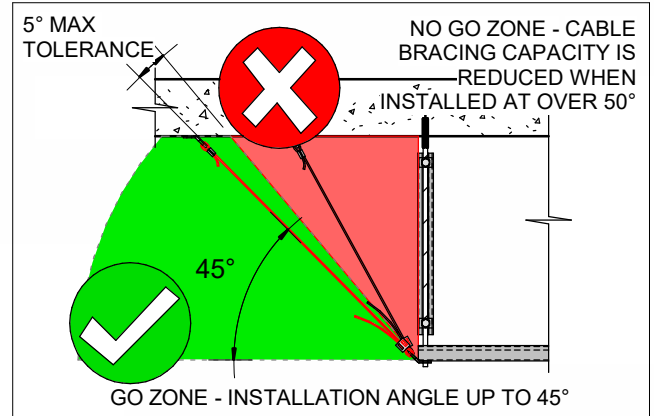
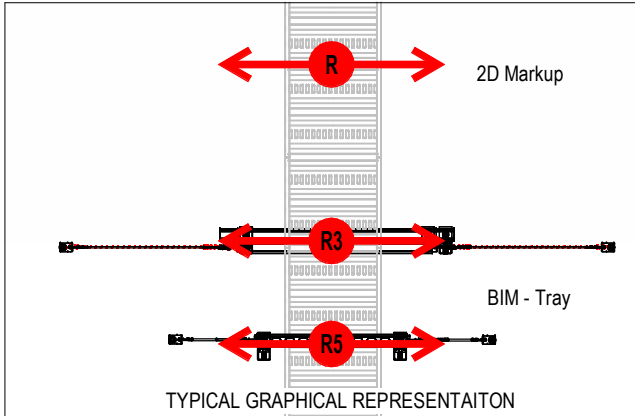
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LATERAL BRACE - CABLE RUNS PERPENDICULAR (90°) TO THE SUSPENDED SERVICE.

VARIATION TO TYPICAL TWO-WAY CABLE BRACE, STRUT HANGERS ENABLE STACKED TRAY FIXING WITH A SINGLE CABLE BRACE

READ THESE INSTRUCTIONS IN CONJUNCTION WITH THE PLANS AND DETAILS ON PAGES 3-11 TO ACHIEVE OPTIMAL CAPACITY FROM CABLE.



FIX FM1026 ANGLE BRACKETS TO SOFFIT w/

HILTI M10x90 HUS-H OR

HILTI M10x90 HST3 OR

M10x90 ICCONS FM753 OR

APPROVED EQUIVALENT.

ALL INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPEC.

80mm MIN. EDGE DISTANCE.

FIX 41mm STRUT HANGERS TO ANGLE BRACKETS w/ M10 BOLTS &

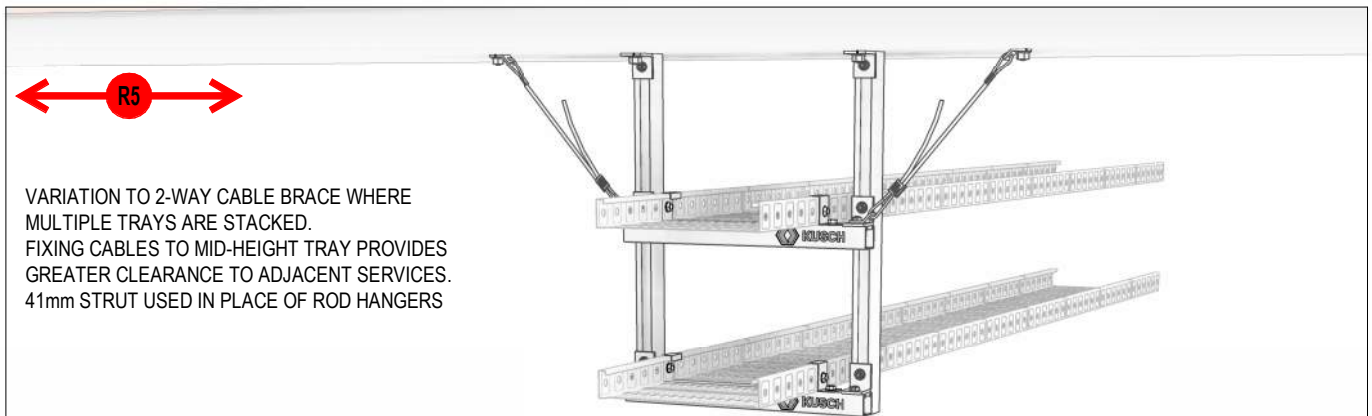
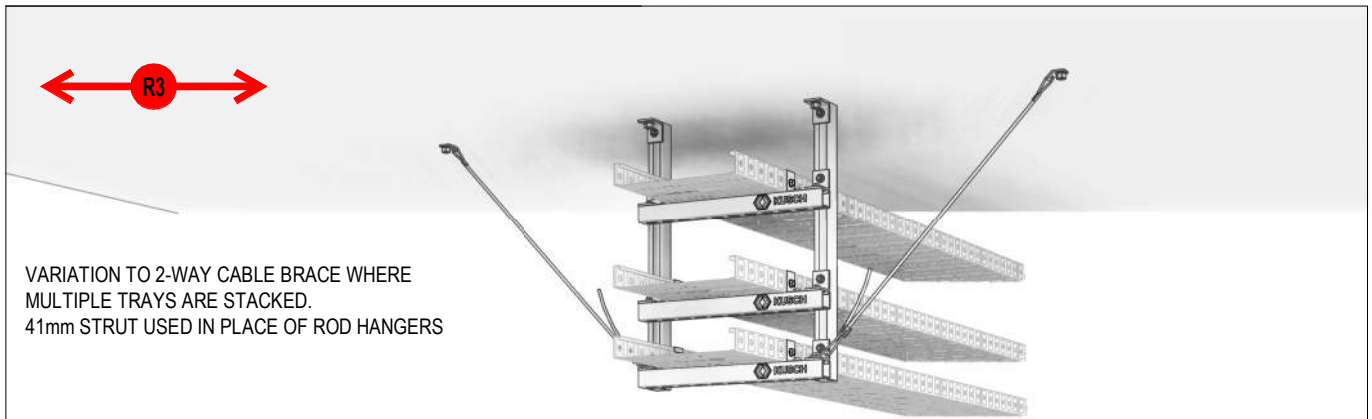
M10 CHANNEL NUTS.

FIX FM1026 ANGLE BRACKETS TO 41mm STRUT HANGERS w/

M10 BOLTS & M10 CHANNEL NUTS.

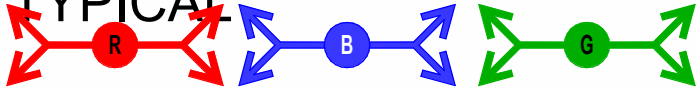
FIX 41mm STRUT TRAPEZE TO ANGLE

BRACKETS w/ M10 BOLTS & M10 CHANNEL NUTS



FIX CABLE TRAY WITH TYPICAL HOLD DOWN BRACKETS AND M10 BOLTS, NUTS & CHANNEL NUTS

FOUR-WAY CABLE BRACE - TYPICAL



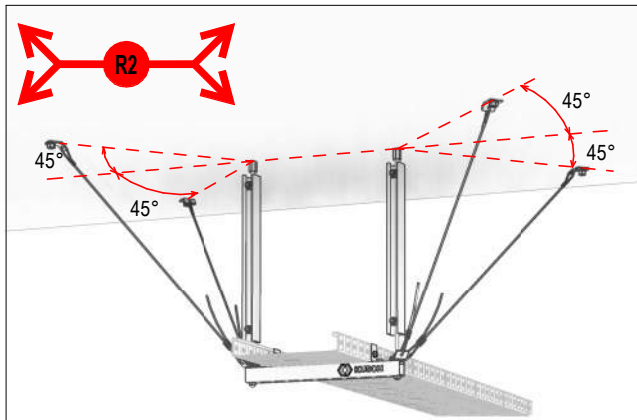
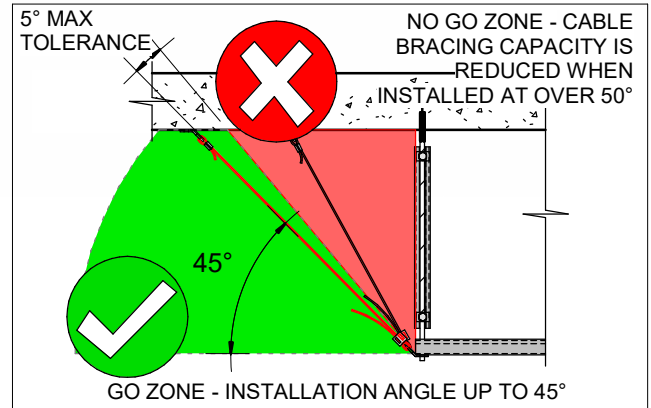
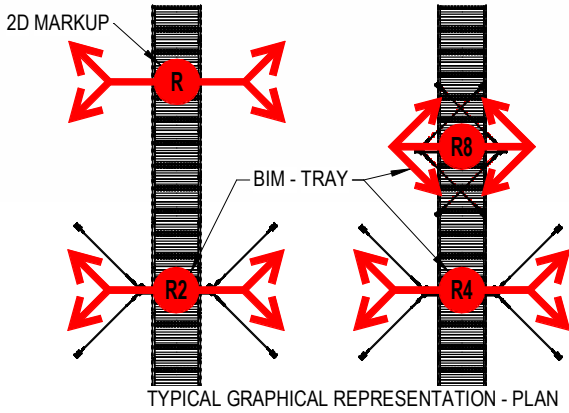
COLOURS DENOTE CABLE SPECIFIED BY SEISMIC DESIGN ENGINEER

LATERAL/LONGITUDINAL BRACE - CABLE RUNS (45°) TO THE SUSPENDED SERVICE.

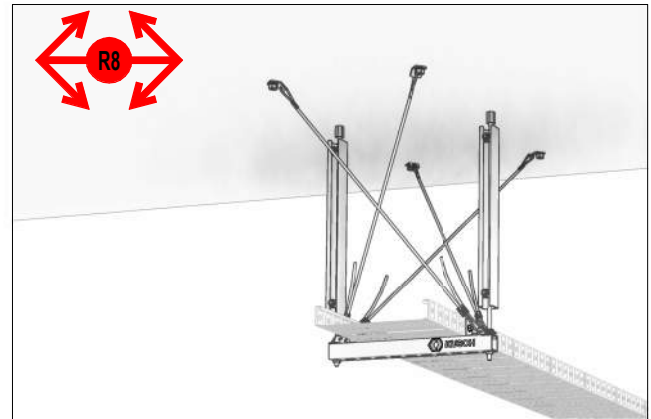
FOUR-WAY CABLE BRACES OF THE SAME COLOUR ARE INTERCHANGEABLE, VARIATIONS ARE USED WHERE ACCESS IS RESTRICTED.



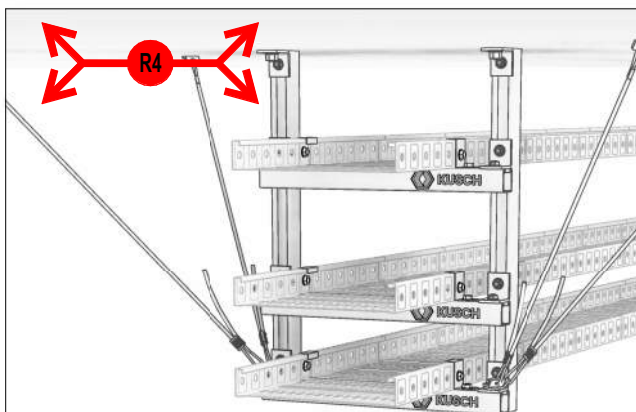
READ THESE INSTRUCTIONS IN CONJUNCTION WITH THE PLANS AND DETAILS ON PAGES 3-11 TO ACHIEVE OPTIMAL CAPACITY FROM CABLE.



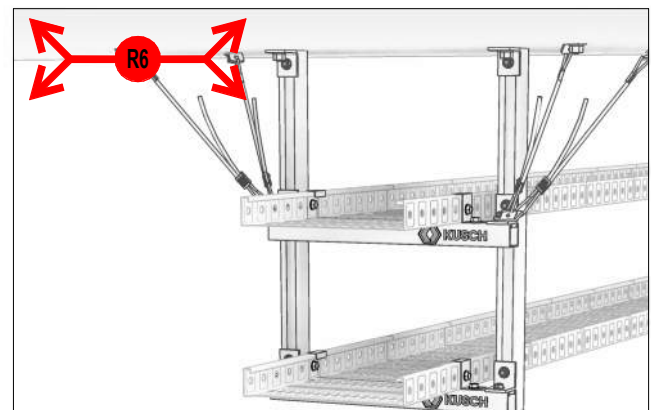
TYPICAL 4-WAY CABLE TRAPEZE SHOWN WITH ROD STIFFENERS. FIX CABLE TRAY w/ TYPICAL HOLD DOWN BRACKETS & M10 BOLTS, NUTS & CHANNEL NUTS



VARIATION TO 4-WAY, WITH INTERNALLY ORIENTED CABLES FIXED TO TRAPEZE, PROVIDES CLEARANCE TO ADJACENT SERVICES.



VARIATION TO TYPICAL TRAPEZE, STRUT HANGERS IN PLACE OF ROD PROVIDES GREATER STIFFNESS TO STACKED TRAY TRAPEZE. 4-WAY CABLES ORIENTED AS PER TYPICAL 4-WAY.



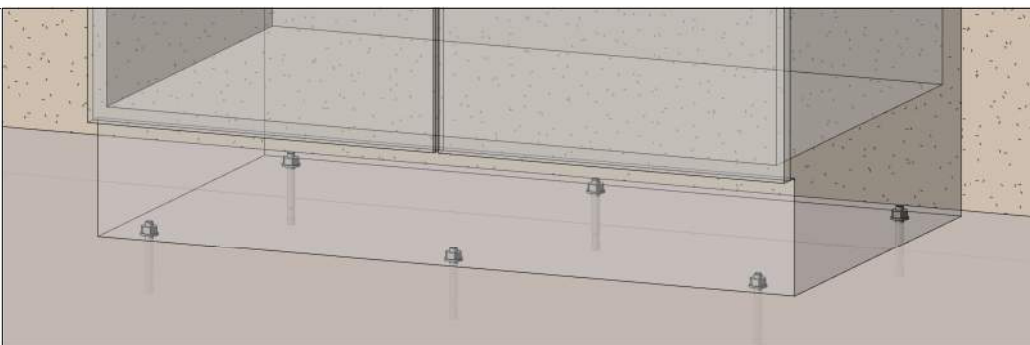
VARIATION TO TYPICAL TRAPEZE, STRUT HANGERS IN PLACE OF ROD PROVIDES GREATER STIFFNESS TO STACKED TRAY TRAPEZE. 4-WAY CABLES ORIENTED AS PER TYPICAL 4-WAY FIXED TO MID-HEIGHT TRAPEZE PROVIDES GREATER CLEARANCE TO ADJACENT SERVICES.

FIX FM1026 ANGLE BRACKETS w/ HILTI M10x90 HUS-H OR HILTI M10x90 HST3 OR M10x90 ICCONS FM753 OR APPROVED EQUIVALENT.
ALL INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPEC.
80mm MIN. EDGE DISTANCE.
FIX FM1026 ANGLE BRACKETS TO 41mm STRUT HANGERS w/ M10 BOLTS & M10 CHANNEL NUTS.

SEISMIC RESTRAINT OF SWITCHBOARD CABINET

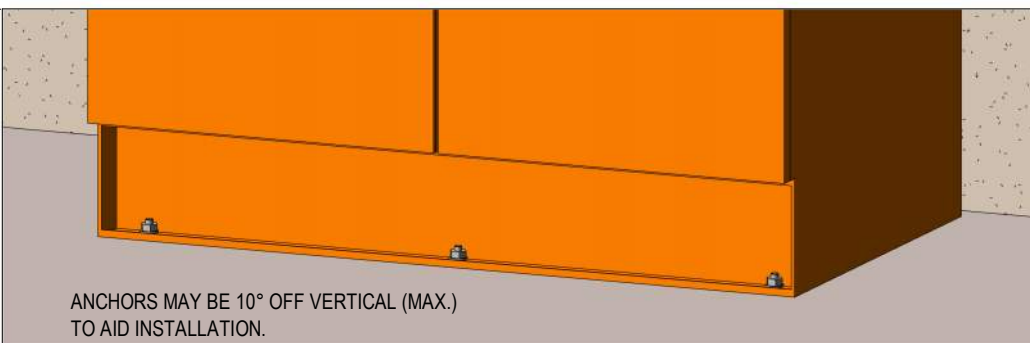
INSTALL ALL CABINETS AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. THIS DRAWING IS FOR THE PURPOSES OF SEISMIC RESTRAINT AND IS IN ADDITION TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

OPTION 1



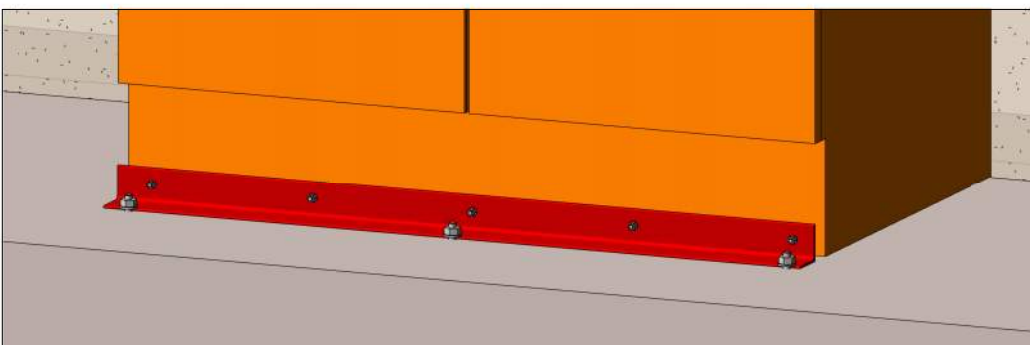
M10 SEISMIC ANCHORS TO CABINET BASE, PROVIDED THERE IS ACCESS AND THE MANUFACTURERS INSTALLATION INSTRUCTIONS ARE FOLLOWED. - NO FURTHER FIXING REQUIRED (INCLUDING TOP)

OPTION 2
(IN COMBINATION
WITH TOP FIXING
OPTIONS ON PAGE
16 & 17)

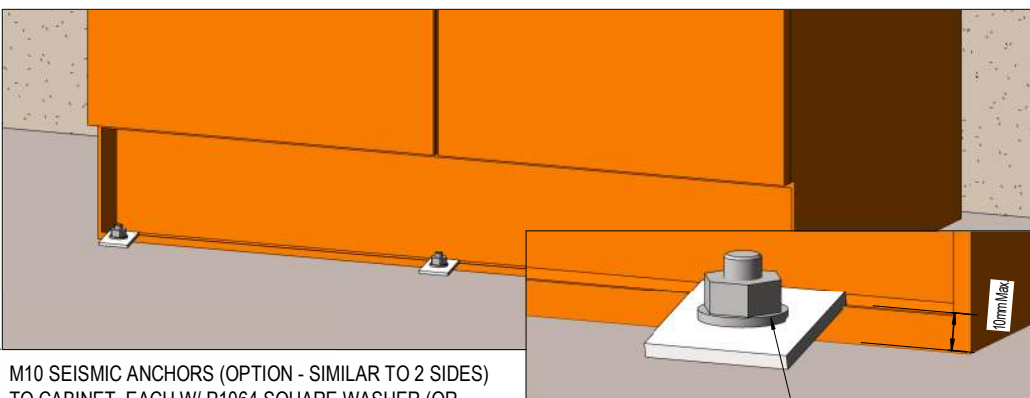


ANCHORS MAY BE 10° OFF VERTICAL (MAX.) TO AID INSTALLATION.

M10 SEISMIC ANCHORS TO CABINET BASE, WHERE PROVISION IS PROVIDED & MANUFACTURERS INSTALLATION INSTRUCTIONS ARE FOLLOWED. QTY TO SUIT, 900 CTS MAX., QTY - 2 MIN.



EQUAL ANGLE (50x2.5 EA) TO ENTIRE WIDTH OF CABINET. (OPTION - SIMILAR TO 2 SIDES)
M10 SEISMIC ANCHORS TO EA. QTY TO SUIT, 900 CTS MAX., QTY - 2 MIN.
12g TEK SCREWS TO CABINET. QTY TO SUIT, 450 CTS MAX., QTY - 3 MIN.



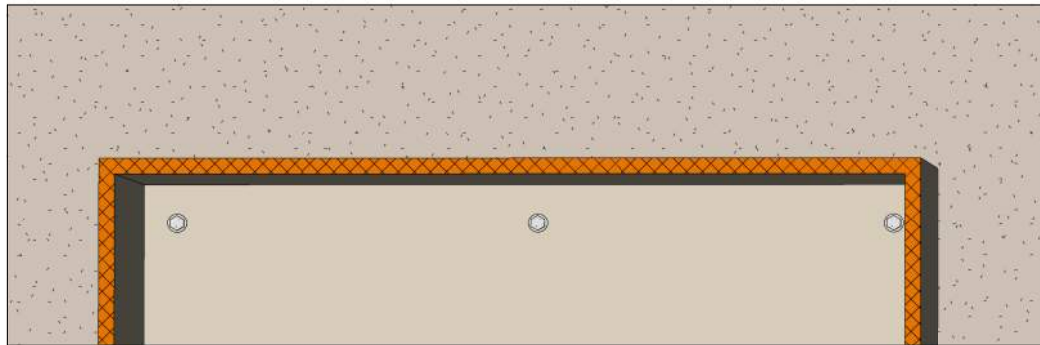
M10 SEISMIC ANCHORS (OPTION - SIMILAR TO 2 SIDES) TO CABINET, EACH W/ P1064 SQUARE WASHER (OR EQUIVALENT).
QTY TO SUIT, 900 CTS MAX., QTY - 2 MIN.

ANCHORS MAY BE 10° OFF VERTICAL (MAX.) TO AID INSTALLATION.

SEISMIC RESTRAINT OF SWITCHBOARD CABINET (TOP) STRUCTURAL WALL

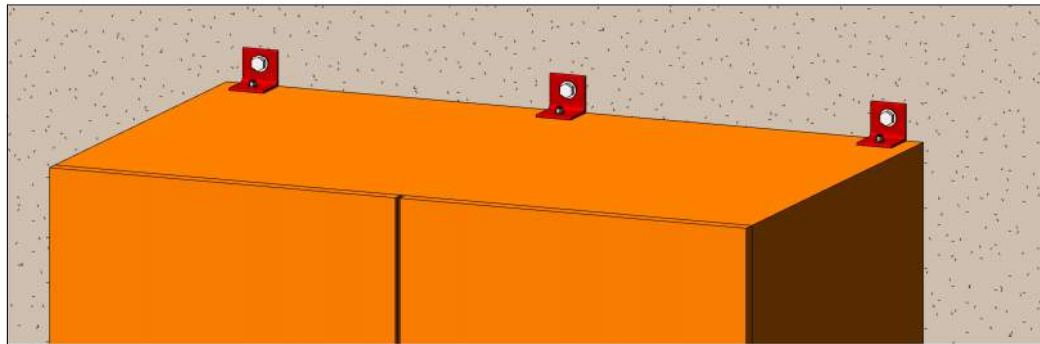
INSTALL ALL CABINETS AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. THIS DRAWING IS FOR THE PURPOSES OF SEISMIC RESTRAINT AND IS IN ADDITION TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

OPTION 1



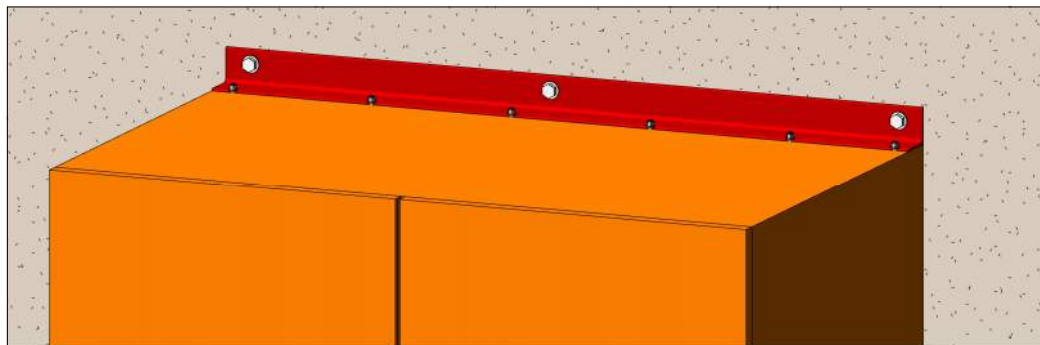
M10 BOLTS OR SEISMIC ANCHORS AT HIGH LEVEL. QUANTITY TO SUIT. 900 CTS MAX., MIN QTY - 2.
(PROVIDED PROVISION IS MADE ACCORDING TO MANUFACTURERS INSTALLATION DIRECTION AND ACCESS IS AVAILABLE)

OPTION 2



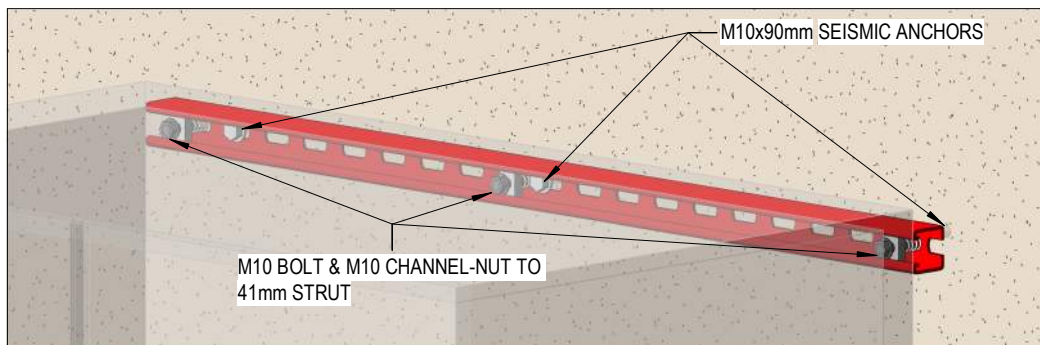
EQUAL ANGLE (50x2.5 EA) 50mm LONG (TYPICAL). M10 BOLT OR SEISMIC ANCHOR TO STRUCTURE, 900 CTS MAX., MIN. QTY - 2. 12g TEK SCREWS TO CABINET, 450 CTS MAX., MIN. QTY - 2.

OPTION 3



EQUAL ANGLE (50x2.5 EA) TO WIDTH OF CABINET. M10 BOLT OR SEISMIC ANCHOR TO STRUCTURE, 900 CTS MAX., MIN. QTY - 2. 12g TEK SCREWS TO CABINET, 450 CTS MAX., MIN. QTY - 2.

OPTION 4

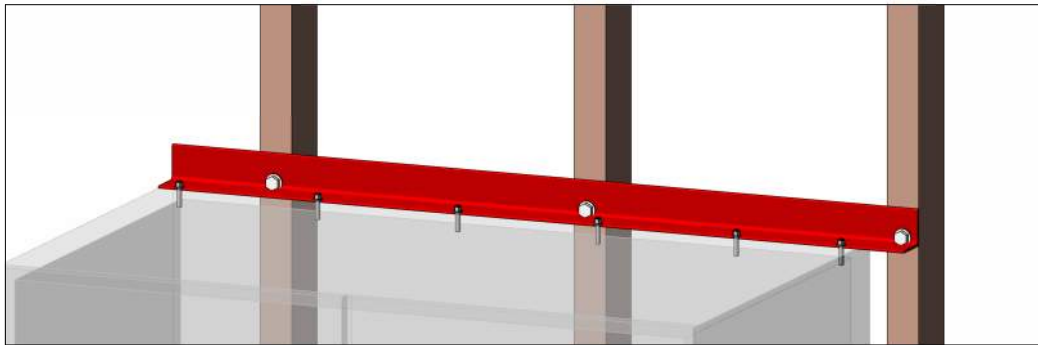


41mm STRUT TO WIDTH OF CABINET. M10 BOLT OR SEISMIC ANCHOR TO STRUCTURE, 900 CTS MAX., MIN. QTY - 2.
M10 BOLTS & CHANNEL-NUTS TO CABINET, 450 CTS MAX., MIN. QTY - 2.

SEISMIC RESTRAINT OF SWITCHBOARD CABINET (TOP) STUD WALL

INSTALL ALL CABINETS AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. THIS DRAWING IS FOR THE PURPOSE OF SEISMIC RESTRAINT AND IS IN ADDITION TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. STRUCTURAL DESIGN OF STUD WALL MUST INCLUDE THE LOAD FROM PROPOSED SWITCHBOARD CABINET.

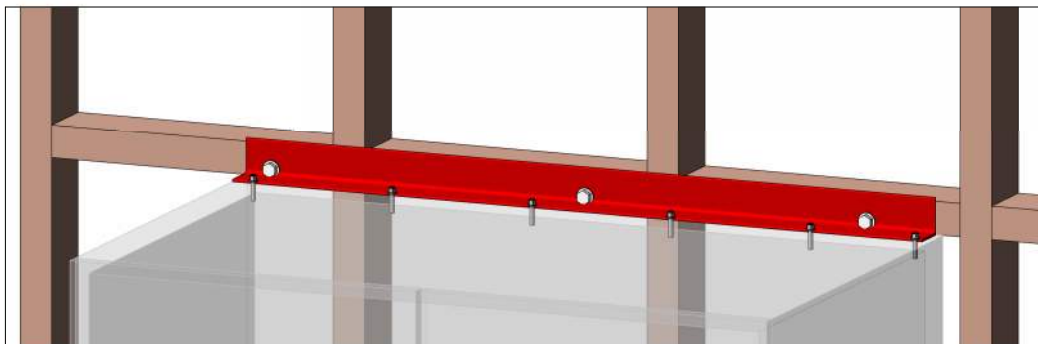
OPTION 1



EQUAL ANGLE (50x2.5 EA) TO RUN THE ENTIRE LENGTH OF CABINET. (WALL SHEETING OMITTED FOR CLARITY)
12g TEK SCREWS TO CABINET, 450 CTS MAX., MIN. QTY - 2.

- TIMBER STUD - M10 COACH BOLTS TO EACH TIMBER STUD.
- STEEL STUD - 12g TEK SCREW TO EACH STEEL STUD.

OPTION 2



EQUAL ANGLE (50x2.5 EA) TO RUN THE ENTIRE LENGTH OF CABINET. (WALL SHEETING OMITTED FOR CLARITY)
12g TEK SCREWS TO CABINET, 450 CTS MAX., MIN. QTY - 2.

- TIMBER NOGGING/TRIMMING - M10 COACH BOLTS, QTY TO SUIT 900 CTS MAX., QTY - 2 MIN.
- STEEL NOGGING/TRIMMING - 12g TEK SCREWS, QTY TO SUIT 450 CTS MAX., QTY - 2 MIN.

OPTION 3



OPTION 4



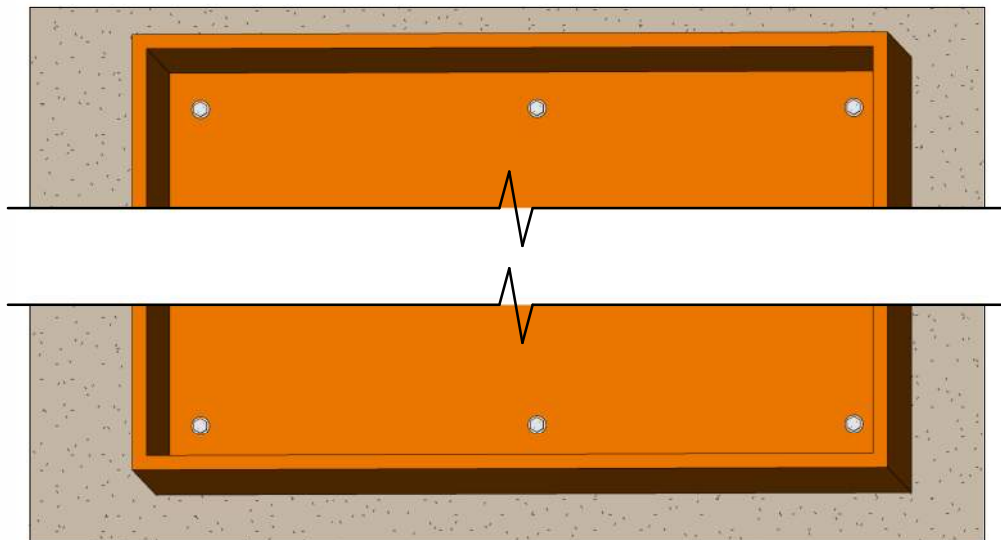
FIXING DIRECTLY THROUGH CABINET (WALL SHEETING OMITTED FOR CLARITY)
STUDS AT 450 CTS - SINGLE ROW OF M10 COACH BOLTS (TIMBER STUDS)/12g TEK SCREWS (STEEL STUDS)
QTY - 2 MIN.
STUDS AT 600 CTS - DOUBLE ROW OF M10 COACH BOLTS (TIMBER STUDS)/12g TEK SCREWS (STEEL STUDS)
QTY - 4 MIN.

SEISMIC RESTRAINT OF SWITCHBOARD CABINET (WALL MOUNTED)



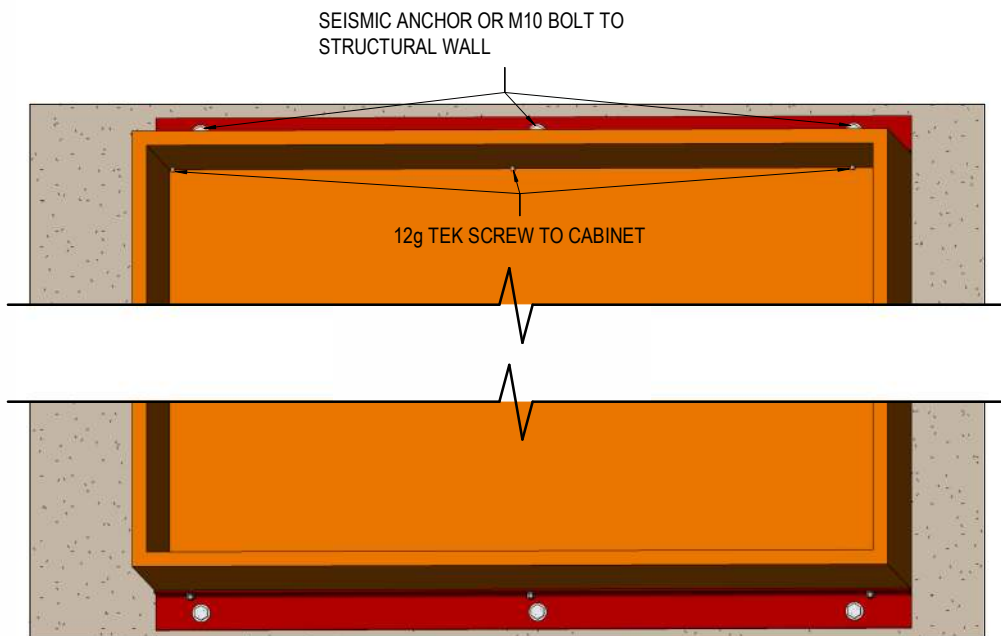
KUSCH
Engineered.

OPTION 1



M10 BOLTS OR SEISMIC ANCHORS TO STRUCTURAL WALL (EXCLUDES STUD WALL). QTY TO SUIT, 900MM CTS MAX., QTY - 4 MIN.

OPTION 2



EQUAL ANGLE (50x2.5 EA) TO WIDTH OF CABINET AS PER DETAIL ON PAGE 16 FOR STRUCTURAL WALL OR DETAIL ON PAGE 17 FOR STUD WALL.

STRUCTURAL DESIGN OF STUD WALL MUST INCLUDE THE LOAD FROM PROPOSED SWITCHBOARD CABINET.

CANTILEVER POSTS



KUSCH
Engineered.

K1

C2

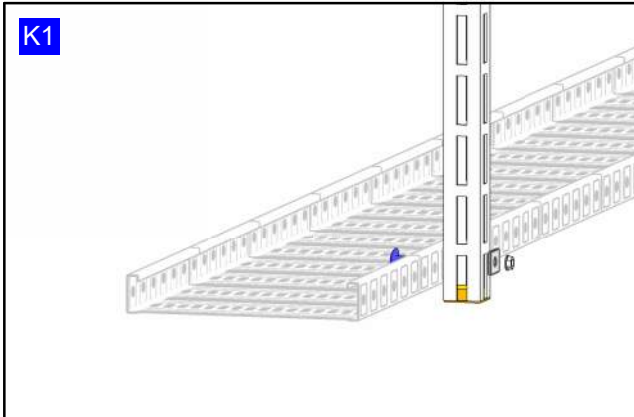
C3

C4

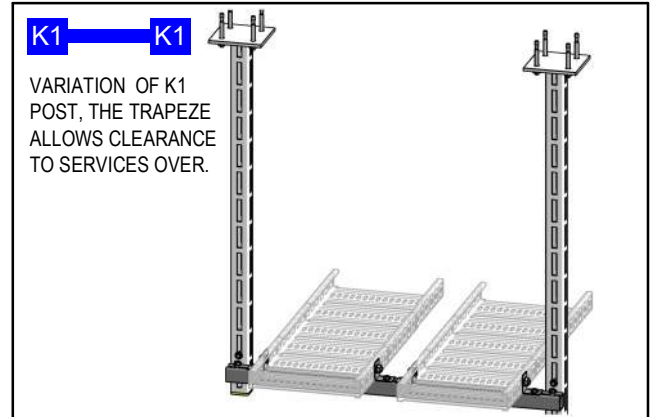
FLOOR/SOFFIT FIXED WALL FIXED

NOTE: THE CAPACITY OF THIS BRACE IS A FACTOR OF SERVICE WEIGHT AND HEIGHT / WIDTH / LENGTH - PLEASE CONSULT YOUR KUSCH ENGINEER FOR ADVICE ON APPLYING THIS DESIGN TO YOUR PROJECT.

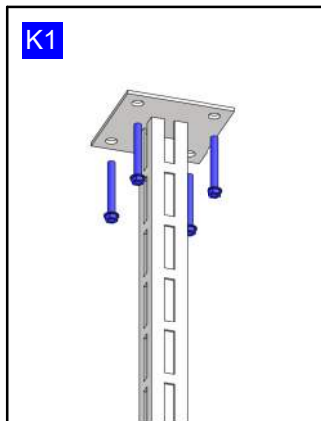
NOTE: SUPA50 POSTS ARE AVAILABLE IN 1500, 1000 & 750mm LENGTHS.



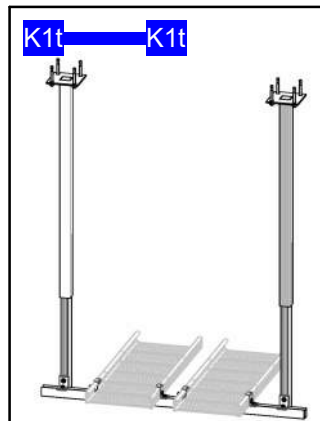
FIX TRAY TO POST WITH M10 DOME-HEAD BOLT AND STRUT WASHER THROUGH. ALTERNATIVELY, SP50-1068 (90°) BRACKET TO BOTH TRAY AND POST.



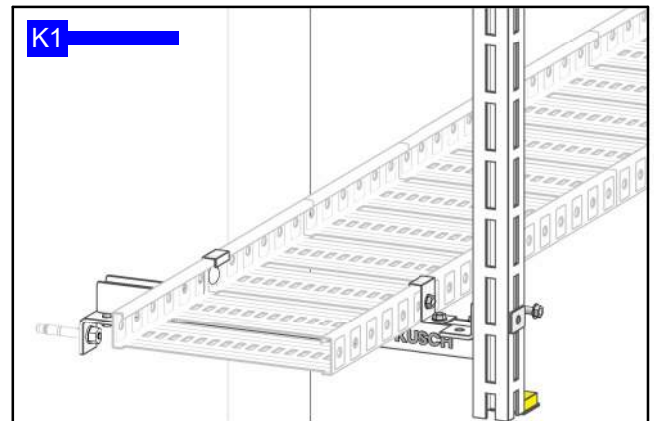
VARIATION OF K1 POST, THE TRAPEZE ALLOWS CLEARANCE TO SERVICES OVER.



FIX 4- HILTI M10x90 HUS-H OR HILTI M10x90 HST3 OR M10x90 ICCONS FM753 OR APPROVED EQUIVALENT. ALL INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPEC.80mm MIN. EDGE DISTANCE.

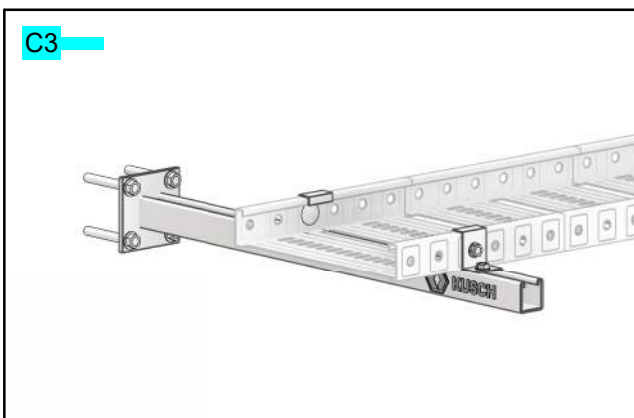


SLEEVE STRUT INSIDE K1 FOR HEIGHTS GREATER THAN 1500. 2-M10 X 70 THROUGH STRUT AT 300 CTS MIN



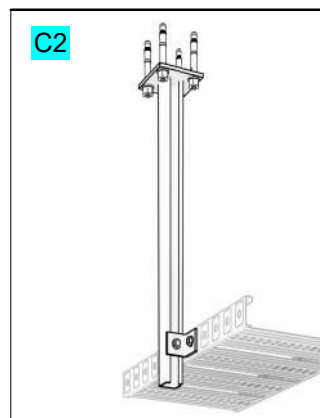
VARIATION OF K1 POST WHERE TRAPEZE IS ADDED TO THE POST WITH AN FM1026 ANGLE BRACKET AND M10 NUT AND BOLT. THIS ALLOWS POST TO CLEAR NEARBY OBSTICALS, OR TO FIX TO THE SOFFIT APPRIATELY.

A FURTHER OPTION IS FOR THE OPPOSITE SIDE OF THE TRAPEZE TO FIX TO STRUCTURE, TYPICALLY WITH ANOTHER FM1026 ANGLE BRACKET

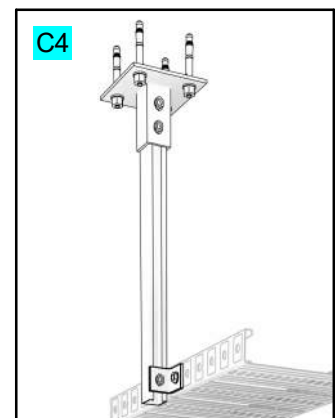


FIX FM2073 WELDED 41mm STRUT w/ HILTI M10x90 HUS-H OR HILTI M10x90 HST3 OR M10x90 ICCONS FM753 OR APPROVED EQUIVALENT. ALL INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPEC. 80mm MIN. EDGE DISTANCE. FIXED WITH HOLD DOWN BRACKETS AND M10 BOLTS AND CHANNEL NUTS.

NOTE: FM2073 (L) LENGTHS ARE MADE TO ORDER.

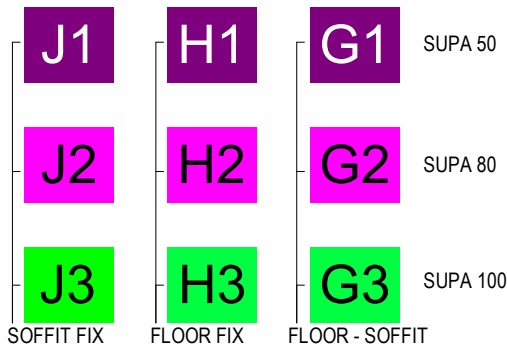


VARIATION OF WELDED BASEPLATE 41mm STRUT FIXED TO SOFFIT OR FLOOR WITH FM1026 ANGLE BRACKET AND M10 BOLTS TO TRAY

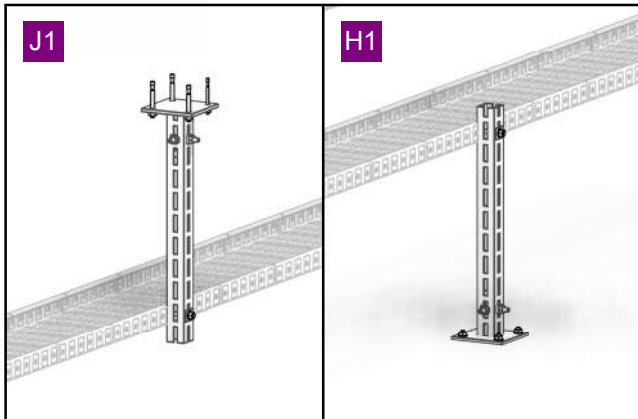


VARIATION WITH BOLTED BASEPLATE. 2-M10 BOLTS THROUGH FM2072 BASEPLATE.

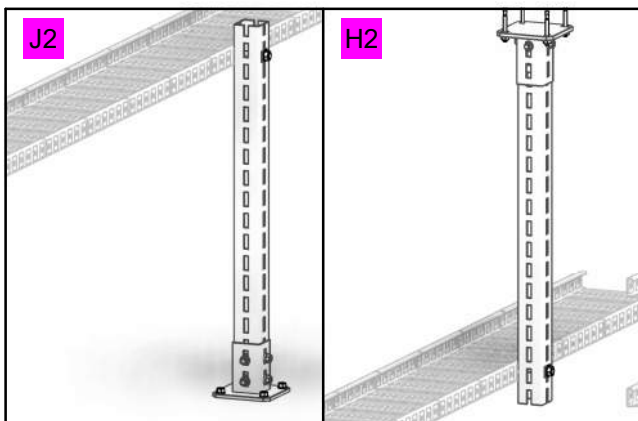
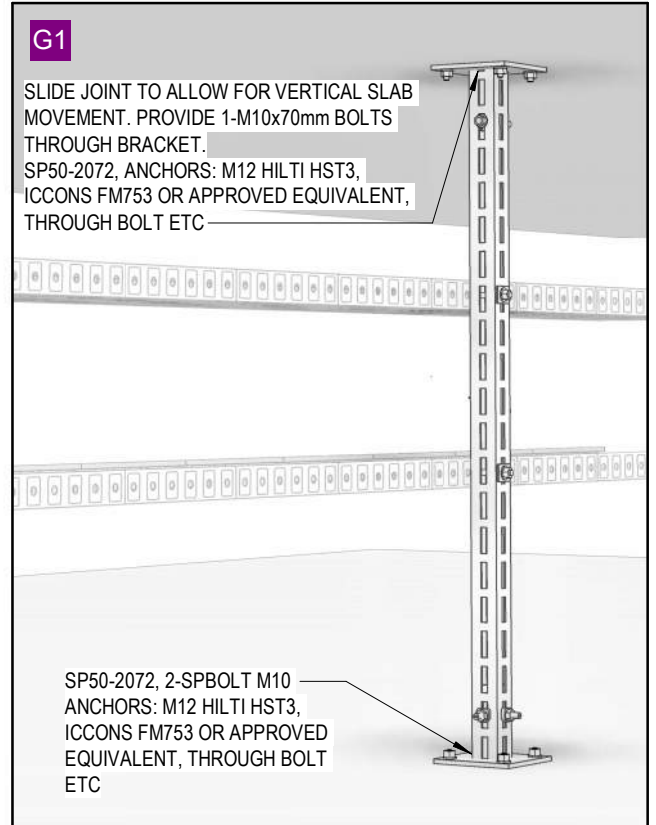
SP50, SP80 & SP100 POSTS



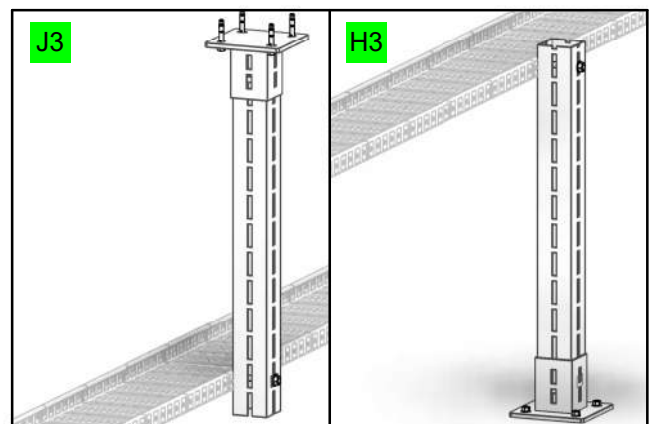
J1, H1 & G1 ARE VARIATIONS OF SP50 SUPA STRUT BRACING, FIXED WITH SP50-2072 BASEPLATE, M12 SEISMIC ANCHORS AND SPBOLT-M10S
 J1 IS SOFFIT FIXED , H1 IS FLOOR FIXED & G1 IS FIXED TO FLOOR AND SOFFIT.



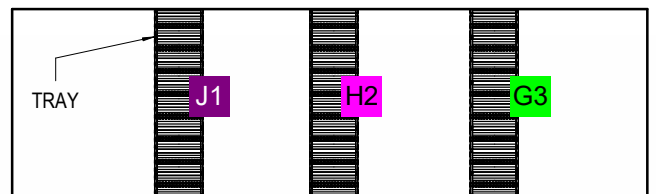
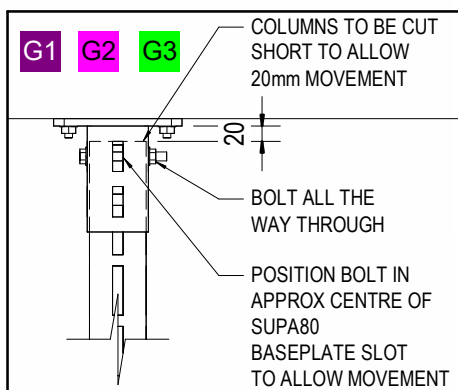
FIX SP50-2072 BASEPLATE TO SP50 STRUT WITH 2-SPBOLT-M10. ALIGN SP50 GAL LENGTH TO 41mm STRUT & FIX TO CHANNEL NUTS WITH M10 BOLTS, MIN. QTY 2, MAX SPACING 300. (USE STRUT WASHERS TO M10 BOLTS)
 FIX BASEPLATE TO FLOOR / SOFFIT WITH 4-M12 x 130 ICCONS FM753 ANCHORS.



FIX SP80-2072 BASEPLATE TO SP80 STRUT WITH 6-SPBOLT-M12S. ALIGN SP80 GAL LENGTH TO 41mm STRUT & FIX TO CHANNEL NUTS WITH M12 BOLTS, MIN. QTY 2, MAX SPACING 300. (USE STRUT WASHERS TO M12 BOLTS)
 FIX BASEPLATE TO FLOOR / SOFFIT WITH 4-M16 x 130 ICCONS FM753 ANCHORS.

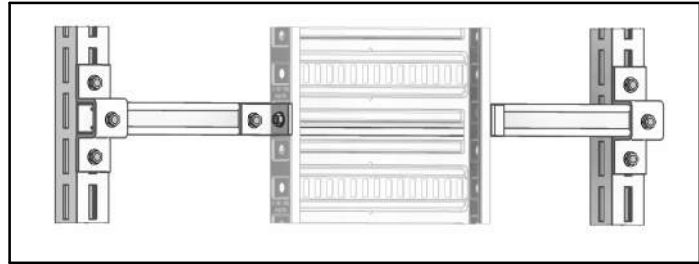
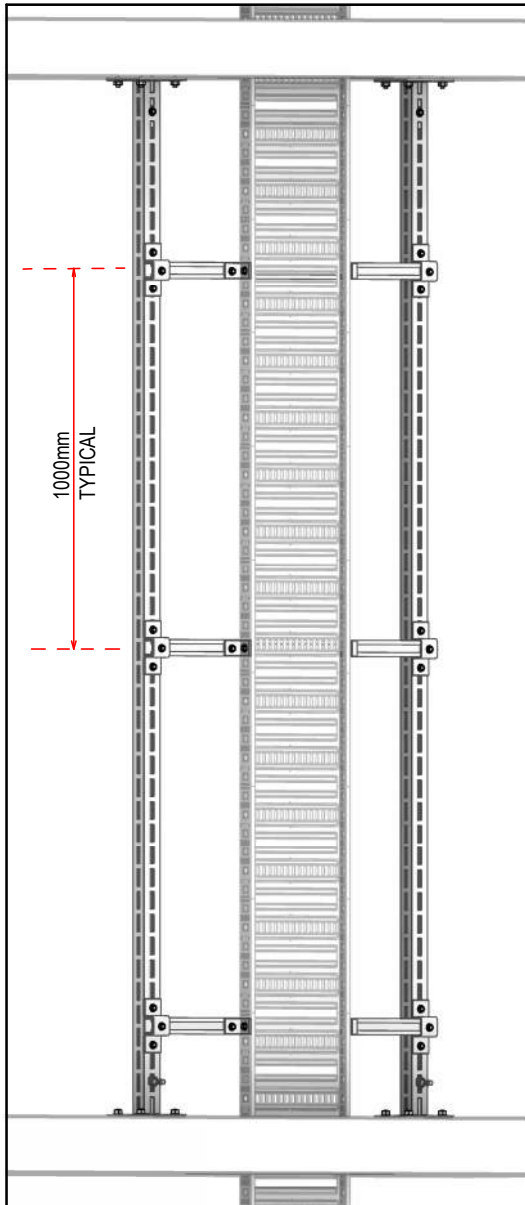


FIX SP100-2072 BASEPLATE TO SP100 STRUT WITH 6-SPBOLT-M12S. SP100 FIX TO 41mm STRUT WITH CHANNEL NUTS & M12 BOLTS, MIN. QTY 2, MAX SPACING 300. (USE STRUT WASHERS TO M12 BOLTS)
 FIX BASEPLATE TO FLOOR / SOFFIT WITH 4-M12x130 ICCONS FM753 ANCHORS.



TYPICAL GRAPHICAL REPRESENTATION - PLAN

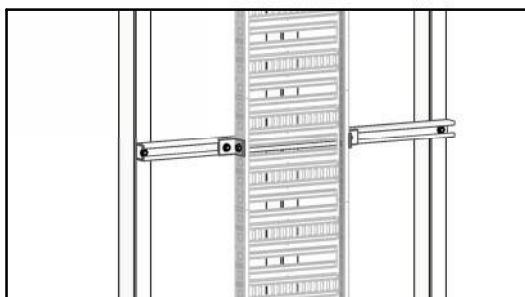
ELECTRICAL RISER SUPPORT



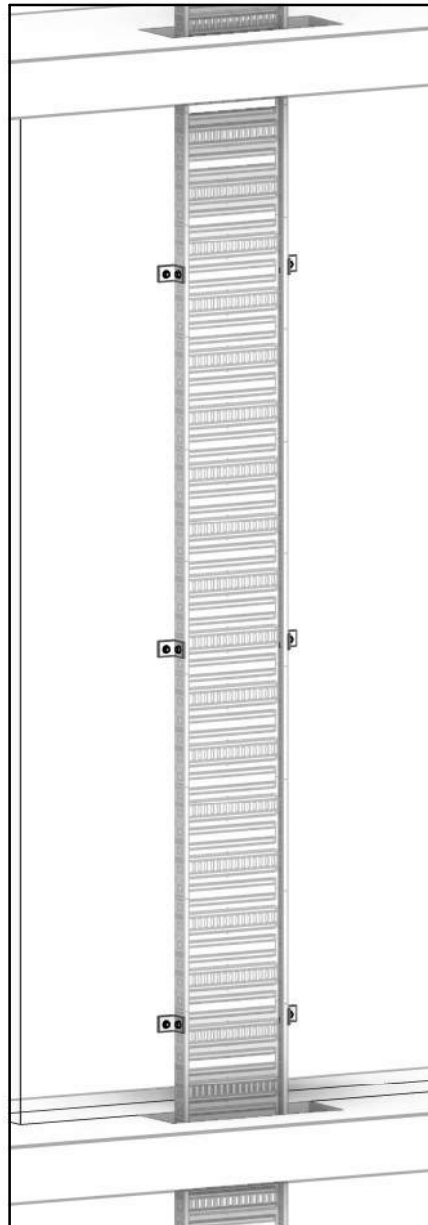
VARIATION OF ELECTRICAL RISER SUPPORT. FIX TRAY TO 41mm STRUT AT 1000mm CENTRES WITH FM1026 ANGLE BRACKETS AND M10 BOLTS AND CHANNEL NUTS. FIX 41mm STRUT TO SP50 POST WITH FM1047 BRACKETS WITH 2-M10 BOLTS TO SP50 AND 1-M10 BOLT AND CHANNEL NUT TO 41mm STRUT.

BOTTOM SP50-2072 BASEPLATES WITH 4- SEISMIC RATED ANCHORS AND 2-SPBOLT M10.

TOP SP50-2072 BASEPLATES REQUIRE A SLIDE JOINT TO ALLOW FOR VERTICAL SLAB MOVEMENT. PROVIDE 2-M10x70mm BOLTS THROUGH BRACKET AND ALLOW 20mm CLEARANCE BETWEEN THE END OF THE POST AND THE SOFFIT
SP50-2072, ANCHORS: M12 HILTI HST3, ICCONS FM753 OR APPROVED EQUIVALENT, THROUGH BOLT ETC



VARIATION TO ELECTRICAL RISER TO STUD WALL WHERE FM1026 BRACKETS AT 1000mm CENTRES ARE BOLTED 41mm STRUT WHICH IS BOLTED/SCREW-FIXED TO THE WALL STUDS. WALL LINING OMITTED FOR CLARITY.



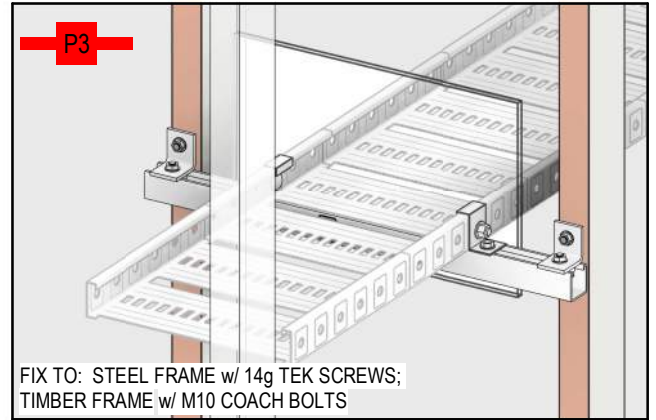
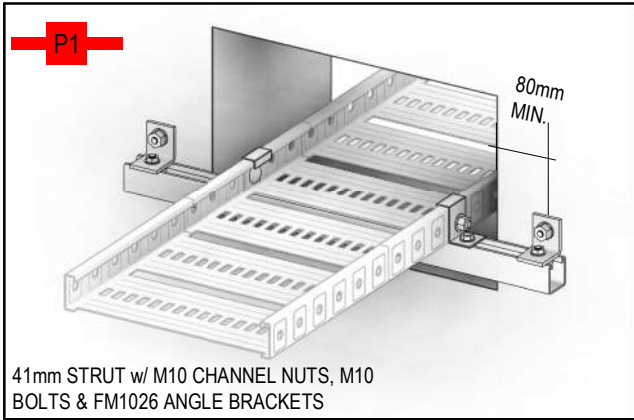
VARIATION TO ELECTRICAL RISER WHERE FM1026 BRACKETS AT 1000mm CENTRES ARE BOLTED DIRECTLY TO STRUCTURE.

P1,3,4 & 4T - WALL FIXED STRUT BRACES

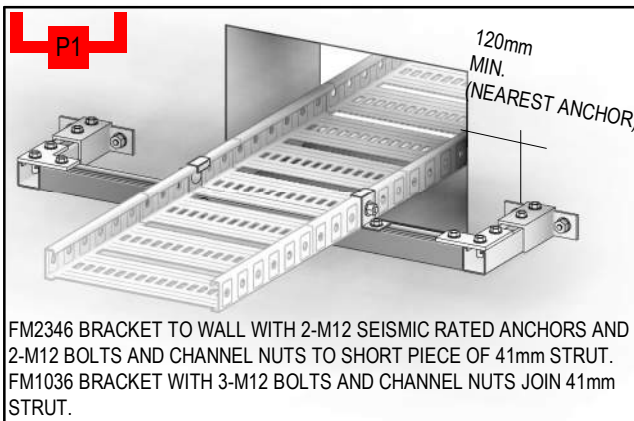


NOTE: THE CAPACITY OF THIS BRACE IS A FACTOR OF SERVICE WEIGHT AND WIDTH - PLEASE CONSULT YOUR KUSCH ENGINEER FOR ADVICE ON APPLYING THIS DESIGN TO YOUR PROJECT.

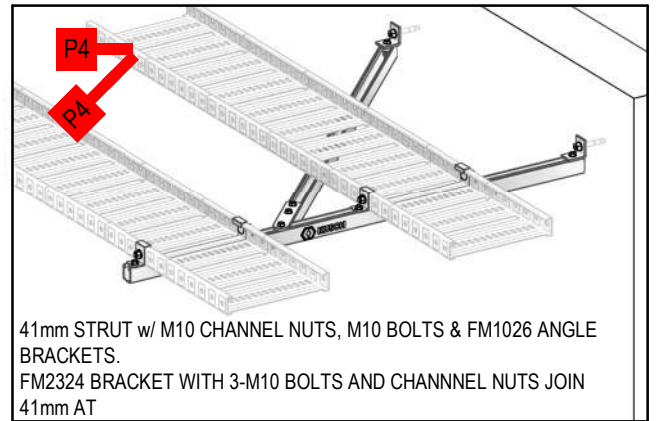
HOLD DOWN BRACKETS WITH DOME HEAD BOLTS TO TRAY, AND M10 BOLTS AND CHANNEL NUTS TO 41mm STRUT APPLIES TO ALL SEISMIC BRACES.



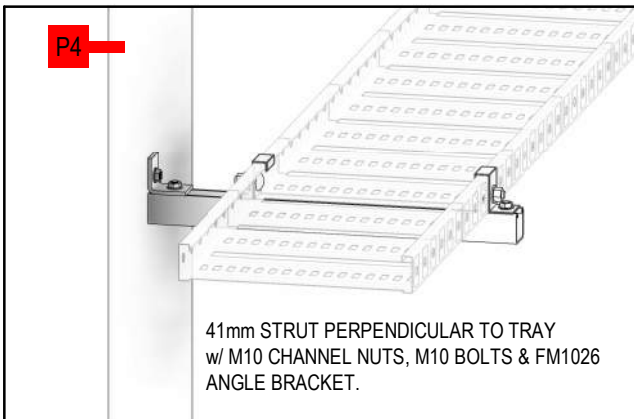
VARIATION OF P1 - FIXING TO STUD WALL



P1 STAND-OFF VARIATION WHERE SERVICE ENDS SHORT OF WALL/FIRE RATED PENETRATION.



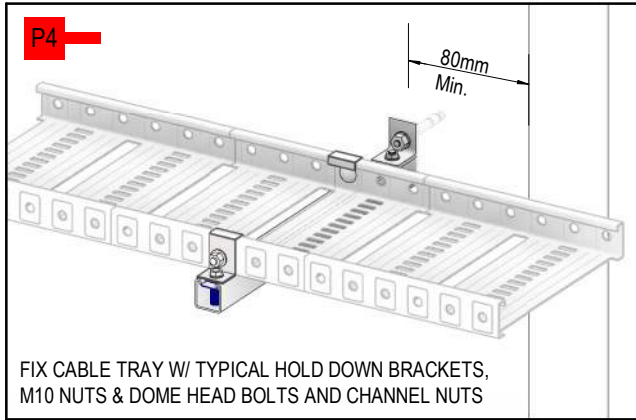
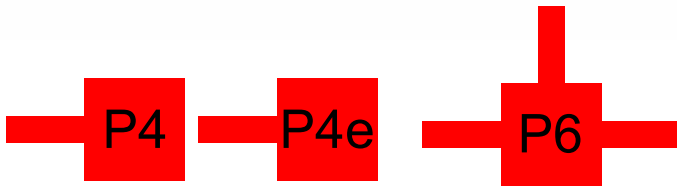
VARIATION OF P4 (P4T) WHERE ADDITIONAL 45° 41mm STRUT BRACING PROVIDES LONGITUDINAL CAPACITY



P4 BRACE CAN BE PLACED AT TYPICAL TRAPEZE HANGER BY EXTENDING TRAPEZE TO WALL AND FIXING TO WALL WITH BRACKET.

P4 & P6 - WALL FIXED STRUT BRACE, SERVICE PARALLEL OR PERPENDICULAR TO WALL

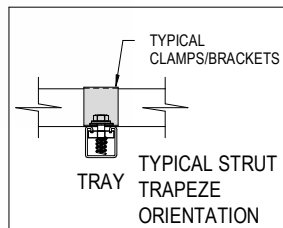
NOTE: THE CAPACITY OF THIS BRACE IS A FACTOR OF SERVICE WEIGHT AND WIDTH - PLEASE CONSULT YOUR KUSCH ENGINEER FOR ADVICE ON APPLYING THIS DESIGN TO YOUR PROJECT.



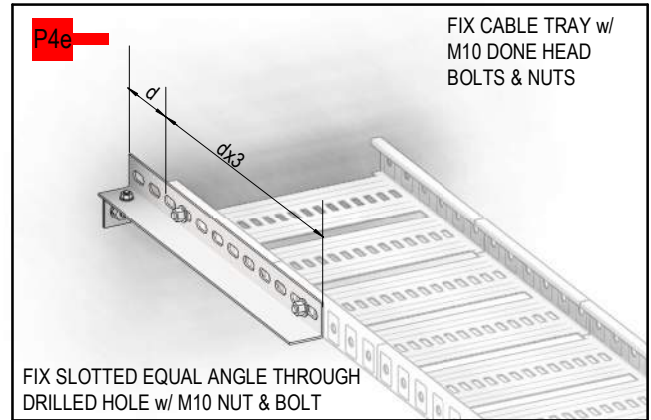
FIX CABLE TRAY W/ TYPICAL HOLD DOWN BRACKETS, M10 NUTS & DOME HEAD BOLTS AND CHANNEL NUTS

FIX FM1026 TO CONCRETE / CORE-FILLED BLOCK WALL WITH HILTI M10x90 HUS-H OR HILTI M10x90 HST3 OR M10x90 ICCONS FM753 OR APPROVED EQUIVALENT. (ALL ACCORDING TO MANUFACTURERS SPEC.) (80mm MINIMUM FROM WALL EDGE)

FIX 41mm Strut w/ M10 BOLT & M10 CHANNEL NUT

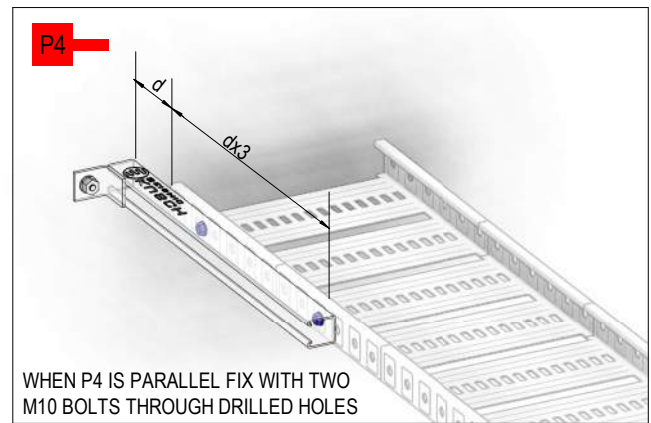


FIX CABLE TRAY w/ TYPICAL HOLD DOWN BRACKETS, M10 NUTS & BOLTS & CHANNEL NUTS



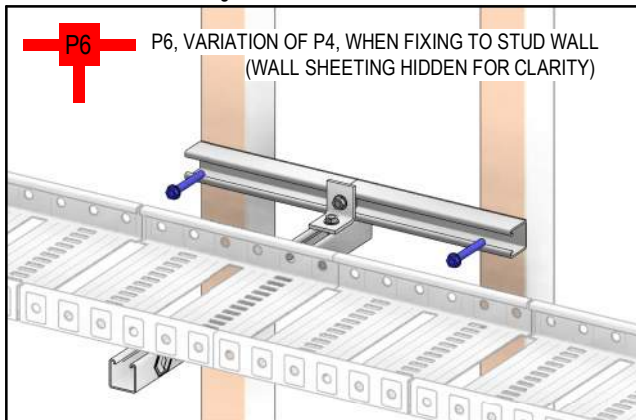
FIX CABLE TRAY w/ M10 DOME HEAD BOLTS & NUTS

FIX SLOTTED EQUAL ANGLE THROUGH DRILLED HOLE w/ M10 NUT & BOLT

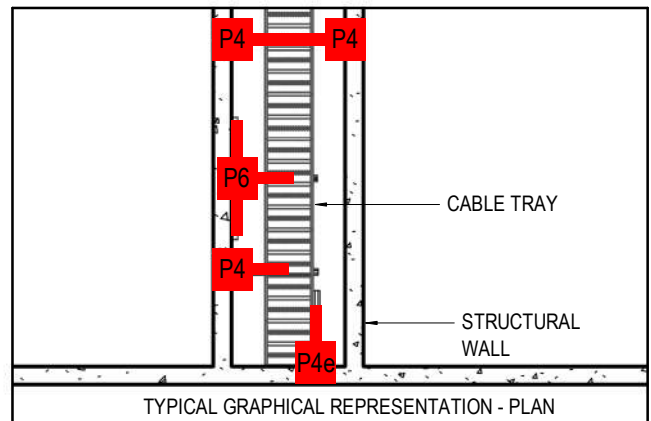


WHEN P4 IS PARALLEL FIX WITH TWO M10 BOLTS THROUGH DRILLED HOLES

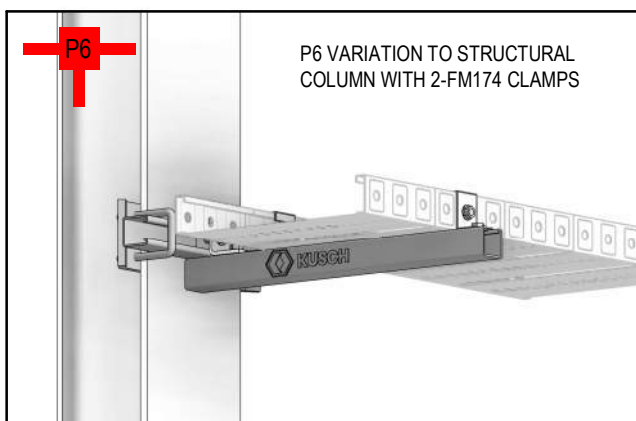
FIX TO: STEEL FRAME - 14g TEK SCREWS; TIMBER FRAME - M10 COACH BOLTS



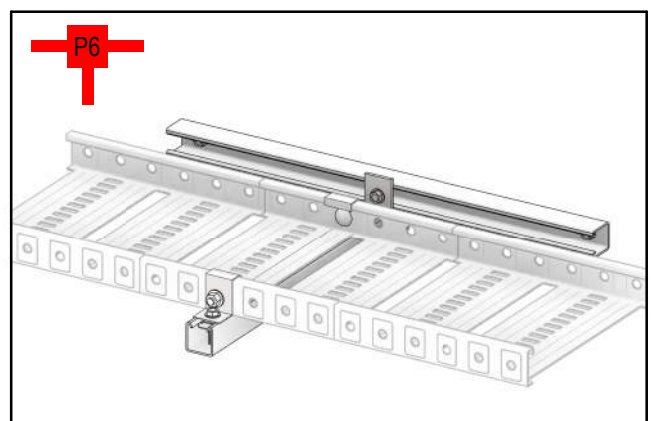
P6, VARIATION OF P4, WHEN FIXING TO STUD WALL (WALL SHEETING HIDDEN FOR CLARITY)



TYPICAL GRAPHICAL REPRESENTATION - PLAN

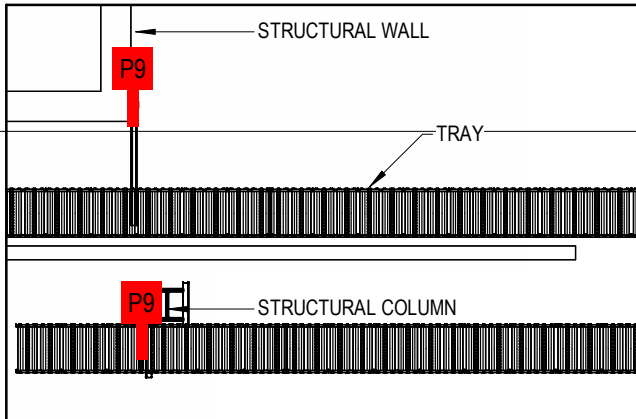
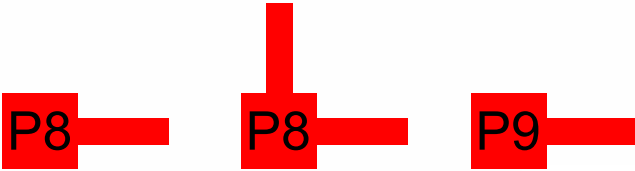


P6 VARIATION TO STRUCTURAL COLUMN WITH 2-FM174 CLAMPS

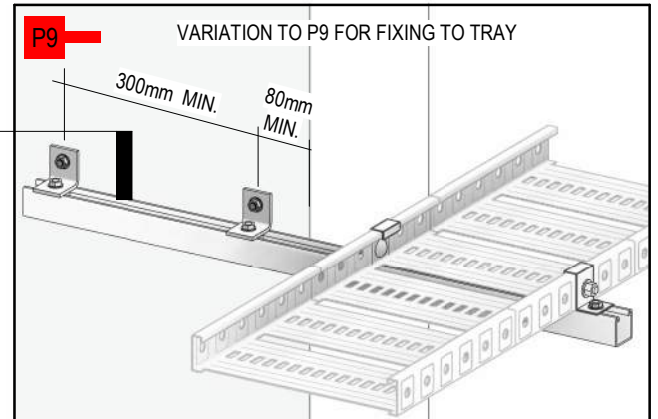


P8, 9 & 9C - STRUT BRACES

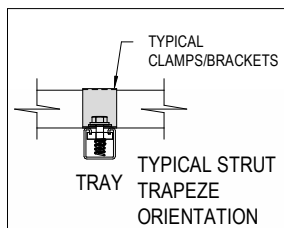
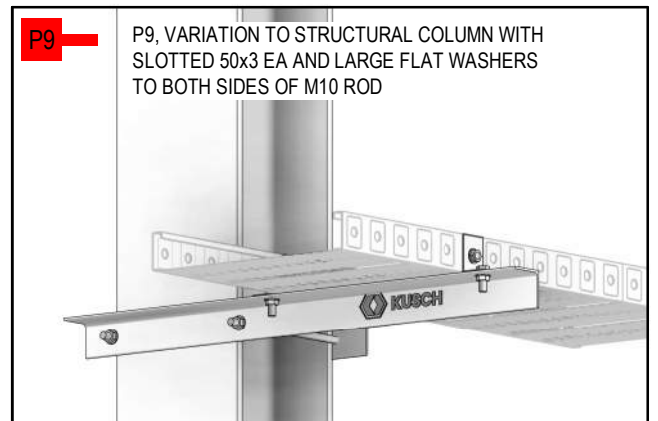
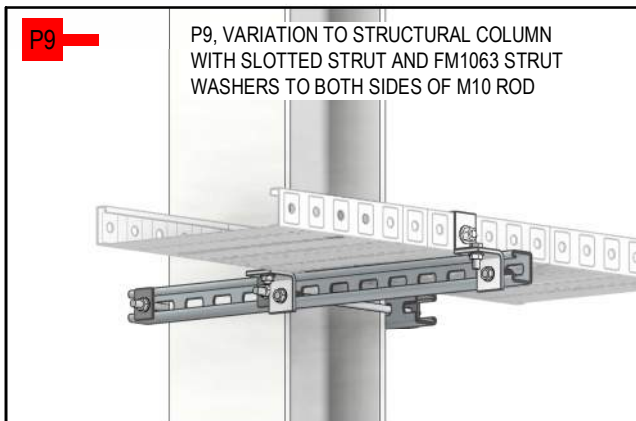
NOTE: THE CAPACITY OF THIS BRACE IS A FACTOR OF SERVICE WEIGHT AND WIDTH - PLEASE CONSULT YOUR KUSCH ENGINEER FOR ADVICE ON APPLYING THIS DESIGN TO YOUR PROJECT.



TYPICAL GRAPHICAL REPRESENTATION - PLAN



FIX TRAY w/ TYPICAL TRAY CLIPS, M10 BOLTS & CHANNEL NUTS



NOTE: 41mm STRUT & FM1026 ANGLE BRACKET INVERTED FOR FIXING DUCT.

