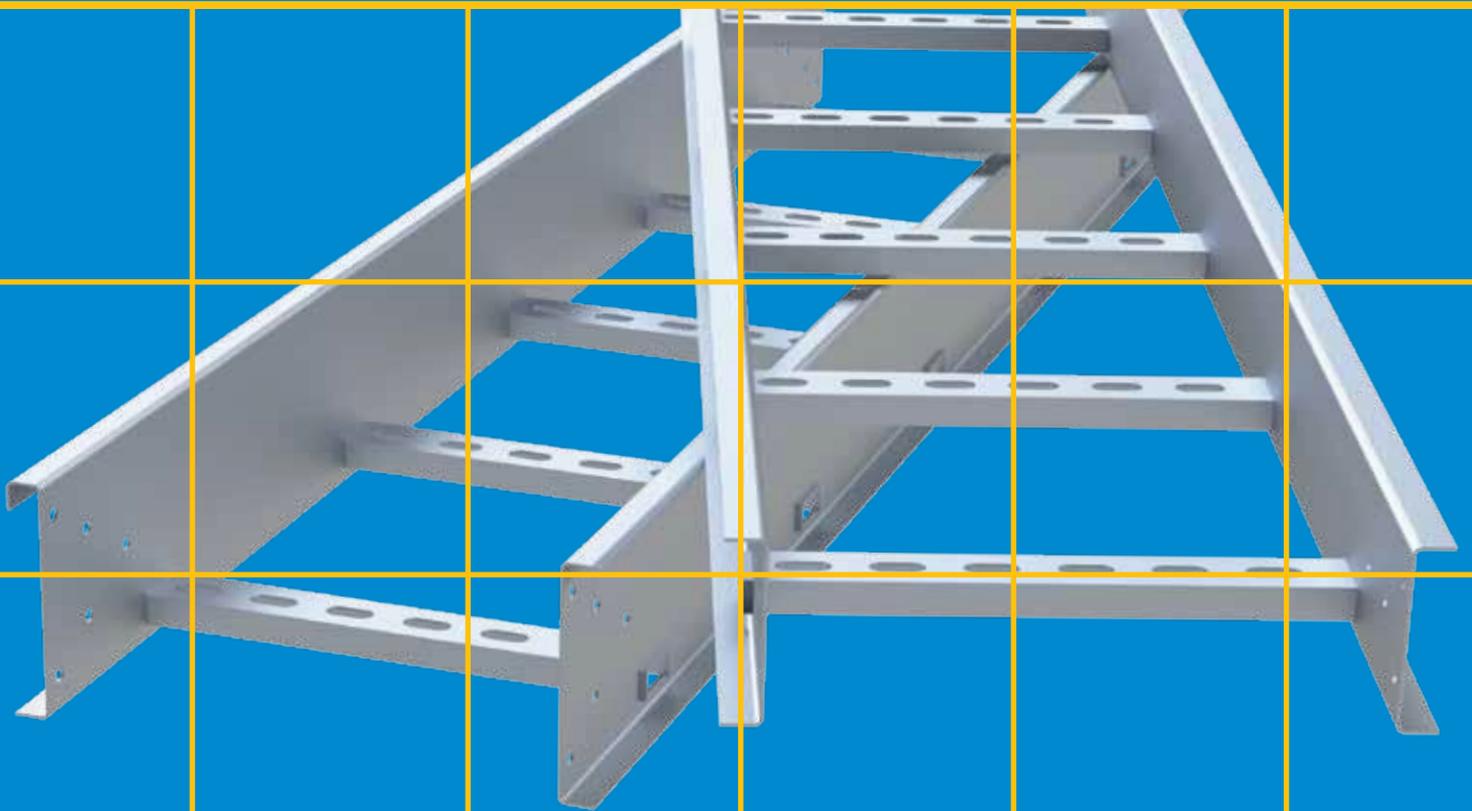


# Power Solution Industries

DESIGN, ENGINEERING & MANUFACTURING COMPANY



PRODUCT CATALOGUE



BSI  
KITEMARK



CERTIFIED

# CABLE LADDER SYSTEMS

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EDITION 2022



*Engineered to Excellence*



BSI  
KITEMARK

**BSI KITEMARK CERTIFIED PRODUCTS**

**1ST CABLE MANAGEMENT MANUFACTURING COMPANY IN  
MIDDLE EAST AND AFRICA**

Power Solution Industries quality plan conforms comprehensively to ISO 9001:2015, ISO 45001: 2018, ISO14001: 2015. The quality assessment and reviews are carried out by DET NORSE VERITAS. The organization defines its quality objectives at the various levels of the company in order to achieve continual improvement in quality management system.

# CABLE LADDER SYSTEMS - OVERVIEW

## MEDIUM DUTY METAL CABLE LADDERS

**MD** - Cable Ladders are produced with inside or outside flange to provide strength and rigidity to the component.

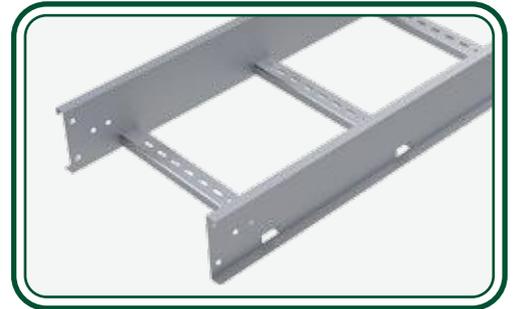
**SIDE HEIGHT** : 100 mm  
**USABLE HEIGHT** : 73 mm



## HEAVY DUTY METAL CABLE LADDERS

**HD** - Cable Ladders are produced with inside or outside return flange to provide the component increased depth, heavy strength and rigidity to support heavy cable loads.

**SIDE HEIGHT** : 125 mm  
**USABLE HEIGHT** : 98 mm



## EXTRA HEAVY DUTY METAL CABLE LADDERS

**XD** - Cable Ladders are produced with inside or outside return flange with larger depth for better cable management and increased load bearing capacity.

**SIDE HEIGHT** : 150 mm  
**USABLE HEIGHT** : 122 mm



## SWAGED RUNGS METAL CABLE LADDERS

Cable Ladders are produced with inside or outside return flange for better cable management and increased load bearing capacity. This type of ladder can be produced as medium, heavy and extra heavy duty cable ladders.

### MD - MEDIUM DUTY SWAGED RUNGS METAL CABLE LADDERS

**SIDE HEIGHT** : 100 mm  
**USABLE HEIGHT** : 65 mm

### HD - HEAVY DUTY SWAGED RUNGS METAL CABLE LADDERS

**SIDE HEIGHT** : 125 mm  
**USABLE HEIGHT** : 90 mm

### XHD - EXTRA HEAVY DUTY SWAGED RUNGS METAL CABLE LADDERS

**SIDE HEIGHT** : 150 mm  
**USABLE HEIGHT** : 115 mm



*Custom designed Cable Ladder Systems can be manufactured on request.*

★ *PSI Cable Ladder with Swaged Rungs are produced from round hollow tube with dia 25 mm or 27 mm.*

# MEDIUM DUTY CABLE LADDER SYSTEMS

## ORDER PATTERN

To select the required component, please specify the component, width, finish. Angles can be mentioned wherever necessary.

**EXAMPLE: For 750 mm wide Cable Ladder**

## MEDIUM DUTY CABLE LADDER

MD / COMPONENT / WIDTH / THK / FINISH

MD / CL / 750 / 2 / HDG

**EXAMPLE: For 750 mm wide Elbow Horizontal 90°**

For Swaged Ladders Add "S" as a Suffix to the Component (Ex: CLS)

## MEDIUM DUTY CABLE LADDER FITTINGS

MD / COMPONENT / FITTING / WIDTH / ANGLE / RADIUS / THK / FINISH

MD / CL / EH / 750 / 90 / 300 / 2 / HDG

## STANDARD FINISHES

HDG Hot dip Galvanized to BS EN ISO 1461:2009  
ASTM 123

PG Pre-galvanized to BS EN 10346 : 2015

PC Powder Coating to suit clients requirements

EP Epoxy Painting to suit clients requirements

SS Stainless steel finish to BS EN 10088-2 : 2014

AL Aluminium finish to required grades

AZ Aluzinc finish

## FOR STRAIGHT LENGTHS AND FITTINGS

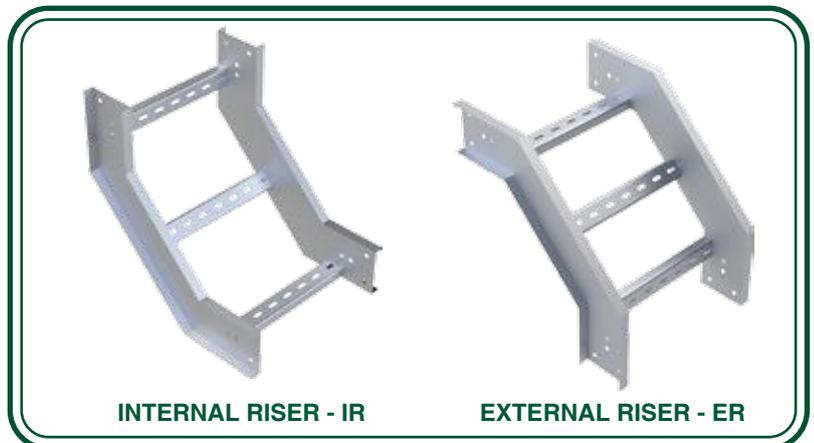
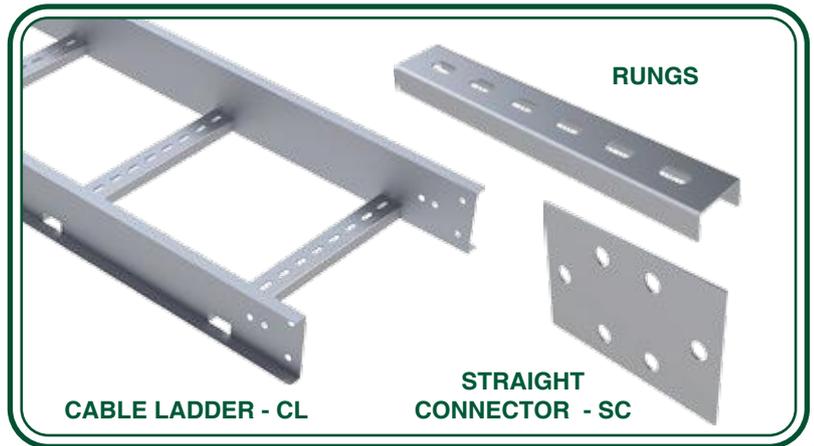
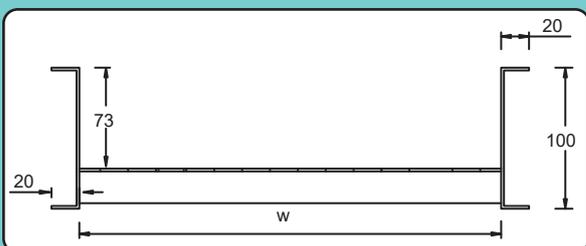
For Component Width (mm)	Thickness (THK) (mm)
100 to 600	1.5
750 to 1000	2.0

PSI - Medium Duty Cable Ladders are produced in a standard length of 3 mtrs but can be produced in different lengths on request.

PSI - Medium Duty Cable Ladder Fittings are produced to radius of 300mm but can be produced in 450mm, 600mm and 900mm as required. Radius of 300 mm is considered if not mentioned.

PSI - Medium Duty Cable Ladders are produced above 100mm width only. Medium Duty Cable Ladder are provided with inside or outside flanges to provide rigidity and strength to the ladder.

MD Cable Ladder accessories are produced to suit standard and complexed installations of medium duty ladder system. Refer page 14.

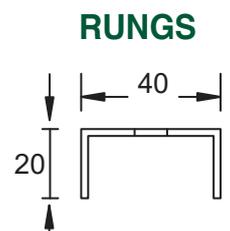


## RUNG DETAILS

The standard rung spacing is 300mm. Optional Rung spacing is 150 mm, 250 mm or as required.

Standard rungs for the medium duty ladder are slotted C - type.

Width (mm)	Thickness (mm)
100 to 600	1.5
750 to 1000	2.0



★ MD Cable Ladder with Swaged Rungs are produced from round hollow tube with dia 25 mm or 27 mm. For details refer page 10.

# A CABLE MANAGEMENT SYSTEM



**UNEQUAL TEE - UTH**

For Unequal Elbow, please specify widths W1 & W2 starting from left hand side.

**MD / CL / UEH / W1 / W2 / ANGLE / RADIUS / THK / FINISH**

For Unequal Tee, please specify widths in anti-clockwise direction as W1, W2, W3 starting from left hand side.

**MD / CL / UTH / W1 / W2 / W3 / ANGLE / RADIUS / THK / FINISH**

For Unequal Cross specify the widths as W1,W2,W3,W4 in anti-clockwise direction starting from the top.

**MD / CL / UCH / W1 / W2 / W3 / W4 / RADIUS / THK / FINISH**



**TEE HORIZONTAL - TH**

For Reducers consider W1 as the larger size & W2 as the smaller size.

**MD / CL / RS / W1 / W2 / THK / FINISH**

Thickness for Unequal Tee, Unequal Cross and Reducers to be considered of the larger size of the accessory.

Adjustable Elbow can be produced and used as variable angular application depending on the site requirements. To be ordered separately

Reducer Right can be used where cable Ladders have the limitation of run on the left hand side.

Reducer Left can be used where cable Ladders have the limitation of run on the right hand side.

Reducing Connectors can also be used for reduction depending on the site application.

## STRAIGHT CONNECTORS

MD Cable Ladders are connected together by straight connectors.

Width (mm)	Thickness (mm)
100 to 1000	2.0

The connectors are supplied with one set of M8 x 16 roofing bolt, nut and washer.

**MD / CL / SC / FINISH**

Expansion connectors are also provided to ease the installation process at site. Refer page 17.

Bonding Jumpers are used for earthing connectivity of ladders. Refer page 16.

Material finish with deep galvanizing is also produced as per the desired specifications.



**CROSS HORIZONTAL - CH**

**REDUCER STRAIGHT - RS**



**REDUCER LEFT - RL**

**REDUCER RIGHT - RR**

# HEAVY DUTY CABLE LADDER SYSTEMS

## ORDER PATTERN

To select the required component, please specify the component, width, finish. Angles can be mentioned wherever necessary.

**EXAMPLE: For 750 mm wide Cable Ladder**

## HEAVY DUTY CABLE LADDER

HD / COMPONENT / WIDTH / THK / FINISH

HD / CL / 750 / 2 / HDG

**EXAMPLE: For 750 mm wide Elbow Horizontal 90°**

For Swaged Ladders Add "S" as a Suffix to the Component ( Ex: CLS )

## HEAVY DUTY CABLE LADDER FITTINGS

HD / COMPONENT / FITTING / WIDTH / ANGLE / RADIUS / THK / FINISH

HD / CL / EH / 750 / 90 / 300 / 2 / HDG

## STANDARD FINISHES

HDG Hot dip Galvanized to BS EN ISO 1461:2009  
ASTM 123

PG Pre-galvanized to BS EN 10346 : 2015

PC Powder Coating to suit clients requirements

EP Epoxy Painting to suit clients requirements

SS Stainless steel finish to BS EN 10088-2 : 2014

AL Aluminium finish to required grades

AZ Aluzinc finish

## FOR STRAIGHT LENGTHS AND FITTINGS

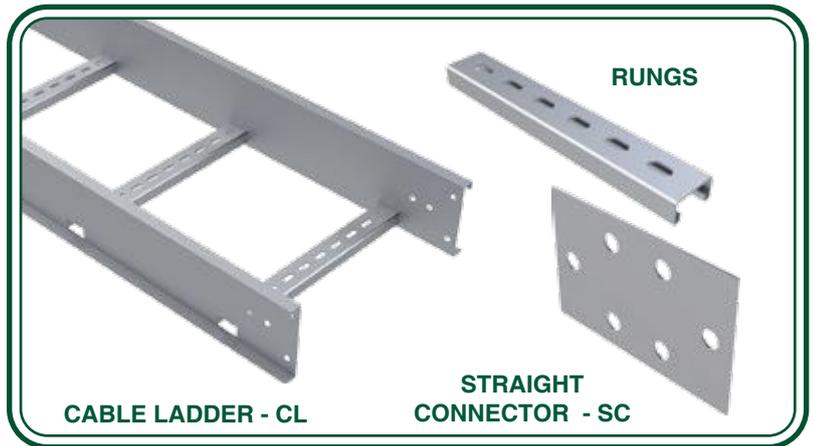
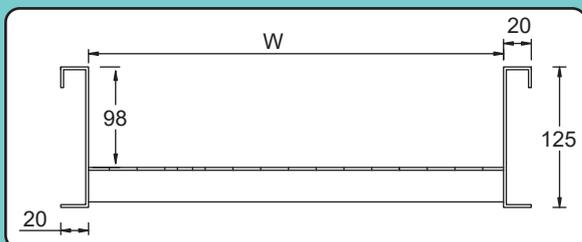
For Component Width (mm)	Thickness ( THK ) (mm)
100 to 600	1.5 / 2.0
750 to 1000	2.0

PSI - Heavy Duty Cable Ladders are produced in a standard length of 3 mtrs but can be produced in different lengths on request.

PSI - Heavy Duty Cable Ladder Fittings are produced to radius of 300 mm but can be produced in 450 mm, 600 mm and 900 mm as required. Radius of 300 mm is considered if not mentioned.

PSI - Heavy Duty Cable Ladders are produced above 100 mm width only. Heavy Duty Cable Ladder are provided with inside or outside return flanges to provide rigidity and strength to the ladder.

PSI - Heavy Duty Cable Ladders are produced with 125 mm side height with usable height of 98 mm to provide increased space for loading.



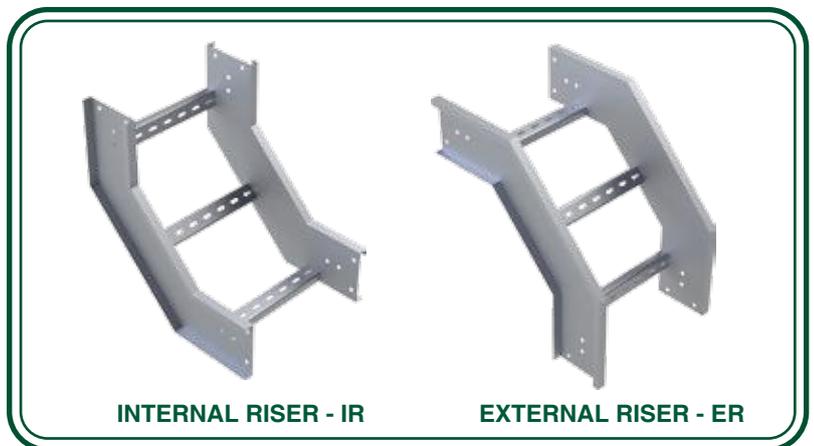
CABLE LADDER - CL

STRAIGHT  
CONNECTOR - SC



ADJUSTABLE  
ELBOW - AEH

ELBOW HORIZONTAL - EH



INTERNAL RISER - IR

EXTERNAL RISER - ER

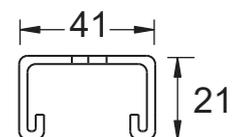
## RUNG DETAILS

The standard rung spacing is 300mm. Optional Rung spacing is 150mm, 250mm as required.

Standard rungs for the heavy duty ladder are slotted strut channel.

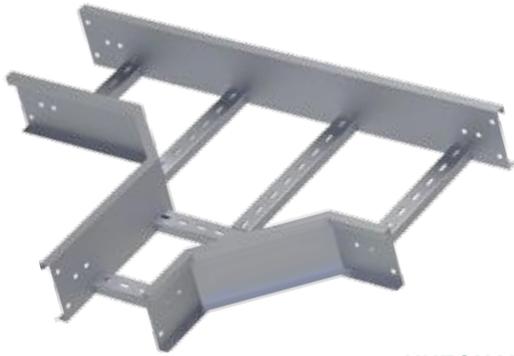
Width (mm)	Thickness (mm)
100 to 600	1.5 / 2.0
750 to 1000	2.0

## RUNGS



★ HD Cable Ladder with Swaged Rungs are produced from round hollow tube with dia 25 mm or 27 mm. For details refer page 10.

# A CABLE MANAGEMENT SYSTEM



**UNEQUAL TEE - UTH**

For Unequal Elbow, please specify widths W1 & W2 starting from left hand side.

**HD / CL / UEH / W1 / W2 / ANGLE / RADIUS / THK / FINISH**

For Unequal Tee, please specify widths in anti-clockwise direction as W1, W2, W3 starting from left hand side.

**HD / CL / UTH / W1 / W2 / W3 / ANGLE / RADIUS / THK / FINISH**

For Unequal Cross specify the widths as W1,W2,W3,W4 in anti-clockwise direction starting from the top.

**HD / CL / UCH / W1 / W2 / W3 / W4 / RADIUS / THK / FINISH**



**TEE HORIZONTAL - TH**

For Reducers consider W1 as the larger size & W2 as the smaller size.

**HD / CL / RS / W1 / W2 / THK / FINISH**

Thickness for Unequal Tee, Unequal Cross and Reducers to be considered of the larger size of the accessory.

Adjustable Elbow can be produced and used as variable angular application depending on the site requirements. To be ordered separately

Reducer Right can be used where cable Ladders have the limitation of run on the left hand side.

Reducer Left can be used where cable Ladders have the limitation of run on the right hand side.

Reducing Connectors can also be used for reduction depending on the site application.

## STRAIGHT CONNECTORS

HD Cable Ladders are connected together by straight connectors.

Width (mm)	Thickness (mm)
100 to 1000	2.0

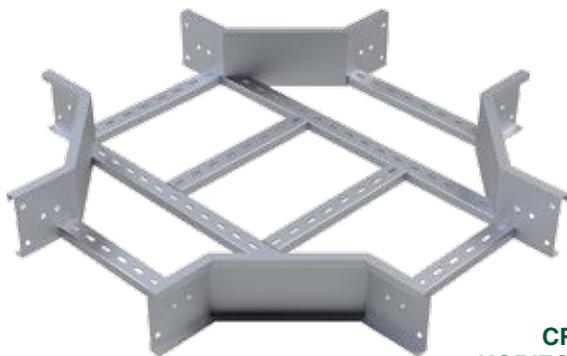
The connectors are supplied with one set of M8 x 16 roofing bolt, nut and washer.

**HD / CL / SC / FINISH**

Expansion connectors are also provided to ease the installation process at site. Refer page 17.

Bonding Jumpers are used for earthing connectivity of ladders. Refer page 16.

Material finish with deep galvanizing is also produced as per the desired specifications.



**CROSS HORIZONTAL - CH**

**REDUCER STRAIGHT - RS**



**REDUCER LEFT - RL**

**REDUCER RIGHT - RR**

# EXTRA HEAVY DUTY CABLE LADDERS

## ORDER PATTERN

To select the required component, please specify the component, width, finish. Angles can be mentioned wherever necessary.

**EXAMPLE: For 750 mm wide Cable Ladder**

## EXTRA HEAVY DUTY CABLE LADDER

XHD / COMPONENT / WIDTH / THK / FINISH

XHD / CL / 750 / 300 / 2 / HDG

**EXAMPLE: For 750 mm wide Elbow Horizontal 90°**

For Swaged Ladders Add "S" as a Suffix to the Component ( Ex: CLS )

## EXTRA HEAVY DUTY CABLE LADDER FITTINGS

XHD / COMPONENT / FITTING / WIDTH / ANGLE / RADIUS / THK / FINISH

XHD / CL / EH / 750 / 90 / 300 / 2 / HDG

## STANDARD FINISHES

HDG Hot dip Galvanized to BS EN ISO 1461:2009  
ASTM 123

PG Pre-galvanized to BS EN 10346 : 2015

PC Powder Coating to suit clients requirements

EP Epoxy Painting to suit clients requirements

SS Stainless steel finish to BS EN 10088-2 : 2014

AL Aluminium finish to required grades

AZ Aluzinc finish

## FOR STRAIGHT LENGTHS AND FITTINGS

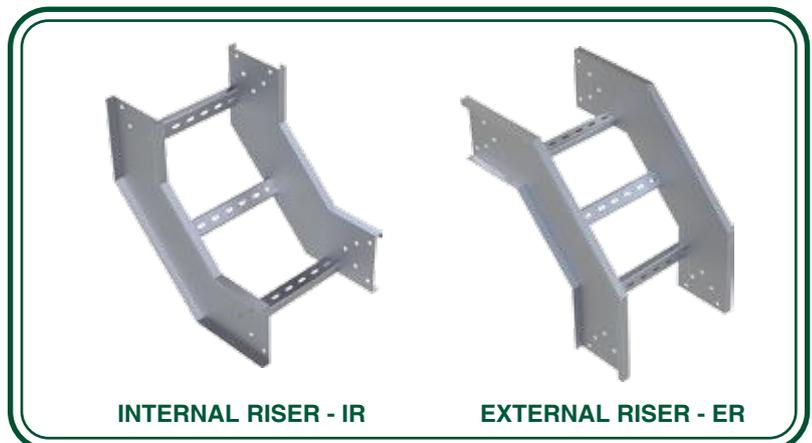
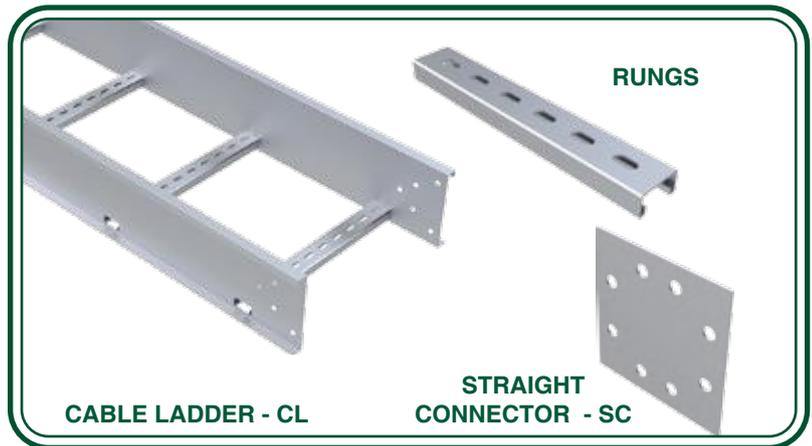
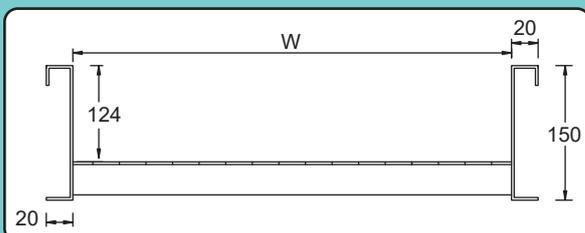
For Component Width (mm)	Thickness (THK) (mm)
150 to 1000	2.0

PSI - Extra Heavy Duty Cable Ladders are produced in a standard length of 3 mtrs but can be produced in different lengths on request.

PSI - Extra Heavy Duty Cable Ladder Fittings are produced to radius of 300mm but can be produced in 450mm, 600mm and 900mm as required. Radius of 300 mm is considered if not mentioned.

PSI - Extra Heavy Duty Cable Ladders are produced above 150mm width only. Extra Heavy Duty Cable Ladder are provided with inside or outside return flanges to provide rigidity and strength to the ladder.

PSI - Extra Heavy Duty Cable Ladders are produced with 150 mm side height with usable height of 124 mm to provide increased space for loading.



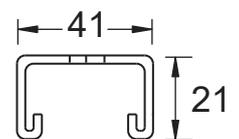
## RUNG DETAILS

The standard rung spacing is 300mm. Optional Rung spacing is 150mm, 250mm as required.

Standard rungs for the extra heavy duty ladder are slotted strut channel.

Width (mm)	Thickness (mm)
150 to 1000	2.0

## RUNGS



- Optional rungs are 41 x 21 strut channel with 2.5 mm thickness.

★ XHD Cable Ladder with Swaged Rungs are produced from round hollow tube with dia 25 mm or 27. For details refer page 10.

# A CABLE MANAGEMENT SYSTEM



**UNEQUAL TEE - UTH**

For Unequal Elbow, please specify widths W1 & W2 starting from left hand side.

**XHD / CL / UEH / W1 / W2 / ANGLE / RADIUS / THK / FINISH**

For Unequal Tee, please specify widths in anti-clockwise direction as W1, W2, W3 starting from left hand side.

**XHD / CL / UTH / W1 / W2 / W3 / ANGLE / RADIUS / THK / FINISH**

For Unequal Cross specify the widths as W1,W2,W3,W4 in anti-clockwise direction starting from the top.

**XHD / CL / UCH / W1 / W2 / W3 / W4 / RADIUS / THK / FINISH**

For Reducers consider W1 as the larger size & W2 as the smaller size.

**XHD / CL / RS / W1 / W2 / THK / FINISH**

Thickness for Unequal Tee, Unequal Cross and Reducers to be considered of the larger size of the accessory.

Adjustable Elbow can be produced and used as variable angular application depending on the site requirements. To be ordered separately

Reducer Right can be used where cable Ladders have the limitation of run on the left hand side.

Reducer Left can be used where cable Ladders have the limitation of run on the right hand side.

Reducing Connectors can also be used for reduction depending on the site application.

## STRAIGHT CONNECTORS

XHD Cable Ladders are connected together by straight connectors.

Width (mm)	Thickness (mm)
150 to 1000	2.0

The connectors are supplied with one set of M8 x 16 roofing bolt, nut and washer.

**XHD / CL / SC / Finish**

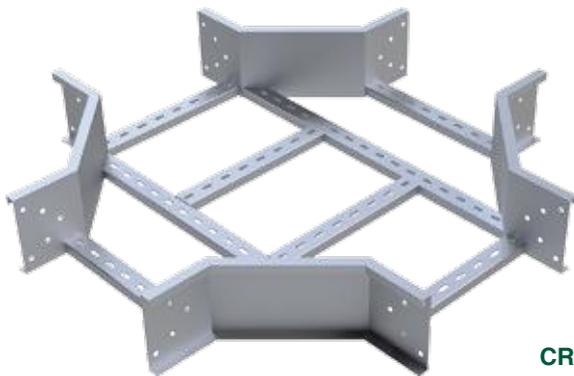
Expansion connectors are also provided to ease the installation process at site. Refer page 17.

Bonding Jumpers are used for earthing connectivity of ladders. Refer page 16.

Material finish with deep galvanizing is also produced as per the desired specifications.



**TEE HORIZONTAL - TH**



**CROSS HORIZONTAL - CH**

**REDUCER STRAIGHT - RS**



**REDUCER LEFT - RL**

**REDUCER RIGHT - RR**

# CABLE LADDER ROUND RADIAL FITTINGS

## ORDER PATTERN

To select the required component, please specify the component, width, finish. Angles can be mentioned wherever necessary.

## DUTY APPLICATION & SIZES

Select the desired duty application

MD : Medium Duty

HD : Heavy Duty

XHD : Extra Heavy Duty

Suffix "R": Indicates round radial fitting

Add " R " as a Suffix to the Fitting required

★ For Swaged Ladders

Add " S " as a Suffix to the Component ( Ex: CLS )

EXAMPLE: For 750 mm wide Tee Horizontal 90°

## CABLE LADDER ROUND RADIAL FITTINGS

HD / COMPONENT / FITTING / WIDTH / ANGLE / RADIUS / FINISH

HD / CL / THR / 750 / 90 / 300 / HDG

To select the desired fitting according to the duty application, refer to the concerned page for the selection of width, side height and thickness.

## STANDARD FINISHES

HDG Hot dip Galvanized to BS EN ISO 1461:2009  
ASTM 123

PG Pre-galvanized to BS EN 10346 : 2015

PC Powder Coating to suit clients requirements

EP Epoxy Painting to suit clients requirements

SS Stainless steel finish to BS EN 10088-2 : 2014

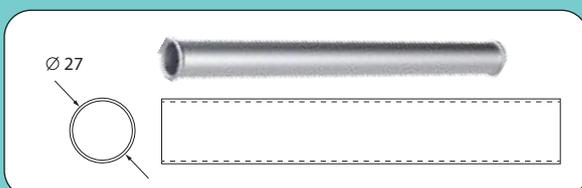
AL Aluminium finish to required grades

AZ Aluzinc finish

PSI Cable Ladder round radial fittings are produced with radial side members to facilitate the smooth bending of bigger cables.

PSI Cable Ladder round radial fittings are produced to radius of 300mm but can be produced in 450mm, 600mm and 900mm as required. Radius of 300 mm is considered if not mentioned.

PSI Cable Ladder with Swaged Rungs are produced from round hollow tube with dia 25 mm or 27 mm and 1.2 mm thickness.



Cable Ladder with Swaged Rungs are produced from round hollow tube with dia 25 mm or 27 mm.

## MEDIUM DUTY ROUND RADIAL FITTINGS



ELBOW HORIZONTAL - EHR



CROSS HORIZONTAL - CHR



TEE HORIZONTAL - THR



UN EQUAL TEE - UTHR



EXTERNAL RISER - ERR



INTERNAL RISER - IRR

## HEAVY DUTY ROUND RADIAL FITTINGS



ELBOW HORIZONTAL - EHR



CROSS HORIZONTAL - CHR



TEE HORIZONTAL - THR



UN EQUAL TEE - UTHR



EXTERNAL RISER - ERR



INTERNAL RISER - IRR

# A CABLE MANAGEMENT SYSTEM

## EXTRA HEAVY DUTY ROUND RADIAL FITTINGS



ELBOW HORIZONTAL - EHR



CROSS HORIZONTAL - CHR



TEE HORIZONTAL - THR



UN EQUAL TEE - UTHR



EXTERNAL RISER - ERR



INTERNAL RISER - ERR

## SWAGED RUNGS ROUND RADIAL FITTINGS



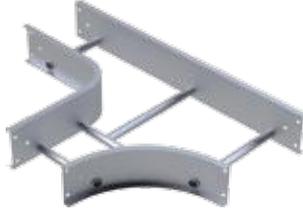
ELBOW HORIZONTAL - EHR



CROSS HORIZONTAL - CHR



TEE HORIZONTAL - THR



UN EQUAL TEE - UTHR



EXTERNAL RISER - ERR



INTERNAL RISER - IRR

For Unequal Elbow, please specify widths W1 & W2 starting from left hand side.

**XHD / CL / UEHR / W1 / W2 / ANGLE / RADIUS / FINISH**

For Unequal Tee, please specify widths in anti-clockwise direction as W1, W2, W3 starting from left hand side.

**XHD / CL / UTHR / W1 / W2 / W3 / ANGLE / RADIUS / FINISH**

For Unequal Cross specify the widths as W1,W2,W3,W4 in anti-clockwise direction starting from the top.

**XHD / CL / UCHR / W1 / W2 / W3 / W4 / RADIUS / FINISH**

For Reducers consider W1 as the larger size & W2 as the smaller size.

**XHD / CL / RS / W1 / W2 / FINISH**

Thickness for Unequal Tee, Unequal Cross and Reducers to be considered of the larger size of the accessory.

Adjustable Elbow can be produced and used as variable angular application depending on the site requirements. To be ordered separately

Reducer Right can be used where cable Ladders have the limitation of run on the left hand side.

Reducer Left can be used where cable Ladders have the limitation of run on the right hand side.

Reducing Connectors can also be used for reduction depending on the site application.

PSI Cable Ladder Connectors can be ordered as per the duty application. To be ordered separately.

Expansion connectors are also provided to ease the installation process at site. Refer page 17.

Bonding Jumpers are used for earthing connectivity of ladders. Refer page 16.

Material finish with deep galvanizing is also produced as per the desired specifications.

PSI Cable Ladder round radial fittings can be produced with different rung requirements as per the specified duty application. For rung details please refer the concerned pages.

PSI Cable Ladder round radial fitting covers can be produced on request. To be ordered accordingly.

# CABLE LADDER COVERS

## ORDER PATTERN

To select the required cover, please specify the component, width, finish. Angles can be mentioned wherever necessary.

## DUTY APPLICATION & SIZES

Select the desired duty application

- MD : Medium Duty
- HD : Heavy Duty
- XHD : Extra Heavy Duty

**EXAMPLE: For 750 mm wide Cable Ladder Cover**

- Suffix " C ": Indicates Fitting Covers
- Add " C " as a suffix to the component
- Suffix " R ": Indicates Round Radial Fitting
- Add " R " as a Suffix to the Fitting required

## CABLE LADDER COVERS

HD / COMPONENT / FITTING / COVERS / WIDTH / ANGLE / FINISH  
 HD / CL / THC / 750 / 90 / HDG  
 HD / CL / THRC / 750 / 90 / HDG

To select the desired covers and clamps according to the duty application, refer to the table for the selection of width and thickness.

## STANDARD FINISHES

- HDG Hot dip Galvanized to BS EN ISO 1461:2009 ASTM 123
- PG Pre-galvanized to BS EN 10346 : 2015
- PC Powder Coating to suit clients requirements
- EP Epoxy Painting to suit clients requirements
- SS Stainless steel finish to BS EN 10088-2 : 2014
- AL Aluminium finish to required grades
- AZ Aluzinc finish

## COVERS FOR STRAIGHT LENGTHS AND FITTINGS

Range / Width (mm)	Thickness (mm)	Side Height (mm)
100 to 300	1.0	11
450 to 600	1.2	11
750 to 1000	1.5	11

## MD VENTILATED COVER CLAMP

**MVCC** cover clamp is supplied for Medium Duty Cable Ladder ventilated cover arrangement with the set of M6 x 12 roofing bolts, nuts & washers. To be ordered separately.

## HD / XD VENTILATED COVER CLAMP

**DUTY / VCC** cover clamp is supplied for Heavy Duty & Extra Heavy Duty ventilated cover arrangement with the set of M6 x 12 roofing bolts, nuts, washers & hexagonal bolt M6 x 20. To be ordered separately. Please specify the type to order your requirement.

## MD / HD / XD CLOSED COVER CLAMP

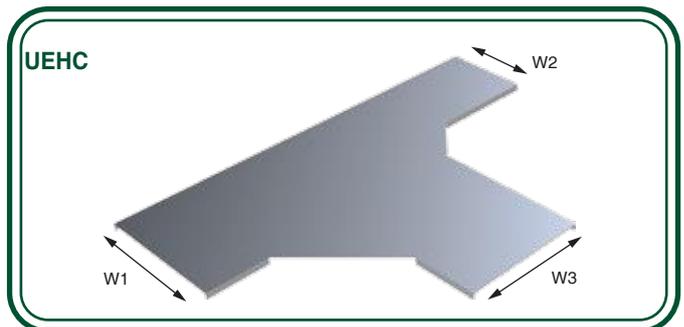
**DUTY / CCC** screw type closed cover clamp is supplied for closed cover arrangement with the set of M6 x 15 hexagonal bolt & washer. To be ordered separately. Please specify the type to order your requirement.



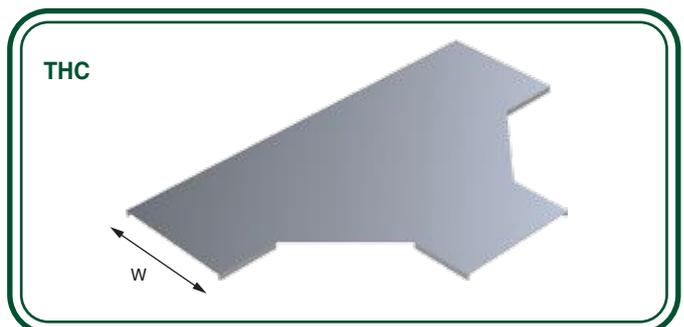
CABLE LADDER CLOSED COVERS



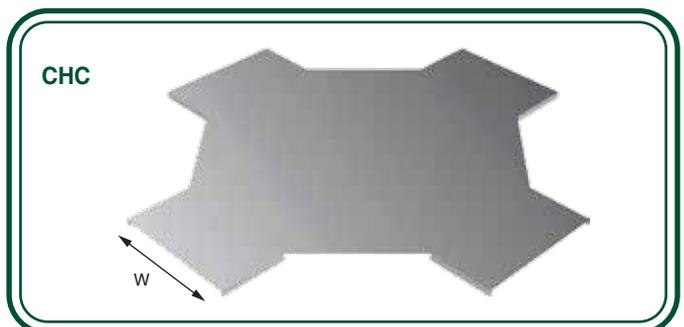
ELBOW HORIZONTAL COVER



UN-EQUAL TEE COVER



TEE HORIZONTAL COVER



CROSS HORIZONTAL COVER

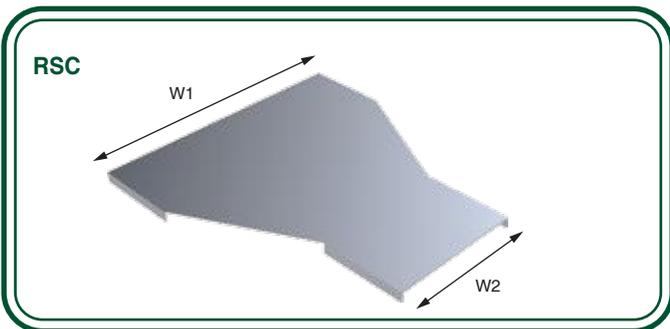
# A CABLE MANAGEMENT SYSTEM



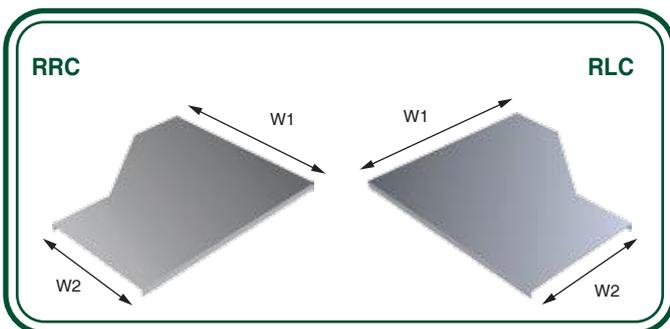
**CABLE LADDER VENTILATED COVERS**



**CABLE LADDER LOUVERED COVERS**

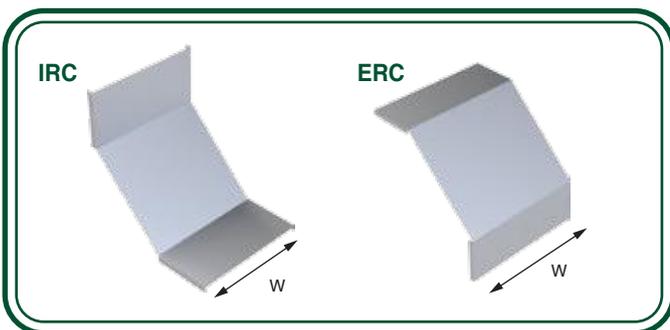


**REDUCER STRAIGHT COVER**



**REDUCER RIGHT COVER**

**REDUCER LEFT COVER**



**INTERNAL RISER COVER**

**EXTERNAL RISER COVER**

## CLOSED COVER CLAMPS



Screw Type  
Closed Cover Clamp



Screw type closed cover clamp



Screw type closed cover clamp

★ Screw type closed cover clamp can be used for MD / HD / XHD arrangement. Specify type to order your requirement.

## VENTILATED COVER CLAMPS



Ventilated  
Cover Clamp



Ventilated cover clamp



Ventilated cover clamp

★ MDVCC Ventilated cover clamp can be used for Medium Duty Cable Ladder applications.

★ VCCF Ventilated cover clamp can be used for Heavy and Extra Heavy Duty Cable Ladder applications.

For Unequal Elbow Cover, please specify widths W1 & W2 starting from left hand side. *For Example*

**HD / CL / UEHCC / W1 / W2 / ANGLE / FINISH**  
**HD / CL / UEHVC / W1 / W2 / ANGLE / FINISH**

For Unequal Cross Cover specify the widths as W1, W2, W3, W4 in anti-clockwise direction starting from the top. *For Example*

**HD / CL / UCHCC / W1 / W2 / W3 / W4 / FINISH**  
**HD / CL / UEHVC / W1 / W2 / W3 / W4 / FINISH**

For Unequal Tee Cover, please specify widths in anti-clockwise direction as W1, W2, W3 starting from left hand side. *For Example*

**HD / CL / UCHCC / W1 / W2 / W3 / FINISH**  
**HD / CL / UEHVC / W1 / W2 / W3 / FINISH**

For Reducer Straight Cover, please specify widths as W1 being the large size and W2 being the smaller size. *For Example*

**HD / CL / RSCC / W1 / W2 / FINISH**  
**HD / CL / R SVC / W1 / W2 / FINISH**

Cover Clamps can be ordered according to the application desired. Use the duty application as required.

*For Example*

**HD / CL / COVER CLAMP / FINISH**

For special sizes, design, consult our sales team.

# CABLE LADDER ACCESSORIES

## ORDER PATTERN

To select the required component, please specify the component, width, finish. Angles can be mentioned wherever necessary.

## DUTY APPLICATION & SIZES

Select the desired duty application

MD : Medium Duty  
HD : Heavy Duty  
XHD : Extra Heavy Duty

*EXAMPLE: For 750 mm wide Box Connector*

## CABLE LADDER ACCESSORIES

HD / COMPONENT / ACCESSORY / WIDTH / FINISH  
HD / CL / BXC / 750 / HDG

To select the desired accessories according to the duty application, refer to the concerned page for the selection of width, side height and thickness.

## STANDARD FINISHES

HDG Hot dip Galvanized to BS EN ISO 1461:2009  
ASTM 123  
PG Pre-galvanized to BS EN 10346 : 2015  
PC Powder Coating to suit clients requirements  
EP Epoxy Painting to suit clients requirements  
SS Stainless steel finish to BS EN 10088-2 : 2014  
AL Aluminium finish to required grades  
AZ Aluzinc finish

Cable Ladder accessories are produced to suit standard and complexed installations of the cable ladder systems.

## BOX CONNECTOR

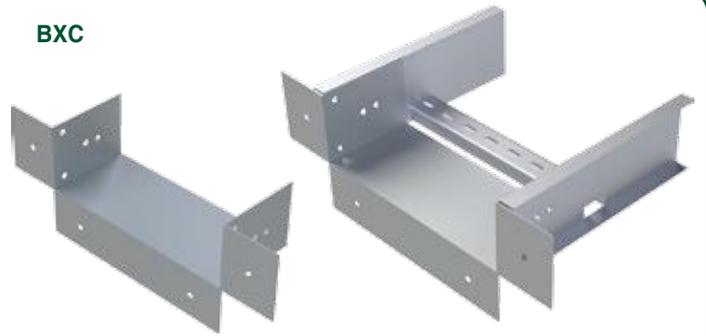
Box Connectors for Cable Ladder System are produced in a standard thickness of 2.0 mm. Roofing bolt M8 x 16, nuts and washers are used for fastening. To be ordered separately.

## RIGHT ANGLED CONNECTOR

Right Angled Connectors for Cable Ladder System are produced in a standard thickness of 2.0 mm. Roofing bolt M8 x 16 nuts and washers are used for fastening. To be ordered separately.

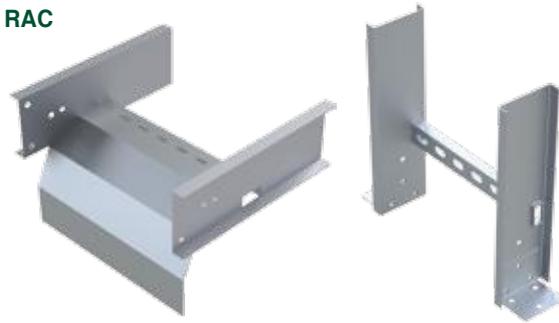
For special sizes, gauges, flanges, consult our sales team, factory.

BXC



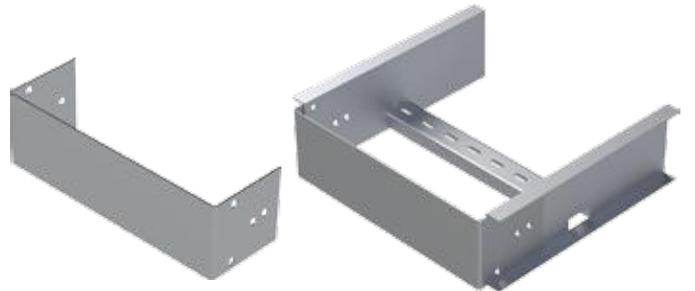
BOX CONNECTOR

RAC



RIGHT ANGLED CONNECTOR

BE



BLIND END

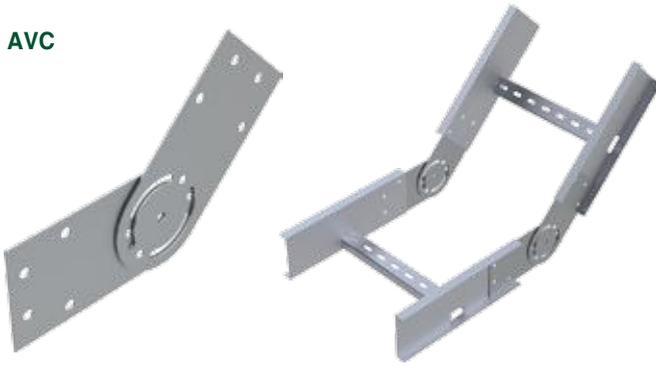
RC



REDUCING CONNECTOR

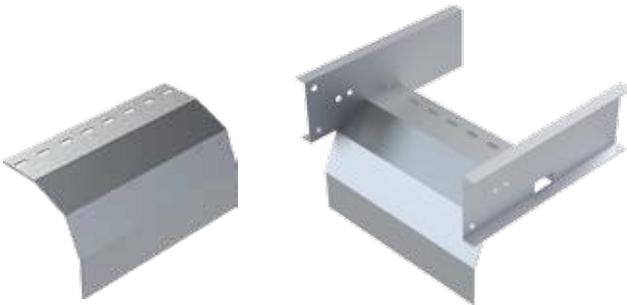
# A CABLE MANAGEMENT SYSTEM

AVC



ADJUSTABLE VERTICAL CONNECTOR

DOT



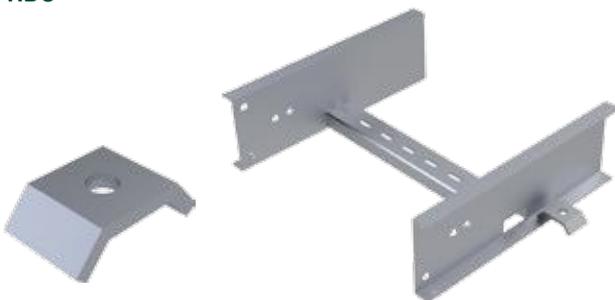
DROP OUT

BS



BARRIER STRAIGHT

HDC



HOLD DOWN CLAMP

## BLIND END

Blind End Connectors for Cable Ladder System are produced in a standard thickness of 1.5 mm. Roofing bolt M8 x 16, nuts and washers are used for fastening. To be ordered separately.

## REDUCING CONNECTOR

Reducing Connectors for Cable Ladder System are produced in a standard thickness of 2.0 mm. Roofing bolt M8 x 16 nuts and washers are used for fastening. To be ordered separately.

## ADJUSTABLE VERTICAL CONNECTOR

Adjustable Vertical Connector for Cable Ladder System are produced in a standard thickness of 2.0 mm. Roofing bolt M8 x 16 nuts and washers are used for fastening. To be ordered separately.

## DROP OUT

Drop Out for Cable Ladder System are produced in a standard thickness of 2.0 mm. Roofing bolt M8 x 16 nuts and washers are used for fastening. To be ordered separately.

## BARRIER STRAIGHT

Barrier Straight's are produced to standard length of 3 mtr and 1.5 mm thickness. Roofing bolt M8 x 16, nuts and washers are used for fastening. To be ordered separately.

## HOLD DOWN CLAMP

Hold Down Clamps are produced to standard thickness of 2.0 mm and hexagonal bolt M8 x 20 nuts and washers are used for fastening. To be ordered separately.

EDITION 2022

# CABLE LADDER ACCESSORIES

## ORDER PATTERN

To select the required component, please specify the component, width, finish. Angles can be mentioned wherever necessary.

## DUTY APPLICATION & SIZES

Select the desired duty application

MD : Medium Duty  
 HD : Heavy Duty  
 XHD : Extra Heavy Duty

*EXAMPLE: For 750 mm wide Box Connector*

## CABLE LADDER ACCESSORIES

HD / COMPONENT / ACCESSORY / WIDTH / FINISH

HD / CL / BXC / 750 / HDG

To select the desired accessories according to the duty application, refer to the concerned page for the selection of width, side height and thickness.

## STANDARD FINISHES

HDG Hot dip Galvanized to BS EN ISO 1461:2009  
 ASTM 123  
 PG Pre-galvanized to BS EN 10346 : 2015  
 PC Powder Coating to suit clients requirements  
 EP Epoxy Painting to suit clients requirements  
 SS Stainless steel finish to BS EN 10088-2 : 2014  
 AL Aluminium finish to required grades  
 AZ Aluzinc finish

Cable Ladder Accessories are produced to suit standard and complexed installations of the Cable Ladder Systems.

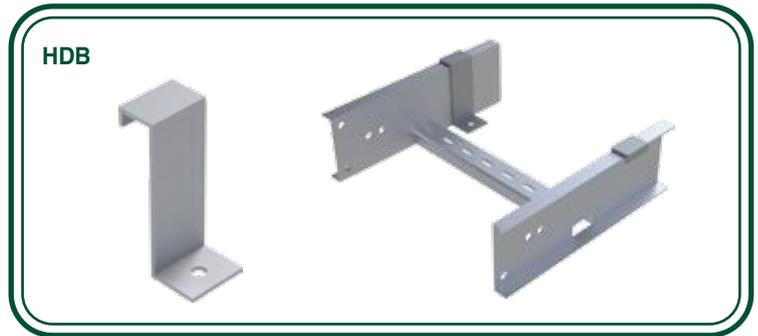
## BONDING JUMPER

AREA : 16 mm<sup>2</sup>

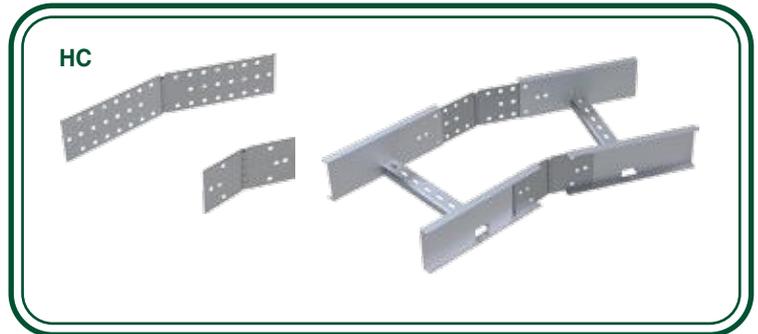
Bonding Jumper for Cable Ladder earthing connectivity is produced from braided tinned copper with M8 copper lugs on both sides. Roofing bolts M8 x 16 , nuts & washers are used for fastening. To be ordered separately.

## HOLD DOWN BRACKET

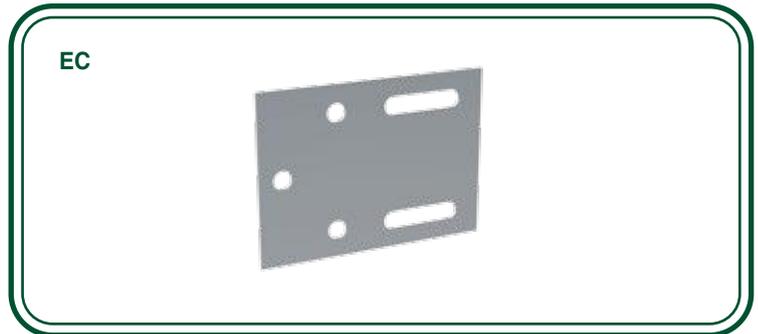
Hold Down Bracket are produced to standard thickness of 2.0 mm and hexagonal bolt M10 x 25 nuts and washers are used for fastening. To be ordered separately.



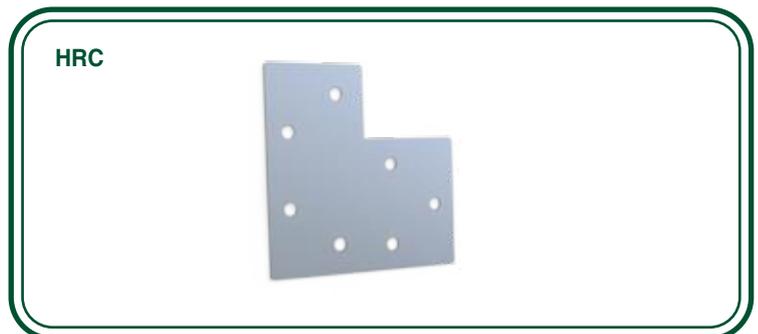
**HOLD DOWN BRACKET**



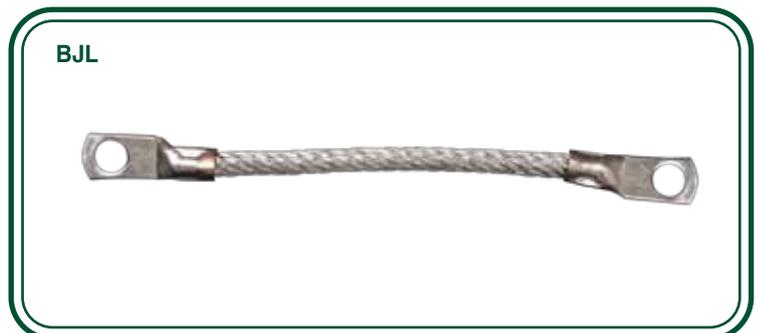
**HINGED CONNECTOR**



**EXPANSION CONNECTOR**



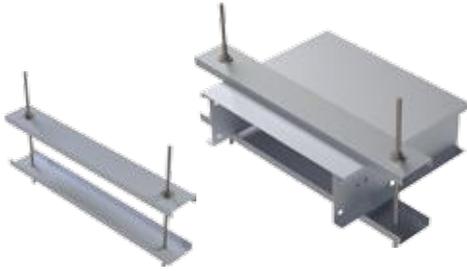
**HEIGHT REDUCING CONNECTOR**



**BONDING JUMPER**

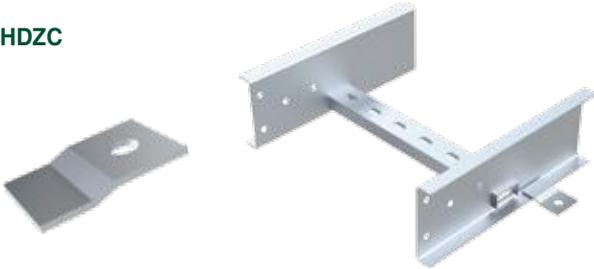
# A CABLE MANAGEMENT SYSTEM

DCC



**DOUBLE COVER CLAMP**

HDZC



**HOLD DOWN Z - CLAMP**

VT



**VERTICAL TEE**

WCC



**WRAP OVER COVER CLAMP**



## **DOUBLE COVER CLAMP**

Double Cover Clamps are produced to 2.0 mm thickness. Threaded rod M8, nuts and washers are used for fastening. To be ordered separately.

## **HINGED CONNECTOR**

Hinged Connectors for Cable Ladder System are produced in a standard thickness of 2.0 mm. Roofing bolt M8 x 16 nuts and washers are used for fastening. To be ordered separately.

## **HOLD DOWN Z CLAMP**

Hold Down Z Clamps are produced in 3 mm thickness. Roofing bolt M8 x 20, nuts and washers are used for fastening. To be ordered separately.

## **EXPANSION CONNECTOR**

Expansion Connectors for Cable Ladder Systems are produced in a standard thickness of 2.0 mm. Roofing bolt M8 x 16, nuts and washers are used for fastening. To be ordered separately.

## **VERTICAL TEE**

Vertical Tee is produced in 2 mm thickness. Roofing bolt M8 x 16, nuts and washers are used for fastening. To be ordered separately.

## **HEIGHT REDUCING CONNECTOR**

Height Reducing Connectors are produced in 2 mm thickness. Roofing bolt M8 x 16, nuts and washers are used for fastening. To be ordered separately.

## **WRAP OVER COVER CLAMP**

Wrap Over Clamps are produced in 2 mm thickness. Roofing bolt M8 x 16, nuts and washers are used for fastening. To be ordered separately.

For special sizes, gauges, flanges, consult our sales team, factory.

# CABLE LADDER LOAD GRAPHS

## SAFE WORKING LOADS

The following Loading Charts are to give guidance on maximum safe working loads when using Cable Ladders & Ladders (installed horizontally) produced by PSI. They are published in accordance with the requirements of the industry standard BS EN 61537:2007. Load tests simulated the conditions of a multiple span of at least 4 spans with the end spans reduced to 75% of the intermediate spans.

The graphical presentation links established maximum safe working loads at specified intermediate spans.

Loads below the drawn line are SAFE - loads above the drawn line are UNSAFE.

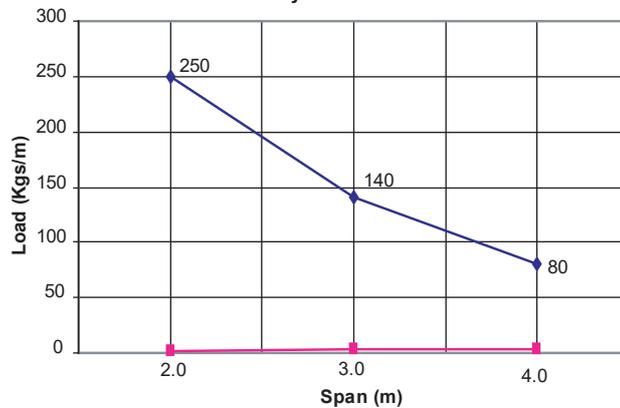
When using this information the installer should take into account:

1. The guidance offered in our presentation of system design considerations should be studied
2. Loading is assumed to be uniformly distributed. If point loads are imposed or the installation is less than 4 spans our technical department should be consulted.
3. The graphs should not be extrapolated to shorter or longer spans than those shown.
4. The installer should be satisfied that supports are of adequate strength and that all connections are fully tightened.
5. The loading information is given in good faith based on tests carried out with PSI products. However, PSI cannot be held responsible for a variation in performance of this product range.

## WARNING!

**PSI CABLE LADDERS & LADDERS ARE PART OF A CABLE MANAGEMENT SYSTEM. THEY SHOULD NEVER BE USED FOR OTHER STRUCTURAL PURPOSES AND MUST NOT BE USED AS WALKWAYS BY INSTALLATION OR MAINTENANCE PERSONNEL.**

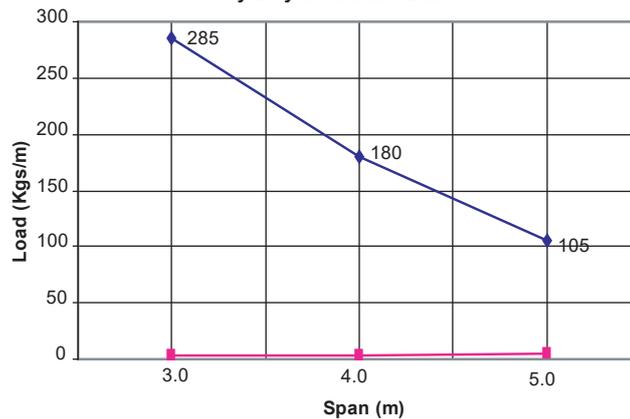
Medium Duty Metal Cable Ladder



MDL

Uniformly Distributed Load (Kgs/m)	Span - between supports (m)
250	2.0
140	3.0
80	4.0

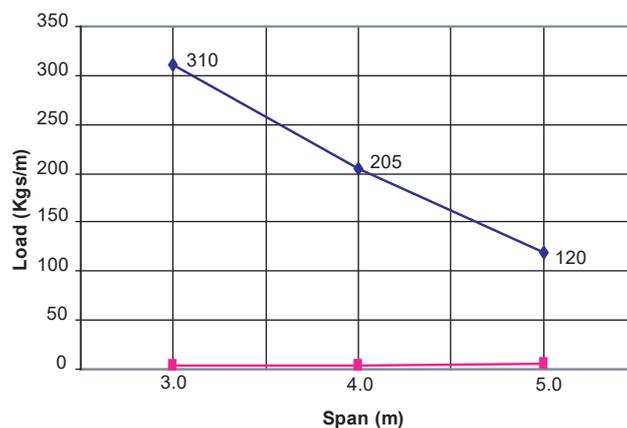
Heavy Duty Metal Cable Ladder



HDL

Uniformly Distributed Load (Kgs/m)	Span - between supports (m)
285	3.0
180	4.0
105	5.0

Extra Heavy Duty Metal Cable Ladder



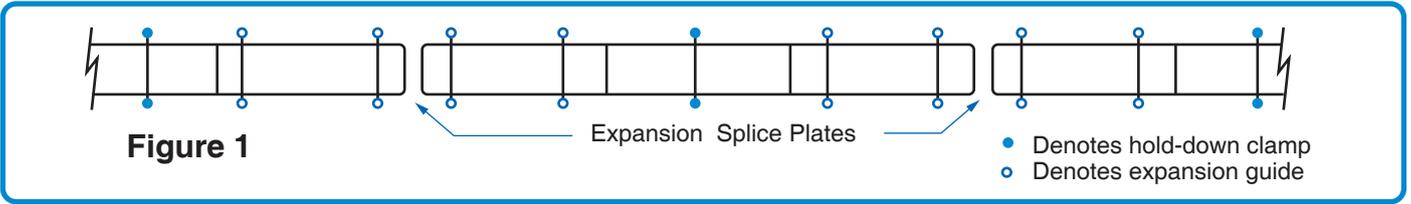
XDL

Uniformly Distributed Load (Kgs/m)	Span - between supports (m)
310	3.0
205	4.0
120	5.0

## Thermal Expansion & Contraction

Installation of Cable Management and Cable Support Systems must consider thermal expansion and contraction.

The cable ladder/ladder/trunking should be anchored at the support nearest to its midpoint between the expansion splice plates and secured by expansion guides at all other support locations, refer to Figure 1. The cable ladder/ladder/trunking should be allowed longitudinal movement in both directions from that fixed point.



### Hold Down and Guide Clamp Locations

- ★ Accurate gap setting at the time of installation is necessary for the correct operation of the expansion splice plates.
- ★ The following procedure should be adopted to determine the correct gap with reference to Figure 2.
- ★ Plot the highest expected temperature on the maximum temperature line (Ex. Value = 38°C)
- ★ Plot the lowest expected temperature on the minimum temperature line (Ex. Value = -33°C)
- ★ Draw a line between the maximum and minimum points
- ★ Plot the temperature at the time of installation to determine the gap setting (Ex. Value = 9.5mm (10°C))

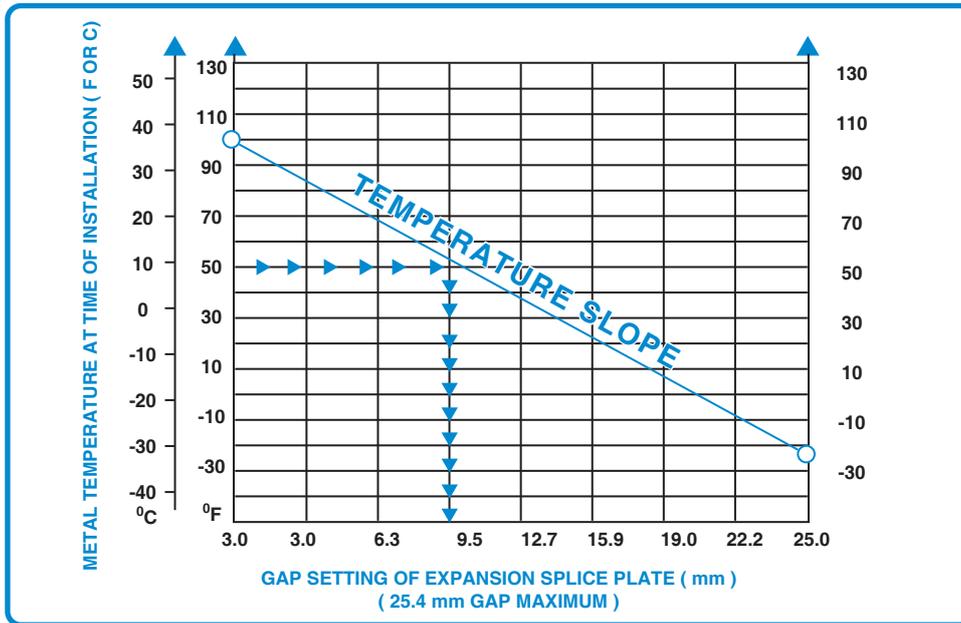


Figure 2

Maximum Spacing Between Expansion Joints For 25.4mm Movement					
Temperature Differential	Steel	Aluminium	Stainless Steel 304	Stainless Steel 316	Fiberglass
°C	M	M	M	M	M
14	156	79	106	116	203
28	78	40	53	58	102
42	52	27	36	39	68
56	39	20	27	29	51
70	31	16	21	23	41
83	26	13	18	19	34
97	22	11	15	17	29

- ★ Temperature differential is the difference in temperature between the hottest and coldest days of the year
- ★ Expansion joints require bonding for electrical continuity
- ★ Supports should be located within 600mm each side of expansion splice plates.



## INSTALLATION GUIDE

The following information is given as guidance on the installation of PSI Cable Ladder Systems in accordance with given parameters.

- ★ Selection of the type of cable ladder should be in accordance with loading requirements of the installation.
- ★ Selection of the type and positioning of supports should be appropriate for the loading requirements of the installation.
- ★ An allowance should be considered for extra cable load to be applied to the cable ladder at a future date and the selection of the type of cable ladder and supports should reflect this.
- ★ Connection of cable ladders should ideally be positioned at approximately 0.25L of a support where the bending moment is at zero. Connection of the cable ladders should be avoided at mid span or at supports where the bending moment is at maximum and only one connection should be used in each span.
- ★ Installation should be over a multiple span of at least 4 spans with the end spans reduced to 75% of the intermediate spans with no joints in the end spans.
- ★ Loading of the cable ladder should be uniformly distributed both along the length and width.
- ★ Assembly of components of the cable ladder system uses M6 roofing bolts and nuts, they should be inserted correctly to avoid damage to the cables and torque tightened to 6Nm
- ★ Wider cable ladders may be subject to deflection across the width due to the load distribution; this will not be detrimental to the structural performance of the ladder but may need consideration if aesthetic appearance is of importance. 'Fish Plates' should be installed on cable ladders of 450mm and above
- ★ Where there is connection of cable ladder accessories (bends, tees, risers, etc.) extra local support should be installed.
- ★ Cable ladder should be securely fixed to all supports at both sides using appropriate fixings and/or brackets
- ★ Cable ladder runs exposed to wide ambient temperature variations should incorporate expansion connectors in the installation.
- ★ Electrical bonding straps are required to be installed at all connections to ensure earth continuity
- ★ Where it has been necessary to drill or cut items on site damaged surfaces should be repaired in accordance with BS EN ISO 1461 by painting with zinc rich paint.
- ★ PSI cable ladders are part of a cable support system; they should never be used for other structural purpose and must not be used as a walkway by installation or maintenance personnel. Appropriate warning signs should be installed in visible locations on or near the cable ladders/cable ladders.
- ★ Installation of systems should be by a competent person(s) familiar with standard electrical installation practices, electrical equipment and safety of electrical wiring systems. When handling, transporting and installing cable ladder systems Health & Safety practices and procedures should be strictly enforced at all times including the use of PPE (eye protection, gloves, shoes)
- ★ Loading and deflection information given is based on results from testing of PSI systems; they are however average values given in good faith, PSI cannot be held responsible for a variation in performance of the products actually supplied.

## HANDLING AND STORAGE OF MATERIALS

### Guidelines on the packing, handling and storage of PSI Cable Management and Cable Support Systems when delivered to the project site:

- ★ Straight lengths of product supplied bundled and securely strapped with nylon bands.
- ★ Fittings supplied palletised and plastic stretch film wrapped.
- ★ All other accessories supplied sacked or boxed, palletised and plastic stretch film wrapped.
- ★ Care must be taken at all times when off-loading materials so as to avoid damage and also violation of Health & Safety regulations.
- ★ Suitable lifting equipment should be used having sufficient lifting height, reach and weight capability.
- ★ Banding straps / wires securing the bundles must never be used for off-loading of materials.
- ★ Lifting straps and / or chains should wrap fully around the bundle in such a way that they do not put excessive force on the bottom or top outside edges of the materials.
- ★ When cutting the banding straps / wires personal safety protection should be used i.e. gloves, eye glasses, shoes, etc.
- ★ If off-loading by a fork truck, forks should never be inserted in to the ends of the bundles.
- ★ Materials should always be stored under cover in a dry environment.
- ★ Materials should not be placed directly on to the floor, wooden and/or steel battens should to support materials.
- ★ If materials have become wet during off-loading, bundles should be split, items dried and then re-stacked in such a way as to ensure maximum air circulation around and throughout the bundles/stacks.
- ★ If no purpose made on-site storage facility is immediately available temporary storage arrangements needs to be made and every precaution taken to avoid deterioration of the materials. This should include re-stacking the materials as described in #9 and then covering with waterproof sheeting, ensuring that this is not laid directly on to the materials so maximum ventilation is ensured around and throughout the materials.
- ★ Stored materials should be regularly inspected to evaluate their general condition and particularly to identify any signs of water ingress.
- ★ The above guidelines are the minimum recommendations by PSI and failure to comply could result in deterioration of materials on the project site.



**BSI  
KITEMARK**

**BSI KITEMARK CERTIFIED PRODUCTS**  
**1<sup>ST</sup> CABLE MANAGEMENT MANUFACTURING COMPANY IN**  
**MIDDLE EAST AND AFRICA**



*Engineered to Excellence*

**EDITION 2022**



*Quality Policy*

*"Excellence in Engineering"*

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