SEISMIC SYSTEMS THAT COMPLY WITH **AUSTRALIAN STANDARD AS1170.4**

BURNDY
Cable Support Systems®

SEISMIC SYSTEMS

We make the complex simple!

SEISMIC SYSTEMS
AS1170.4

PHOENIX METALFORM
METAL MADE EASY

Seismic Systems

Our team can assist you with Seismic Bracing for Cable Support Systems. We offer both rigid and flexible bracing options. We can also assist you with:

- » Seismic Specifications
- » Seismic Consulting Services including modeling & BIM
- » Seismic Design
- » Seismic Project Estimates
- » Seismic Certification & Reports
- » Seismic Fasteners
- » Custom Engineering to suit your project

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www.burndycss.com.au

About Burndy

Burndy is an Australian owned and operated company. Our products are Australian made to Australian standards.

Pioneers of the original Laddertray systems, Burndy are considered by many to have established the benchmark for quality and performance in commercial construction applications.

For over 35 years, it has been widely held that Burndy have been leaders in their field. Their continuous efforts at improving both products and services have been rewarded by a wide and growing user base and resellers.

Established in 1982, Phoenix Metalform, the parent company of Burndy, are a significant participant in sheet metal roll forming and fabrication.

With branch offices throughout Australia, Burndy is always conveniently placed to service its customers.

Manufactured in a wide range of materials including Hot Dip Galvanised Steel, Aluminium and Stainless Steel, there is a Burndy product to suit your specific application and environmental conditions.

Always striving to meet the growing demands of a sophisticated market, the Burndy range has evolved to provide a genuine one stop shop with the ability to satisfy your cable support needs.

Our mission is to be your first choice for the supply of cable support systems in Australia, and having a dedicated team of professionals is an essential platform in achieving that goal.

You can be assured of Burndy's commitment to continually improving our range, our product quality, our value for money and our delivery turnaround time.

AUSTRALIAN OWNED & OPERATED

Seismic Systems
– We make the complex simple!

What is Seismic Bracing?

Seismic forces are exerted on a building and its contents during an earthquake. These forces act horizontally upon the structure itself, as well as cable trays, ductwork, and other building systems within.

Typical supports for cable trays and other equipment are designed for the gravity, or vertical, loads but do not take into account the horizontal loading caused by earthquakes.

Seismic restraints (i.e. braces) resist the horizontal forces and keep the systems in place and secure.

The main purpose of seismic bracing is safety- to minimise the loss of life due to an earthquake.

Seismic Bracing Requirements

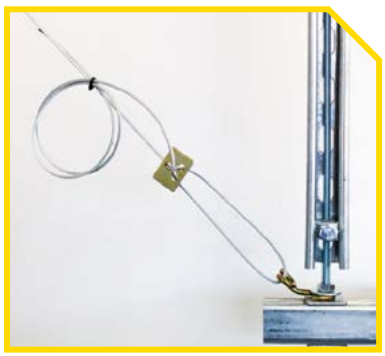
The rules and requirements for the seismic restraints are published in AS/NZ 1170.4 section 8.

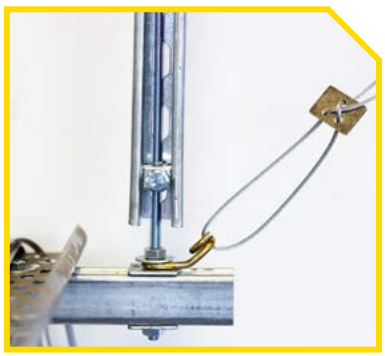
Burndy Cable supports can help you with the design, engineering and supply of a complete Seismic Brace solution.

Burndy cable supports are the first to offer a complete range of wire and solid brace solutions which in turn increase the flexibility when faced with space proofing issues or none conventional installations and areas.

Talk to our Seismic experts about your next project today
www.burndycss.com.au

Contents



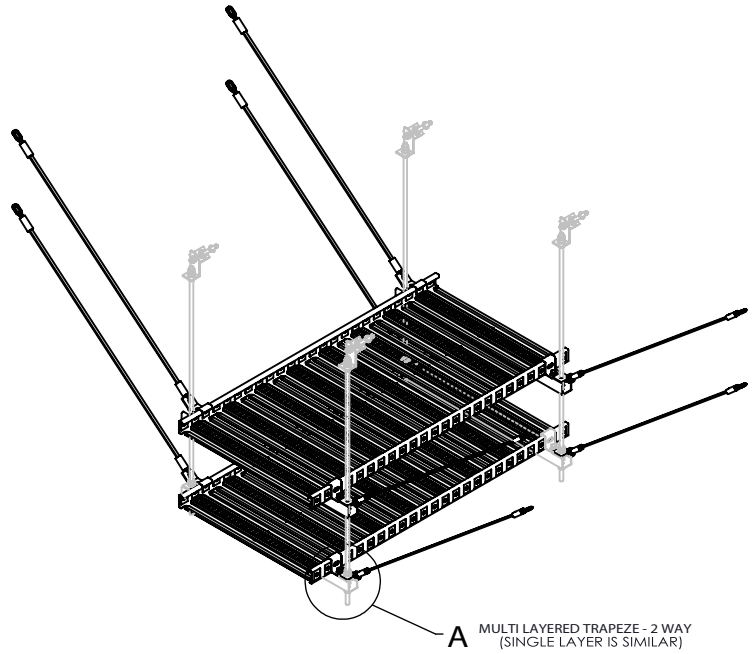


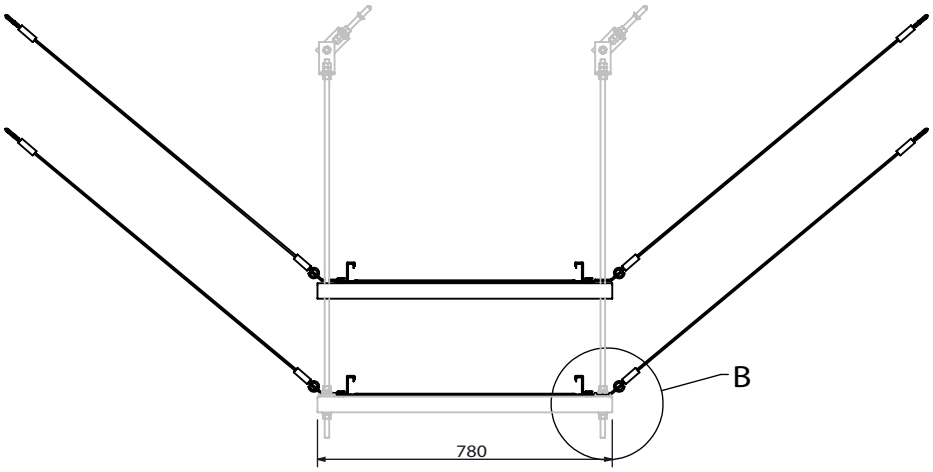
Cable Brace

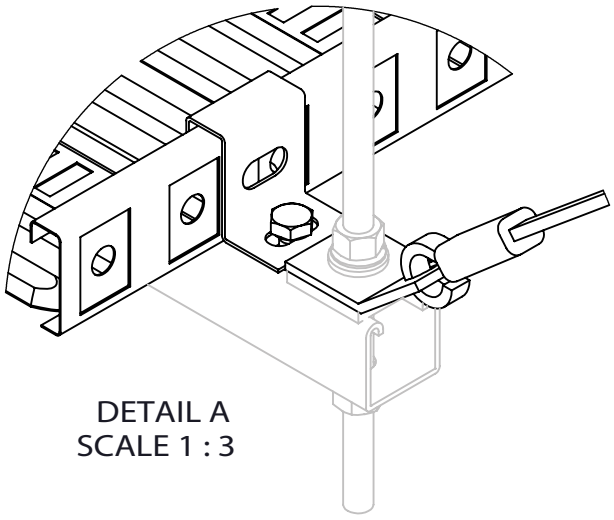


Rigid Brace

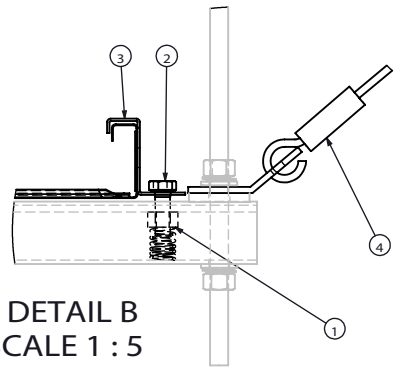
Cable Seismic Brace - 2 Way General Arrangement Example





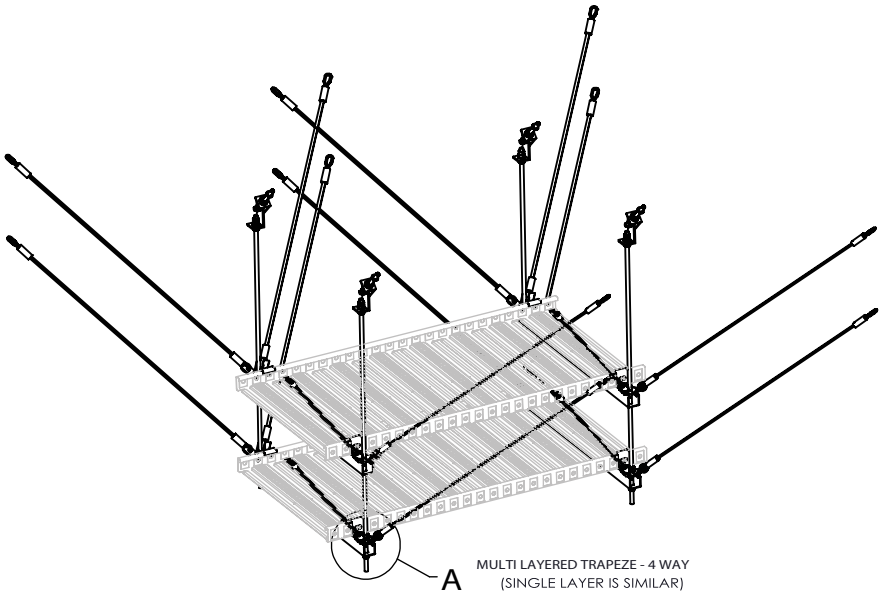


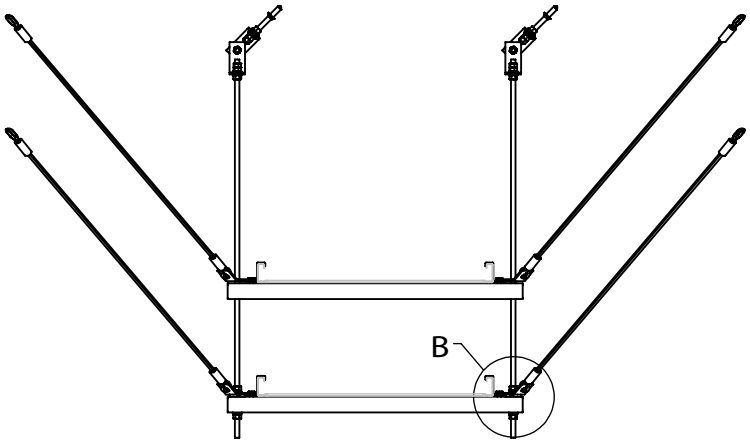
DETAIL A
SCALE 1 : 3

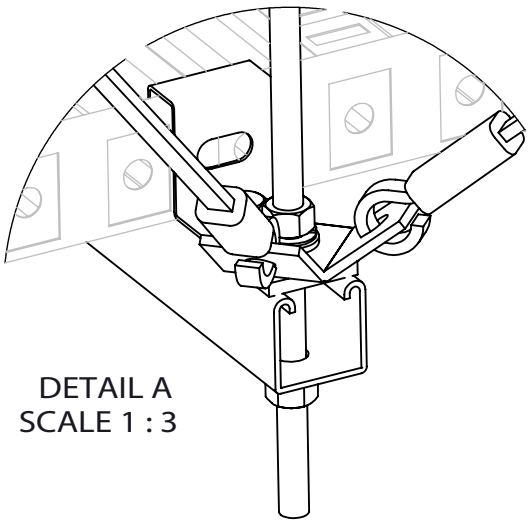


DETAIL B
SCALE 1 : 5

Cable Seismic Brace - 2 Way General Arrangement Example







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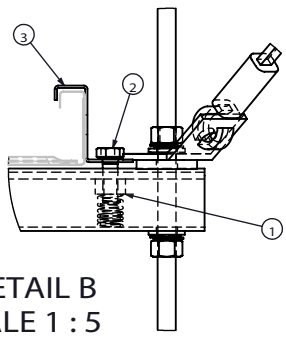
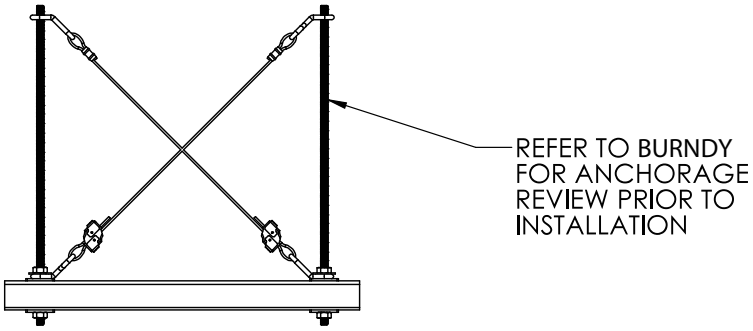
SCALE 1 : 3

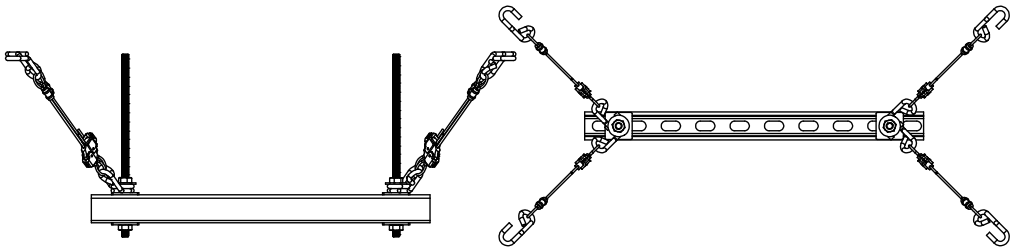


DETAIL B
SCALE 1 : 5

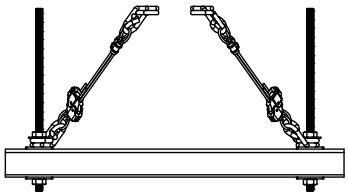
Cable Seismic Brace - Alternative Arrangements



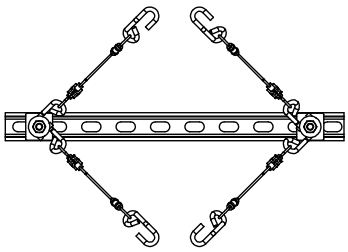
SECTION THRU TRAPEZE
ALTERNATE CABLE TRANSVERSE
BRACE PATTERN



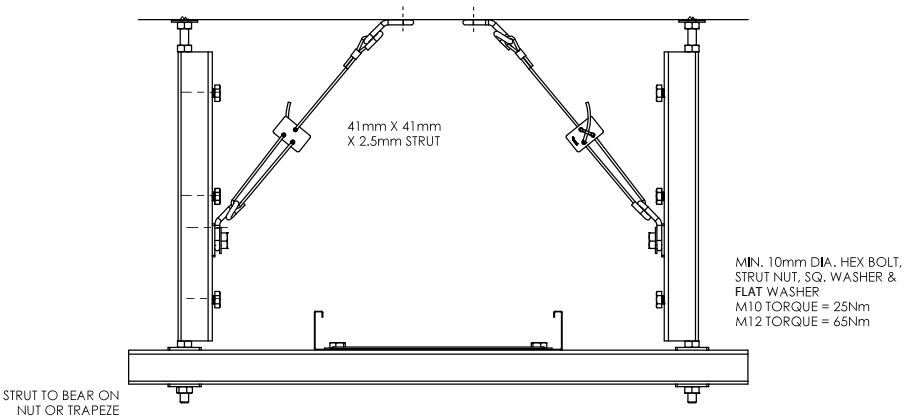
SECTION THRU TRAPEZE
STD. CABLE TRANSVERSE BRACE
PATTERN



SECTION THRU TRAPEZE
ALTERNATIVE CABLE TRANSVERSE
BRACE PATTERN



OVERHEAD VIEW
ALTERNATIVE SPLAYED CABLE
BRACE PATTERN

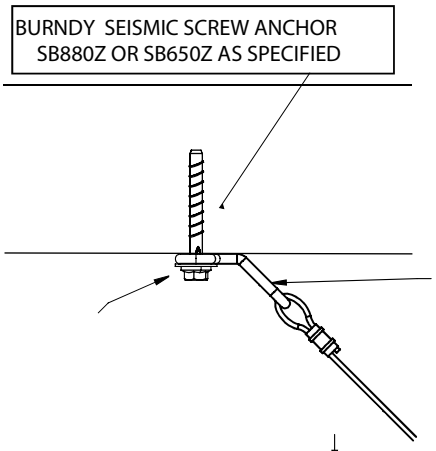


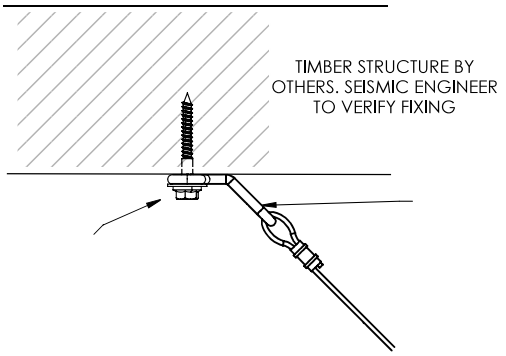
ELEVATED BRACE ARM ATTACHMENT - TRAPEZE RACKS

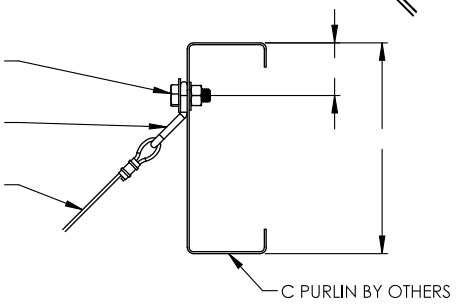
2 WAY OR 4 WAY CABLE BRACE

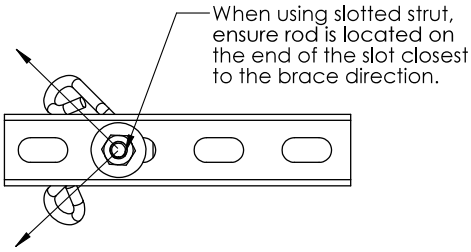
EXTERNAL & INTERNAL DIRECTIONS

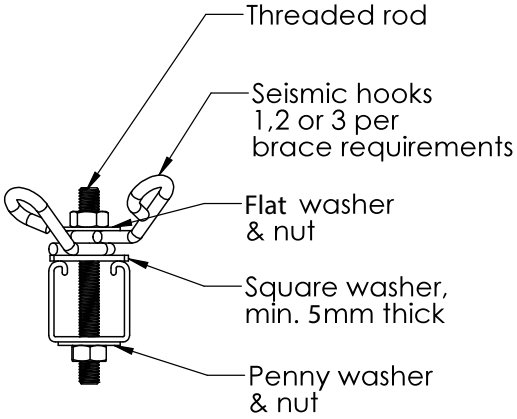
Cable Seismic Brace - Connection Methods

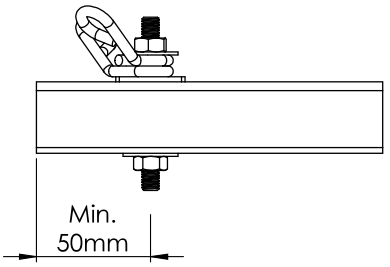


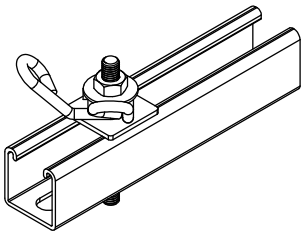




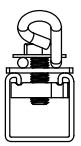


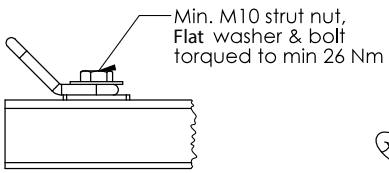




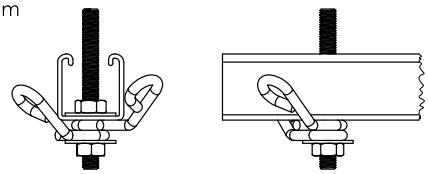


Alternative connection methods



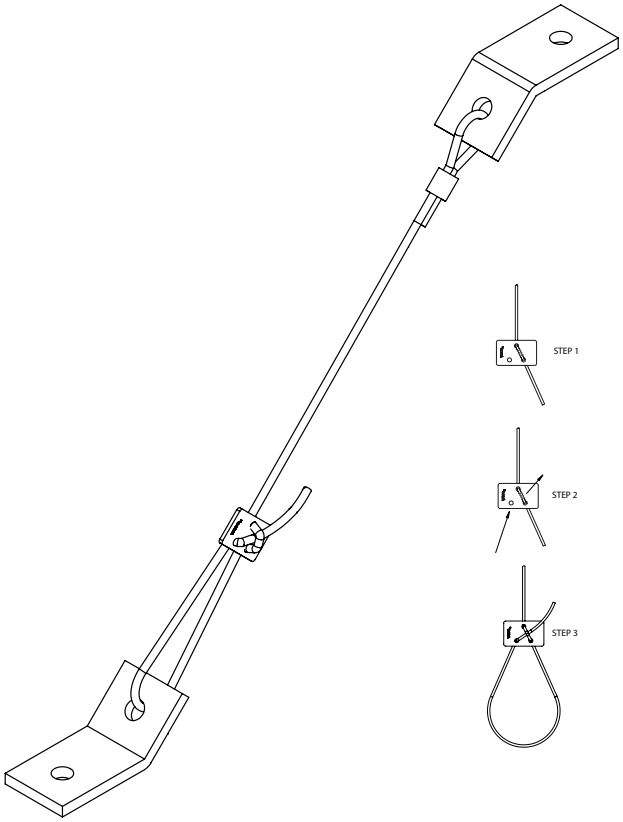


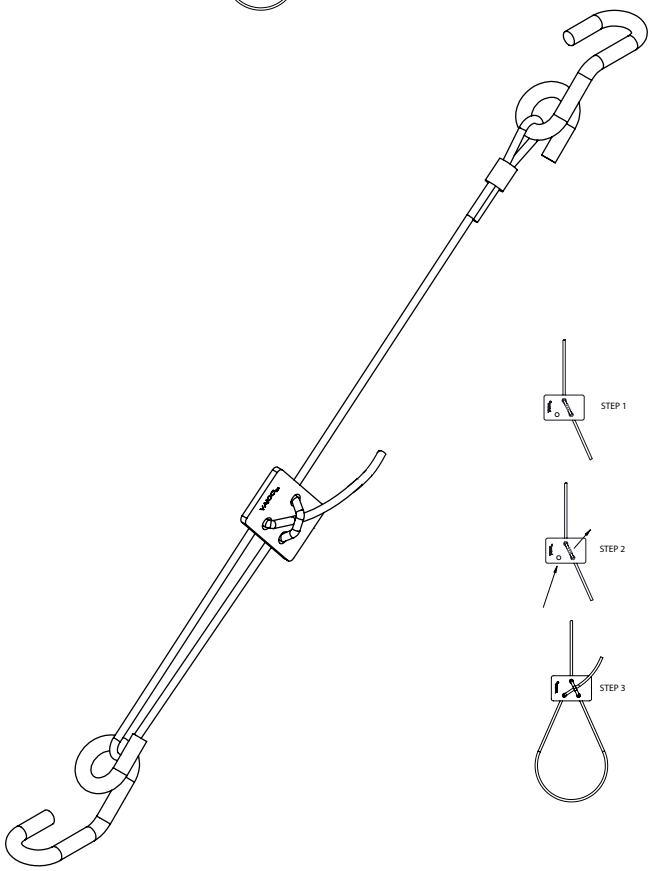
This method is suitable for use with 1, 2 or 3 hooks per brace requirements



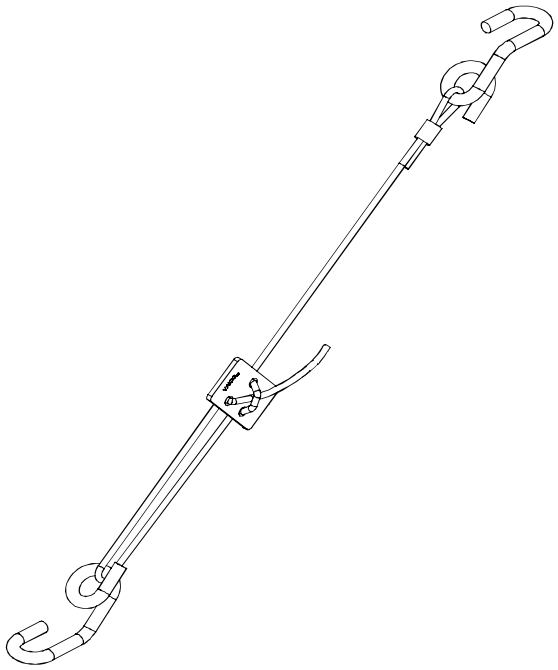
This method is only suitable for use with a 4 way transverse/longitudinal brace. Seismic hooks must be sequenced as shown to align at 45° angle

V Lock Cable Brace Angle & Hook Brackets





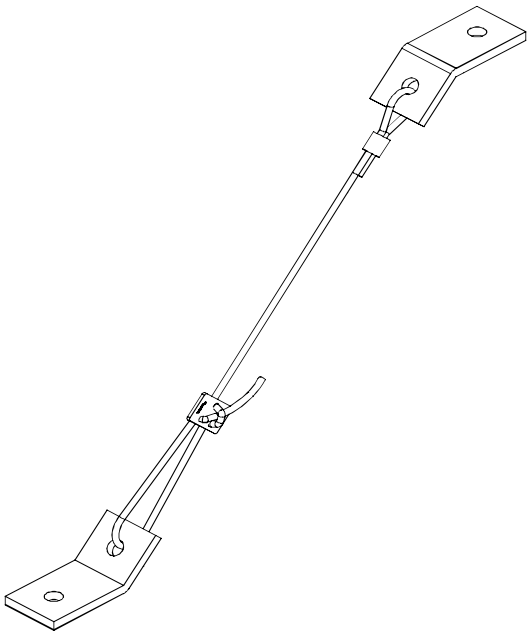
V Lock Cable Brace with Hook Bracket



No.3 Size (3.18mm / 1/8")			
Part No.	**Description**	**Pack Qty**	**ULS Rating**
BBVLS31H	V-Lock Seismic Brace 3mm x 1m with Hook Brackets - suit up to M12	10	485kg
BVLS32H	V-Lock Seismic Brace 3mm x 2m with Hook Brackets - suit up to M12	10	485kg
BVLS33H	V-Lock Seismic Brace 3mm x 3m with Hook Brackets - suit up to M12	10	485kg
BVLS34H	V-Lock Seismic Brace 3mm x 4m with Hook Brackets - suit up to M12	10	485kg
BVLS36H	V-Lock Seismic Brace 3mm x 6m with Hook Brackets - suit up to M12	10	485kg
BVLS310H	V-Lock Seismic Brace 3mm x 10m with Hook Brackets - suit up to M12	10	485kg

No.5 Size (4.75mm / 3/16")			
Part No.	**Description**	**Pack Qty**	**ULS Rating**
BVLS51H	V-Lock Seismic Brace 3mm x 1m with Hook Brackets - suit up to M12	10	635kg
BVLS52H	V-Lock Seismic Brace 3mm x 2m with Hook Brackets - suit up to M12	10	635kg
BVLS53H	V-Lock Seismic Brace 3mm x 3m with Hook Brackets - suit up to M12	10	635kg
BVLS54H	V-Lock Seismic Brace 3mm x 4m with Hook Brackets - suit up to M12	10	635kg
BVLS56H	V-Lock Seismic Brace 3mm x 6m with Hook Brackets - suit up to M12	10	635kg
BVLS510H	V-Lock Seismic Brace 3mm x 10m with Hook Brackets - suit up to M12	10	635kg

V Lock Cable Brace with Hook Bracket



No.3 Size (3.18mm / 1/8")			
Part No.	**Description**	**Pack Qty**	**ULS Rating**
BVLS61AB812	V-Lock Seismic Brace 3mm x 1m with Angle Brackets - suit up to M12	10	485kg
BVLS62AB812	V-Lock Seismic Brace 3mm x 2m with Angle Brackets - suit up to M12	10	485kg
BVLS63AB812	V-Lock Seismic Brace 3mm x 3m with Angle Brackets - suit up to M12	10	485kg
BVLS64AB812	V-Lock Seismic Brace 3mm x 4m with Angle Brackets - suit up to M12	10	485kg
BVLS66AB812	V-Lock Seismic Brace 3mm x 6m with Angle Brackets - suit up to M12	10	485kg
BVLS610AB812	V-Lock Seismic Brace 3mm x 10m with Angle Brackets - suit up to M12	10	485kg

No.5 Size (4.75mm / 3/16")			
Part No.	**Description**	**Pack Qty**	**ULS Rating**
BVLS51AB812	V-Lock Seismic Brace 3mm x 1m with Angle Brackets - suit up to M12	10	635kg
BVLS52AB812	V-Lock Seismic Brace 3mm x 2m with Angle Brackets - suit up to M12	10	635kg
BVLS53AB812	V-Lock Seismic Brace 3mm x 3m with Angle Brackets - suit up to M12	10	635kg
BVLS54AB812	V-Lock Seismic Brace 3mm x 4m with Angle Brackets - suit up to M12	10	635kg
BVLS56AB812	V-Lock Seismic Brace 3mm x 6m with Angle Brackets - suit up to M12	10	635kg
BVLS510AB812	V-Lock Seismic Brace 3mm x 10m with Angle Brackets - suit up to M12	10	635kg

Cable Brace Components

Hex Screws				
Thread Diameter	Thread Length	Zinc Plated	HDG	Stainless Steel
M10	20	HS1020Z	HS1020H	HS1020S
M10	25	HS1025Z	HS1025H	HS1025S
M10	30	HS1030Z	HS1030H	HS1030S
M10	40	HS1040Z	HS1040H	HS1040S

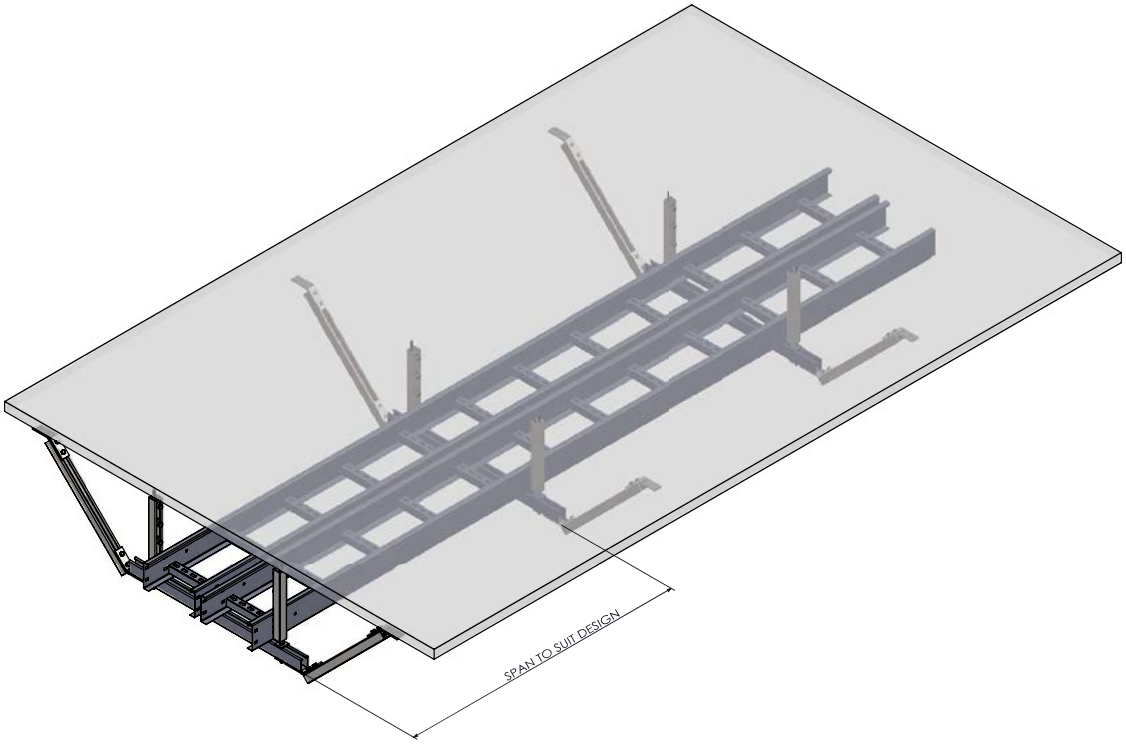
Hex Screws				
Thread Diameter	Thread Length	Zinc Plated	HDG	Stainless Steel
M12	25	HS1225Z	HS1225H	HS1225S
M12	30	HS1030Z	HS1030H	HS1030S
M12	40	HS1040Z	HS1040H	HS1040S
M12	50	HS1050Z	HS1050H	HS1050S

Flat Washer				
Thread Diameter		Zinc Plated	HDG	Stainless Steel
M10		FW10Z	FW10H	FW10S
M12		FW12Z	FW12H	FW12S

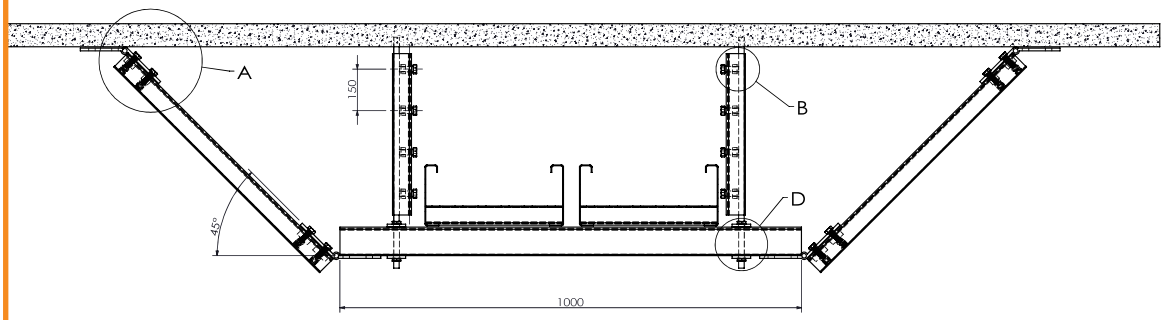
Channel Nut With Long Spring				
Thread Diameter		Zinc Plated	HDG	Stainless Steel
M10		B1008Z	B1008H	B1008S
M12		B1010Z	B1010H	B1010S

Channel Fitting / Flat Washer				
Thread Diameter			HDG	Stainless Steel
M10			B1063H	B1063S
M12			B1064H	B1064S

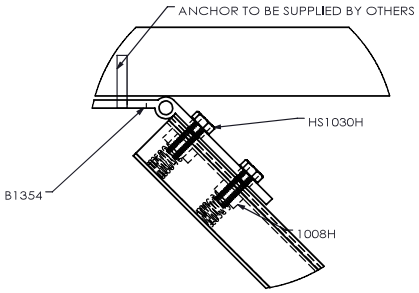
Rigid Bracing Examples



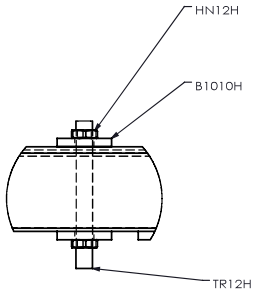
2.1-LATERAL CABLE RESTRAINT SUPPORT
ISOMETRIC VIEW



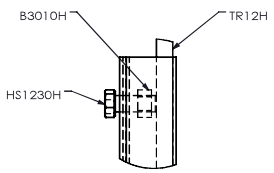
2.1-LATERAL CABLE RESTRAINT SUPPORT
SECTION VIEW



DETAIL A
SCALE 1 : 5

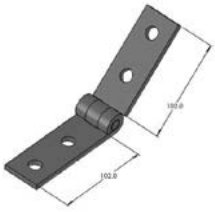


DETAIL D
SCALE 1 : 5

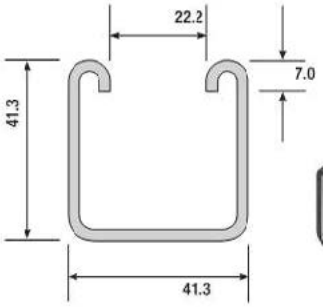


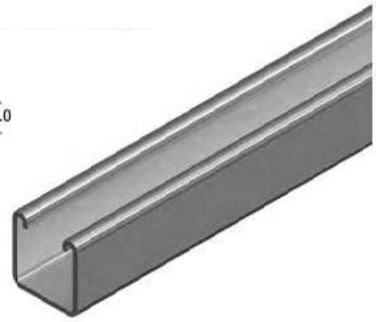
DETAIL B
SCALE 1 : 5

Seismic Swivel Backet			
P/N	Angle	Ave. Ultimate Tension (ibs)	Design Tension Load (ibs)
B1354	0˚	4,800	1,600
	45˚	4,400	1.400



B1000 Channel	
Unsupported Length (mm)	Compression Load (KN)
500	18.50
1000	16.00
1250	13.50
1500	11.50
1750	9.50
2000	8.00
2500	6.50
2750	6.00
3000	5.00





*Note:

1. Maximum axial load under siesmic loading conditions
2. The design load shall not exceed the allowable loads for the connection detail.

Hex Screw				
M10	20	HS1020Z	HS1020H	HS1020S
	25	HS1025Z	HS1025H	HS1025S
	30	HS1030Z	HS1030H	HS1030S
	40	HS1040Z	HS1040H	HS1040S
M12	25	HS1225Z	HS1225H	HS1225S
	30	HS1230Z	HS1230H	HS1230S
	40	HS1240Z	HS1240H	HS1240S
	50	HS1250Z	HS1250H	HS1250S

Flat Washer			
M10	FW10Z	FW10H	FW10S
M12	FW12Z	FW12H	FW10S

Channel Nut with Long Spring			
M10	B1008Z	B1008H	B1008S
M12	B1010Z	B1010H	B1010S

B1063 and B1064 Flat wsher	
M10	B1063
M12	B1064

Why Use Rod Stiffeners

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.

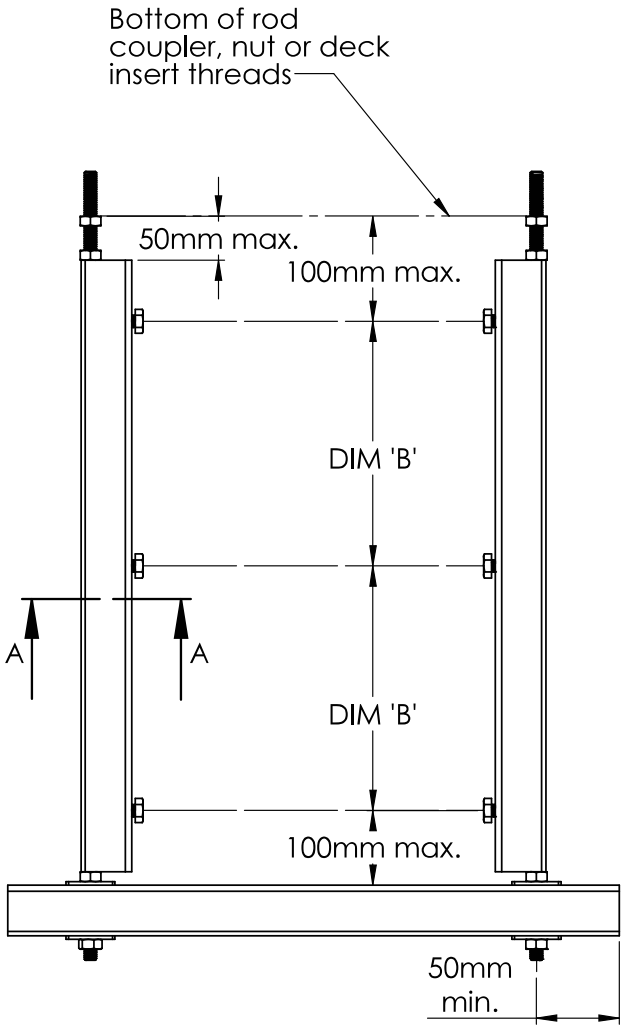
3. Rod stiffening essentially creates a compression post around the rod (or 'a leg in plaster' effect) that prevents buckling.

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.

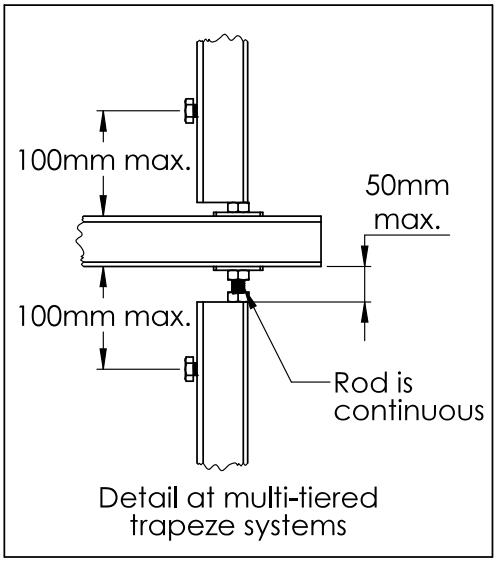
5. Threaded rod is an integral part of any seismic restraint system and rod stiffening requirements should be included within any seismic design.

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

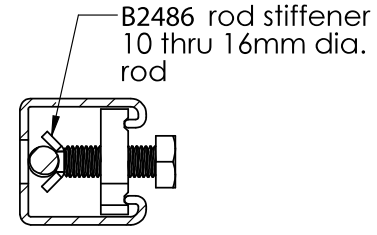
Rod Stiffeners



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.



Detail at multi-tiered trapeze systems

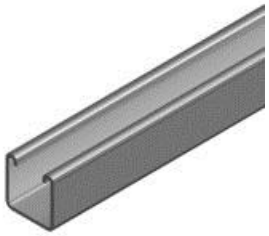


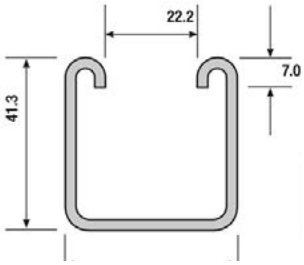
SECTION A-A

Rod stiffener components

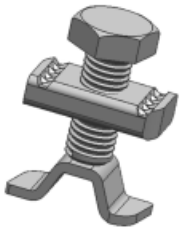
B1000 Channel	
Available Finish	**Ordering Code)**
Black (untreated)	B1000B
Galvabond	B1000G
Hot Dip Galvanised	B1000H
Stainless Steel	B1000S
Fibreglass	B1000FRP (refer Sales Office for load data)

Note - Powder coating and special finishes on request against firm orders only and are non returnable.





Seismic Rod Stiffener	
Information	**Ordering Code)**
To Suit M10 and M12 threaded rod, for Use With 40MM x 40MM Series Channels	B2486

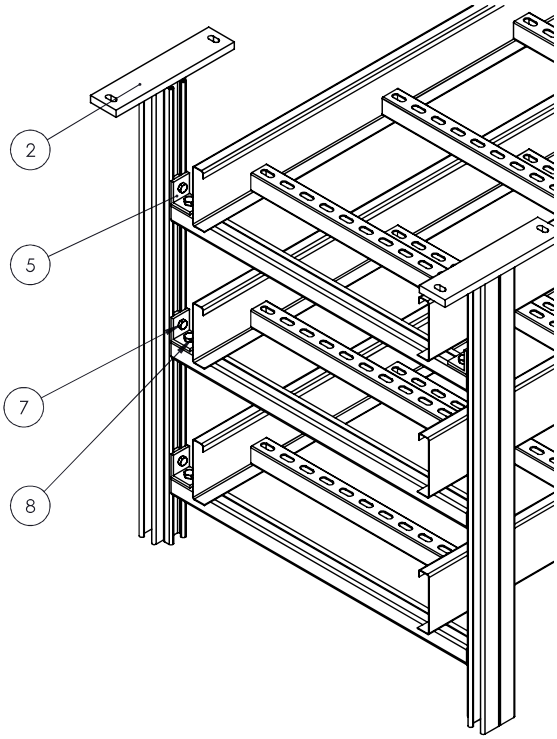


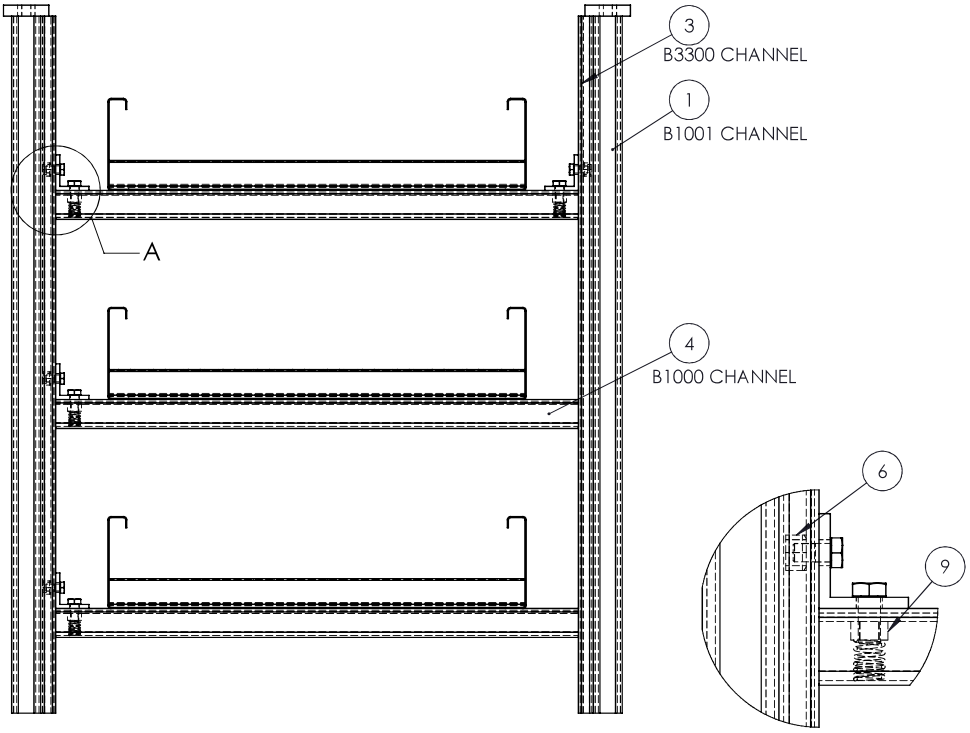
Bespoke project specific bracing

Burndy Cable supports does not limit itself to our the standard solid or wire support range.

We understand that not all projects are straight forward and the requirement for project specific bracing on occasions may be required.

If this does happen we are here to assist and help you during or after the design phase with a bracing option to suit your projects needs.





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