



# installation instructions

Installation Instruction Number: 10



Always read and follow the warnings and instructions for use

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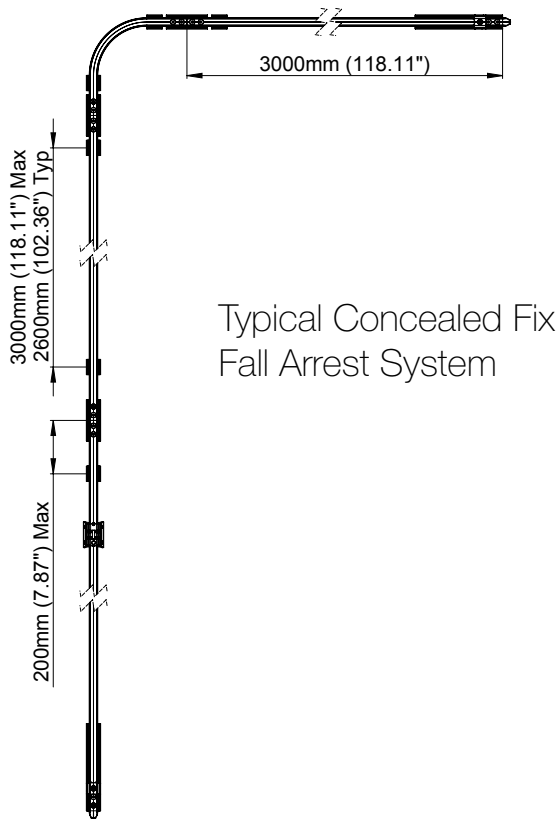
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These instructions are an aid to training. Only trained personnel should attempt to install a UniRail system.

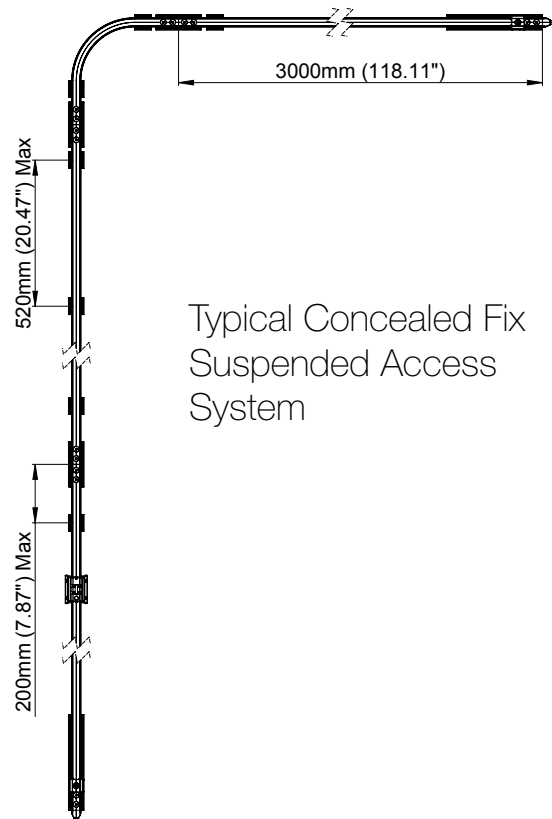
# Guidelines for Installation



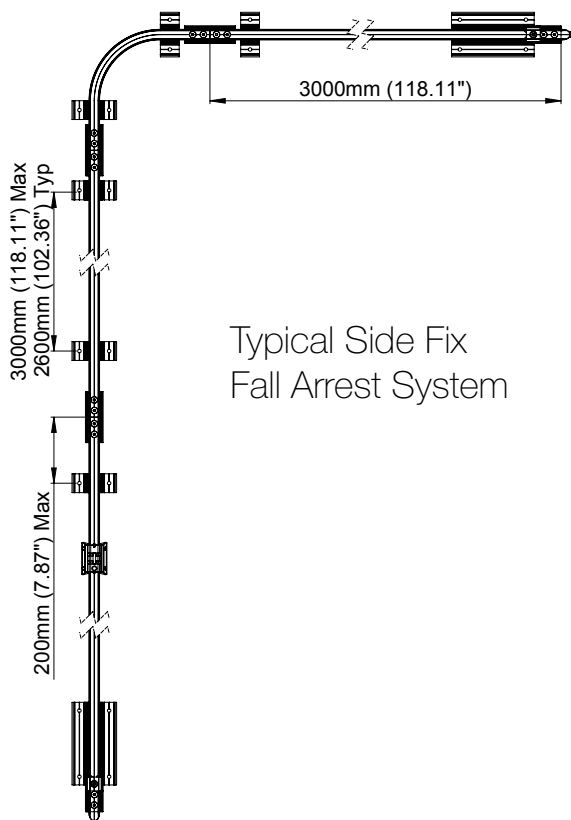
Diagrams for reference only. Refer to system datasheets and designers guide for more information.



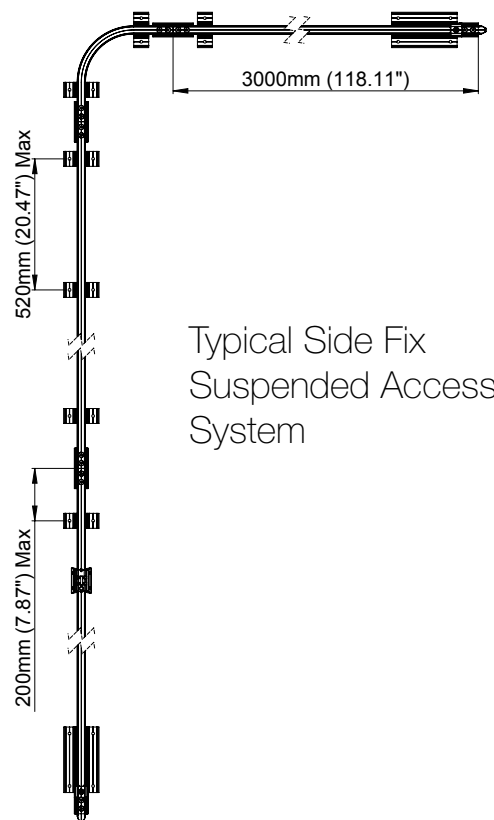
Typical Concealed Fix  
Fall Arrest System



Typical Concealed Fix  
Suspended Access  
System



Typical Side Fix  
Fall Arrest System



Typical Side Fix  
Suspended Access  
System

# Important Information



Detailed below are examples of typical components used in both a side fix and concealed fix UniRail system along with the tools required for installation. It is advisable to read through these instructions before beginning the installation.



The component list below shows the full range available. Your order is system specific and may not feature all of these components.

## Concealed Fix System Components

- 7241000 - UniRail Tamper Proof Stop
- 7241002 - UniRail Plunger Stop
- 7241001 - UniRail System Stop
- 7241053 - UniRail Moulded Rail End
- 7241006 - UniRail Carriage
- 7241005 - UniRail C Fix Joint
- 7241013 - UniRail 3m
- 7241008 - UniRail C Fix End Anchor
- 7241010 - UniRail C Fix Anchor TPD
- 7241011 - UniRail C Fix Anchor

## Side Fix System Components

- 7241000 - UniRail Tamper Proof Stop
- 7241002 - UniRail Plunger Stop
- 7241001 - UniRail System Stop
- 7241053 - UniRail Moulded Rail End
- 7241006 - UniRail Carriage
- 7241004 - UniRail S Fix Joint
- 7241013 - UniRail 3m
- 7241009 - UniRail S Fix End Anchor
- 7241012 - UniRail S Fix Anchor

## UniRail Corners

- 7241003 - UniRail Wallmount 90° Ext
- 7241014 - UniRail 90°
- 7241015 - UniRail 90° External
- 7241016 - UniRail 90° Internal
- 7241017 - UniRail 45° Internal
- 7241018 - UniRail 45° External
- 7241019 - UniRail 45°

## Other

Structural Anchors - Various (See Page 8-9)

For a full range of structural anchors, visit [www.hilti.com](http://www.hilti.com)

Note: Uniline DO NOT stock the structural anchors or the corresponding fasteners.

Prior to installation of the product please ensure that:

1) You have received training from Uniline Safety Systems.

2) You have all of the appropriate personal safety equipment to complete the task safely.

Don't use tools until instructed to do so

## Tool List

- 1 x Drill + Drill Bits (Various)
- 1 x Tape Measure
- 1 x 1/2" Torque Wrench
- 1 x 6mm Hex Socket Driver
- 1 x 19mm Socket
- 1 x Rubber Mallet
- 1 x Chalk Line
- 1 x Permanent Marker/Other
- 1 x Circular Saw
- 1 x Countersink
- 1 x File
- 1 x 7241007 - Unirail Drilling Jig
- 1 x 7241051 - Step Drill

## Unirail External Corner Tools

- 1 x 6mm Hex Socket Driver (Long)

Note: Step drills available from Uniline on request.

# System Installation



## Marking Out



01

Refer to layout before beginning the installation.



02

If installing a wall mount system, measure up/down to the centre line of the system.



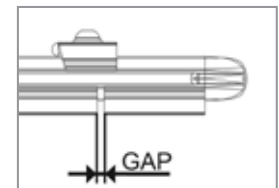
03

Mark the centre line of the system using a chalk line or similar tool.



04

Begin the installation at a corner or other fixed point.



Once the fixed point/corner has been marked it is best to install this component. See page 7 for Wall Mount Ext Corner fitting instructions. Note: When marking out the end rail section, please allow a gap of 1mm for every linear metre of rail at each end of the system between the system rail stop and the end bracket.



05

Follow the fixing guidelines on page 7-8 for installing the structural anchors.



06

Measure out from the corner or other fixed point the positions of the next brackets.



07

Mark the centre positions.



08

Once the first section of rail is marked out, install this section and then continue to mark out the next section.

Refer to the steps below and over leaf for installation instructions of specific components.

## Fitting a Concealed Fix Bracket



09

Position over the socket and add fixing.



10

Tighten to 30Nm.



11

Fit the other brackets in the 3m length, following step 09 & 10.



12

Slide rail into concealed fix bracket.

## Fitting a Side Fix Bracket (Note: Side fix brackets can be installed while the rail is in the brackets.)



13

Position over a socket/stud and add fixing.



14

Tighten to 30Nm/50Nm M10/M12.



15

Fit the other brackets in a 3m length, following steps 13 & 14.



16

Slide rail into side fix bracket.

# System Installation



## Fitting a Rail Joint



17

Slide the rail into the joint and insert the screws into the rail on one side of the joint.



18

Insert the spigot into the end of the rail and tap firmly with rubber mallet.



19

Slide the other rail into position.



20

Tighten the screws in the joint to 30Nm.

## Finishing the System (Skip steps 21-25 if the length of the rail is already correct.)



21

Cut the rail down to the correct length.



22

Using a file, make sure the end of the rail is free from sharp edges.



23

Position the drilling jig on the end of the rail and lock it down with the screw.



24

Using an 11mm drill bit, drill all the way through the rail.



25

Repeat for the second hole.



26

Using a 10mm drill bit, drill to the centre of the rail. Skip step 27 as applicable.



27

Use a countersink tool (or step drill - 7241051) to countersink the two holes nearest the end of the rail. Fasteners should sit sub-flush with the rail.



Slide the rail into the concealed fix brackets.



29

Slide the carriage onto the rail.



30

Position the tamper proof stop in the hole drilled in step 26 and tighten to 15Nm.



31

Slide the system rail stop into position and insert and tighten screws to 30Nm.



32

Using a rubber mallet, gently tap the Moulded Rail End into the end of the rail. Repeat steps 21-32 for the other end of the system.

If you are required to shorten a rail that is NOT at the end of a system, follow steps 21-28 except step 26 as this hole is not required in the middle of a system.

# Wall Mount External Corner



This installation guide is based on a mechanical push in anchor fixing method with concealed fix anchors, however, it is possible to use a resin socket, through fix and/or side fix anchors. For fixing advice, see page 8-9. Installation of this assembly requires two people.



01

Assemble the components on the corner as illustrated.



02

Hold the assembled corner unit in position.



03

Mark out the slot detail on the wall.



04

Mark through the hole in the rail. If marking brickwork, it may be better to use a drill.



05

Disassemble the corner component and hold the spacer against the structure to mark out the second slot.



06

Drill holes in the structure in the marked positions. Holes are suitable for M10/M12 anchors (not supplied) as applicable.



07

Insert anchors.



08

Set the anchors into position, following the manufacturer's instructions.



09

Conduct a pull test on each anchor using the Hydrajaws testing kit to 6kN.



10

Fasten the steel support spacers with M12 screws and washers.



11

Using a torque wrench, 19mm socket and socket extender, tighten the screws to 50Nm.



12

Tighten the second screw.



13

Slide the intermediate anchors onto the rail with the screws in and position it on the structure.



14

Tighten the screws in the intermediate anchors to 30Nm.



15

Insert the screws through the rail into the spacers and tighten to 30Nm.



16

Once the installation of the corner is completed, continue installing the rest of the system.

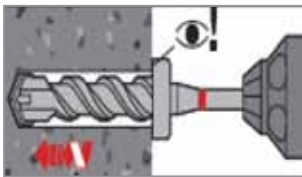
# Structural Fixing - Mechanical

Uniline recommends the use of Hilti products with UniRail. Please check the structural material against the selected anchor when specifying the task. Uniline do not keep any anchors in stock. Please order directly from Hilti.

Note: Ensure you have specified the correct socket/stud material. Uniline recommends all fasteners and anchors are stainless steel for all exterior applications.

THESE INSTRUCTIONS ARE FOR REFERENCE ONLY, PLEASE REFER TO HILTI FOR DETAILED INSTRUCTIONS FOR USE

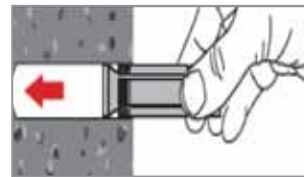
## Hilti HSC-I Safety Anchor



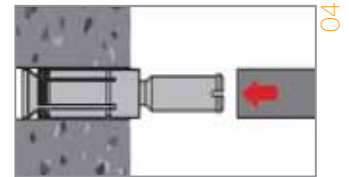
01 Drill hole with drill bit to appropriate depth (See Hilti instructions for use).



02 Blow out dust and fragments.



03 Insert the anchor.



04 Use the Hilti setting tool to set the anchor (See Hilti instructions for use).



05 Make sure the anchor is flush against the surface.

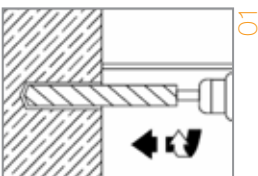


06 Conduct a pull test on each anchor using the Hydr jaws testing kit to 6kN.

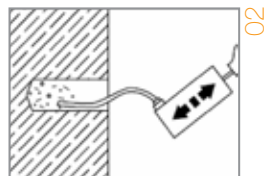


Fit the component and apply tightening torque.

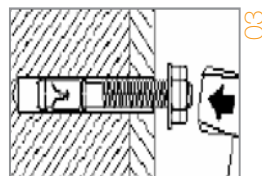
## Hilti HST Stud Anchor (Side Fix Anchors Only)



01 Drill hole with drill bit to appropriate depth (See Hilti instructions for use).



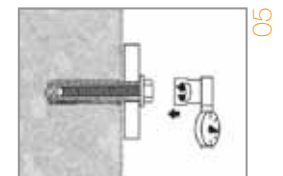
02 Blow out dust and fragments



03 Install the anchor by firmly tapping the anchor into the hole.



04 Conduct a pull test on each anchor using the Hydr jaws testing kit to 6kN.

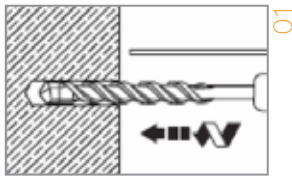


05 Fit component and apply tightening torque.

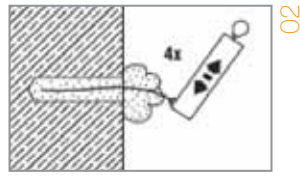
For more detailed information, see instruction for use given with the package of the product.



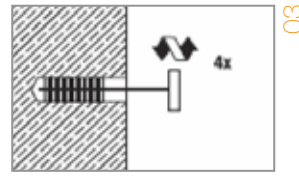
# Structural Fixing - Resin



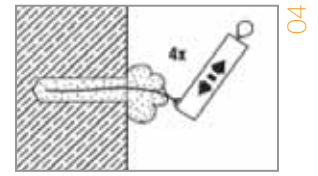
01 Drill hole with drill bit to appropriate depth (See Hilti instructions for use.).



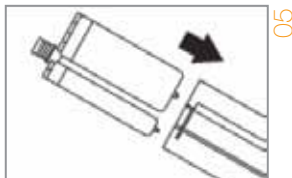
02 Blow out dust and fragments.



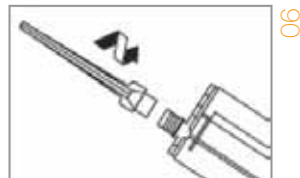
03 Using a round steel brush, remove dust and fragments from the hole.



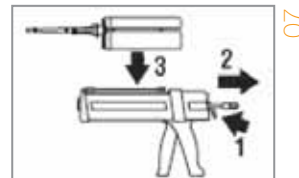
04 Repeat step 2.



05 Load foil pack into the cartridge.



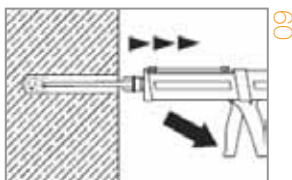
06 Insert Static Mixer.



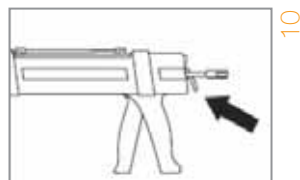
07 Load cartridge into the resin gun.



08 Waste a small amount of resin.



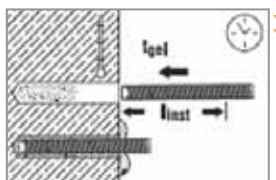
09 Insert resin into the drilled hole.



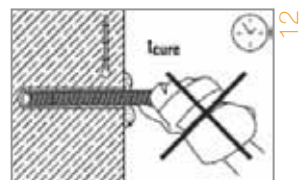
10 Once finished, release the cartridge.

Note: Anchor rods to be used with side fix only. Internally threaded sleeves required for concealed fix systems.

## Hilti HIT-HY 150 - Concrete



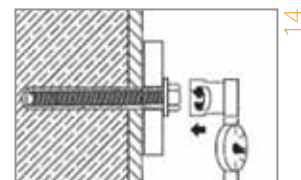
11 Wait for the resin to gel and then insert the anchor.



12 Leave to cure for the recommended period of time (see Hilti instructions for use).

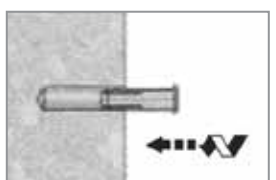


13 Conduct a pull test using the Hydrajaws testing kit to 6kN.

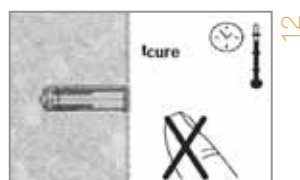


14 Fit component and apply tightening torque to nut.

## Hilti HIT-HY 70 - Hollow Brick, Block, Natural Stone



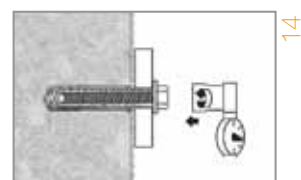
11 Wait for the resin to gel and then insert anchor making sure it is flush against the surface.



12 Leave to cure for the recommended period of time (see Hilti instructions for use).



13 Conduct a pull test using the Hydrajaws testing kit to 6kN.



14 Fit component and apply tightening torque to bolt.

Capital Safety Group, through our Uniline brand is the global market leader in the design and manufacture of engineered fall protection systems. Through a combination of expert knowledge and practical experience, we can help our customers reduce risk and increase safety when working at height.

Our comprehensive Uniline range of products offers fully compliant, practical solutions for structures of all types, in all industries. Our ethos of delivering quality, service, training and support for our customers has earned Uniline a deserved reputation for excellence around the world.

Operating through specialist safety companies globally, Uniline provides local support and installation services to meet the specific safety objectives of all our customers.

### roofing systems™

If you need a safety solution for roof access during maintenance and inspection tasks, then look no further than Uniline's Roofing product range. Our products, including roof anchors, horizontal lifelines & horizontal rail systems offer comprehensive protection for workers on all types of roofs.

### horizontal systems™

The products in our Horizontal systems range are some of the best know brands in fall protection safety. The versatility of these products combined with Uniline's expertise in fall protection ensures we can solve even the most complex of height safety problems in industry, construction, façade access and for all manner of building maintenance and inspection tasks.



### vertical systems™

The best vertical fall protection systems in the world won't let you down. The extensive development of this range of products for vertical structures including masts, towers, pylons, wind turbines, silos, bridges and chimney stacks ensures customers will enjoy the safest and most functional climbing experience possible.

### access systems™

A unique range of custom access products for challenging fall protection situations in transport and industry. These solutions are structurally analysed and designed to our customers exact needs and specifications.

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