KUSCH
Engineered.

Seismic Brace Installation Details

Mechanical Services

August 2025

Seismic Design

KUSCH engineer project-specific seismic solutions that minimise material use, reduce labour, and actually work when you're on site. Every solution is designed for compliance with AS1170.4 and AS5216, while reducing construction complexity. We support your team from concept to install - solving seismic, structural and buildability challenges directly on site. We design mechanical, electrical, fire, and hydraulic services, along with other non-structural elements.

We Deliver:

Brace-Free Seismic Solutions

KUSCH uses dynamic analysis to calculate how far your services will swing in an earthquake. This allows us to reduce the amount of bracing required on site - saving time, labour, and materials.

Braced Seismic Solutions

KUSCH designs efficient, code-compliant braced seismic systems tailored to your service layout. Our approach ensures optimal bracing placement while reducing unnecessary materials, installation time, and on-site complexity.

Services Support Design

We provide seismic and structural design of supports and fixings including:

- Concrete anchors to AS5216
- Shallow embedment requirements
- Anchoring to hollowcore, blockwork or timber
- Anchor schedules and fixing registers
- C1 & C2 seismic anchors
- Fire-rated service supports
- Supply of Seismic Bracing Materials
- Additional Structural Loads Mandated by the NCC: Wind, Thermal & Building Movement

BIM-Integrated Seismic Coordination

Our seismic designs are fully modelled in Revit, delivering:

- Clash-free layouts
- Nested bill of materials with cut lengths
- Unique brace tags for QA
- Trimble points for precise pre-drilled anchor placement

This document sets out the desired installation methodology for our most common brace solutions.

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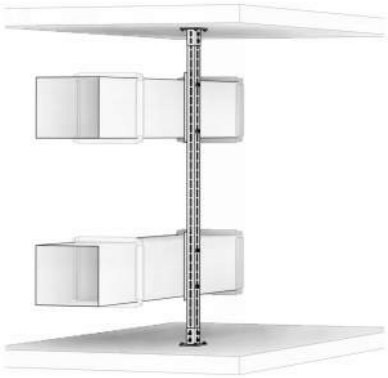
- SUPA STRUT HURDLES / TRAPEZE
- FIXING DUCT TO SUPA STRUT
- FIXING PIPE TO SUPA STRUT

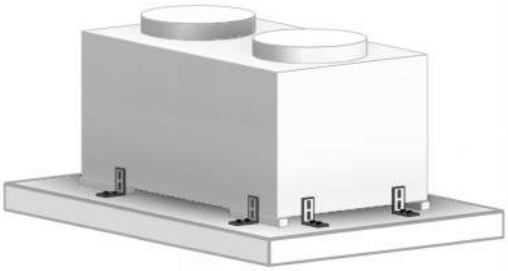
S50 S80 S100 F50 F80 F100 FS50 FS80 FS100

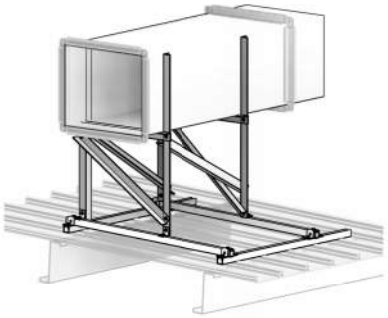
S80 S80 F80 F80



6. MECHANICAL EQUIPMENT RESTRAINT

- FLOOR MOUNTED MECHANICAL EQUIPMENT
- ROOF MOUNTED MECHANICAL EQUIPMENT
- SEISMIC SNUBBERS
- TANK RESTRAINT

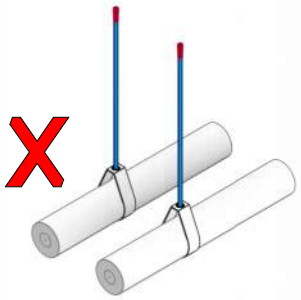




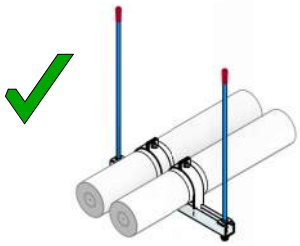
TYPICAL HANGER AND TRAPEZE

At every instance, use:

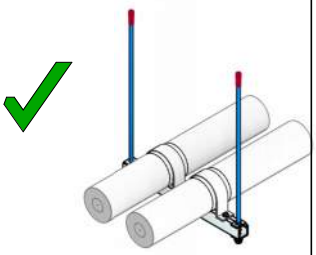
- Seismic rated concrete anchors as approved by **KUSCH.**
- 41mm strut washer and locking nut above *and* below trapeze.
- Stiffeners to rod as specified by **KUSCH**.
- M10 (minimum) rod hangers.



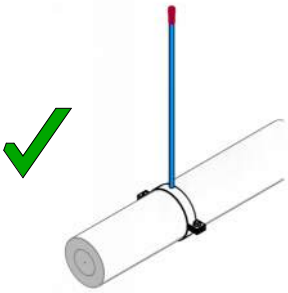
DO NOT USE PEAR BAND FIXINGS WITHOUT PRIOR **KUSCH** APPROVAL.



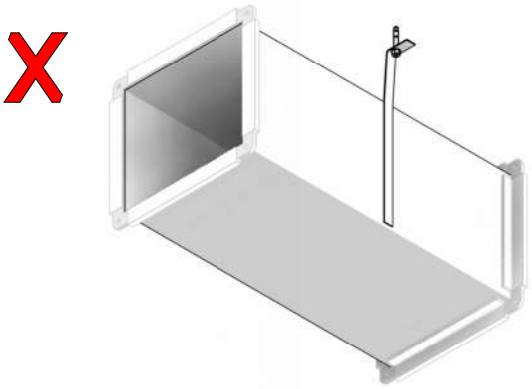
FM132 2PIECE PIPE CLAMP (OR SIMILAR) WITH TIMBER FERRULE WHERE REQUIRED.



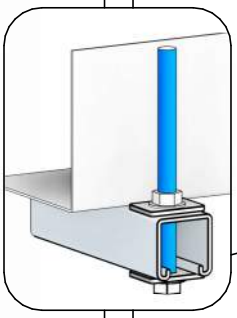
FM125 PIPE CLAMP (OR SIMILAR) WITH TIMBER FERRULE AS REQUIRED.

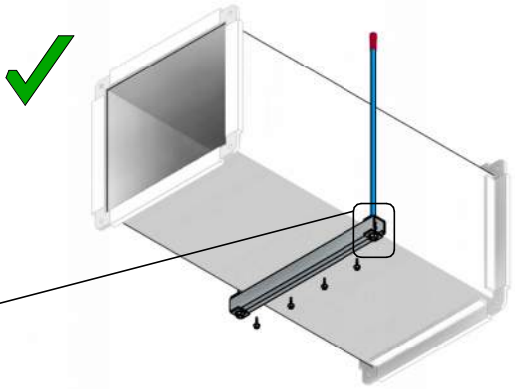


FM109/110 PIPE CLAMP (OR SIMILAR) WITH TIMBER FERRULE AS REQUIRED.



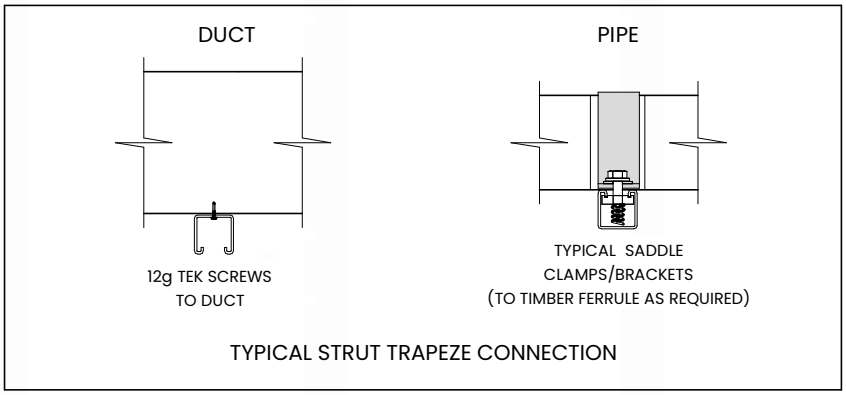
DO NOT USE METAL STRAP HANGERS WITHOUT PRIOR **KUSCH** APPROVAL



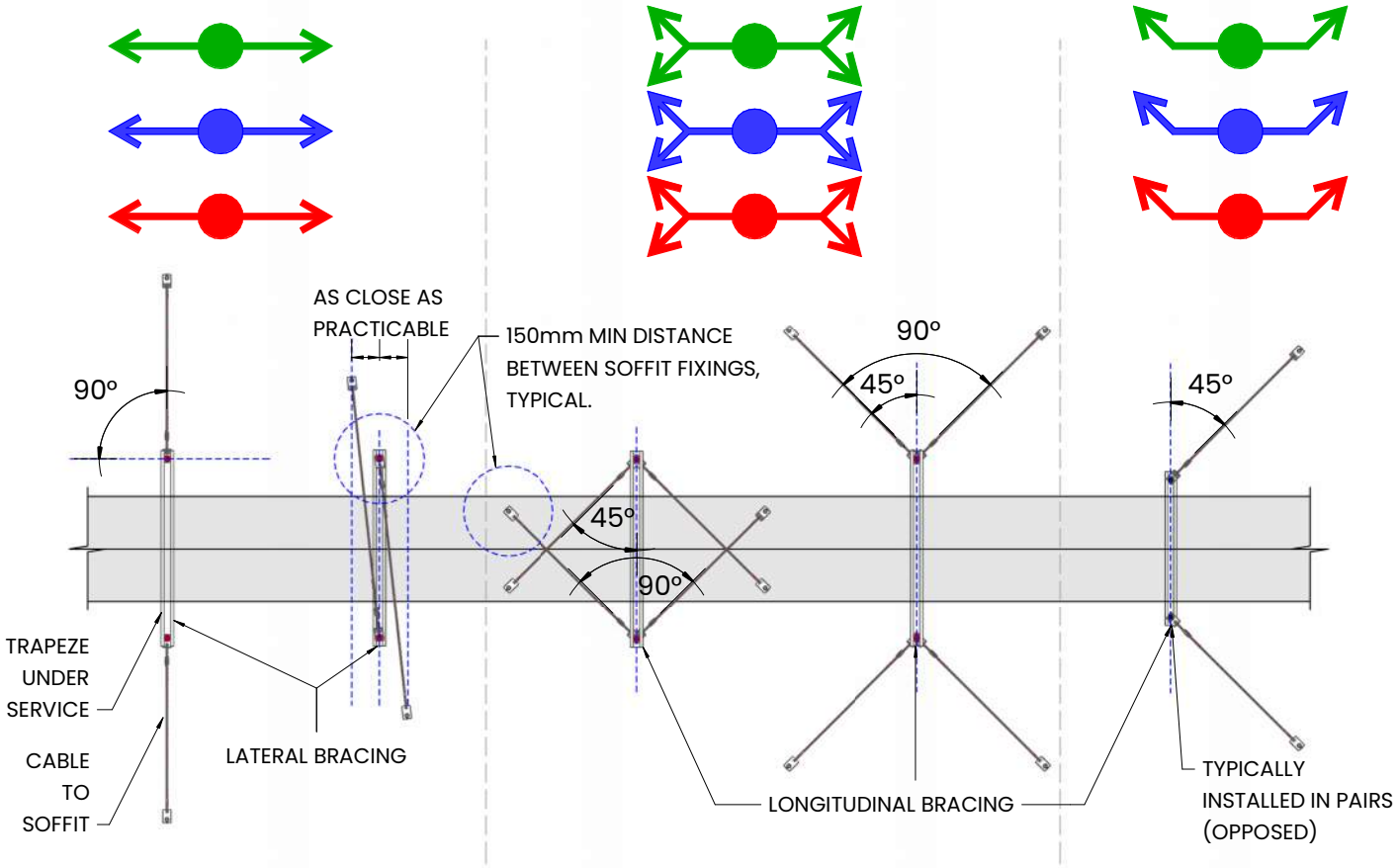


MIN. M10 ROD HANGERS.
12G TEK SCREWS THROUGH TRAPEZE TO UNDERSIDE OF DUCT.
QUANTITY 4. (MINIMUM)
MAX 200mm CTS.

M10 THREADED ROD HANGERS, 41mm STRUT WASHERS & M10 NUTS ABOVE & BELOW 41mm SLOTTED STRUT TRAPEZE.

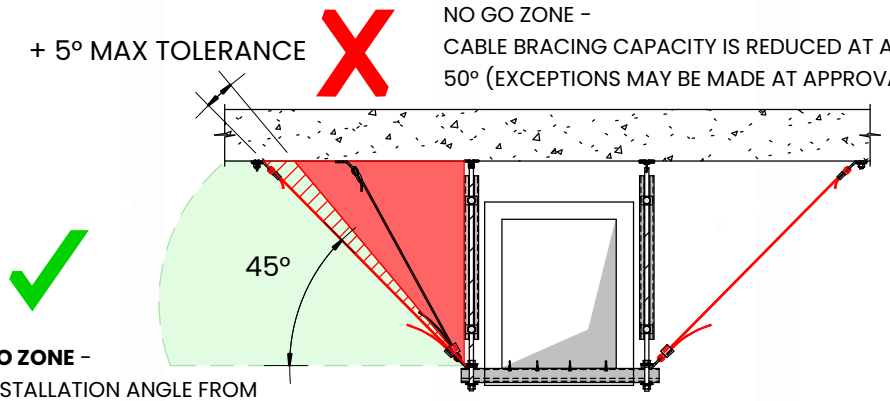


TYPICAL STRUT TRAPEZE CONNECTION



TYPICAL BRACING OF SERVICES - PLAN VIEW

NOTE: COLOUR OF SYMBOL DENOTES CABLE SPECIFIED BY ENGINEER, REFER TO PROJECT-SPECIFIC SEISMIC DESIGN.



NO GO ZONE -
CABLE BRACING CAPACITY IS REDUCED AT ANGLES GREATER THAN 50° (EXCEPTIONS MAY BE MADE AT APPROVAL OF **KUSCH** ENGINEER).

GO ZONE -
INSTALLATION ANGLE FROM HORIZONTAL UP TO 45° (+5°) APPLIES TO *ALL* CABLES TO SOFFIT.

2 -WAY or 4-WAY CABLE BRACE FRONT ELEVATION

CABLE BRACE CONNECTION TO PURLIN/TRUSS

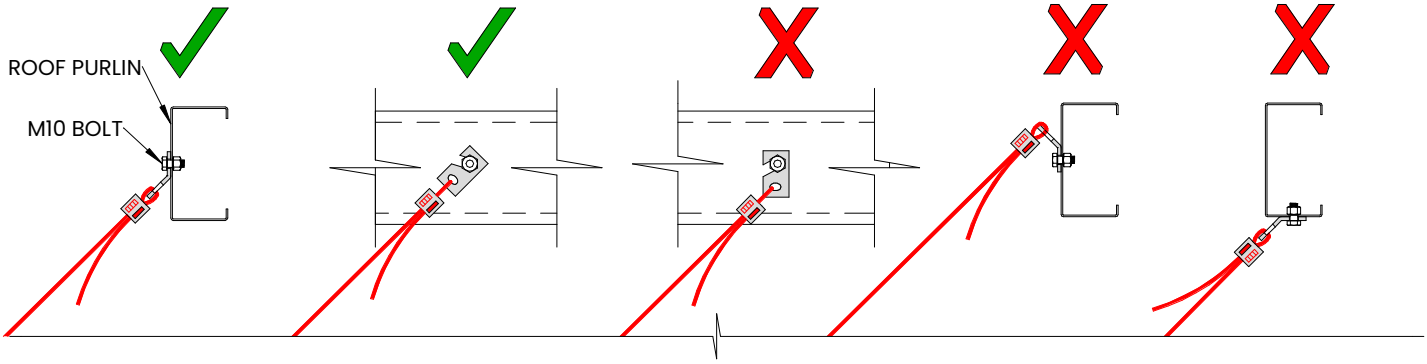
SEISMIC CABLE TO PURLIN CONNECTION DETAIL

BOLT BRACKET TO MIDDLE OF PURLIN WEB.

ALIGN THE BRACKET TO CABLE AXIS.

DON'T PULL THE BRACKET ONTO ITSELF.

AVOID CONNECTING TO THE PURLIN FLANGE.



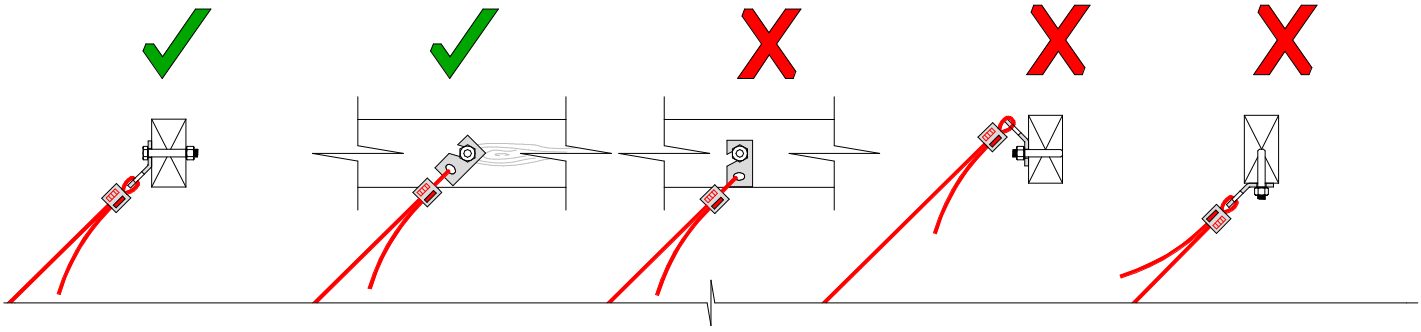
SEISMIC CABLE TO TIMBER TRUSS CONNECTION DETAIL

BOLT BRACKET TO MIDDLE OF TIMBER BEAM/ TRUSS.

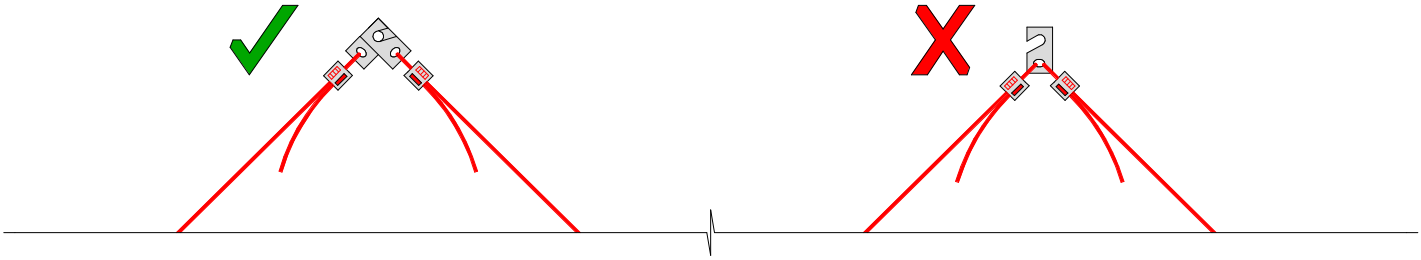
ALIGN THE BRACKET TO CABLE AXIS.

DON'T PULL THE BRACKET ONTO ITSELF.

AVOID CONNECTING TO THE SHORT SIDE OF THE TIMBER PROFILE.



IMPORTANT!



DO:

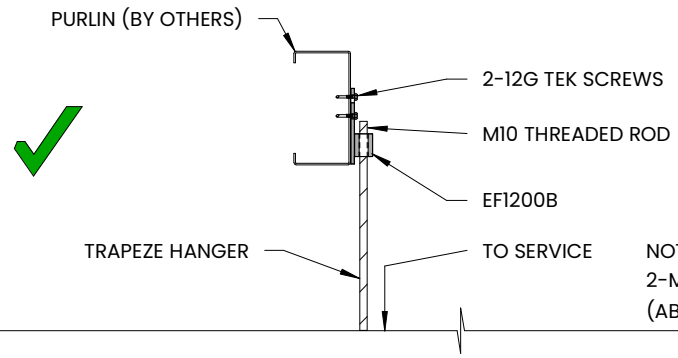
- HAND TIGHTEN CABLE USING ZIP-CLIP CABLE JOINER.
- ADJUST Zip-Clip CABLE JOINER USING RELEASE PINS IF REQUIRED.
- LEAVE A TAIL AT FREE END OF CABLE PASSING THROUGH Zip-Clip CABLE JOINER, MIN. 150mm.
- ALIGN 45° ANGLE BRACKETS AT EACH END SO THAT BOTH HOLES ON ANGLE BRACKETS ARE IN LINE WITH CABLE, AND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

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.

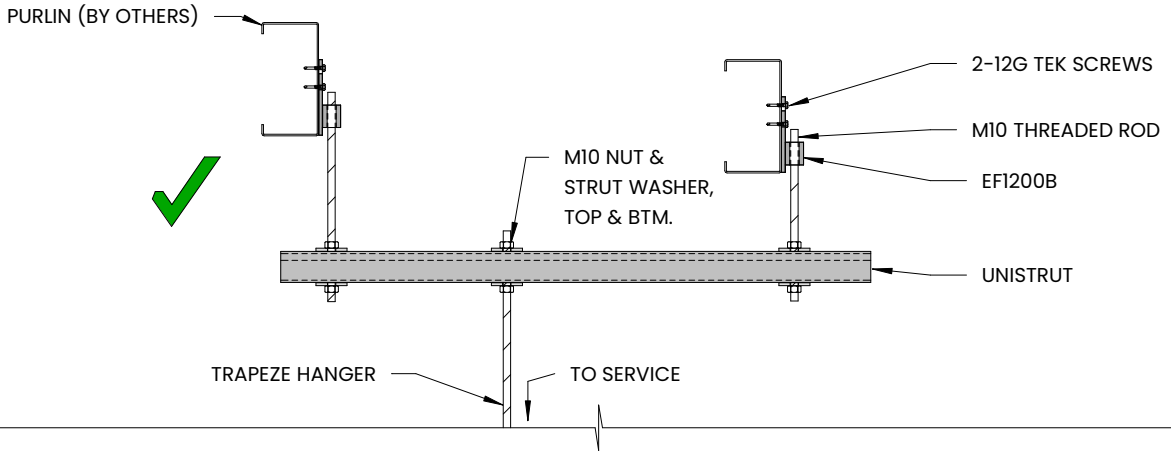
HANGER TO PURLIN CONNECTION

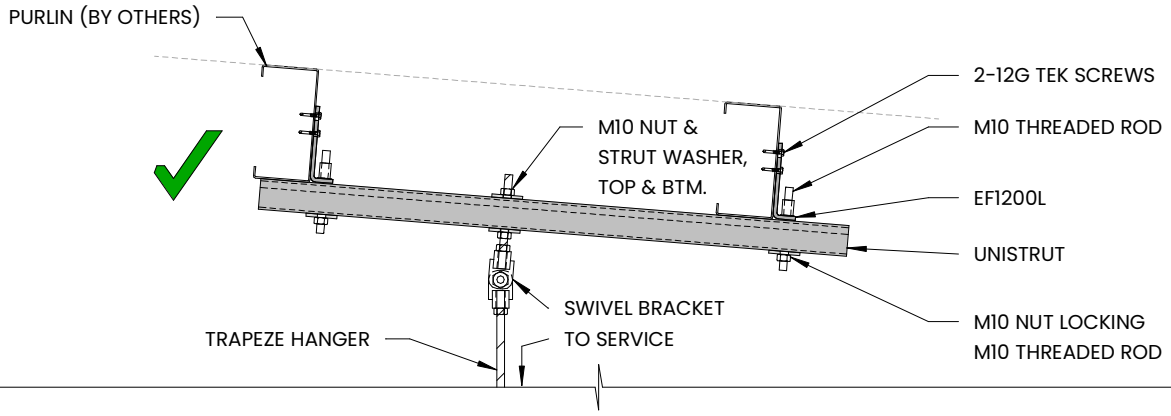
SERVICE HANGER DIRECTLY FROM PURLIN

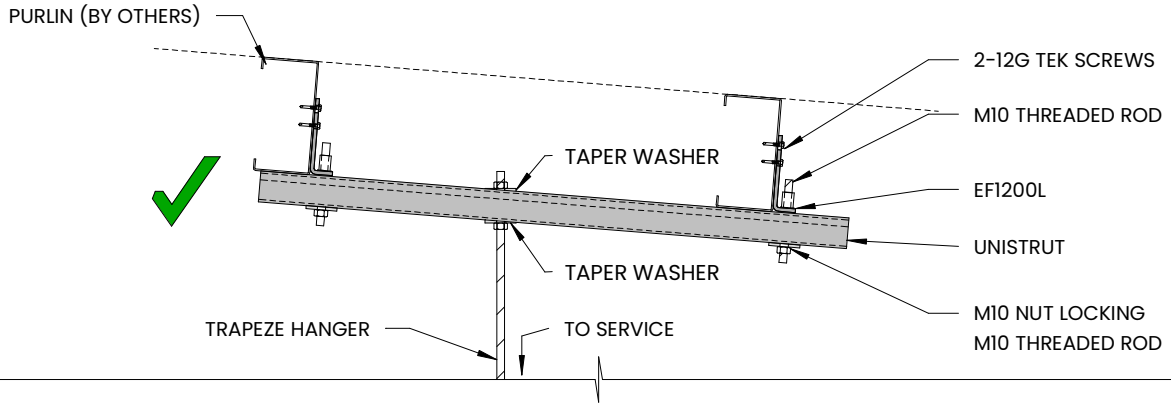


NOTE: FOR STAINLESS STEEL APPLICATIONS, 2-M10 NUTS REQUIRED, TYPICAL (ABOVE *AND* BELOW EF1200B).

WHERE SERVICE HANGER IS NOT DIRECTLY BELOW PURLIN

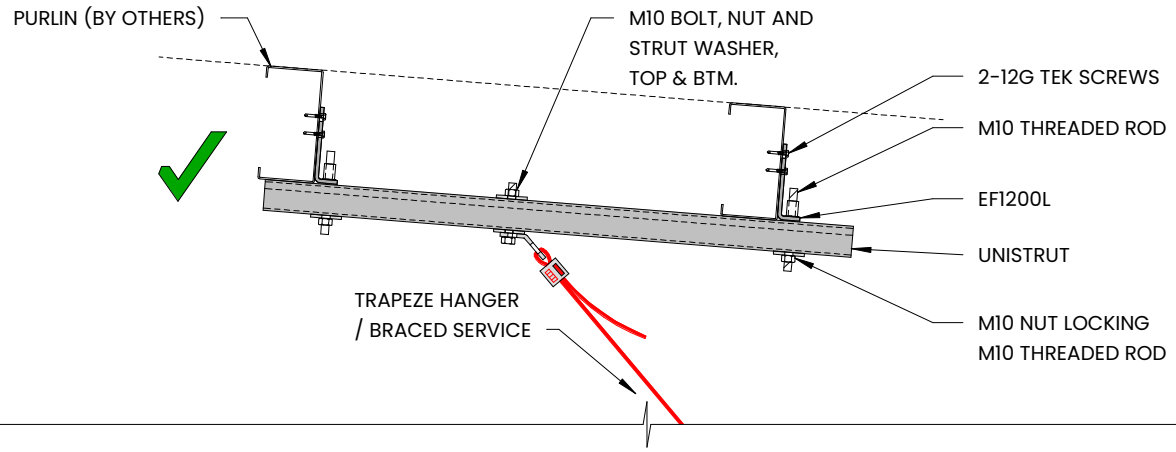


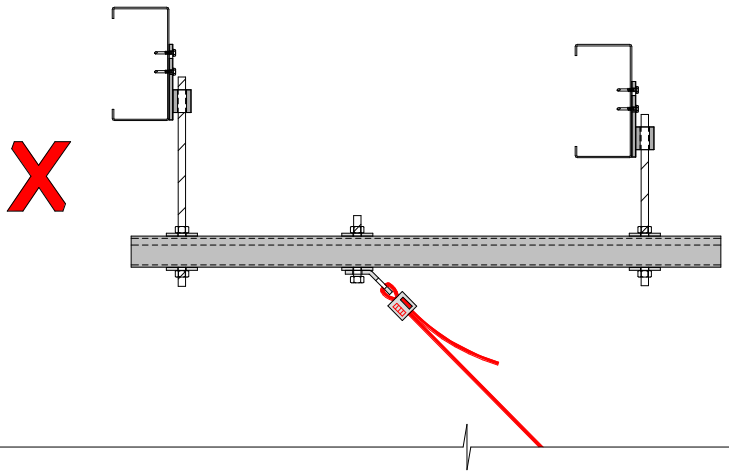




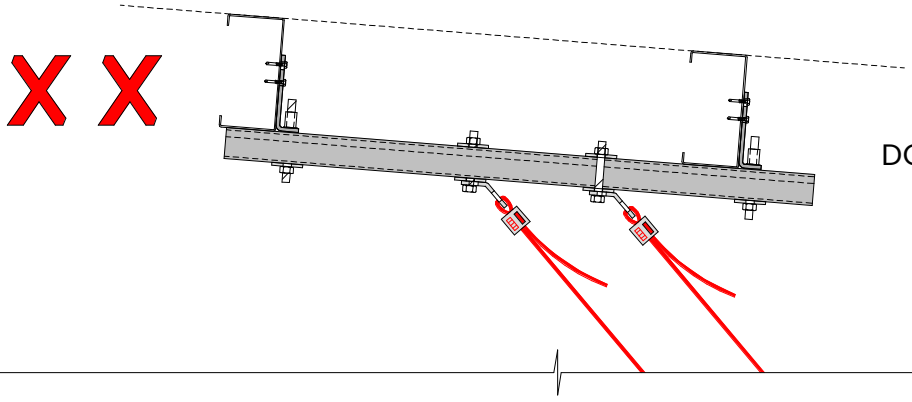
CABLE / STRUT / PURLIN CONNECTION

WHERE CABLE CONNECTION DIRECTLY TO PURLIN, AS PER PREVIOUS PAGE, CAN NOT BE ACHIEVED, FIX CABLE AS PER BELOW.





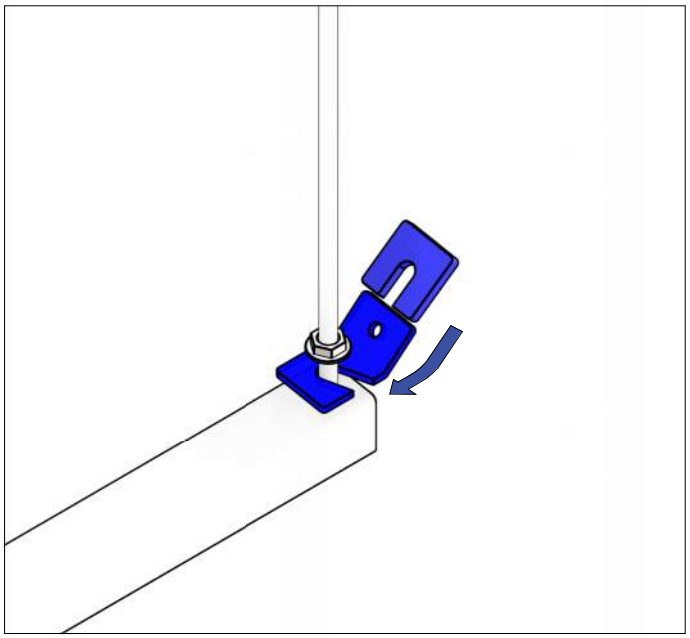
ADDITIONAL HANGERS WILL REQUIRE ADDITIONAL ENGINEERING.



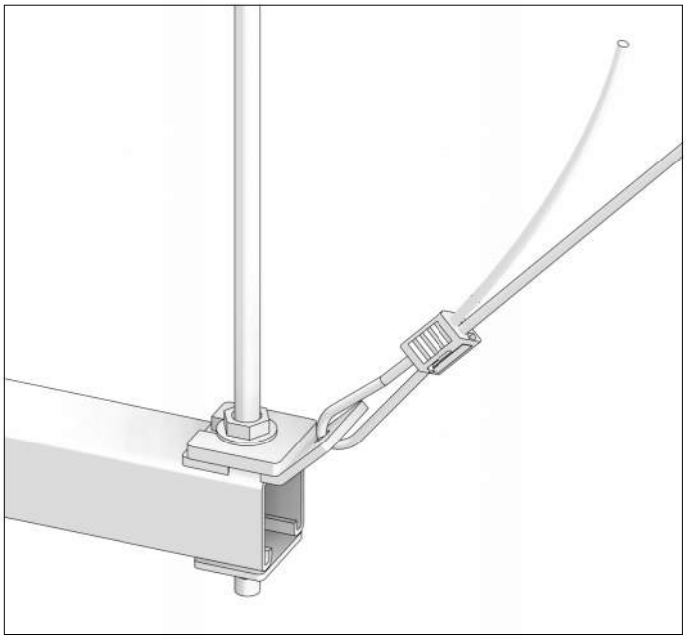
DO NOT OVERLOAD STRUT.

FIXING CABLE TO TYPICAL TRAPEZE

AT EACH CABLE LOCATION,
FIT LARGE PLATE SLOTTED HOLE WASHER IN THE ORIENTATION SHOWN.



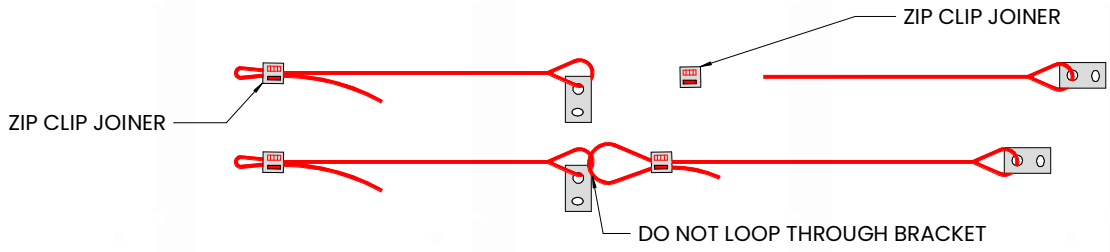
WIND UP TOP M10 NUT AND WASHER, PLACE CABLE BRACKET AND CABLE SLOTTED SQUARE WASHER AS SHOWN.



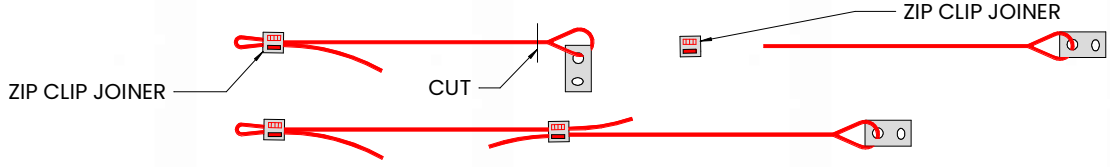
LOCK CABLE BRACKETS TO STRUT TRAPEZE WITH BOTH M10 NUT AND WASHER OVER, *AND* STRUT WASHER AND M10 NUT UNDER.
THEN TENSION CABLES AS PER MANUFACTURERS INSTALLATION SPECIFICATIONS.

CABLES MAY BE JOINED TO ACQUIRE GAIN THE REQUIRED LENGTH BY FOLLOWING EITHER OF THESE METHODS

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



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°

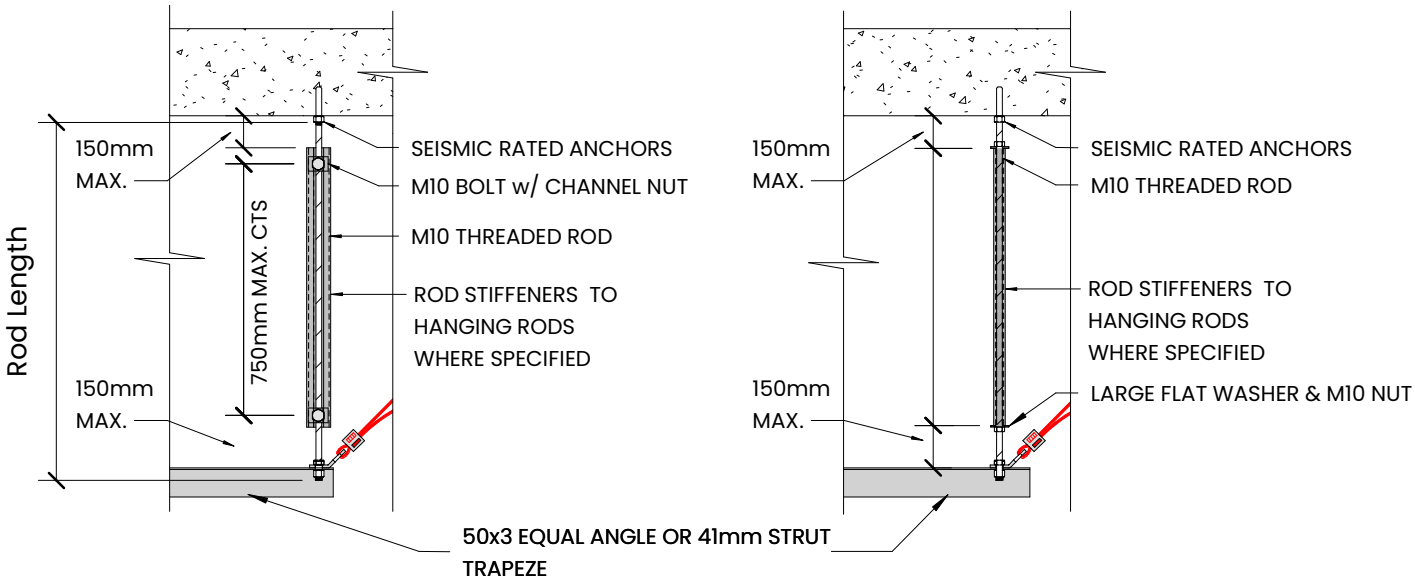
Brace Symbol	Zip-Clip Cable Type	HILTI Slab Connection	ICCONS Thru-bolt Slab Connection	ICCONS FM753 Slab Connection
	RED (2mm)	M10x90 HST3	M10x90 Thru-bolt	M10x90 ICCONS-FM753
	BLUE (3mm)	M10x90 HST3	M12x140 Thru-bolt	M10x90 ICCONS-FM753
	GREEN/YELLOW (4mm)	M12x115 HST3	M12x140 Thru-bolt	M12x110 ICCONS-FM753

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.

TYPICAL ROD STIFFENER INSTALLATION



TYPICAL ROD STIFFENER
(USING **41mm STRUT**)

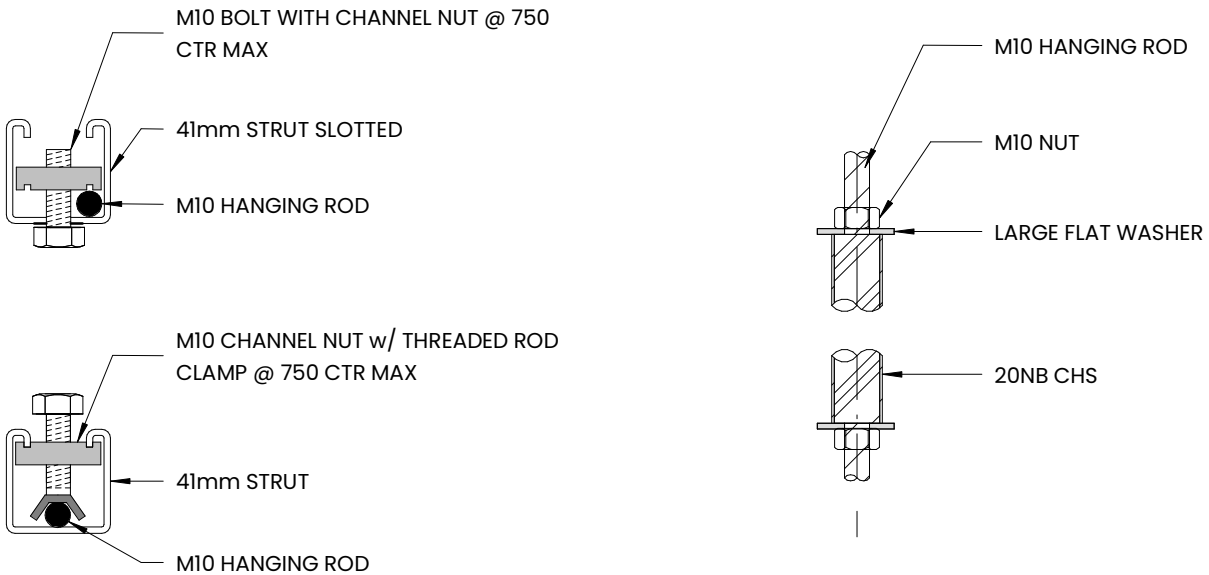
OR

TYPICAL ROD STIFFENER
(USING **20NB CIRCULAR HOLLOW SECTION**)

NOTE: INSTALL ROD STIFFENERS WHERE NOTED ON SEISMIC DESIGN DRAWINGS.
ENSURE THEY ARE POSITIONED AT TRAPEZE SUPPORTS THAT ALIGN WITH CABLE BRACES.

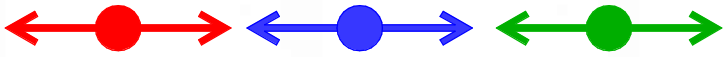
Rod Stiffeners >750mm **UNO.**
Contact **KUSCH** for removal on a case by case basis once your hanging rod lengths are confirmed.

TYPICAL STRUT ROD STIFFENER CLAMPING METHODS

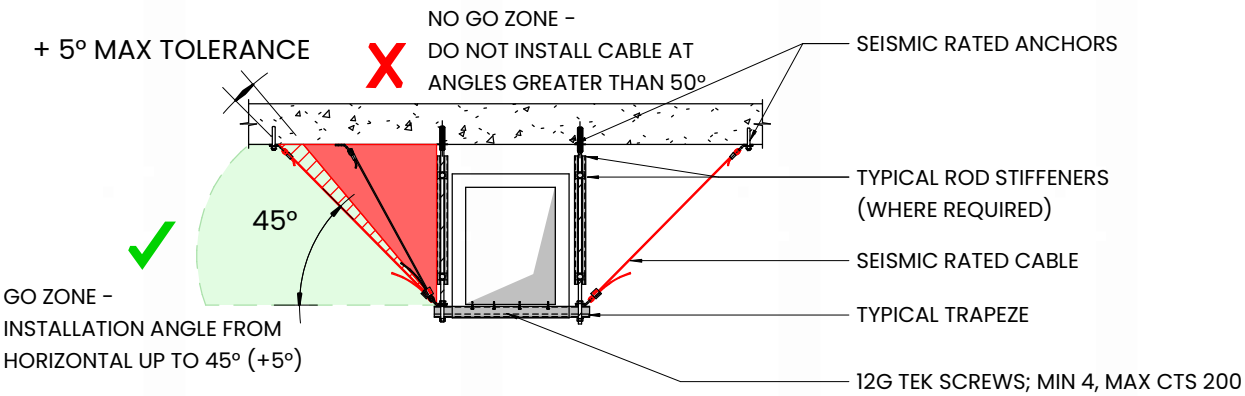


TWO-WAY CABLE BRACE

PLEASE READ THESE INSTRUCTIONS IN CONJUNCTION WITH THE DETAILS WITHIN SECTION 1 TO ACHIEVE OPTIMAL CAPACITY FROM CABLES.



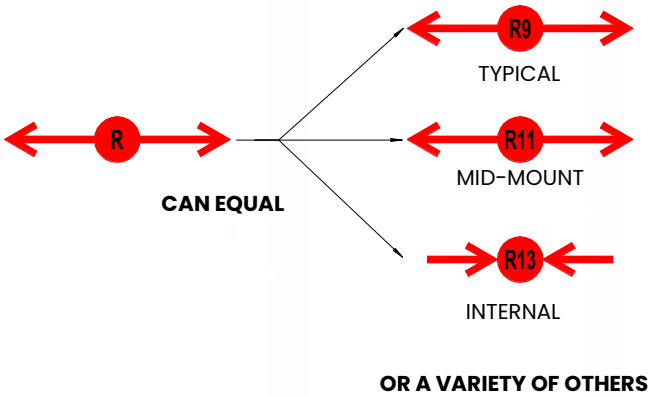
COLOURS DENOTE CABLE SPECIFIED BY SEISMIC DESIGN ENGINEER

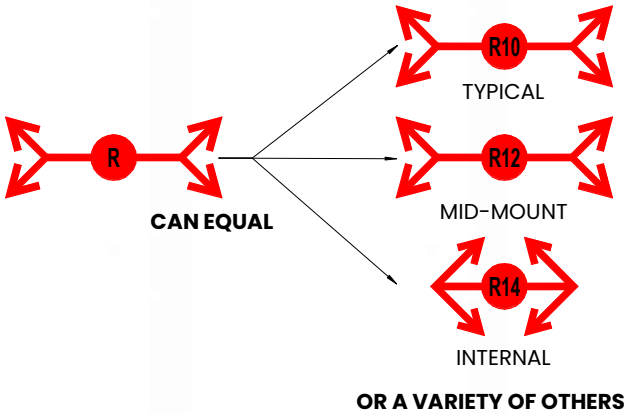


2 -WAY or 4-WAY CABLE BRACE - FRONT ELEVATION

The seismic engineering design may specify 2-way cable braces, these can be **swapped** for variations of a typical 2-way cable trapeze to allow clearance to adjacent services.

HOW TO APPLY ALTERNATIVE CABLE BRACE TYPES.

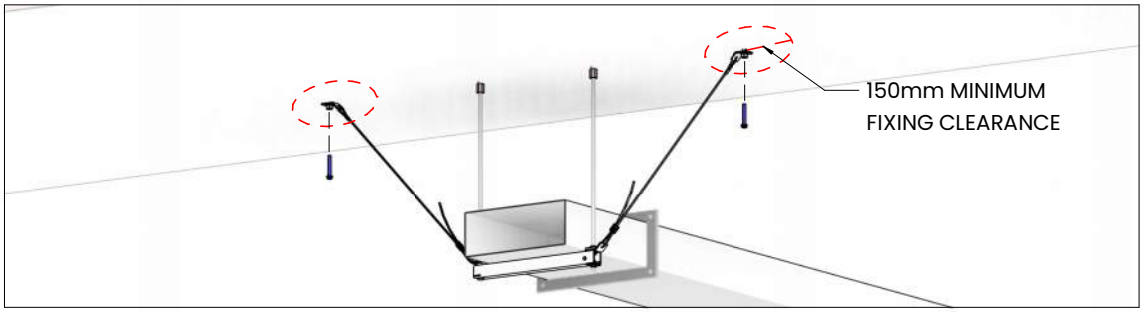




TWO-WAY CABLE KITS OF THE SAME KIT COLOUR ARE INTERCHANGEABLE WITH THESE CONFIGURATIONS: TYPICAL, MID-MOUNT, INTERNAL.

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

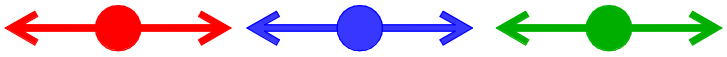
CLEARANCE AROUND ANCHORS.



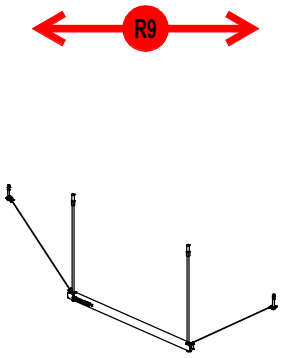
CLEARANCE TO ANCHORS - **150mm CLEARANCE** AROUND ANCHORS

TWO-WAY CABLE BRACE

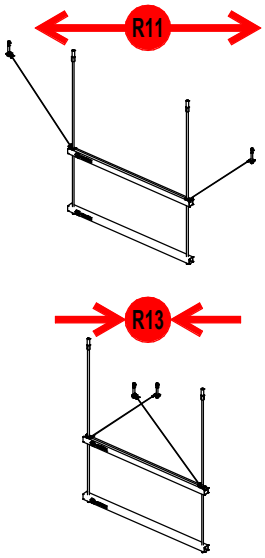
PLEASE READ THESE INSTRUCTIONS IN CONJUNCTION WITH THE DETAILS WITHIN SECTION 1 TO ACHIEVE OPTIMAL CAPACITY FROM CABLES.



COLOURS DENOTE CABLE SPECIFIED BY SEISMIC DESIGN ENGINEER

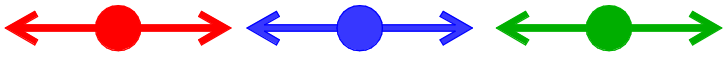
TYPICAL 2-WAY (DUCT)	SCHEDULE	
	TYPE	R9, B9 or G9
	CABLE KIT COLOUR	RED, BLUE or GREEN
	CABLE LENGTH	2m, 3m, or 5m
	CABLE ANCHORS	Qty: 2 Type: AS SPECIFIED (REFER TO SECTION 1 ANCHOR CHART)
	CABLE QTY	2
	MAX. CABLE ANGLE	FROM HORIZONTAL, UP TO 45°
	M10 ROD	LENGTH VARIES
	ROD ANCHORS	Qty: 2 Type: AS SPECIFIED (SEISMIC RATED)
	ROD STIFFENER	WHERE SPECIFIED BY **KUSCH**
	ROD STIFFENER FIXINGS	@ 700mm CTS (WHERE 41mm STRUT IS USED AS ROD STIFFENER)
	41mm STRUT TRAPEZE	LENGTH VARIES
	STRUT WASHER	4
	M10 HEXNUT	4
	12g TEK SCREWS	MIN Qty: 4; MAX 200mm CTS

TYPICAL 2-WAY CABLE BRACE **ALTERNATIVE**. THESE ALLOW CABLES TO CLEAR ADJACENT SERVICES.
OPTION TO ORIENT CABLES INTERNALLY, ALLOW 150mm MIN. CLEARANCE BETWEEN ANCHORS, FIXING TO DUCT WITH TEK SCREWS THROUGH TOP *AND* BOTTOM TRAPEZE.

2-WAY MID-MOUNT (DUCT)	SCHEDULE	
	TYPE	(R11, B11 or G11) OR (R13, B13 or G13)
	CABLE KIT COLOUR	RED, BLUE or GREEN
	CABLE LENGTH	2m, 3m, or 5m
	CABLE ANCHORS	Qty: 2 Type: AS SPECIFIED (REFER TO SECTION 1 ANCHOR CHART)
	CABLE QTY	2
	MAX. CABLE ANGLE	FROM HORIZONTAL, UP TO 45°
	M10 ROD	LENGTH VARIES
	ROD ANCHORS	Qty: 2 Type: AS SPECIFIED (SEISMIC RATED)
	ROD STIFFENER	WHERE SPECIFIED BY **KUSCH**
	ROD STIFFENER FIXINGS	@ 700mm CTS (WHERE 41mm STRUT IS USED AS ROD STIFFENER)
	41mm STRUT TRAPEZE	LENGTH VARIES (x 2)
	STRUT WASHER	8
	M10 HEXNUT	8
	12g Tek Screws	MIN Qty: 8; MAX 200mm CTS

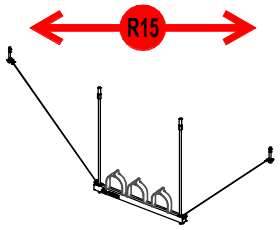
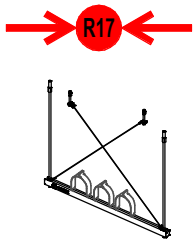
TWO-WAY CABLE BRACE

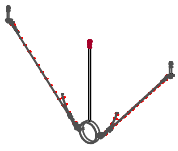
PLEASE READ THESE INSTRUCTIONS IN CONJUNCTION WITH THE DETAILS WITHIN SECTION 1 TO ACHIEVE OPTIMAL CAPACITY FROM CABLES.



COLOURS DENOTE CABLE SPECIFIED BY SEISMIC DESIGN ENGINEER

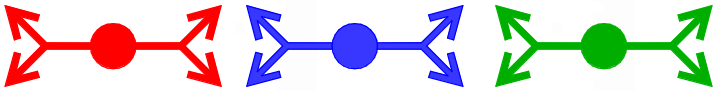
TYPICAL 2-WAY CABLE BRACE. THESE ALLOW PIPES TO SHARE GRAVITY SUPPORT.
OPTION TO ORIENT CABLES INTERNALLY, ALLOW 150mm MIN. CLEARANCE BETWEEN ANCHORS.

TYPICAL 2-WAY TRAPEZE (PIPE)	SCHEDULE	
 	TYPE	(R15, B15 or G15) OR (R17, B17 or G17)
	CABLE KIT COLOUR	RED, BLUE or GREEN
	CABLE LENGTH	2m, 3m, or 5m
	CABLE ANCHORS	Qty: 2 Type: AS SPECIFIED (REFER TO SECTION 1 ANCHOR CHART)
	CABLE QTY	2
	MAX. CABLE ANGLE	FROM HORIZONTAL, UP TO 45°
	M10 ROD	LENGTH VARIES
	ROD ANCHORS	Qty: 2 Type: AS SPECIFIED (SEISMIC RATED)
	ROD STIFFENER	WHERE SPECIFIED BY **KUSCH**
	ROD STIFFENER FIXINGS	@ 700mm CTS (WHERE 41mm STRUT IS USED AS ROD STIFFENER)
	41mm STRUT TRAPEZE	LENGTH VARIES
	STRUT WASHER	4
	M10 HEXNUT	4
	12g Tek Screws	N/A PIPE FIXED TO TRAPEZE WITH FM132 OR FM125

TYPICAL 2-WAY (PIPE)	SCHEDULE	
 PREFERED  OPTION - LOCK CABLES AT CLIP NUT (OVER). 	TYPE	R19, B19 or G19
	CABLE KIT COLOUR	RED, BLUE or GREEN
	CABLE LENGTH	2m, 3m, or 5m
	CABLE ANCHORS	Qty: 2 Type: AS SPECIFIED (REFER TO SECTION 1 ANCHOR CHART)
	CABLE QTY	2
	MAX. CABLE ANGLE	FROM HORIZONTAL, UP TO 45°
	M10 ROD	LENGTH VARIES
	ROD ANCHORS	Qty: 1 Type: AS SPECIFIED (SEISMIC RATED)
	ROD STIFFENER	WHERE SPECIFIED BY **KUSCH**
	ROD STIFFENER FIXINGS	@ 700mm CTS (WHERE 41mm STRUT IS USED AS ROD STIFFENER)
	41mm STRUT TRAPEZE	N/A
	STRUT WASHER	N/A
	M10 HEXNUT	1
	12g Tek Screws	N/A

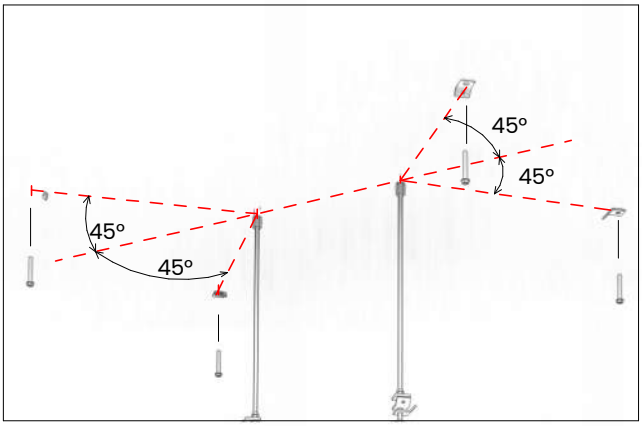
FOUR-WAY CABLE BRACE

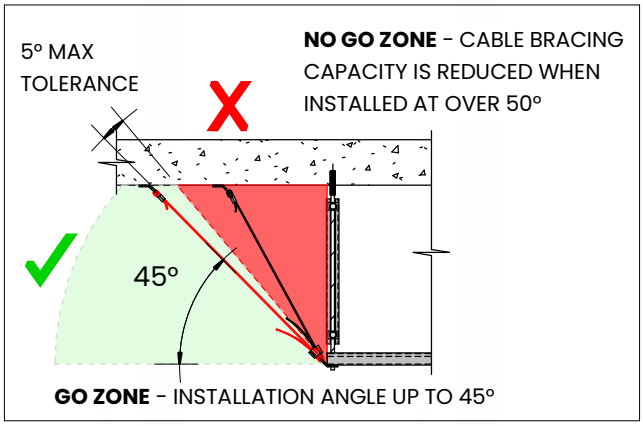
PLEASE READ THESE INSTRUCTIONS IN CONJUNCTION WITH THE DETAILS WITHIN SECTION 1 TO ACHIEVE OPTIMAL CAPACITY FROM CABLES.



COLOURS DENOTE CABLE SPECIFIED BY SEISMIC DESIGN ENGINEER

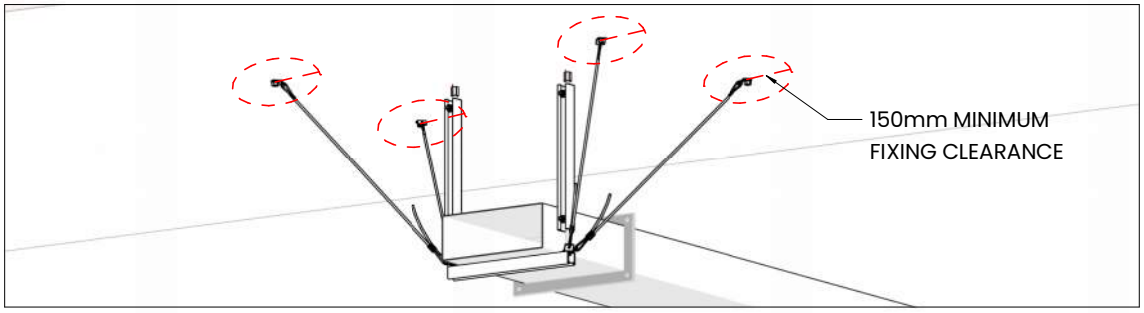
CABLE / HANGER SETOUT



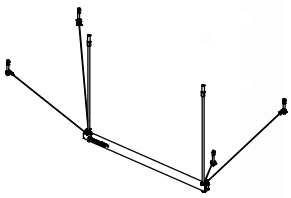


LAYOUT OF CABLE ANCHORS ON SOFFIT **CRITICAL** TO ACHIEVE DESIGN CAPACITY. FIX CABLE KIT BRACKETS WITH SEISMIC RATED ANCHORS.

CLEARANCE AROUND ANCHORS.

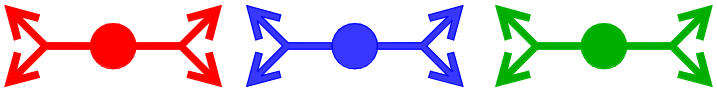


CLEARANCE TO ANCHORS - **150mm CLEARANCE AROUND ANCHORS**

TYPICAL 4-WAY (DUCT)	SCHEDULE	
 	TYPE	R10, B10 or G10
	CABLE KIT COLOUR	RED, BLUE or GREEN
	CABLE LENGTH	2m, 3m, or 5m
	CABLE ANCHORS	Qty: 4 Type: AS SPECIFIED (REFER TO SECTION 1 ANCHOR CHART)
	CABLE QTY	4
	MAX. CABLE ANGLE	FROM HORIZONTAL, UP TO 45°
	M10 ROD	LENGTH VARIES
	ROD ANCHORS	Qty: 2 Type: AS SPECIFIED (SEISMIC RATED)
	ROD STIFFENER	WHERE SPECIFIED BY **KUSCH**
	ROD STIFFENER FIXINGS	@ 700mm CTS (WHERE 41mm STRUT IS USED AS ROD STIFFENER)
	41mm STRUT TRAPEZE	LENGTH VARIES
	STRUT WASHER	4
	M10 HEXNUT	4
	12g Tek Screws	MIN Qty: 4; MAX 200mm CTS

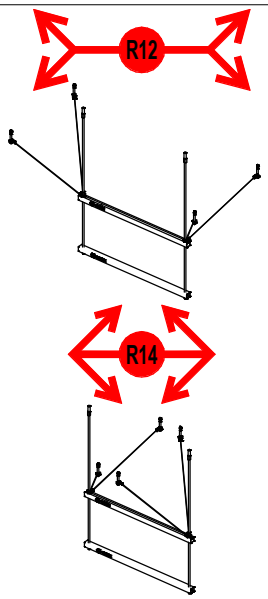
FOUR-WAY CABLE BRACE

PLEASE READ THESE INSTRUCTIONS IN CONJUNCTION WITH THE DETAILS WITHIN SECTION 1 TO ACHIEVE OPTIMAL CAPACITY FROM CABLES.

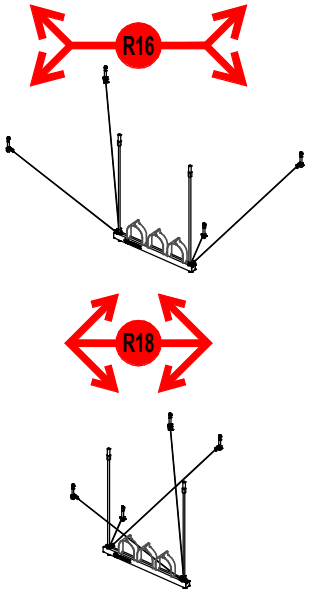


COLOURS DENOTE CABLE SPECIFIED BY SEISMIC DESIGN ENGINEER

TYPICAL 4-WAY CABLE BRACE **ALTERNATIVES**. THESE ALLOW CABLES TO CLEAR ADJACENT SERVICES.
OPTION TO ORIENT CABLES INTERNALLY, ALLOW 150mm MIN. CLEARANCE BETWEEN ANCHORS, FIXING TO DUCT WITH TEK SCREWS THROUGH TOP *AND* BOTTOM TRAPEZE.

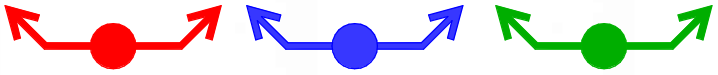
4-WAY MID-MOUNT (DUCT)	SCHEDULE	
	TYPE	(R12, B12 or G12) OR (R14, B14 or G14)
	CABLE KIT COLOUR	RED, BLUE or GREEN
	CABLE LENGTH	2m, 3m, or 5m
	CABLE ANCHORS	Qty: 2 Type: AS SPECIFIED (REFER TO SECTION 1 ANCHOR CHART)
	CABLE QTY	4
	MAX. CABLE ANGLE	FROM HORIZONTAL, UP TO 45°
	M10 ROD	LENGTH VARIES
	ROD ANCHORS	Qty: 4 Type: AS SPECIFIED (SEISMIC RATED)
	ROD STIFFENER	WHERE SPECIFIED BY **KUSCH**
	ROD STIFFENER FIXINGS	@ 700mm CTS (WHERE 41mm STRUT IS USED AS ROD STIFFENER)
	41mm STRUT TRAPEZE	LENGTH VARIES (x 2)
	STRUT WASHER	8
	M10 HEXNUT	8
	12g TEK SCREWS	MIN Qty: 8; MAX 200mm CTS

TYPICAL 4-WAY CABLE BRACE **ALTERNATIVE**. THESE ALLOW PIPES TO SHARE GRAVITY SUPPORT *AND* ALLOWS CLEARANCE TO ADJACENT SERVICES.
OPTION TO ORIENT CABLES INTERNALLY, ALLOW 150mm MIN. CLEARANCE BETWEEN ANCHORS.

TYPICAL 4-WAY TRAPEZE (PIPE)	SCHEDULE	
	TYPE	(R16, B16 or G16) OR (R18, B18 or G18)
	CABLE KIT COLOUR	RED, BLUE or GREEN
	CABLE LENGTH	2m, 3m, or 5m
	CABLE ANCHORS	Qty: 4 Type: AS SPECIFIED (REFER TO SECTION 1 ANCHOR CHART)
	CABLE QTY	4
	MAX. CABLE ANGLE	FROM HORIZONTAL, UP TO 45°
	M10 ROD	LENGTH VARIES
	ROD ANCHORS	Qty: 2 Type: AS SPECIFIED (SEISMIC RATED)
	ROD STIFFENER	WHERE HANGING LENGTH >750mm
	ROD STIFFENER FIXINGS	@ 700mm CTS (WHERE 41mm STRUT IS USED AS ROD STIFFENER)
	41mm STRUT TRAPEZE	LENGTH VARIES
	STRUT WASHER	4
	M10 HEXNUT	4
	12g Tek Screws	N/A PIPE FIXED TO TRAPEZE WITH FM132 OR FM125

SPLIT FOUR-WAY CABLE BRACE

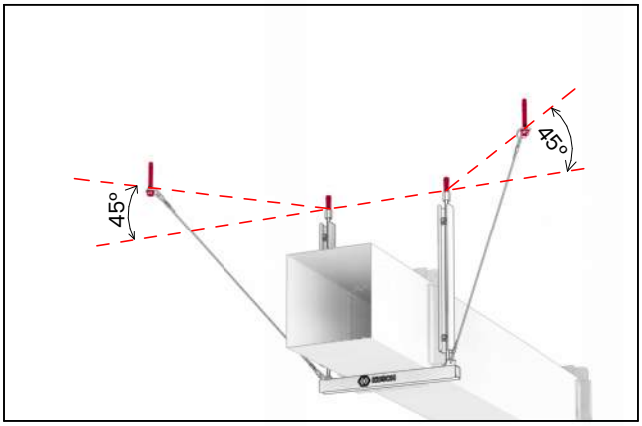
PLEASE READ THESE INSTRUCTIONS IN CONJUNCTION WITH THE DETAILS WITHIN SECTION 1 TO ACHIEVE OPTIMAL CAPACITY FROM CABLES.



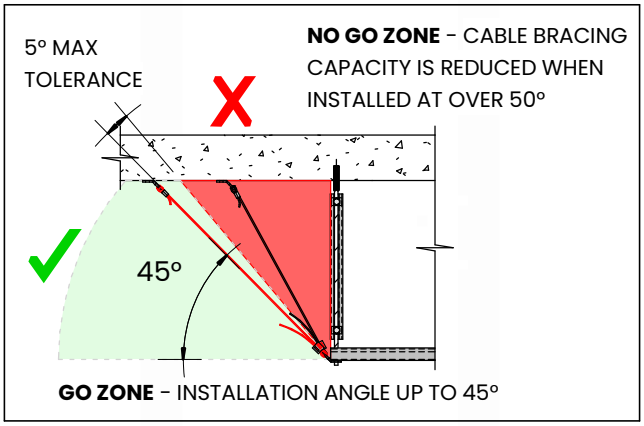
COLOURS DENOTE CABLE SPECIFIED BY SEISMIC DESIGN ENGINEER

Installed in pairs to provide lateral and longitudinal restraint.
Alternative to typical four-way cable brace, splitting the cables into two pairs to help avoid clash.

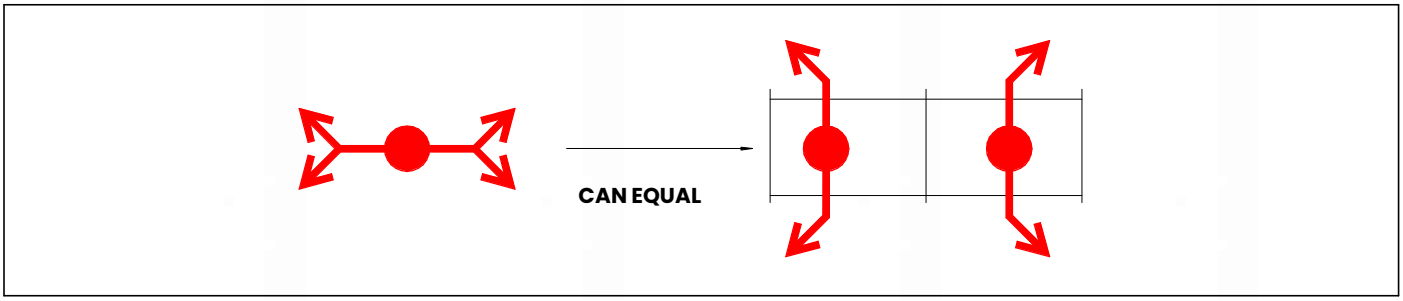
CABLE / HANGER SETOUT



INSTALL A PAIR OF CABLES, 45° FROM VERTICAL & 45° AROUND FROM PERPENDICULAR TO SUSPENDED SERVICE.

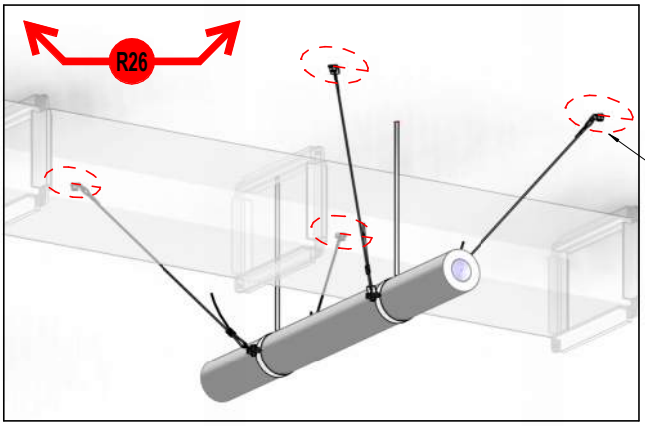


HOW TO APPLY ALTERNATIVE CABLE BRACE TYPES.



SPLIT A 4-WAY CABLE BRACE ACROSS TWO TRAPEZE TO ENABLE CLEARANCE TO ADJACENT SERVICES.

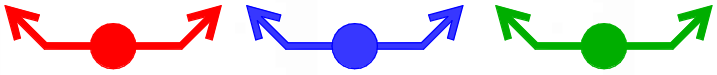
CLEARANCE AROUND ANCHORS.



ALTERNAITVE TO 4WAY CABLE BRACE, TYPICALLY INSTALLED IN PAIRS FACING OPPOSING DIRECTIONS.
ALLOWS FOR CLEARANCE TO ADJACENT SERVICES.

SPLIT FOUR-WAY CABLE BRACE - FCU & FAN

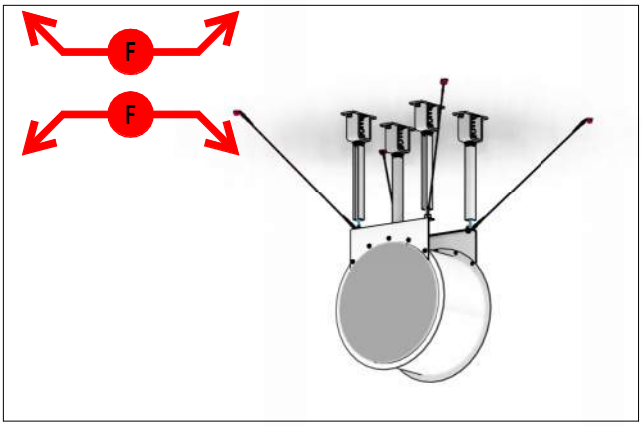
PLEASE READ THESE INSTRUCTIONS IN CONJUNCTION WITH THE DETAILS WITHIN SECTION 1 TO ACHIEVE OPTIMAL CAPACITY FROM CABLES.

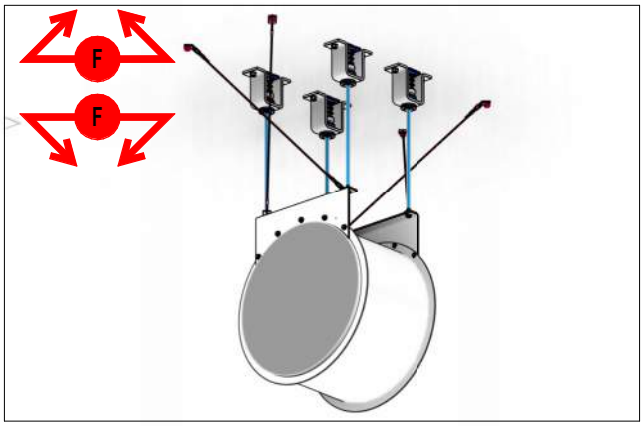


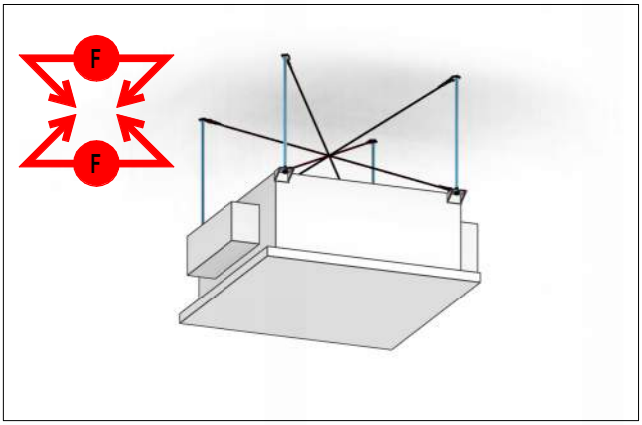
COLOURS DENOTE CABLE SPECIFIED BY SEISMIC DESIGN ENGINEER

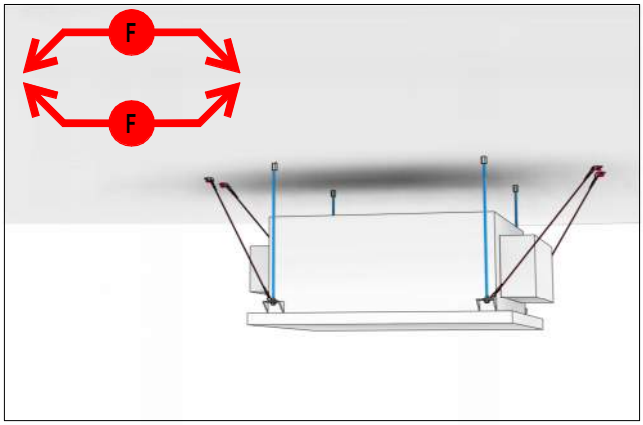
SPLIT 4-WAY - FAN	SCHEDULE	
	TYPE	F
	CABLE KIT COLOUR	RED, BLUE or GREEN
	CABLE LENGTH	2m, 3m, or 5m
	CABLE ANCHORS	Qty: 2 Type: AS SPECIFIED (REFER TO SECTION 1 ANCHOR CHART)
	CABLE QTY	2
	MAX. CABLE ANGLE	FROM HORIZONTAL, UP TO 45°
	M10 ROD	LENGTH VARIES
	ROD ANCHORS	Qty: 1 Type: AS SPECIFIED (SEISMIC RATED)
	ROD STIFFENER	WHERE SPECIFIED BY **KUSCH**
	ROD STIFFENER FIXINGS	@ 700mm CTS (WHERE 41mm STRUT IS USED AS ROD STIFFENER)
	41mm STRUT TRAPEZE	N/A
	STRUT WASHER	N/A LARGE FLAT WASHER TO FAN PLATES / FCU BRACKETS
	M10 HEXNUT	4
	12g Tek Screws	N/A

The below are all **suitable variations** of the split 4-way cable brace,
They are designed to allow clearance to adjacent services.
Use seismic spring mounts as required and maintain 150mm minimum clearance between anchors.



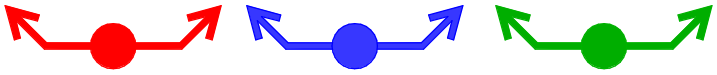




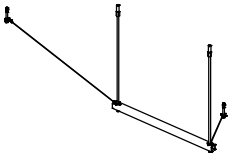


SPLIT FOUR-WAY CABLE BRACE - DUCT

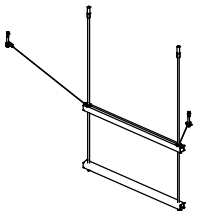
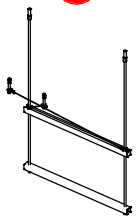
PLEASE READ THESE INSTRUCTIONS IN CONJUNCTION WITH THE DETAILS WITHIN SECTION 1 TO ACHIEVE OPTIMAL CAPACITY FROM CABLES.



COLOURS DENOTE CABLE SPECIFIED BY SEISMIC DESIGN ENGINEER

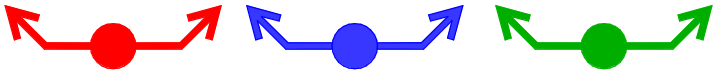
TYPICAL SPLIT 4-WAY (DUCT)	SCHEDULE	
 	TYPE	R22, B22 or G22
	CABLE KIT COLOUR	RED, BLUE or GREEN
	CABLE LENGTH	2m, 3m, or 5m
	CABLE ANCHORS	Qty: 2 Type: AS SPECIFIED (REFER TO SECTION 1 ANCHOR CHART)
	CABLE QTY	2
	MAX. CABLE ANGLE	FROM HORIZONTAL, UP TO 45°
	M10 ROD	LENGTH VARIES
	ROD ANCHORS	Qty: 2 Type: AS SPECIFIED (SEISMIC RATED)
	ROD STIFFENER	WHERE SPECIFIED BY **KUSCH**
	ROD STIFFENER FIXINGS	@ 700mm CTS (WHERE 41mm STRUT IS USED AS ROD STIFFENER)
	41mm STRUT TRAPEZE	LENGTH VARIES
	STRUT WASHER	4
	M10 HEXNUT	4
	12g Tek Screws	MIN Qty: 4; MAX 200mm CTS

TYPICAL SPLIT 4-WAY CABLE BRACE **ALTERNATIVE**. THESE ALLOW CABLES TO CLEAR ADJACENT SERVICES.
OPTION TO ORIENT CABLES INTERNALLY, ALLOW 150mm MIN. CLEARANCE BETWEEN ANCHORS, FIXING TO DUCT WITH TEK SCREWS THROUGH TOP *AND* BOTTOM TRAPEZE.

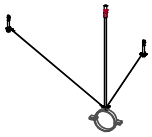
SPLIT 4-WAY MID-MOUNT & MID-MOUNT INTERNAL (DUCT)	SCHEDULE	
   	TYPE	R24, B24 or G24
	CABLE KIT COLOUR	RED, BLUE or GREEN
	CABLE LENGTH	2m, 3m, or 5m
	CABLE ANCHORS	Qty: 2 Type: AS SPECIFIED (REFER TO SECTION 1 ANCHOR CHART)
	CABLE QTY	2
	MAX. CABLE ANGLE	FROM HORIZONTAL, UP TO 45°
	M10 ROD	LENGTH VARIES
	ROD ANCHORS	Qty: 2 Type: AS SPECIFIED (SEISMIC RATED)
	ROD STIFFENER	WHERE SPECIFIED BY **KUSCH**
	ROD STIFFENER FIXINGS	@ 700mm CTS (WHERE 41mm STRUT IS USED AS ROD STIFFENER)
	41mm STRUT TRAPEZE	LENGTH VARIES (x 2)
	STRUT WASHER	8
	M10 HEXNUT	8
	12g Tek Screws	MIN Qty: 8; MAX 200mm CTS

SPLIT FOUR-WAY CABLE BRACE - PIPE

PLEASE READ THESE INSTRUCTIONS IN CONJUNCTION WITH THE DETAILS WITHIN SECTION 1 TO ACHIEVE OPTIMAL CAPACITY FROM CABLES.



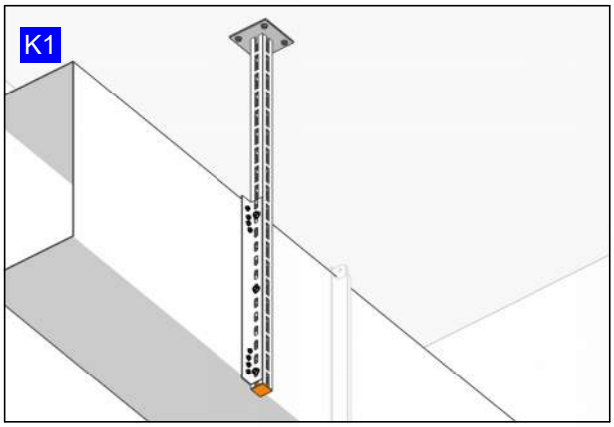
COLOURS DENOTE CABLE SPECIFIED BY SEISMIC DESIGN ENGINEER

SPLIT 4-WAY (PIPE)	SCHEDULE	
 PREFERRED  OPTION - LOCK CABLES AT CLIP NUT (OVER). 	TYPE	R26, B26 or G26
	CABLE KIT COLOUR	RED, BLUE or GREEN
	CABLE LENGTH	2m, 3m, or 5m
	CABLE ANCHORS	Qty: 2 Type: AS SPECIFIED (REFER TO SECTION 1 ANCHOR CHART)
	CABLE QTY	2
	MAX. CABLE ANGLE	FROM HORIZONTAL, UP TO 45°
	M10 ROD	LENGTH VARIES
	ROD ANCHORS	Qty: 1 Type: AS SPECIFIED (SEISMIC RATED)
	ROD STIFFENER	WHERE SPECIFIED BY **KUSCH**
	ROD STIFFENER FIXINGS	@ 700mm CTS (WHERE 41mm STRUT IS USED AS ROD STIFFENER)
	41mm STRUT TRAPEZE	N/A
	STRUT WASHER	N/A
	M10 HEXNUT	1
	12g Tek Screws	N/A

K1 - SP50 CANTILEVER POST - DUCT

SP50 posts are available with welded baseplates, in 750, 1000 & 1500mm lengths.
The fixing methods shown here for K1 (suspended SP50 post) can also be applied to floor fixed SP50 post (K1f) and wall fixed K1.

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

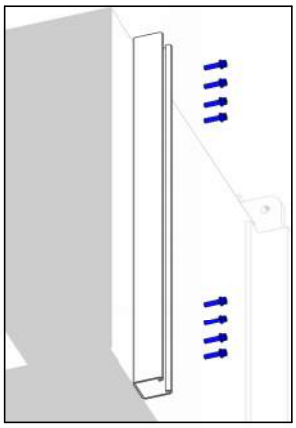


TYPICAL K1 TO DUCT FIXING.
FIX 50x3 DURAGAL EQUAL ANGLE TO DUCT WITH 12g TEK SCREWS: Qty 8 Min.
(4- WITHIN TOP 100mm,
4- WITHIN BOTTOM 100mm)

FIX 50x3 DURAGAL EQUAL ANGLE TO POST WITH M10 BOLT THROUGH (M10x75) WITH 2-FM1063 AT MAX 400mm CTS.

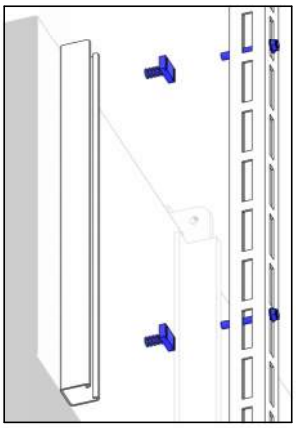
Alternative fixing options for K1 posts to duct.

STEP 1. STRUT TO DUCT



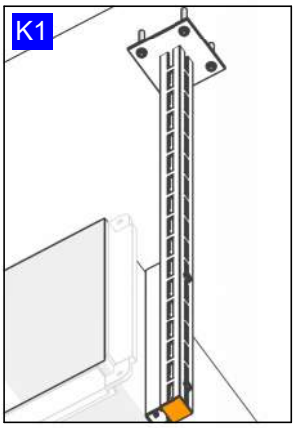
FIX 41mm STRUT TO DUCT WITH 12g TEK SCREWS: Qty 8 Min.
(4- WITHIN TOP 100mm,
4- WITHIN BOTTOM 100mm)

STEP 2. STRUT TO POST

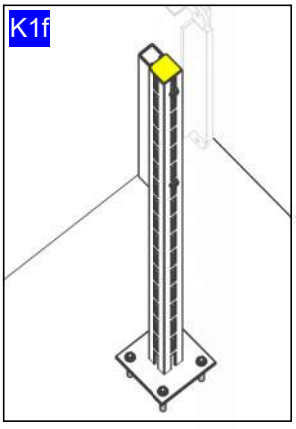


FIX 41mm STRUT TO POST WITH M10 BOLT THROUGH (M10x75) WITH 1-FM1063 AND FM1008 AT MAX 400mm CTS.

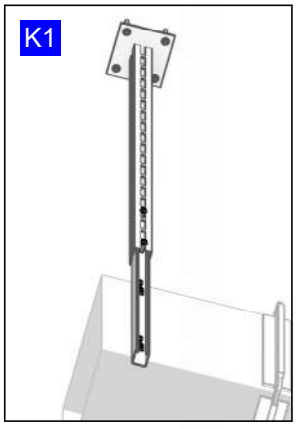
STEP 3. POST ANCHORS



FIX BASEPLATE WITH 4-M10 HILTI HST3 OR 4-M10 ICCONS FM753.



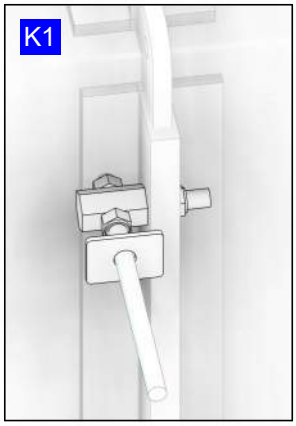
TYPICAL K1 AS PER ABOVE, SHOWN FIXING TO FLOOR

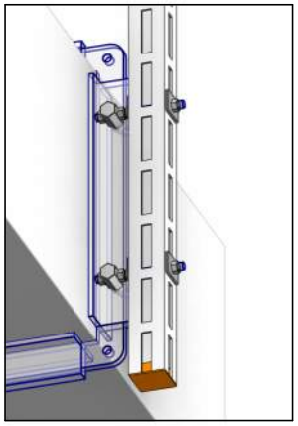


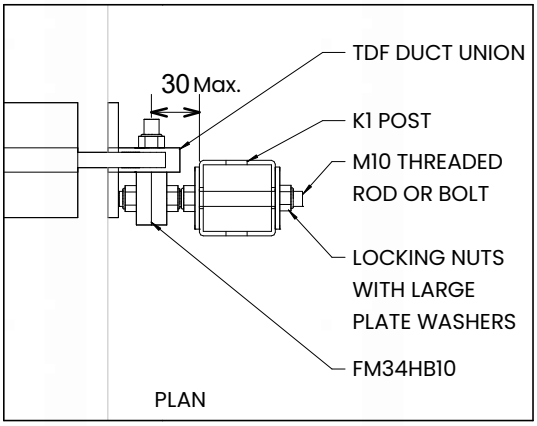
ALTERNATIVE TO TYPICAL K1, WHERE POST HEIGHT IS GREATER THAN 1500mm.
SLEEVE 41mm STRUT TO SP50 WITH 2-M10 BOLTS & FM1008 AT MIN 300 CTS.
FIX 41mm STRUT TO DUCT WITH 12g TEK SCREWS: Qty 8 Min.
(4- WITHIN TOP 100mm,
4- WITHIN BOTTOM 100mm)

Alternative fixing options for K1 posts to duct.

ALTERNATIVE POST TO DUCT FIXING, **FM34HB10 TO TDF DUCT UNION** AVOIDS DRILLING DUCT WALL.

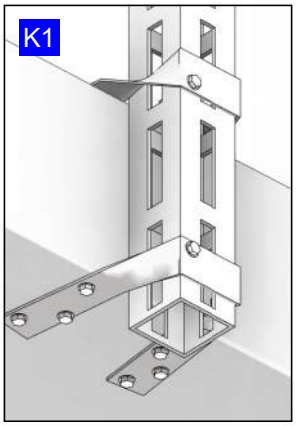




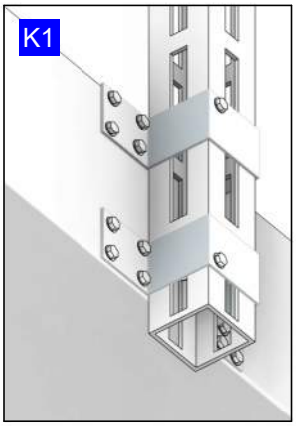


DRILL 12mm HOLES 100mm FROM TOP & BOTTOM OF DUCT & FIX 2-FM34HB10 WITH LOCKING NUT. THREADED ROD OR M10x120mm THROUGH SP50, LOCKED AS SHOWN WITH 2-LARGE FLAT WASHERS.

ALTERNATIVE METHOD ,
32x1.2 METAL STRAP
WITH MIN. 4-12g TEK SCREWS,
TOP AND BOTTOM.



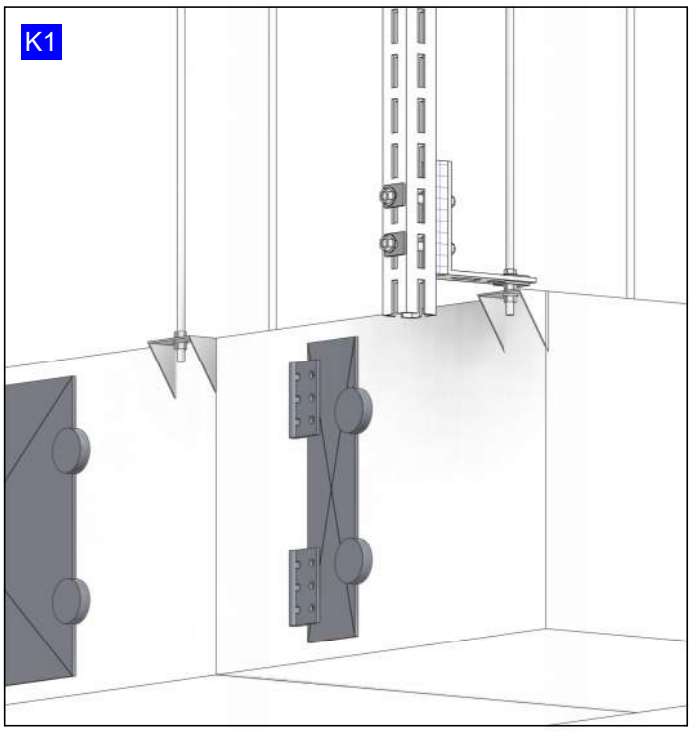
ALTERNATIVE METHOD,
3mm TOP HAT
WITH MIN. 6-12g TEK SCREWS,
TOP AND BOTTOM.



K1 - SP50 CANTILEVER POST - FCU & PIPE

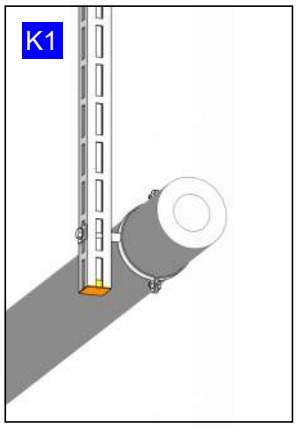
To prevent vibration issues when bracing equipment using cantilever posts, vibration isolation must be installed.
Refer to the detail below.

K1 POST TO FCU INCLUDING VIBRATION ISOLATION

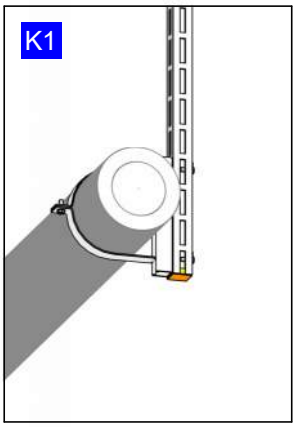


SP50-1325 BRACKET TO K1 WITH VIBRATION ISOLATION AND 2-M10 BOLTS THROUGH. LOCKED TO FCU WITH NUTS TOP AND BOTTOM TO HANGING ROD.

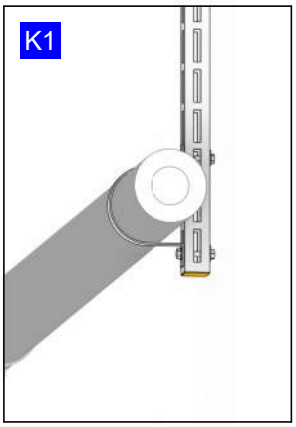
Alternative fixing options for K1 posts to pipe.



NUT CLIP WITH M10 BOLT THROUGH AND LARGE PLATE WASHER TO K1.



2-M10 BOLTS THROUGH K1 TO 41mm STRUT WITH 2-FM1008. FM132 PIPE CLAMP TO STRUT.



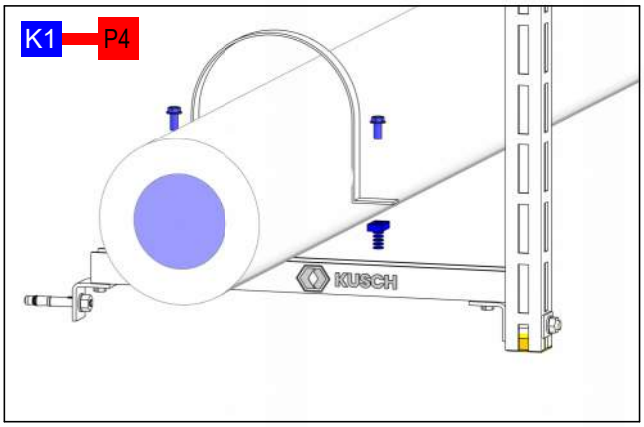
2-M10 BOLTS THROUGH K1 TO FM125 PIPE CLAMP TO K1. OPTION TO ADD 41mm STRUT AS PER FM132 DETAIL.

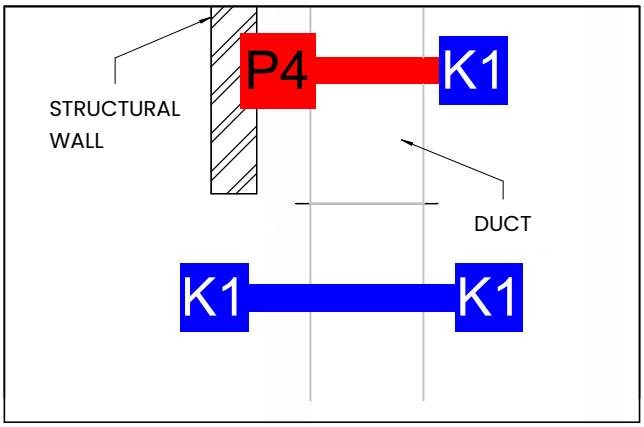
K1 - SP50 POST WITH STRUT TRAPEZE

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

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.

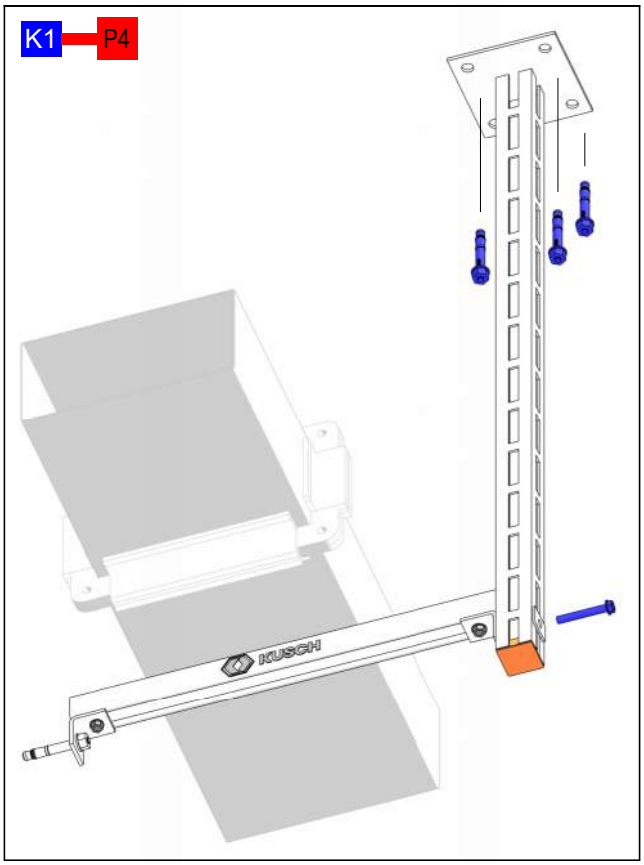
STRUT TRAPEZE TO MECHANICAL PIPEWORK,
SHOWN WITH SADDLE CLAMP, M10 BOLTS AND FM1008.





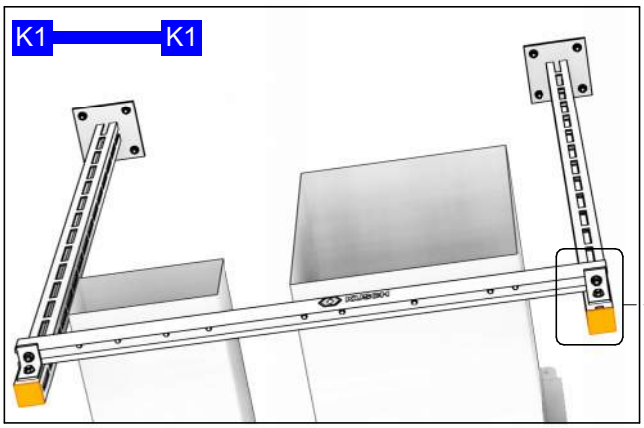
TYPICAL GRAPHICAL REPRESENTATION - PLAN

STRUT TRAPEZE TO DUCTWORK.

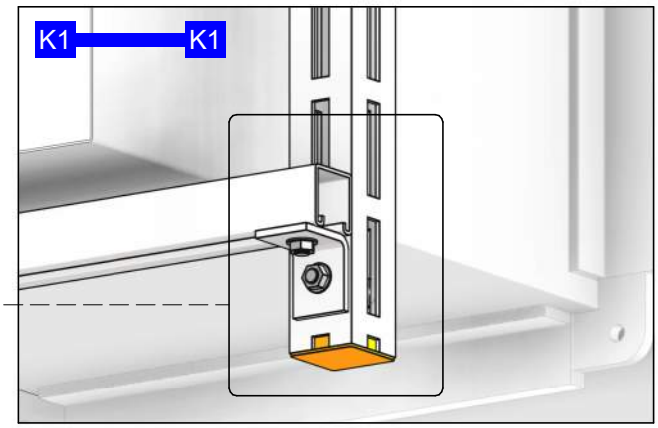


FIX 41mm STRUT TO DUCT WITH 12g TEK SCREWS:
QTY 4 MIN.200mm MAX. CTS.
FIX 41mm STRUT TO K1 POST WITH FM1026 WITH M10 BOLT AND FM1008. STRUT WASHER TO M10 BOLT THROUGH POST TO FM1026.
SAFETY CAP AS REQUIRED.

TYPICAL K1 TRAPEZE , 2-K1 POSTS WITH 41mm STRUT TRAPEZE.

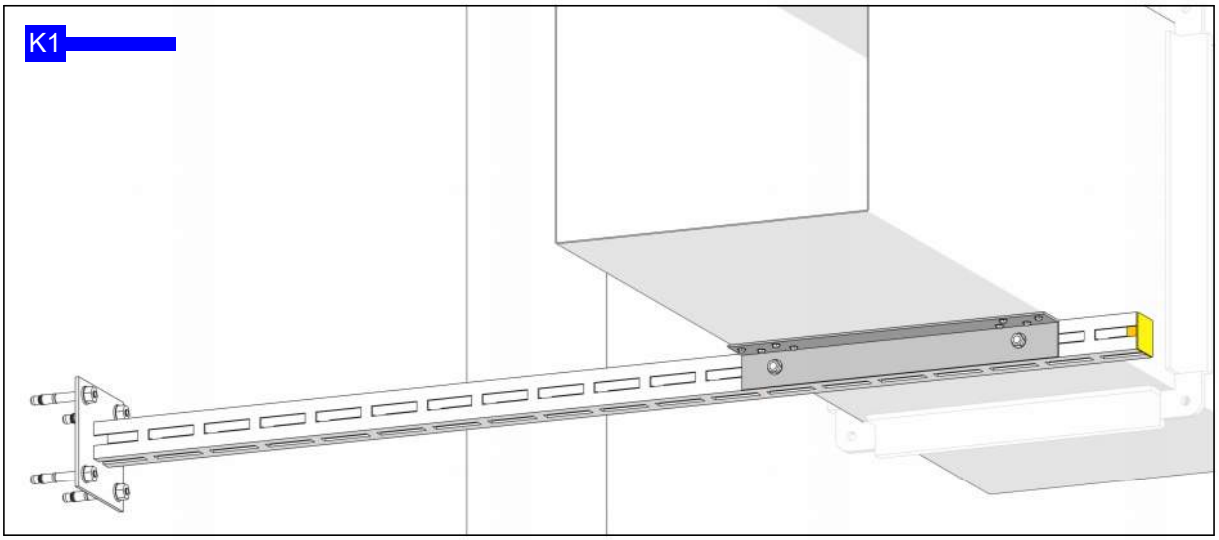


ALTERNATE BRACKET ARRANGEMENT,
STRUT TO OUTER FACE OF POST.



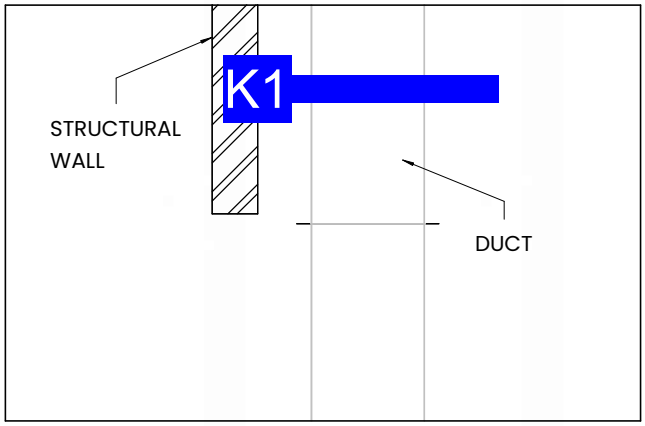
K1 - SP50 CANTILEVER POST TO WALL

TYPICAL K1 POST CANTILEVERED FROM WALL

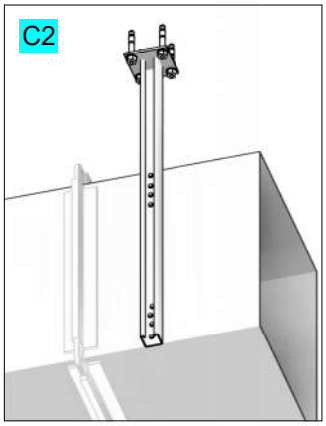


Apply the same fixing methodology to wall mounted K1 as we do for floor or soffit fixed.
Ensure wall is concrete or core filled blockwork.

PLAN

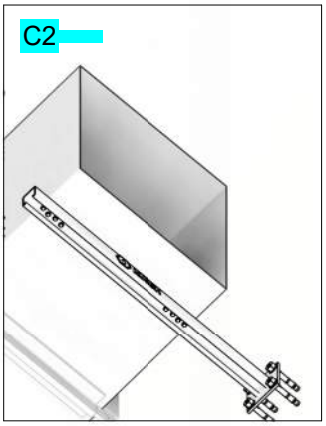


C2 & C3 - CANTILEVER STRUT POST

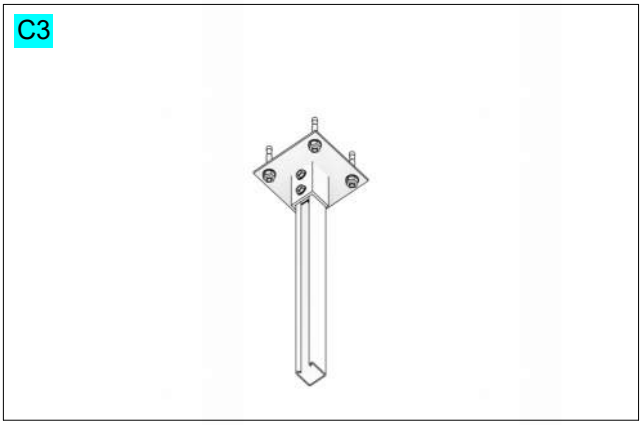


WELDED BASEPLATE TO 41mm STRUT.
FIXING DETAILS TO DUCT AND PIPE AS PER K1 POST.
12g TEK SCREWS: Qty 8 Min.
(4- WITHIN TOP 100mm,
4- WITHIN BOTTOM 100mm).

FIX FM2073 WELDED 41mm STRUT WITH 4-HILTI M10x90 HST3 **OR** 4-M10x90 ICCONS FM753 **OR** APPROVED EQUIVALENT. ALL INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPEC.
80mm MIN. EDGE DISTANCE.
NOTE: FM2073 (L) LENGTHS ARE MADE TO ORDER.

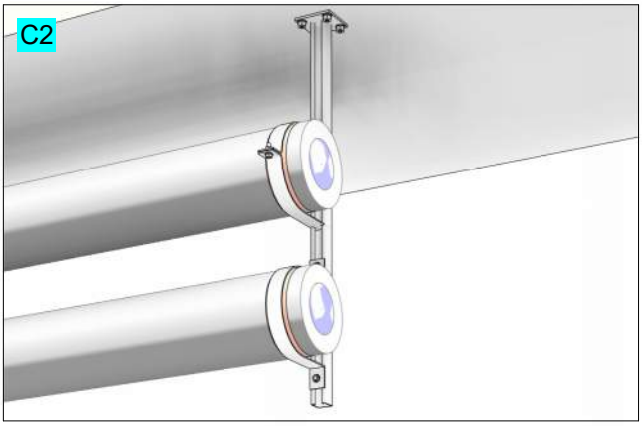


C2 & C3 can be applied to duct and pipe in all the ways K1 posts can, at reduced capacity, as specified by the design engineer.



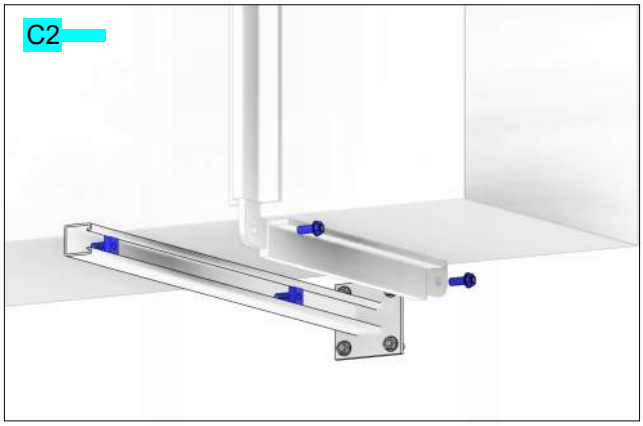
FM2072 BOLTED BASEPLATE
41mm STRUT BASEPLATE
WITH 4-M10 SEISMIC RATED
ANCHORS.
2-M10x35 G4.6 BOLTS
THROUGH STUB TO FM1008 WITHIN
STRUT.

ALTERNATIVE FIXING TO MECHANICAL PIPEWORK.



FM132 PIPE CLAMP TO STRUT, OR
2-M10 BOLTS & 2-FM1008 TO
FM125 PIPE CLAMP.

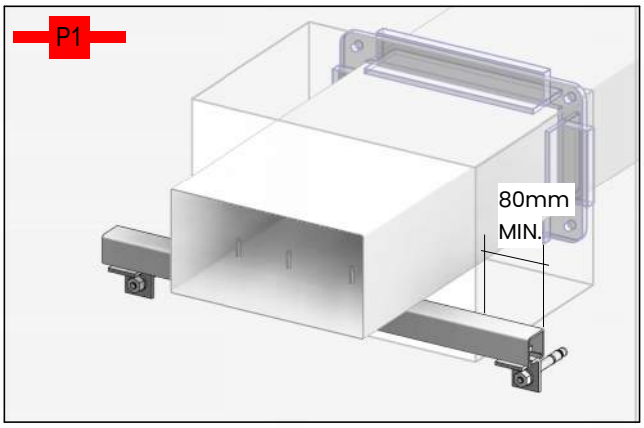
ALTERNATIVE FIXING TO DUCT UNION.



FIX DUCT WITH M10 BOLTS THROUGH DUCT FLANGE INTO FM1008.

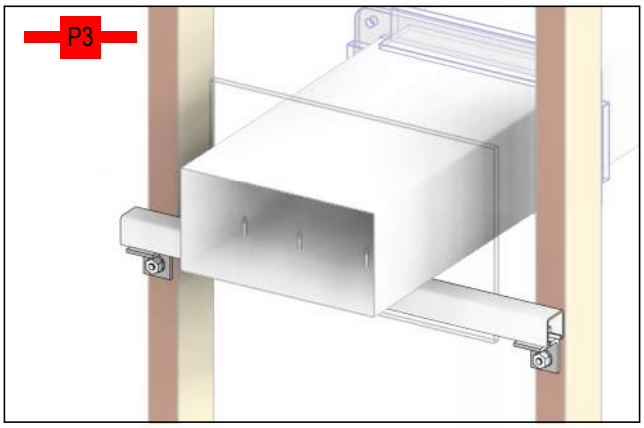
FIX TO: CONCRETE / CORE-FILLED BLOCK WALL WITH
HILTI M10x90 HUS-H **OR** HILTI M10x90 HST3 **OR** M10x90 ICCONS FM753 **OR** APPROVED EQUIVALENT.
(ALL ACCORDING TO MANUFACTURERS SPEC.)

TYPICAL P1, FIXED TO CONCRETE OR CORE FILLED WALL.



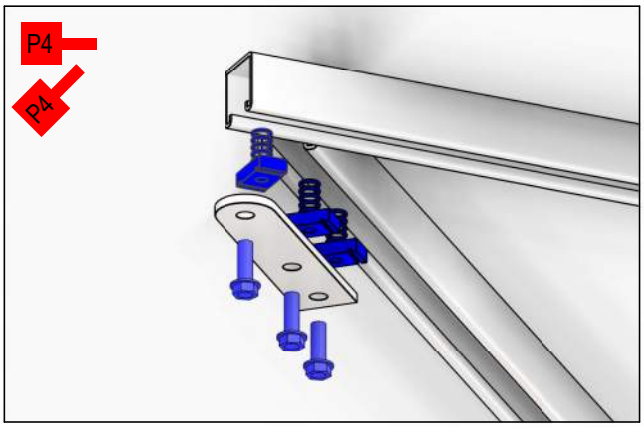
FIX DUCT WITH 12g TEK SCREWS: QTY 4 MIN.
AT 200mm MAX. CTS
41mm STRUT WITH FM1010, M12 BOLTS & FM1026 ANGLE BRACKETS.
MAINTAIN 80mm MIN EDGE DISTANCE TO ANCHORS.

ALTERNATIVE TO P1, FIXED TO STUD WALL.

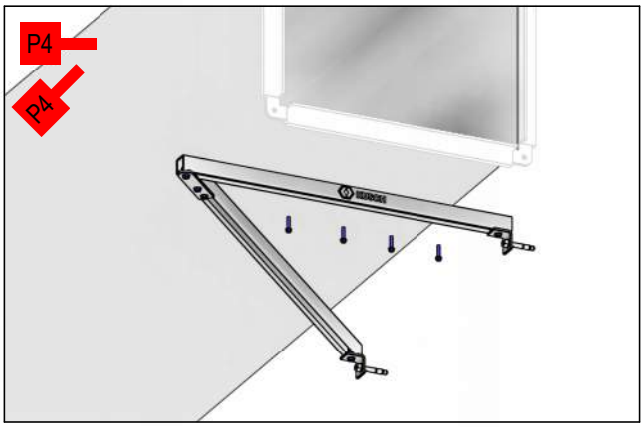


FIX DUCT WITH 12g TEK SCREWS: QTY 4 MIN. SPACING @ 200mm MAX.
M10x45 COACH BOLT TO TIMBER STUDS. M10 BOLTS TO STEEL STUDS.

VARIATION. OF P4, P4T (TWIN), GREATER CAPACITY WITH ANGLE BRACE.

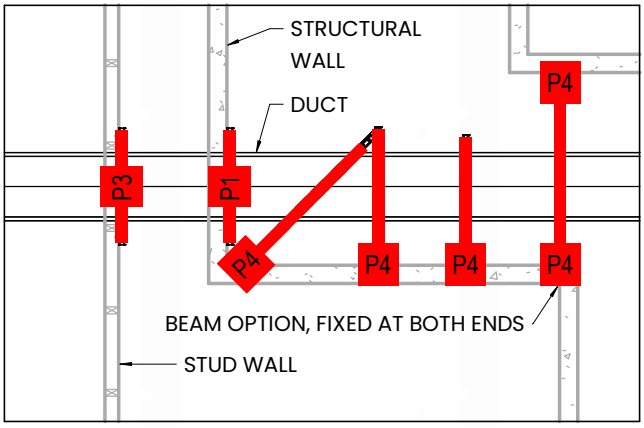


P2324 BRACKET w/ 3-M12 BOLTS & FM1010.



FIX DUCT WITH 12g TEK SCREWS: QTY 4 MIN.
AT 200mm MAX. CTS

FIX DUCT WITH 12g TEK SCREWS: Qty 8 Min.
(4- WITHIN FIRST 100mm, 4- WITHIN LAST 100mm).
41mm STRUT WITH FM1010, M12 BOLTS & FM1026 ANGLE BRACKETS.
MAINTAIN 80mm MIN EDGE DISTANCE TO ANCHORS.

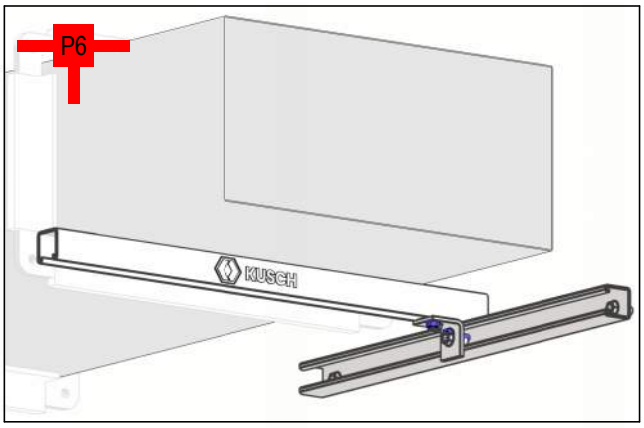


TYPICAL GRAPHICAL REPRESENTATION - PLAN

P6 – STRUT BRACES

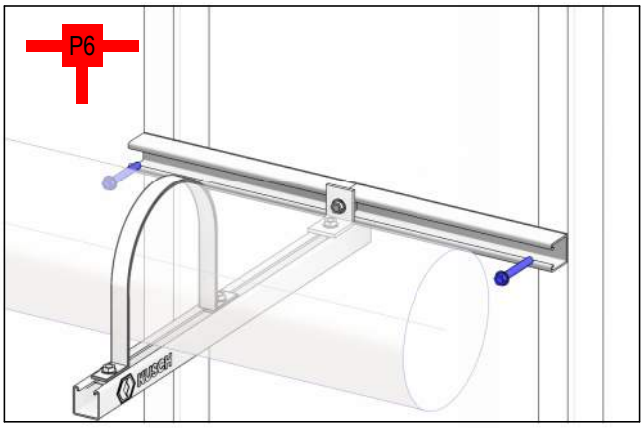
FIX TO: CONCRETE / CORE-FILLED BLOCK WALL WITH
HILTI M10x90 HUS-H **OR** HILTI M10x90 HST3 **OR** M10x90 ICCONS FM753 **OR** APPROVED EQUIVALENT.
(ALL ACCORDING TO MANUFACTURERS SPEC.)

TYPICAL P6 FIXING DUCT TO CONCRETE OR CORE FILLED WALL.



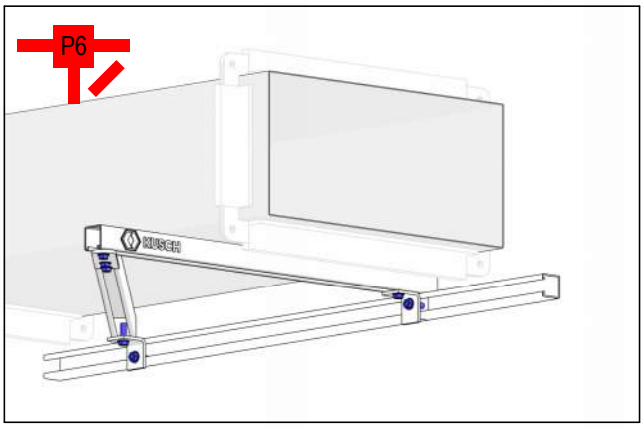
FIX DUCT WITH 12g TEK SCREWS: Qty 8 Min.
(4- WITHIN FIRST 100mm, 4- WITHIN LAST 100mm).
FIX FM1026 ANGLE BRACKET TO STRUT WITH 2-M12 BOLT AND FM1010.

ALTERNATIVE FIXING TO STUD WALL, TYPICAL PIPE CLAMP.



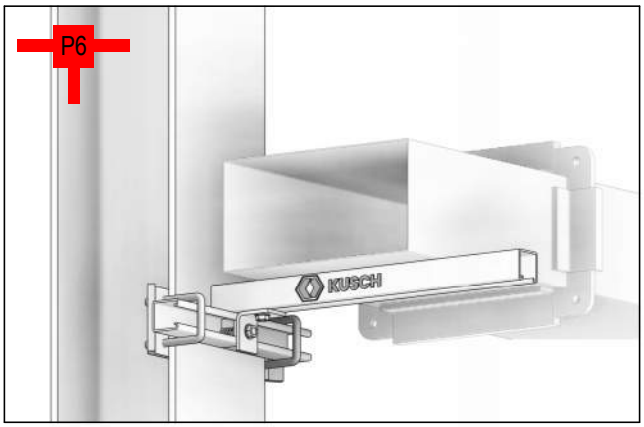
FIX TO STEEL FRAME WITH 14g TEK SCREWS.
FIX TO TIMBER FRAME WITH M10X45 COACH BOLTS.

ALTERNATIVE TO P6, P6T (TWIN), GREATER CAPACITY WITH ANGLE BRACE.
FIXING TO CONCRETE, CORE FILLED OR STUD WALL.



FM2324 WITH 3-M12 BOLTS AND 3-FM1010.
FM1026, M12 BOLTS AND FM1010 AS PER TYPICAL P4T / P6.
FIX DUCT WITH 12g TEK SCREWS: QTY 4 MIN.
AT 200mm MAX. CTS.

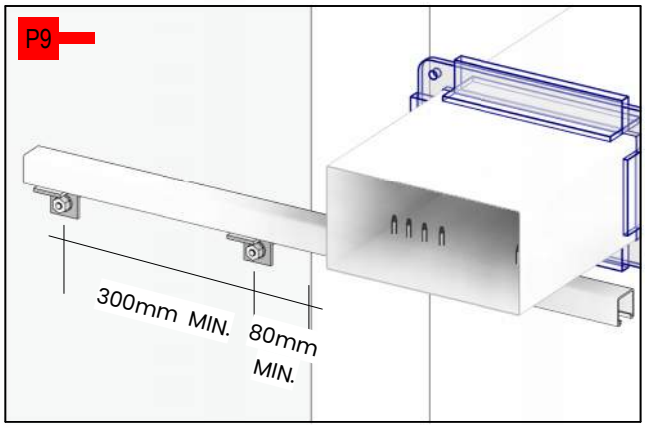
ALTERNATIVE P6, CLAMPED TO COLUMN (FLANGE).



CLAMP 2-FM174 TO 41mm STRUT AND TO COLUMN FLANGE.
FIX FM1026 BRACKET, M12 BOLTS AND FM1010 TO STRUT.
FIX DUCT WITH 12g TEK SCREWS: Qty 8 Min.
(4- WITHIN FIRST 100mm, 4- WITHIN LAST 100mm).

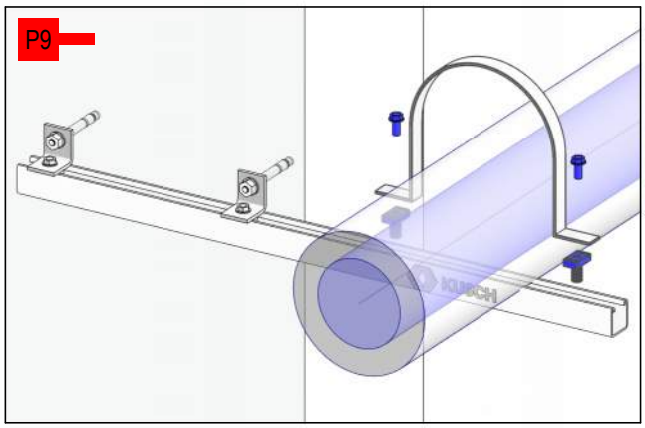
FIX TO: CONCRETE / CORE-FILLED BLOCK WALL WITH
HILTI M10x90 HUS-H **OR** HILTI M10x90 HST3 **OR** M10x90 ICCONS FM753 **OR** APPROVED EQUIVALENT.
(ALL ACCORDING TO MANUFACTURERS SPEC.)

TYPICAL P9 TO CONRETE, CORE FILLED OR STUD WALL



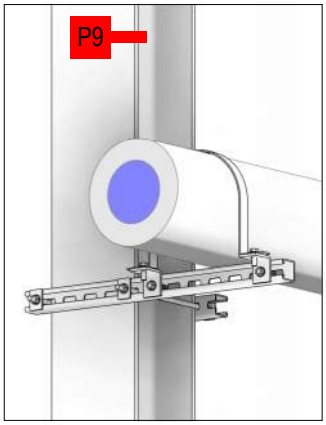
TO CONCRETE, COREFILLED BLOCKWORK OR TO STUD WALL.
FIX DUCT WITH 12g TEK SCREWS: Qty 8 Min.
(4- WITHIN FIRST 100mm, 4- WITHIN LAST 100mm).

TYPICAL P9 FIXING MECHANICAL PIPEWORK.



FIX PIPE WITH FM125 OR FM132 TYPE PIPE CLAMPS.

ALTERNATIVE P9 OPTIONS , CLAMPED TO STRUCTURAL COLUMNS.



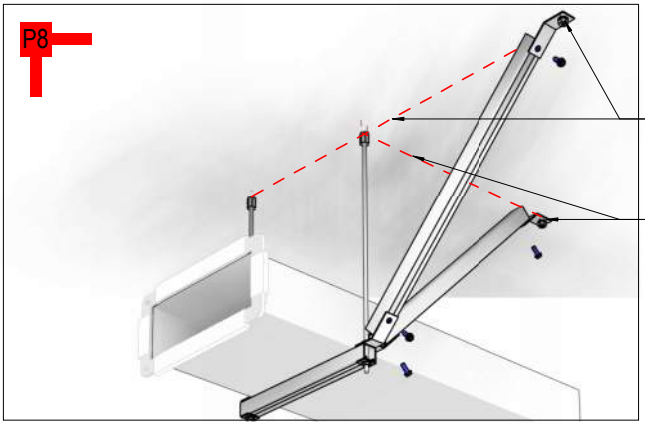
M12 ROD WITH LARGE PLATE WASHERS EITHER SIDE OF
STRUT / 50x3 DURAGAL EQUAL ANGLE.
FM1026, M12 BOLTS AND FM1010 FOR PIPE CLAMP.
FIX DUCT WITH 12g TEK SCREWS: Qty 8 Min.
(4- WITHIN FIRST 100mm, 4- WITHIN LAST 100mm).

P8 – STRUT BRACE TO SOFFIT

FM1546 BRACKETS TO SOFFIT TO THIS LAYOUT WITH 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.

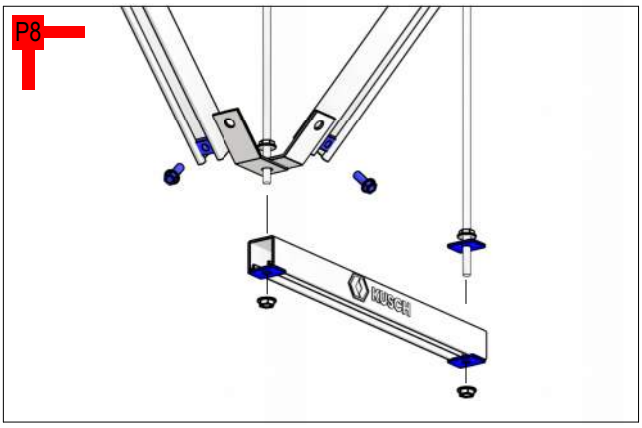
TYPICAL P8 SET OUT.

DISTANCE FROM HANGER **EQUALS** HEIGHT OF HANGER (ACHIEVE 45°).



OPTION TO USE E1354 HINGE WHERE FM1546 IS UNSUITABLE.
MAINTAIN ANGLES FLATTER THAN 45°.
FIX DUCT WITH 12g TEK SCREWS: QTY 4 MIN. AT 200mm MAX. CTS.

TYPICAL P8 BRACKET ASSEMBLY.

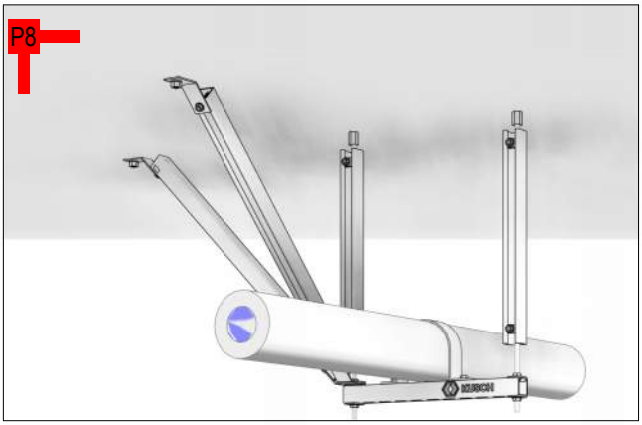


FM1546 BRACKETS TO HANGING RODS ABOVE STRUT TRAPEZE, AND STRUT WASHERS ELSEWHERE.
M12 BOLTS TO FM1546 / E1354 WITH FM1010.

ALTERNATIVE TO TYPICAL P8. RELOCATING THE BRACE TO AN INTERMEDIATE TRAPEZE PROVIDES MORE CLEARANCE TO ADJACENT SERVICES.

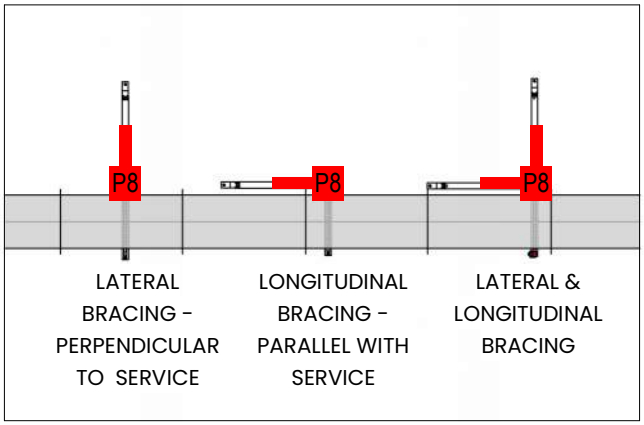
FIX DUCT WITH 12g TEK SCREWS: QTY 4 MIN.
AT 200mm MAX. CTS.
TO **TOP *AND* BOTTOM** TRAPEZE

TYPICAL P8 TO PIPEWORK.



FIX WITH FM125 OR FM132 CLAMPS, M10 BOLTS & CHANNEL NUTS. (FERRULES AS REQUIRED)

VARIATIONS OF P8 AS APPLIED BY DESIGN ENGINEER TO SPECIFIC SCENARIOS.



TYPICAL GRAPHICAL REPRESENTATION - PLAN

SOFFIT-FIXED
- S50 SUPA 50
- S80 SUPA 80
- S100 SUPA 100

FLOOR-FIXED
- F50 SUPA 50
- F80 SUPA 80
- F100 SUPA 100

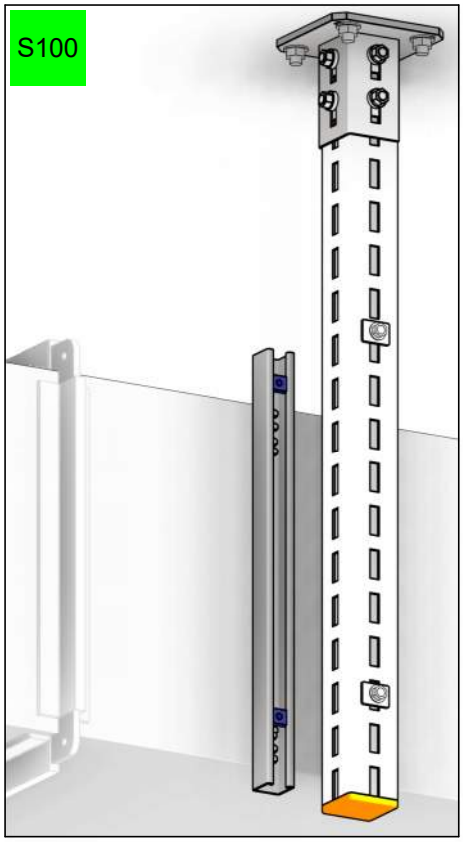
FLOOR-SOFFIT
- FS50 SUPA 50
- FS80 SUPA 80
- FS100 SUPA 100

SPBOLTS M10 AND M10 Hilti HST3 or M10 Iccons FM753 ANCHORS.

SPBOLTS M12S AND M16 Hilti HST3 or M16 Iccons Thru-bolt Pro ANCHORS.

SPBOLTS M12S AND M16 Hilti HST3 or M16 Iccons Thru-bolt Pro ANCHORS.

Duct & pipe fixing method similar **across all types** (SP100, SP80 & SP50) floor, soffit and floor-soffit (column) types.

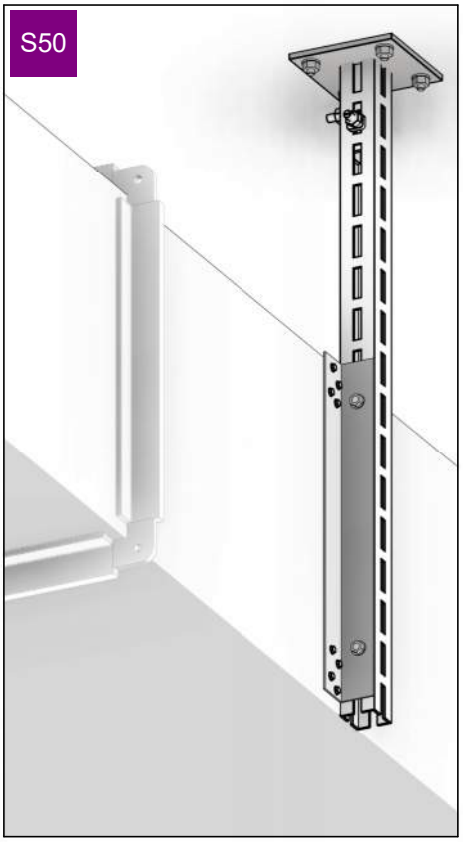


FIX 41mm STRUT TO DUCT WITH 12g TEK SCREWS: Qty 8 Min. (4- WITHIN TOP 100mm, 4- WITHIN BOTTOM 100mm).

FIX 41mm STRUT TO **SP100 / SP80 / SP50** POST / COLUMN WITH MIN 2-FM1010, M12 BOLT THROUGH AND LARGE PLATE WASHER.

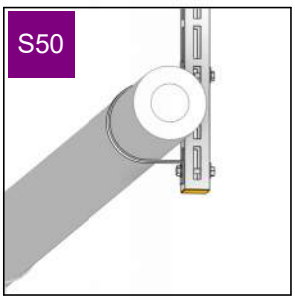
FIX 50x3 DURAGAL EQUAL ANGLE TO DUCT WITH 12g TEK SCREWS: Qty 8 Min. (4- WITHIN TOP 100mm, 4- WITHIN BOTTOM 100mm).

FIX 50x3 DURAGAL EQUAL ANGLE TO **SP100 / SP80 / SP50** POST / COLUMN WITH MIN 2-M12 BOLT THROUGH AND LARGE PLATE WASHER.

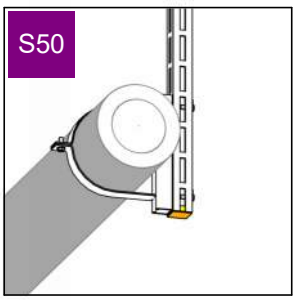


FIX **SP80/100-2072** BASEPLATE TO SUPA WITH 6-SPBOLT-M12S. FIX BASEPLATE TO SOFFIT WITH 4-M16 HILTI HST3, ICCONS FM753 OR APPROVED EQUIVALENT SEISMIC RATED ANCHORS.

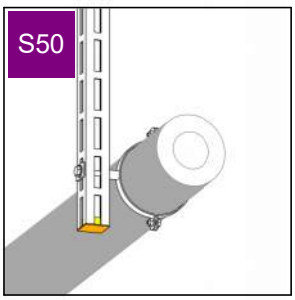
FIX **SP50-2072** BASEPLATE TO SUPA WITH 2-SPBOLT-M10S. FIX BASEPLATE TO SOFFIT WITH 4-M10 HILTI HST3, ICCONS FM753 OR APPROVED EQUIVALENT SEISMIC RATED ANCHORS.



2-M10 BOLTS THROUGH K1 TO FM125 PIPE CLAMP TO K1. OPTION TO ADD 41mm STRUT AS PER FM132 DETAIL.



2-M10 BOLTS THROUGH K1 TO 41mm STRUT WITH 2-FM1008. FM132 PIPE CLAMP TO STRUT.



NUT CLIP WITH M10 BOLT THROUGH AND LARGE PLATE WASHER TO K1.

SOFFIT-FIXED

- S50 — SUPA 50
- S80 — SUPA 80
- S100 — SUPA 100

FLOOR-FIXED

- F50 — SUPA 50
- F80 — SUPA 80
- F100 — SUPA 100

FLOOR-SOFFIT

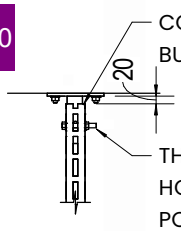
- FS50 — SUPA 50
- FS80 — SUPA 80
- FS100 — SUPA 100

SPBOLTS M10 AND M10 Hilti HST3 or M10 Iccons FM753 ANCHORS.

SPBOLTS M12S AND M16 Hilti HST3 or M16 Iccons Thru-bolt Pro ANCHORS.

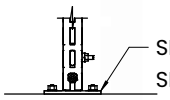
SPBOLTS M12S AND M16 Hilti HST3 or M16 Iccons Thru-bolt Pro ANCHORS.

FS50



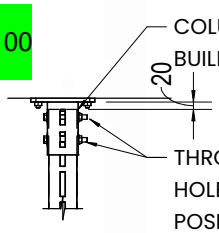
COLUMNS TO ALLOW 20mm BUILDING MOVEMENT.

THROUGH BOLT TO SLOTTED HOLE (NOT SPBOLT). POSITION BOLT IN CENTRE OF SLOT TO ALLOW MOVEMENT.



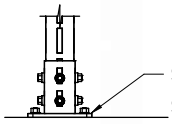
SPBOLTS AND ANCHORS TO SP2072 BASEPLATE AS PER MANUFACTURERS SPECIFICATIONS.

FS80 FS100



COLUMNS TO ALLOW 20mm BUILDING MOVEMENT.

THROUGH BOLT TO SLOTTED HOLE (NOT SPBOLT). POSITION BOLT IN CENTRE OF SLOT TO ALLOW MOVEMENT.

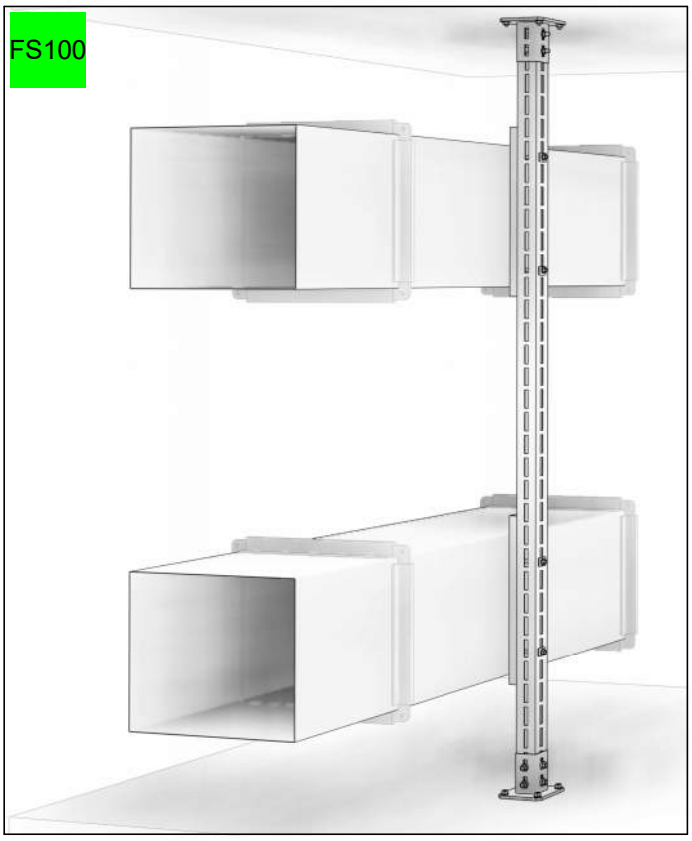


SPBOLTS AND ANCHORS TO SP2072 BASEPLATE AS PER MANUFACTURERS SPECIFICATIONS.

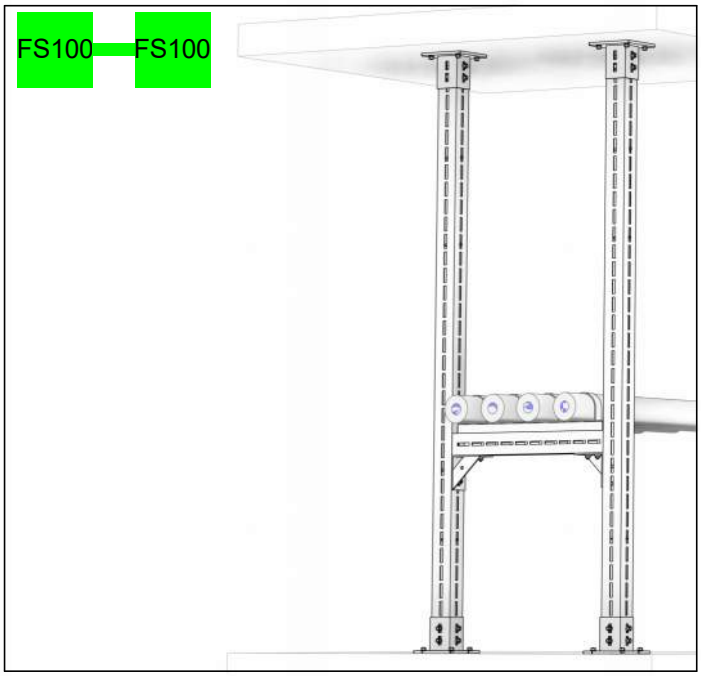
SP100 **FLOOR TO SOFFIT** (FS100)
FIX 41mm STRUT TO DUCT WITH
12g TEK SCREWS: Qty 4 Min.
AT MAX. 200mm CTS.

FIX 41mm STRUT TO SP100 / SP80 / SP50 POST / COLUMN WITH MIN 2-FM1010, M12 BOLT THROUGH AND LARGE PLATE WASHER.

FS100



FS100 — FS100



SP100 **LADDER** ACROSS 2 COLUMNS (FS100)
SP100-2484 ANGLE BRACKET WITH
4-SPBOLT-M12S.
41mm STRUT FIXED TO SP100 MEMBER WITH M12
BOLTS THROUGH AND FM1010 @ 400mm CTS.

SOFFIT-FIXED

S50	SUPA 50
S80	SUPA 80
S100	SUPA 100

FLOOR-FIXED

F50	SUPA 50
F80	SUPA 80
F100	SUPA 100

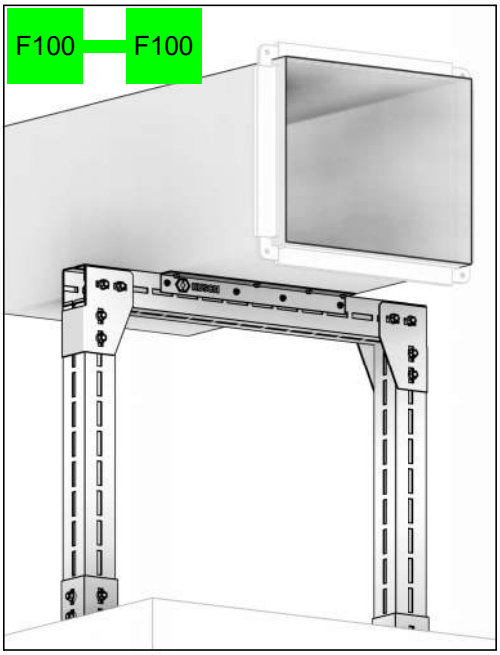
FLOOR-SOFFIT

FS50	SUPA 50
FS80	SUPA 80
FS100	SUPA 100

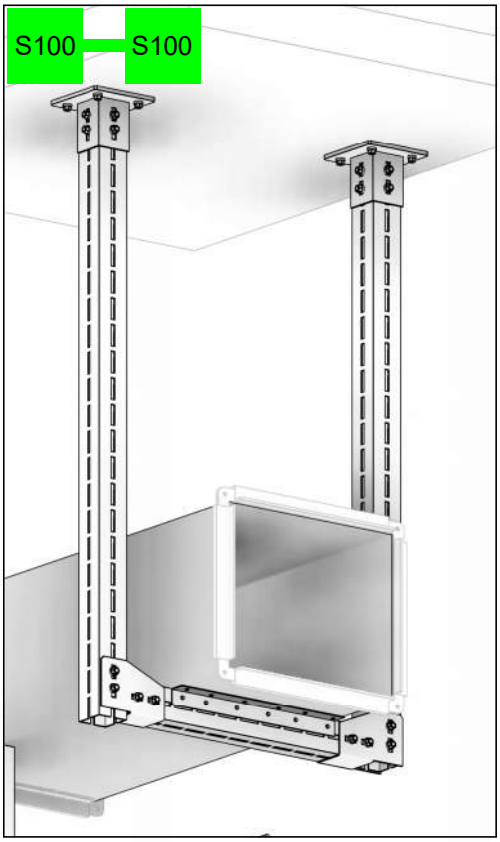
SPBOLTS M10 AND M10 Hilti HST3
or M10 Iccons FM753 ANCHORS.

SPBOLTS M12S AND M16 Hilti HST3
or M16 Iccons Thru-bolt Pro ANCHORS.

SPBOLTS M12S AND M16 Hilti HST3
or M16 Iccons Thru-bolt Pro ANCHORS.



H3 POST HURDLE FRAME, WITH 2-SP156 SHOE BRACKETS EACH WITH 8-SPBOLT-M12S.
FIX DUCT TO SP100 WITH EITHER 41mm STRUT OR 50x3 DURAGAL EQUAL ANGLE.
MIN. 4-12g TEK SCREWS AT MAX 200mm CTS.

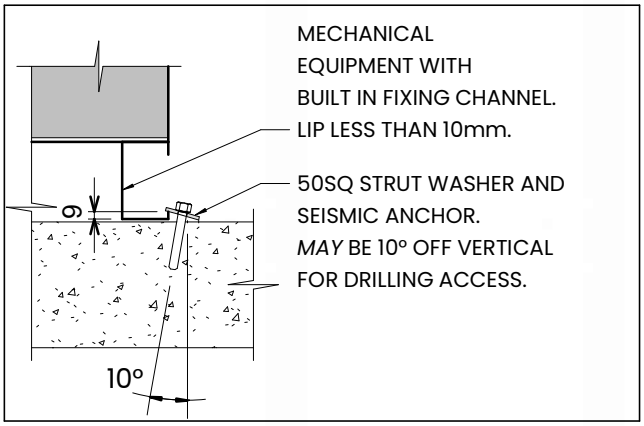


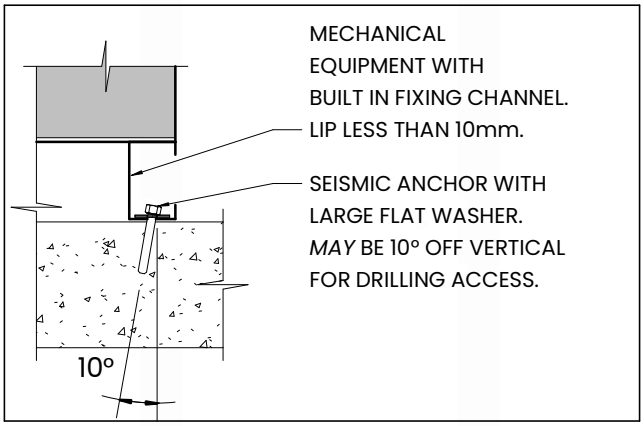
J3 POST HURDLE FRAME, WITH 2-SP156 SHOE BRACKETS EACH WITH 8-SPBOLT-M12S.
FIX DUCT TO SP100 WITH EITHER 41mm STRUT OR 50x3 DURAGAL EQUAL ANGLE.
MIN. 4-12g TEK SCREWS AT MAX 200mm CTS.

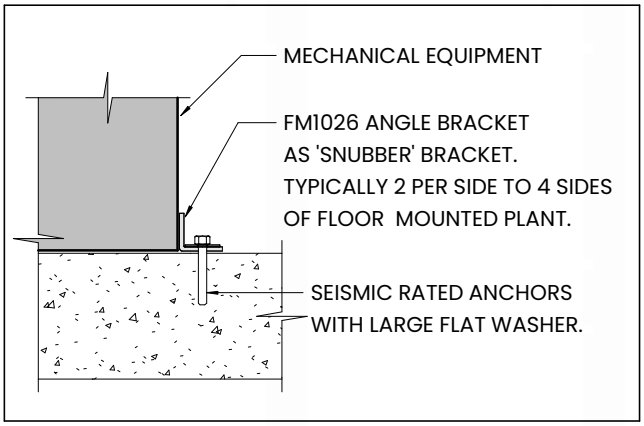
FLOOR MOUNTED MECHANICAL EQUIPMENT

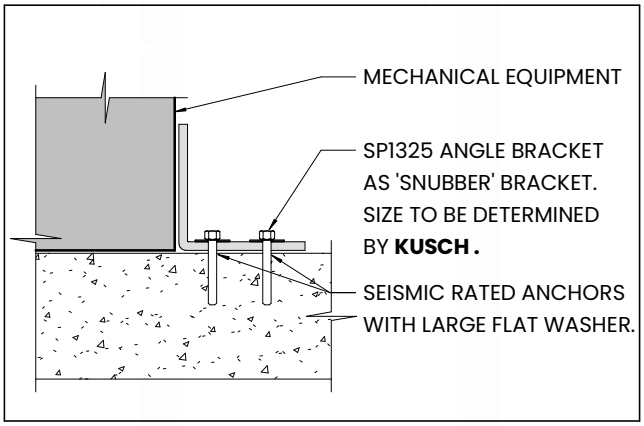
Type and size of fixings for floor mounted plant vary depending on dimensions and weight of the equipment.
Fixing design will be on a case-by-case basis.
Talk to a **KUSCH** engineer for details / design.

IN ALL CASES, USE SEISMIC RATED ANCHORS AND ENSURE THERE IS 80mm MINIMUM EDGE DISTANCE.
USE SPRING MOUNTS AS REQUIRED.



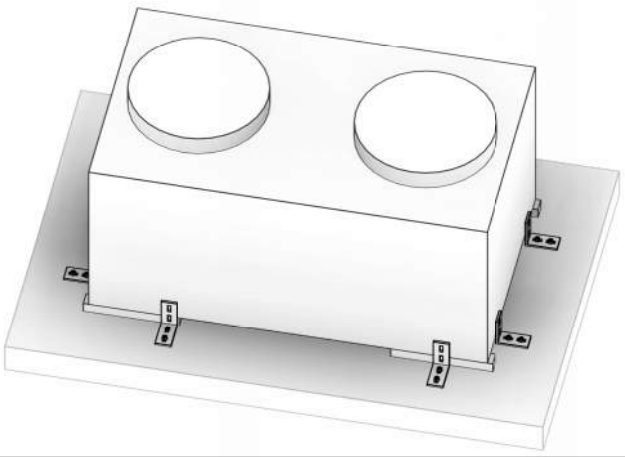






TYPICAL SNUBBER BRACKET DESIGN OPTION
2-SP80-1325 ANGLE BRACKETS PER SIDE
WITH 2-M12 SEISMIC ANCHORS EACH, TO THIS 12.5 TONNE CONDENSING UNIT.

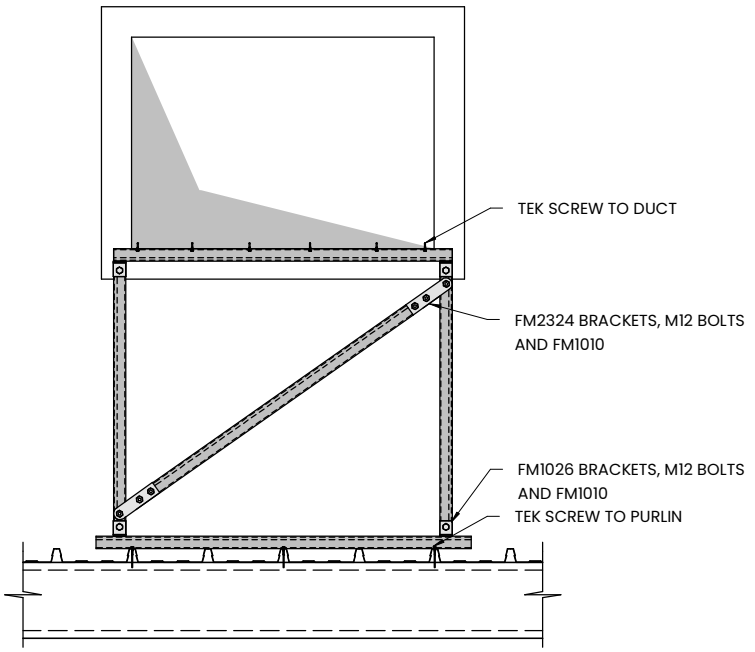
MINIMUM 80mm FIXING TO EDGE OF PLINTH.



In most cases, wind will be the governing load case for roof-mounted duct & equipment.
Wind loads vary between sites. **KUSCH** will provide project specific details for your roof-mounted services.

EXAMPLES OF ROOF SUPPORT / BRACING

KUSCH ENGINEERS UTILIZE OFF-THE-SHELF PARTS WHEREVER POSSIBLE TO ENABLE EASE OF INSTALLATION WITH PRODUCTS YOU ARE FAMILIAR WITH.



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