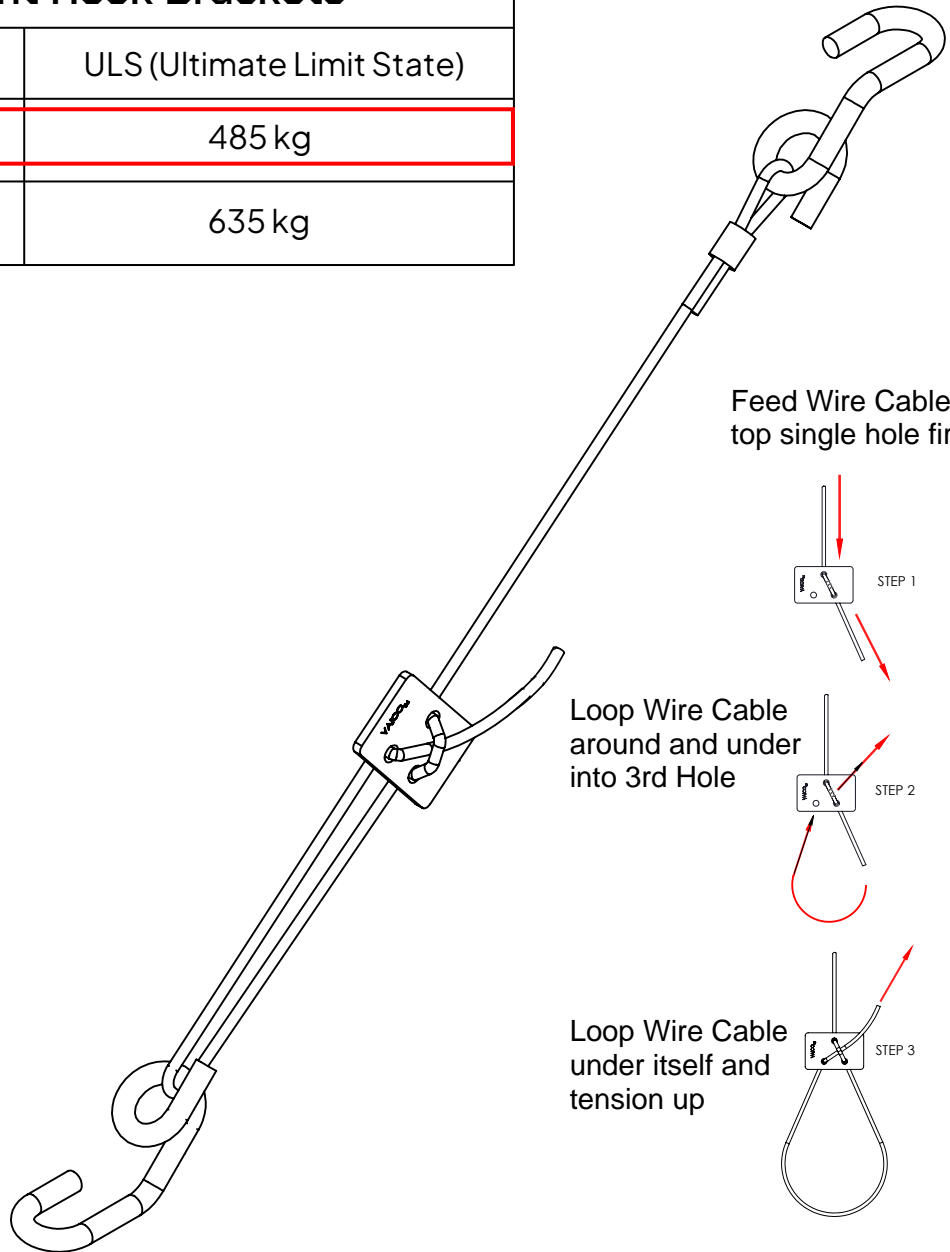


V.LOCK Seismic Cable Brace with Retrofit Hook Brackets

Cable Size	ULS (Ultimate Limit State)
No. 3 (3.18mm / 1/8")	485 kg
No. 5 (4.75mm / 3/16")	635 kg



Registered Design
Patented No. 2021107288
Other Patents Pending

Electrogalvanised Steel

V.LOCK
SEISMIC & SUSPENSION
KMR2021-3242

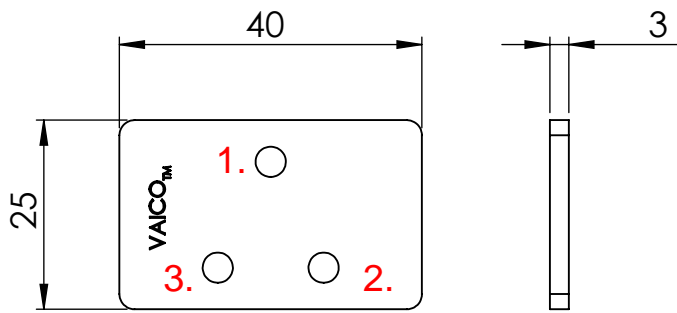


STORM ENGINEERING

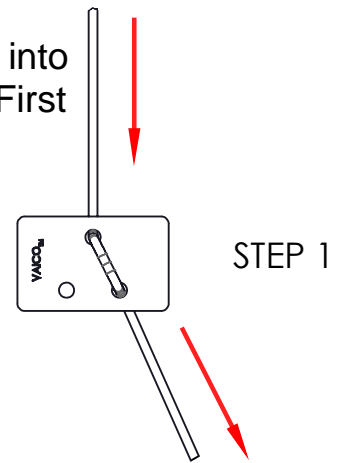
V.LOCK Seismic Cable Brace
with Retrofit Hook Brackets

Drawing No.
VL-H-E

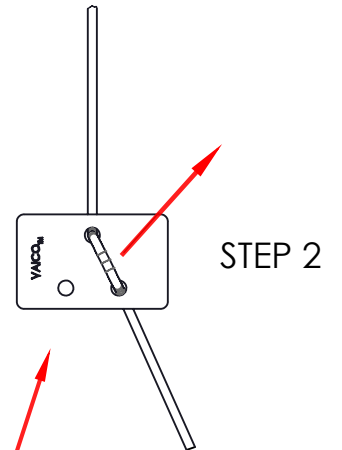
Revision
D



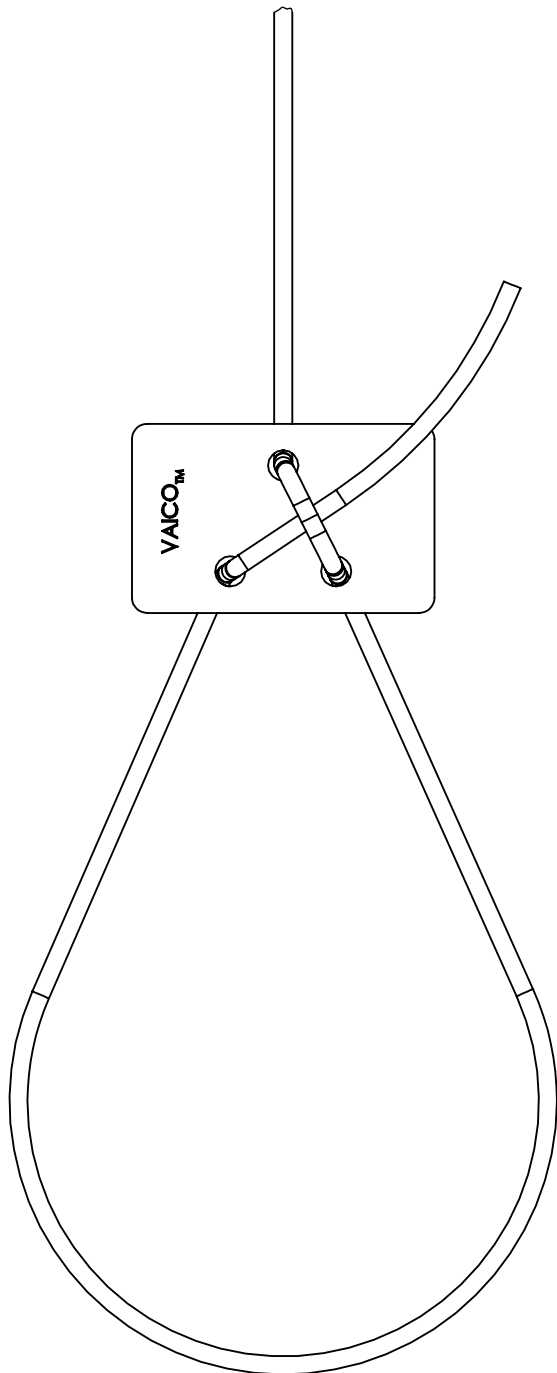
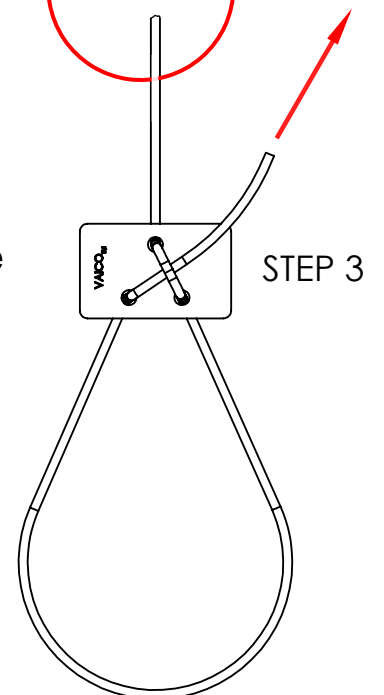
Feed Wire Cable into Top Single Hole First



Loop Wire Cable around and under into 3rd Hole



Loop Wire Cable under itself and Tension up



V.LOCK
SEISMIC & SUSPENSION

Australian Patent Application 2021900588
New Zealand Design Application 428629



STORM ENGINEERING

V.LOCK DETAIL

Drawing No.

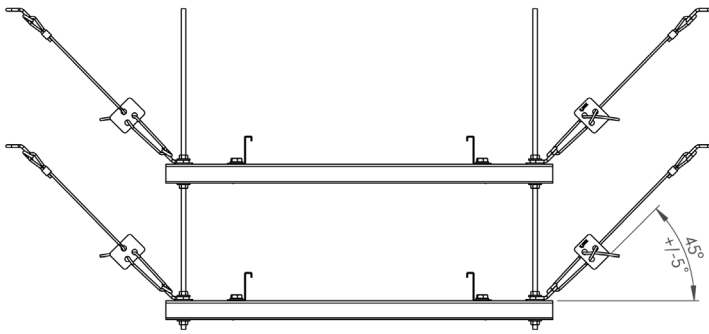
VL-D

Revision

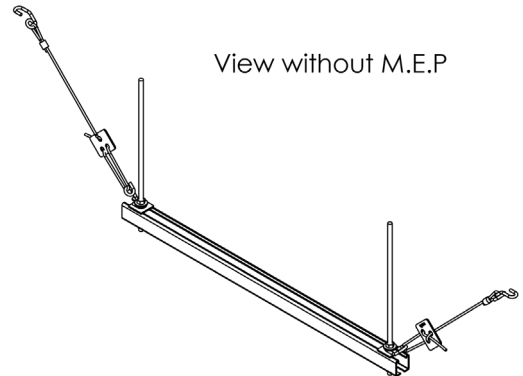
A

2 Way Transverse Seismic Cable Brace Installation

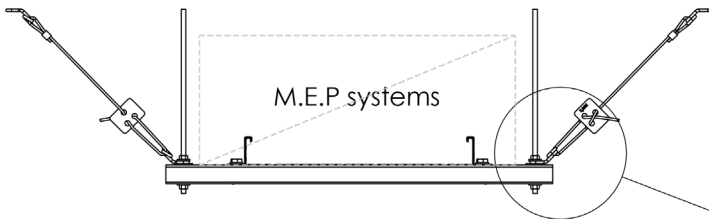
Multi layered trapeze



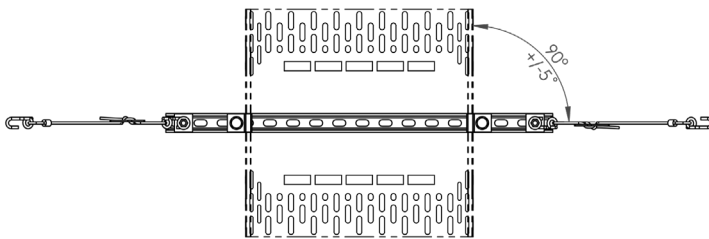
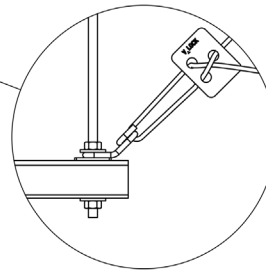
View without M.E.P



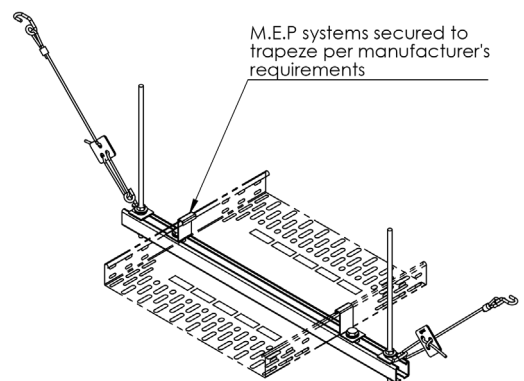
Single layered trapeze



M.E.P systems



M.E.P systems secured to trapeze per manufacturer's requirements



Registered Design
Other Patents Pending

V.LOCK
SEISMIC & SUSPENSION
2021107288

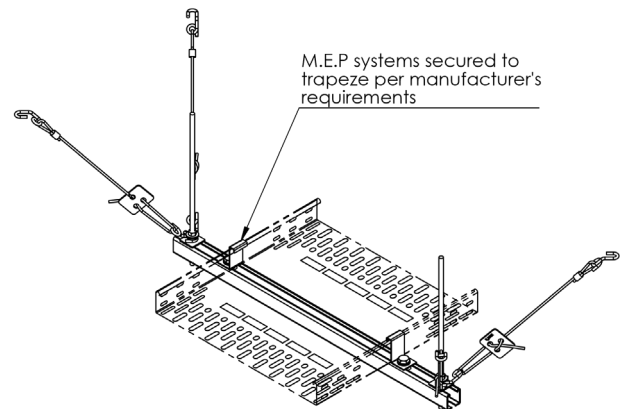
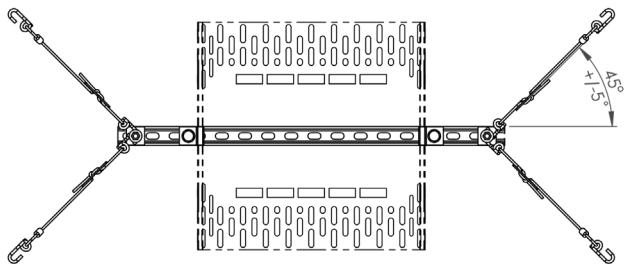
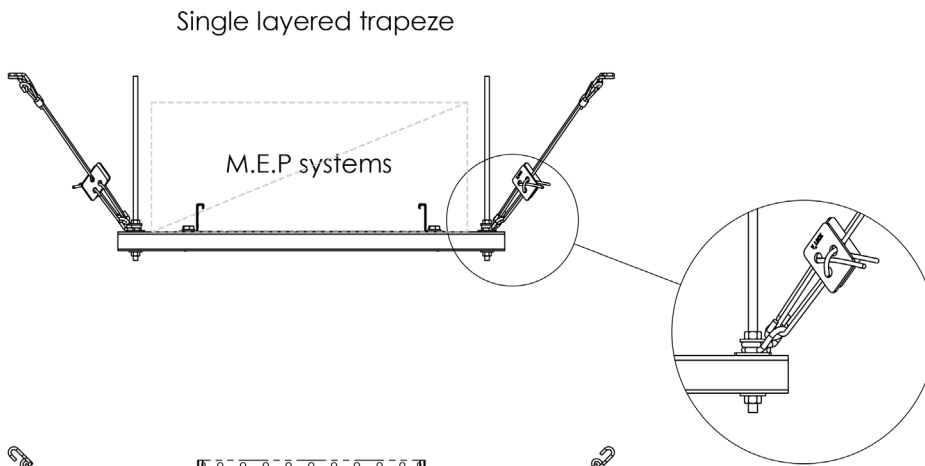
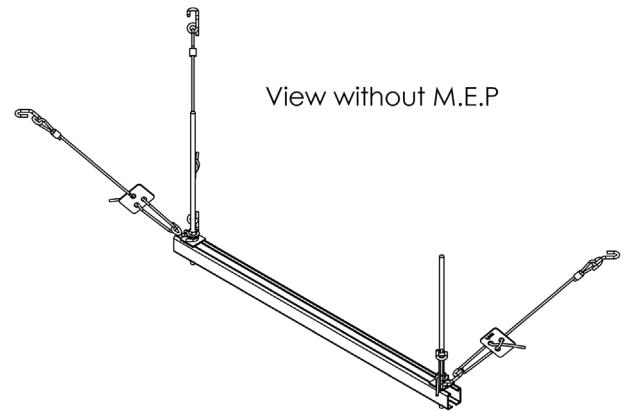
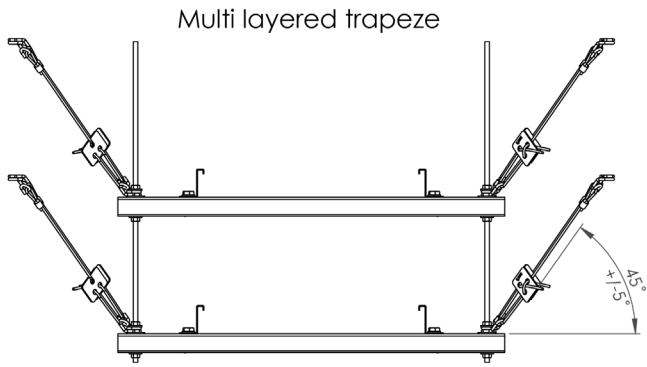

STORM ENGINEERING

SCB .2W
2 Way Transverse
Seismic Cable Brace Installation

Drawing No.
SCB.2W

Revision
C

4 Way Transverse, Longitudinal Seismic Cable Brace Installation



Registered Design
Other Patents Pending

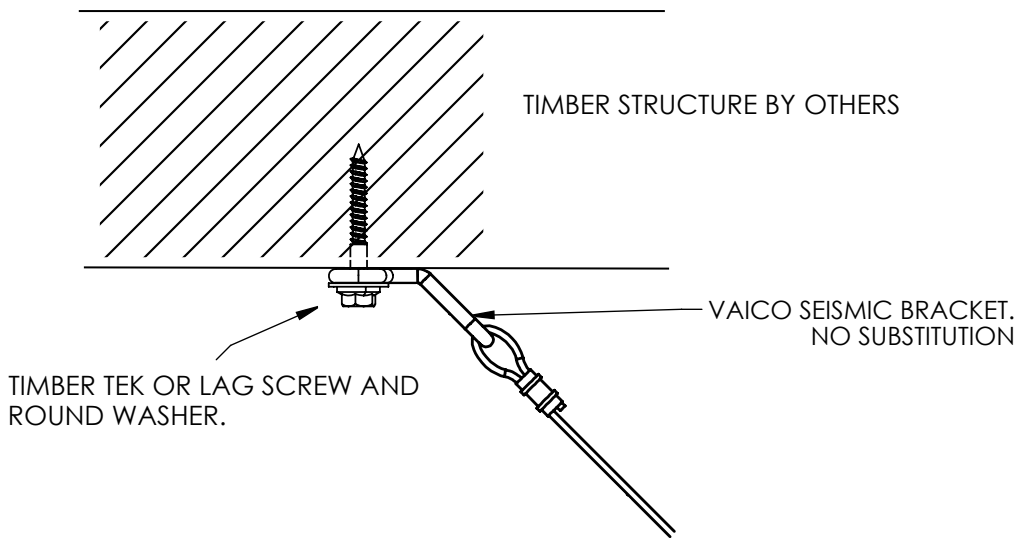
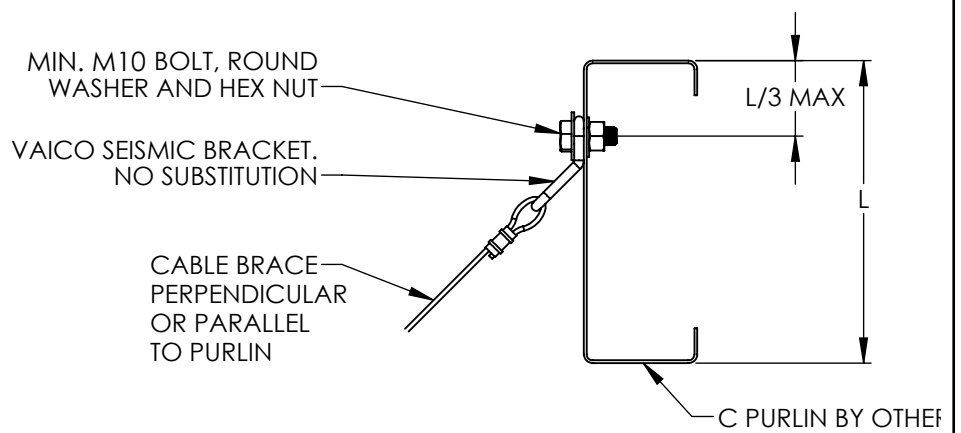
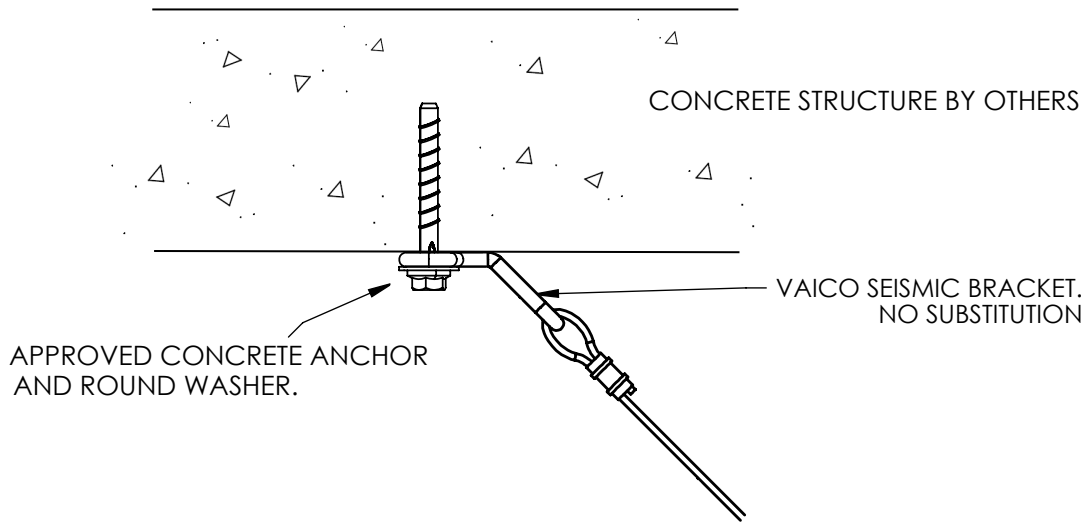
V.LOCK
SEISMIC & SUSPENSION
2021107288

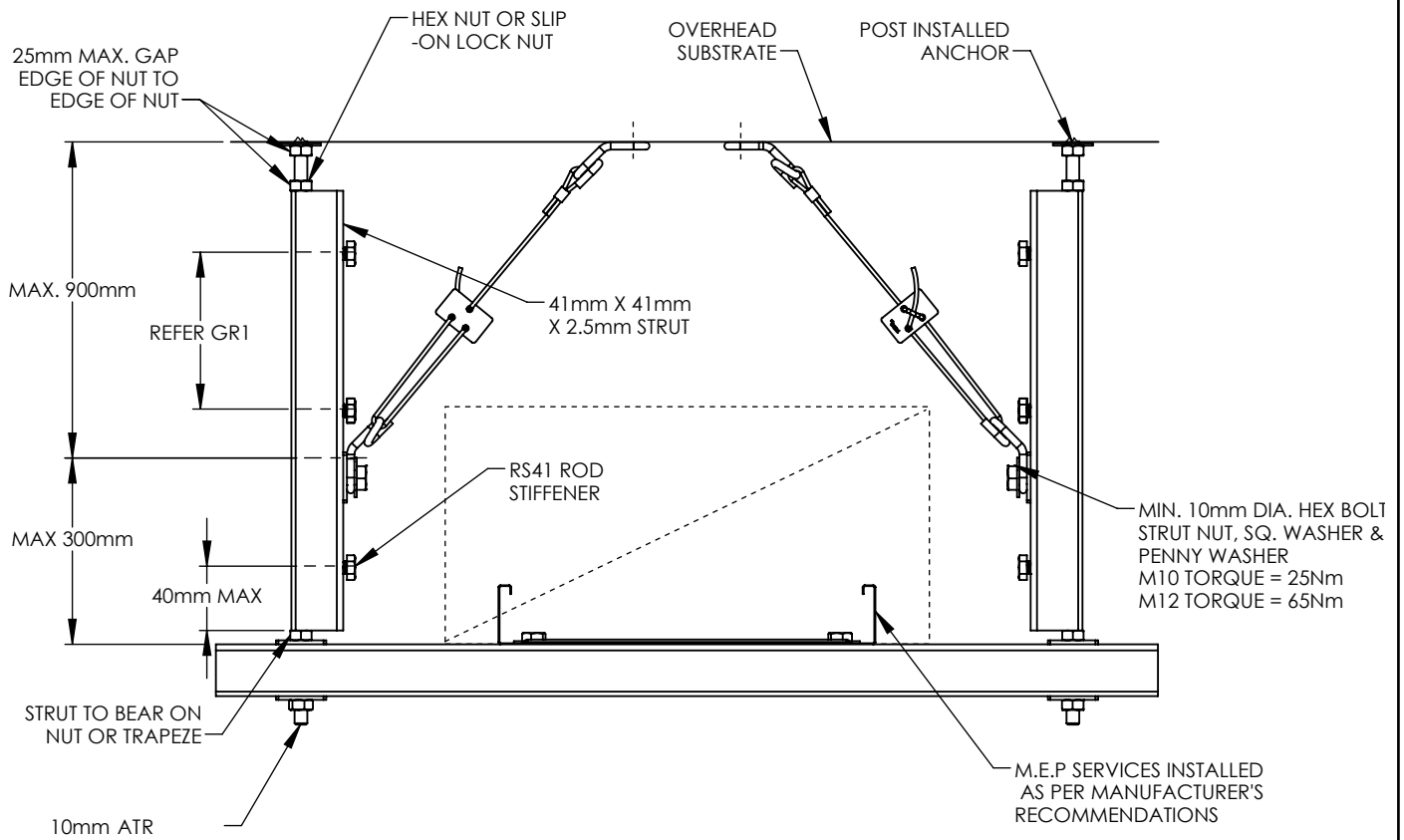

STORM ENGINEERING

SCB.4W
4 Way Transverse, Longitudinal
Seismic Cable Brace Installation

Drawing No.
SCB.4W

Revision
C





ELEVATED BRACE ARM ATTACHMENT - TRAPEZE RACKS

2 WAY OR 4 WAY CABLE BRACES

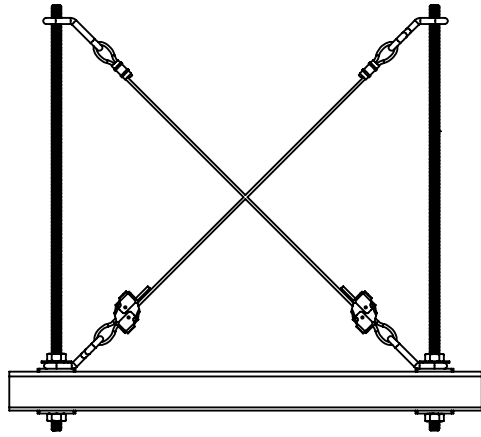
EXTERNAL & INTERNAL DIRECTIONS



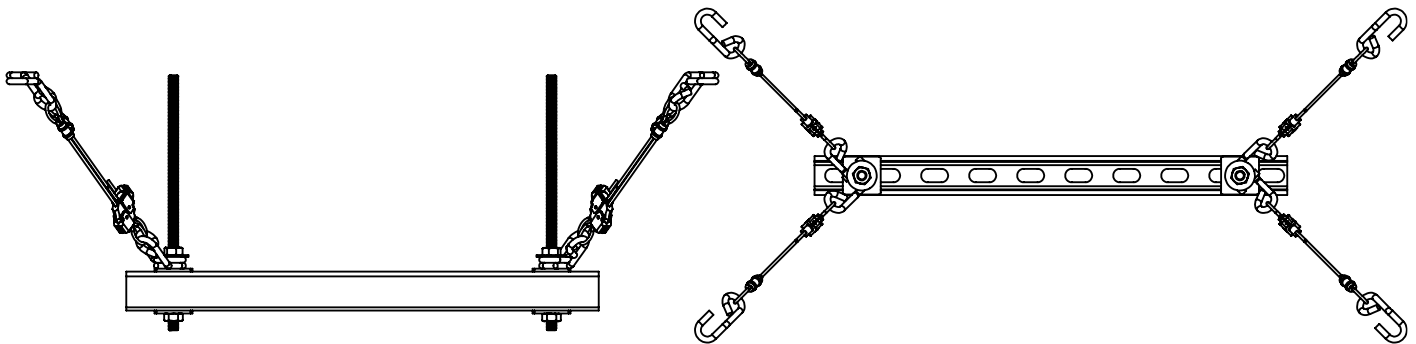
V.LOCK
SEISMIC & SUSPENSION

BRE1
Elevated Brace Arm Attachment
Trapeze Racks

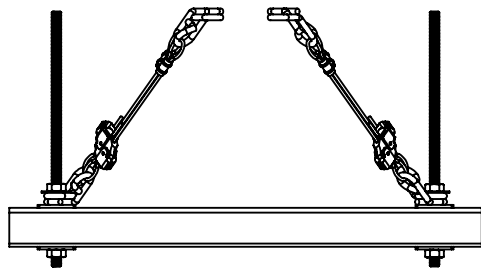
Drawing No.
BRE1
Revision
D



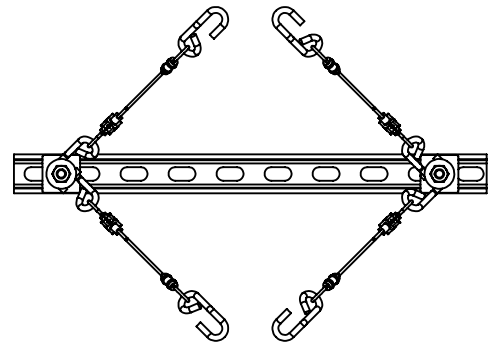
SECTION THRU TRAPEZE
ALTERNATE CABLE TRANSVERSE
BRACE PATTERN



SECTION THRU TRAPEZE
STD. CABLE TRANSVERSE BRACE
PATTERN

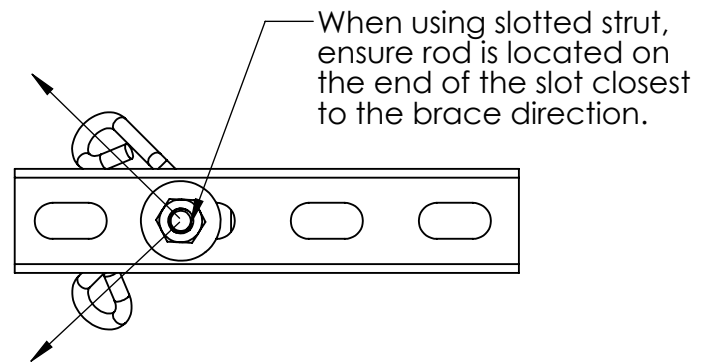
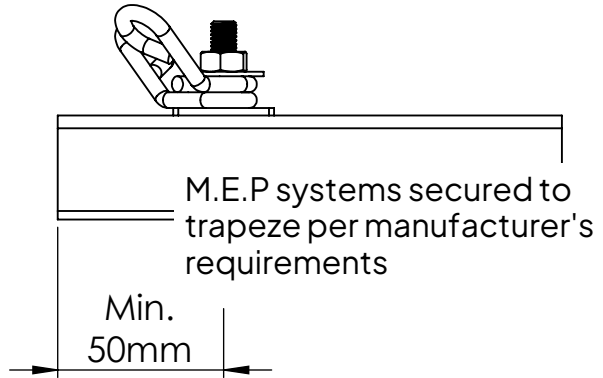
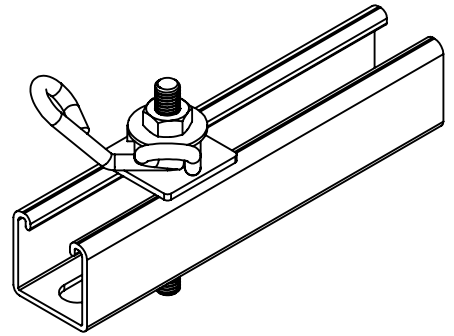
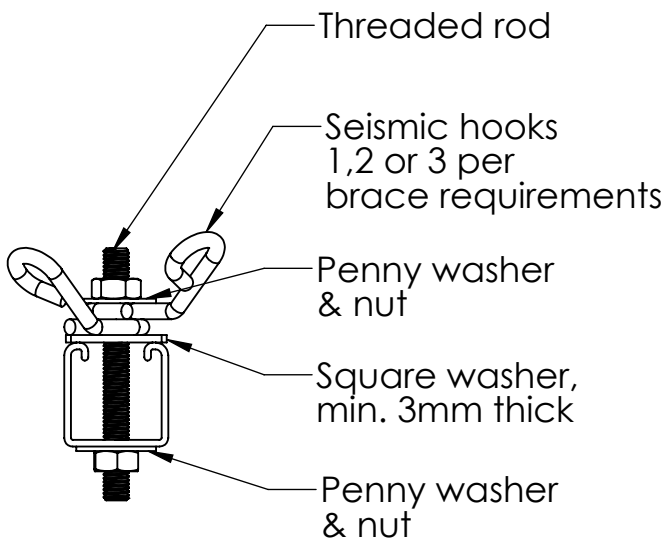


SECTION TRHU TRAPEZE
ALTERNATE CABLE TRANVERSE
BRACE PATTERN

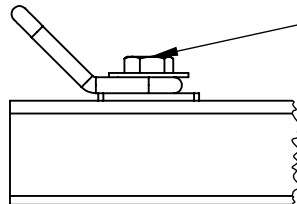
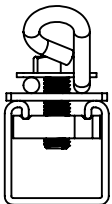


OVERHEAD VIEW
ALTERNATE SPLAYED CABLE
BRACE PATTERN



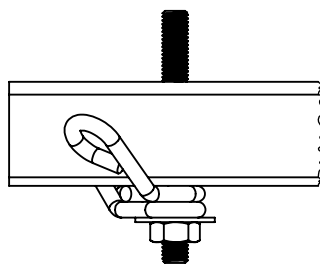
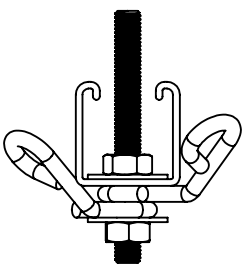


Alternative connection methods



Min. M10 strut nut,
penny washer & bolt
torqued to min 26 Nm

This method is suitable for use with 1,
2 or 3 hooks per brace requirements



This method is only suitable for use with a 4
way transverse/longitudinal brace.
Seismic hooks must be sequenced as shown
to align at 45° angle

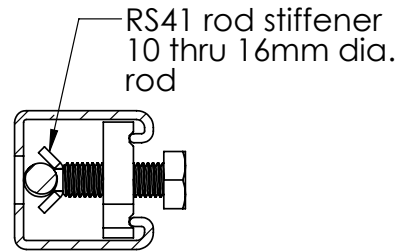
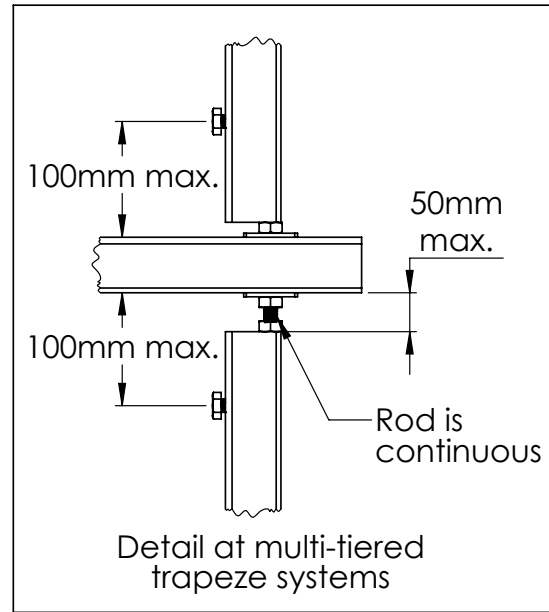
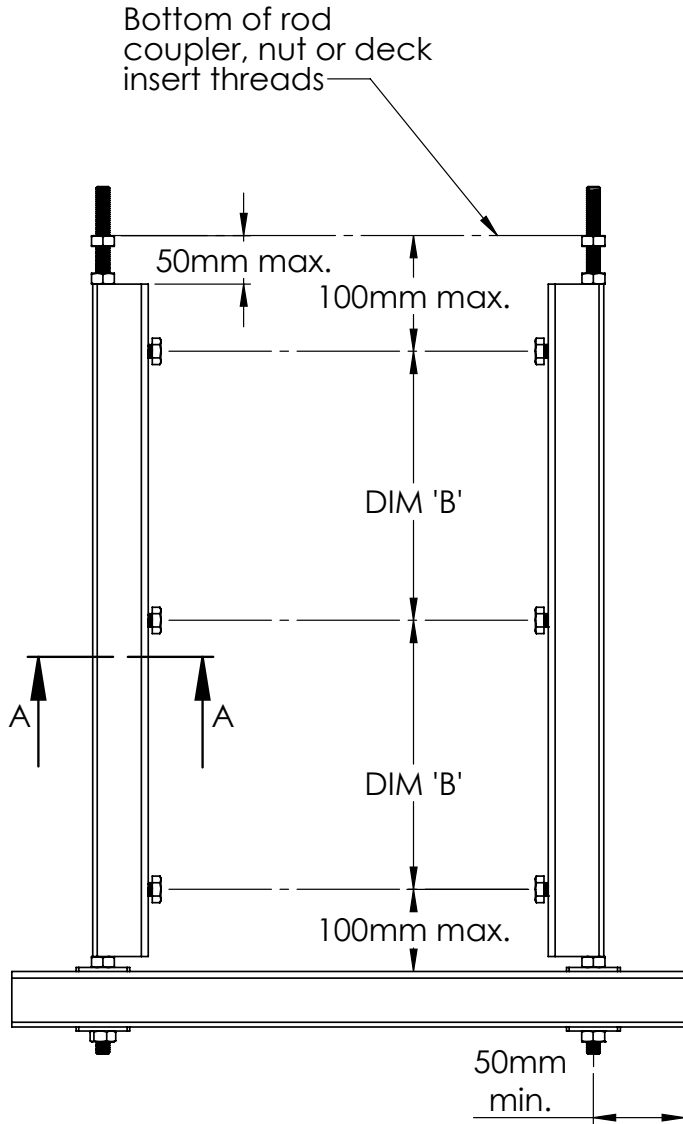


BRT1
Brace Connection Details

Drawing No.
BRT1
Revision
B

Why Rod Stiffeners are needed to meet AS1170.4-2007 Section 8 and NZS4219-2009

1. Seismic forces act in all directions. Threaded rods are sized for gravity loads, making it necessary to add additional rod stiffening to prevent buckling of the rods.
2. Threaded rod has limited compression strength and uplift forces can easily exceed the dead load on the rod - resulting in compressive forces. If not stiffened, the rod can buckle and fail, which in turn can severely impact adjacent services and systems.
3. Rod stiffening essentially creates a compression post around the rod (or 'a leg in plaster' effect) that prevents buckling.
4. Rod stiffeners are only needed to be used on vertical hanger rods to which the seismic restraints are connected to, unless specifically noted otherwise.
5. Threaded rod is an integral part of any seismic restraint system and rod stiffening requirements should be included within any seismic design.



SECTION A-A

Notes:
 Tighten stiffener nut to finger tight plus 2 full turns of the nut
 Rod stiffening required only for rods to which seismic bracing has been installed.
 Refer to Vaico when rods are larger than 16mm.
 Rod stiffeners may be eliminated where two rigid braces are attached to the same rod and are 180 degrees opposed to one another.

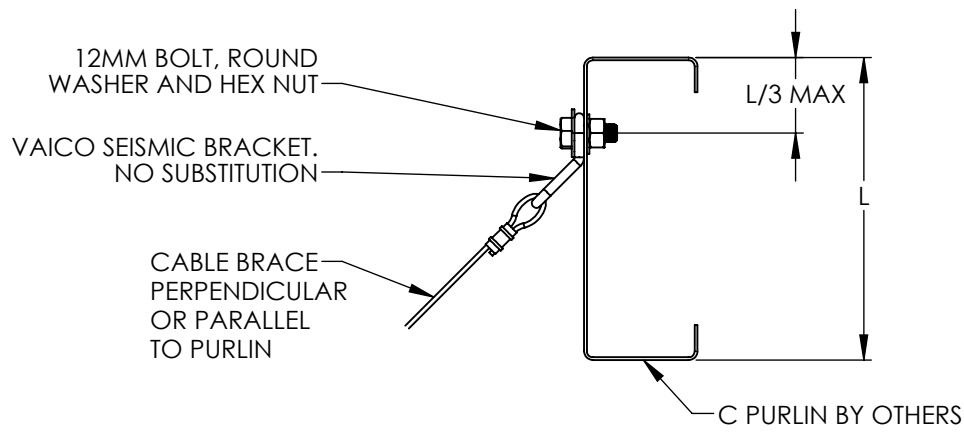
Rod Stiffening Chart

Threaded Rod Diameter (mm)	Dim. A Max. Rod Length Without Stiffener (mm)	Dim. B Max. Spacing Bet. Rod Stiffener (mm)
8	400	500
10	500	600
12	600	700
16	800	900



GR1
 Rod Stiffening Requirements

Drawing No.
GR1
 Revision
B



ALLOWABLE CONNECTION CAPACITY

PURLIN		Pmax	
mm	(ga)	kN	kg
2.66	(12.0)	8.92	909
1.81	(14.0)	6.25	637
1.44	(16.0)	4.96	506
1.15	(18.0)	3.94	885
0.88	(20.0)	2.91	655

A. PERPENDICLUAR TO PURLIN

ALLOWABLE CONNECTION CAPACITY

PURLIN		Pmax	
mm	(ga)	kN	kg
2.66	(12.0)	11.51	1173
1.81	(14.0)	8.07	822
1.44	(16.0)	6.41	653
1.15	(18.0)	5.08	518
0.88	(20.0)	3.79	386

B. PARALLEL TO PURLIN

BRACETO C PURLIN

NOTES:

1. PURLIN TENSILE STRENGTH,
 $f_u = 320 \text{ MPa}$ MINIMUM
2. PURLIN GRADE G250 MINIMUM, AS 1397
3. MAXIMUM SIZE OF BOLT HOLE 14mm
4. M12 TORQUE = 65Nm



STORM ENGINEERING

<p>BRP1 Brace Connection to C Purlin</p>	<p>Drawing No. BRP1</p>
	<p>Revision B</p>