



PRODUCT INSTALLATION GUIDE

RAPID STANDARD NET - 6m

RAPID STANDARD NET - 4m

CORNER UNIT - 6m



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RAPID NET CONFIG

Elementary safety warnings

User target groups

- This booklet is aimed at all persons who will be working with the Rapid EPS product or system that it describes. It contains information on the standard design for setting up this system, and on correct, compliant utilisation of the system.
- All persons working with the product described herein must be familiar with the contents of this booklet and with all the safety instructions it contains.
- Persons who are incapable of reading and understanding this booklet, or who can do so only with difficulty, must be instructed and trained by the customer.
- The customer is to ensure that the information materials provided by Rapid EPS (e.g. User Information booklets, Instructions for Assembly and Use, Operating Instruction manuals, plans etc.) are available to all users, and that they have been made aware of them and have easy access to them at the usage location.
- In the relevant technical documentation Rapid EPS shows the workplace safety precautions that are necessary in order to use the Rapid EPS products safely in the usage situations shown.
In all cases, users are obliged to ensure compliance with national laws, Standards and rules throughout the entire project and to take appropriate additional or alternative workplace safety precautions where necessary.

Hazard assessment

- The customer is responsible for drawing up, documenting, implementing and continually updating a hazard assessment at every job-site.
- This booklet serves as the basis for the site-specific hazard assessment, and for the instructions given to users on how to prepare and utilize the system. It does not substitute for these, however.

Planning

- Provide safe workplaces for those using the formwork (e.g. for when it is being erected/dismantled, modified or repositioned etc). It must be possible to get to and from these workplaces via safe access routes!
- If you are considering any deviation from the details and instructions given in this booklet, or any application which goes beyond those described in the booklet, then revised static calculations must be produced for checking, as well as supplementary assembly instructions.

Remarks on this booklet

- This booklet can also be used as a generic method statement or incorporated with a site-specific method statement.
- Many of the illustrations in this booklet shows the situation during Safety Net Fan assembly and are therefore not always complete from the safety point of view. Any safety accessories not shown in these illustrations must still be used by the customer, in accordance with the applicable rules and regulations.
- Further safety instructions, especially warnings, will be found in the individual sections of this booklet!

Regulations; industrial safety

- All laws, Standards, industrial safety regulations and other safety rules applying to the utilization of our products in the country and/or region in which you are operating must be observed at all times.
- If a person or object falls against, or into, the side-guard component and/or any of its accessories, the component affected may only continue in use after it has been inspected and passed by an expert.

Rules applying during all phases of the assignment:

- The customer must ensure that this product is erected and dismantled, reset and generally used for its intended purpose under the direction and supervision of suitably skilled persons with the authority to issue instructions. These persons' mental and physical capacity must not in any way be impaired by alcohol, medicines or drugs.
- Rapid EPS products are technical working appliances which are intended for industrial/commercial use only, always in accordance with the respective Rapid EPS User Information booklets.
- The stability of all components and units must be ensured during all phases of the construction work!
- The functional/technical instructions, safety warnings and loading data must all be strictly observed and complied with. Failure to do so can cause accidents and severe (even life-threatening) damage to health, as well as very great material damage.
- Fire-sources are not permitted anywhere near the Safety Net Fan. Heating appliances are only allowed if properly and expertly used, and set up a safe distance away from the Safety Net Fan.
- The work must take account of the weather conditions (e.g. risk of slippage). In extreme weather, steps must be taken in good time to safeguard the equipment, and the immediate vicinity of the equipment, and to protect employees.
- All types of connections must be checked regularly to ensure that they still fit properly and are functioning correctly. It is very important to check all screw-type connections and wedge-clamped joints and pins whenever the construction operations require (particularly after exceptional events such as storms), and to tighten them if necessary.
- It is strictly forbidden to weld RAPID EPS products – in particular anchoring/tying components, suspension components, connector components and castings etc. – or otherwise subject them to heating. Welding causes serious change in the microstructure of the materials from which these components are made. This leads to a dramatic drop in the failure load, representing a very great risk to safety. The only articles which are allowed to be welded are those for which the RAPID EPS literature expressly points out that welding is permitted.

Assembly

- The equipment/system must be inspected by the customer before use, to ensure that it is in suitable condition. Steps must be taken to rule out the use of any components that are damaged, deformed, or weakened due to wear, corrosion or rot.
- Combining our safety Net systems with those of other manufacturers is not permitted as it could be dangerous, risking damage to both health and property.
- The equipment/system must be assembled and erected in accordance with the applicable laws, Standards and rules by suitably skilled personnel of the customer's, having regard to any and all required safety inspections.
- It is not permitted to modify RAPID EPS products; any such modifications constitute a safety risk.

Transporting, stacking and storing

- Observe all regulations applying to the handling of fans. In addition, the RAPID EPS slinging means must be used and this is a mandatory requirement.
- Remove any loose parts or fix them in place so that they cannot be dislodged or fall free!
- All components must be stored safely, following all the special RAPID EPS instructions given in the relevant sections of this booklet!

Maintenance

- Only original RAPID EPS components may be used as spare parts. Repairs may only be carried out by the manufacturer or authorised facilities.

Miscellaneous

- We reserve the right to make alterations in the interests of technical progress.

Symbols Used

The following symbols are used in this booklet:



Notice

Failure to observe this may lead to malfunction or damage.



Caution / Warning / Danger

Failure to observe this may lead to material damage and to injury to health which may range up to the severe or even life-threatening.



Instruction

This symbol indicates that actions need to be taken by the user.



Sight-check

Indicates that you need to do a sight-check to make sure that necessary actions have been carried out.



Tip

Points out useful practical tips.



Reference

Refers to other documents and materials.

Declaration of Conformity

In this assembly and user's manual, the described "RAPID EPS Safety Net Fan System" is connected to the brand name "RAPID EPS"; the product itself "TSS Safety Net Fans", on which RAPID EPS Safety Net Fan is based on is manufactured by TSS Trading LLC and is fully compliant with EN 1263-2 : 2014, certified by TÜV SÜD Middle East LLC under the certificate.

The following table sets the components corresponding with each system and declares the conformity of the different designated and various article numbered components.

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Witness Report No.: 103759

WITNESS AND TEST REPORT

- Date of Test : 01 Feb 2021
- Client Name : Rapid Eps
- Location of Inspection/Survey : Dubai, International City - Phase II, Project: Town (Summer Contracting)
- Equipment Name : Rapid safety net fan.

This is to certify that the undersigned representative of this organization did, at the request of **Rapid Eps** stand on the **01st Feb 2021** to carry out witnessing of the following drop test for **Rapid safety net fan** and report as follows:

Description of the safety net system.

- System Type : Rapid safety net fan.
- Fan Dimensions : 6.0 m x 3.1 m
- Mesh : (60 mm x 60 mm x 20 mm x 20 mm + debris)

Drop test Description:

100 kg has been dropped freely twice from 7.0 m height on to:

- Overlap
- Diagonal (Left & Right).

The following pictures showing the net before and after each drop.



THE NET BEFORE THE TEST

The Report is issued subject to the condition that it is a statement of fact and not a statement of opinion. It is not intended to be used as evidence in any legal proceedings. It is not intended to be used as evidence in any legal proceedings. It is not intended to be used as evidence in any legal proceedings.

Page 1 of 1

ENCLOSURE: 1/2021/103759/TEST

Certificate No.: DU-IT-21-9393/114421-1-MT



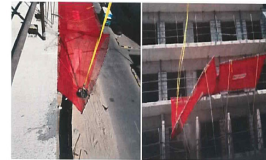
THE OVERLAP AFTER 1ST DROP TEST

THE OVERLAP AFTER 2ND DROP TEST



THE LEFT DIAGONAL AFTER 1ST DROP TEST

Certificate No.: DU-IT-21-9393/114421-1-MT



THE LEFT DIAGONAL AFTER 2ND DROP TEST



THE RIGHT DIAGONAL AFTER 1ST DROP TEST

Certificate No.: DU-IT-21-9393/114421-1-MT



THE RIGHT DIAGONAL AFTER 2ND DROP TEST

Results:

This Part of the

- Drop Test has been done and there was no significant distortion of net, and in all drop tests the load was well caught.
- During second drop test for left side, diagonal support got damage (Bending & Broken) but at the same time the net was good, and the test load didn't touch the suspension system.

Relevant standard: BS EN 1263-2:2014.

Witness/Inspection carried out and report issued without prejudice to the rights of whomsoever it may concern.

Witnessed by:
HAB TAMER
 Inspection Engineer

Issue Date: 03-02-2021



The Report is issued subject to the condition that it is a statement of fact and not a statement of opinion. It is not intended to be used as evidence in any legal proceedings. It is not intended to be used as evidence in any legal proceedings. It is not intended to be used as evidence in any legal proceedings.

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ENCLOSURE: 1/2021/103759/TEST

General Safety information

It is imperative that RAPID EPS Safety Net Fans are installed by competent and trained personnel. RAPID EPS offers on-site product training to ensure safe and correct use of products. Training is strongly recommended. All RAPID EPS Safety Net Fans components must be inspected by a competent person prior to re-use. A record inspection of the annual testing of Safety Nets must be kept by the customer. Following the fall of a heavy object or debris in the Fans, the unit must be inspected by a competent person prior to re-use. Personnel involved in the assembly and installation of the Fans must be trained and competent on working at heights and wear necessary Personal Protective and Fall Protection Equipment.

Description and use

RAPID EPS has developed the RAPID EPS Safety Net Fans as a result of a comprehensive study of the problems associated with the falling of objects and debris as well as risks of falling objects for the workers or members of public below, during the construction stage of structures. The RAPID EPS Safety Net Fans addresses these risks on sites by absorbing the energy of the fall and containing the falling object within the net.

Unlike similar products on the market the RAPID EPS Safety Net Fans has the unique ability to adapt to various building shapes and facade materials, as well as coping with high wind loading, particularly in high-rise and exposed structures.

End user must ensure that a competent person shall inspect each deteriorating structure, construction and demolition project where the potential for falling debris exists and threatens persons or property.

End user is responsible for assuring that the RAPID EPS Safety Net Fans system specified are ordered and delivered to the job site, inspected for damage and compliance with the specifications, and erected and tested in accordance with the manufacturer's instructions and this standard. End user shall not permit any work to proceed which could result in falling debris until the specified RAPID EPS Safety Net Fans system are properly installed and tested.

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The public and employees shall be warned of the danger from falling debris, and excluded as much as possible from areas beneath where debris may fall, even though protected by properly installed RAPID EPS Safety Net Fans system. In no event shall the public or employees be allowed beneath unprotected areas.

Fan Positioning

RAPID EPS FAN Fan Positioning limits according to EN 1263-2

The positioning limits stated in EN 1263-2 for Safety Fans are intended for the purpose of arresting the fall of objects from height.

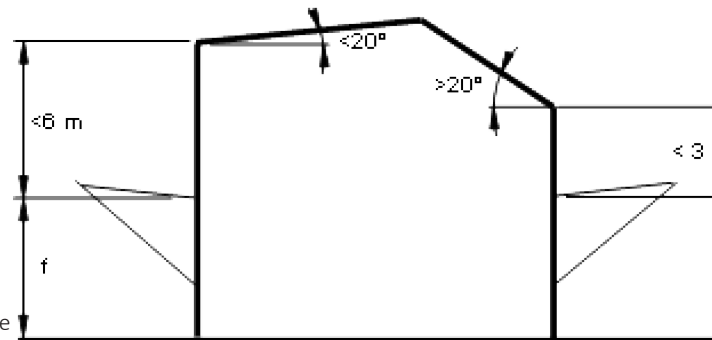
In accordance with EN1263-2 Safety nets: Part 2: Safety requirements for the positioning limits, Safety Fans designed to arrest the fall of a person should be positioned as follows:

For surfaces sloping less than 20° , the maximum falling height must not exceed 6 m.

For surfaces sloping more than 20° , the maximum falling height must not exceed 3 m.

It is however recommended to install the RAPID EPS Safety Net Fans as close to the risk area as possible to minimise the falling height and the subsequent injury to falling person.

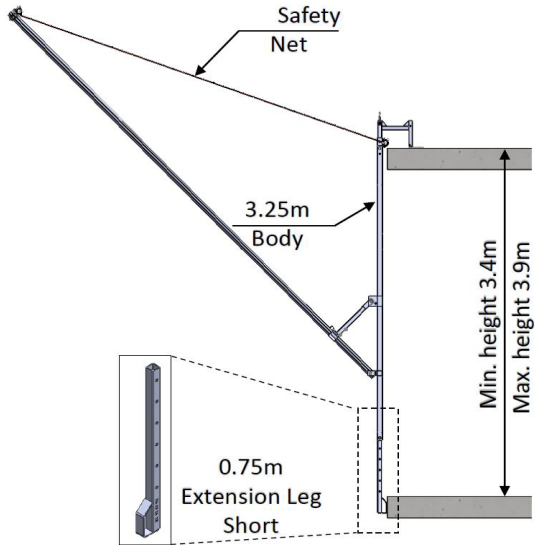
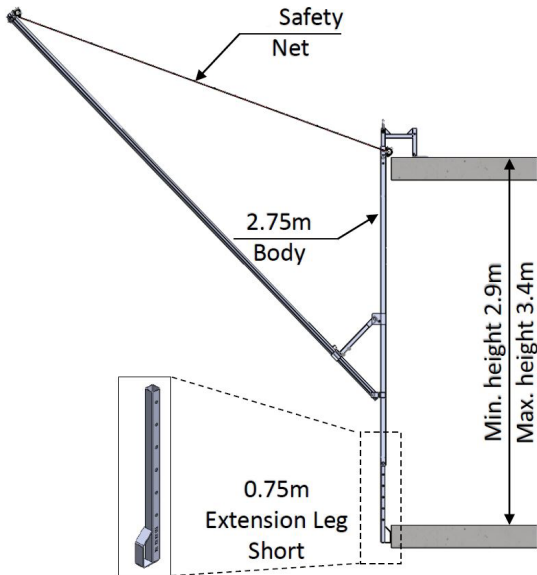
Distance (f) below the RAPID EPS Safety Net Fans unit should not be less the overall height of the Fan unit. No object must obstruct the bottom of the RAPID EPS Safety Net Fans to ensure undisturbed arrest of fall.

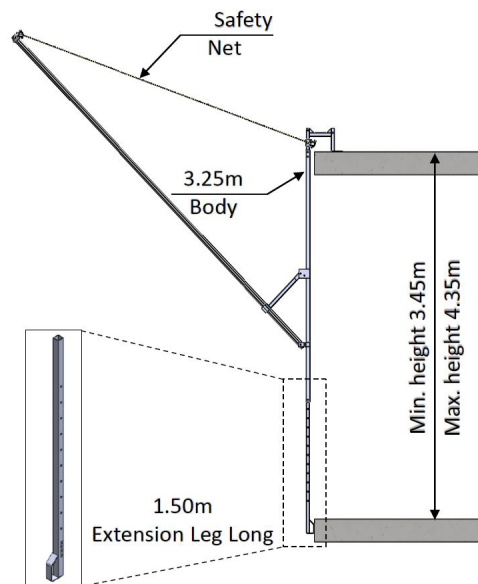
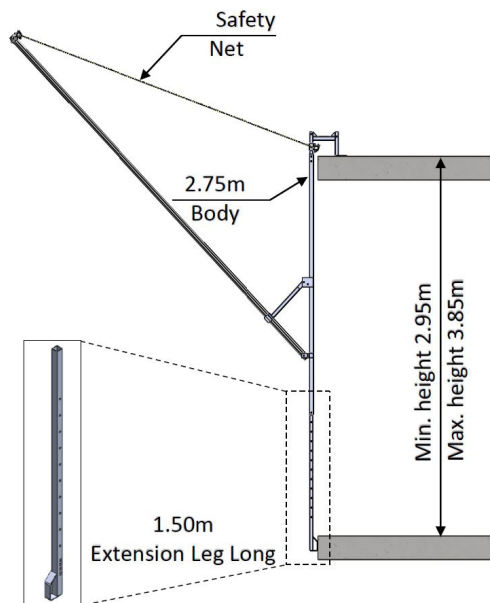


Design guide

Selection Guide (F/F height= 2.9m to 3.45m)

- Establish building floor/floor height.
- Select suitable combination of RAPID EPS Safety Net Fan Body type (2.75m or 3.25m) and RAPID EPS Safety Net Fan extension leg type (Short or Long) from section below.
- Select correct product combination from the chart below.

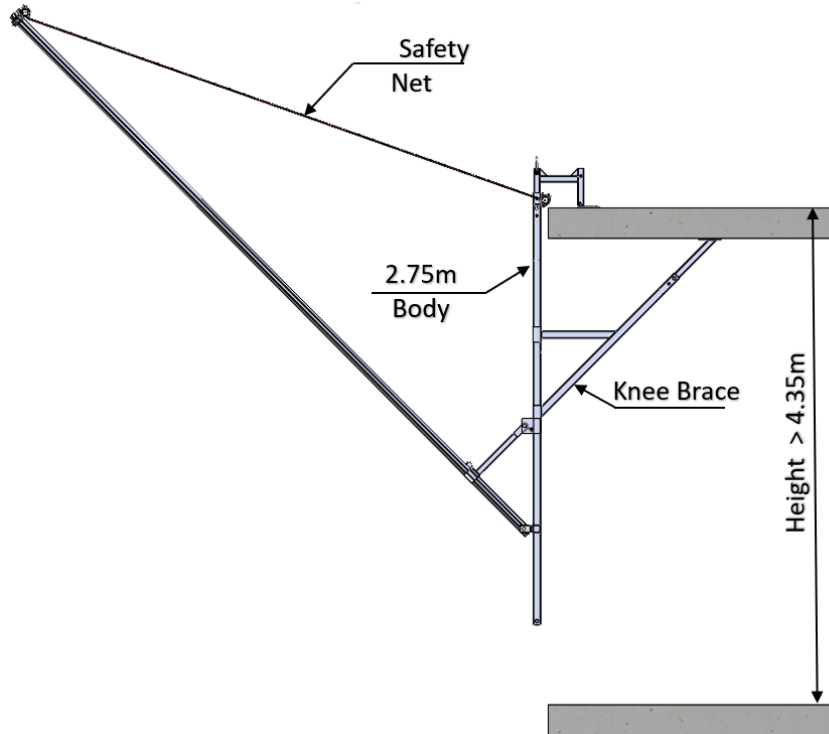




| Extension Leg Type | | | | |
|--------------------|-------|-------|-------|-------|
| Body Type | Short | | Long | |
| | Min. | Max. | Min. | Max. |
| Body 2.75 | 2.90m | 3.40m | 2.95m | 3.85m |
| Body 3.25 | 3.40m | 3.90m | 3.45m | 4.35m |

Selection Guide (F/F height > 3.45m)

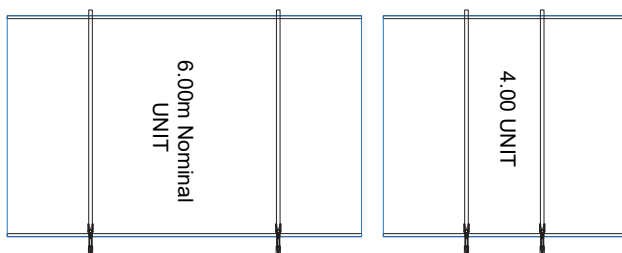
Used to support the Rapid Fan unit from the underside of the slab. Most suitable where floor to floor height exceeds the limits of the extension leg or where there is no slab below or slab is in or out.



Type selection

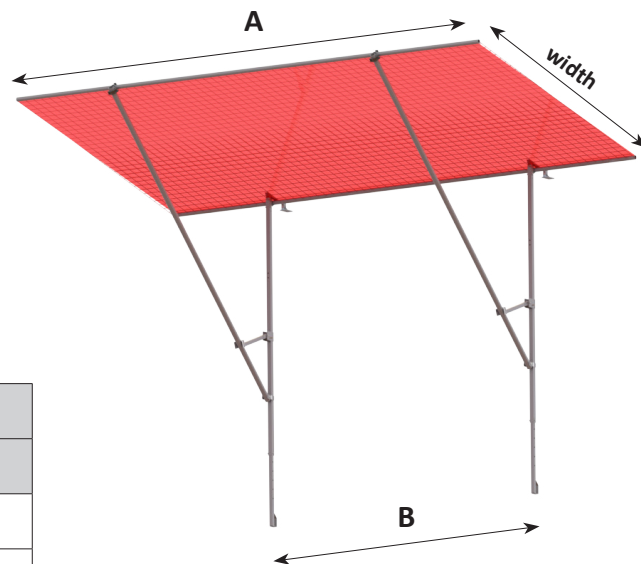
- Select required fan width
 - Standard type

Standard Type



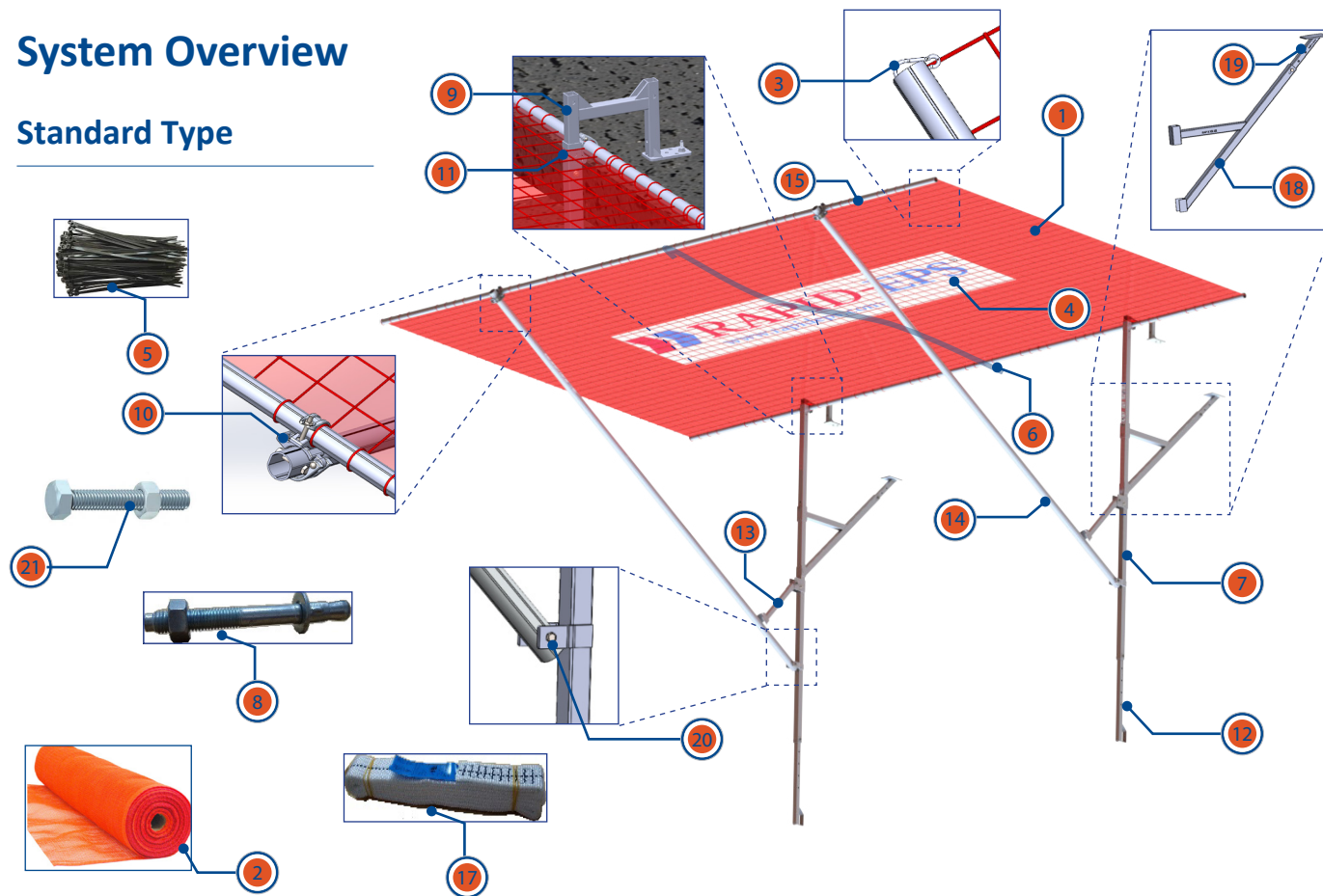
| Body Type | Width | A | B | Weight * |
|-----------|-------|-------|------------|----------|
| 2.75m | 3.10m | 6.00m | 3.50m±0.25 | 109 kg |
| 2.75m | 3.10m | 4.00m | 1.65m±0.25 | 100 kg |
| 3.25m | 3.10m | 6.00m | 3.50m±0.25 | 114 kg |
| 3.25m | 3.10m | 4.00m | 1.65m±0.25 | 105 kg |

* Approx. weight of complete unit with slab attachment and extension leg.



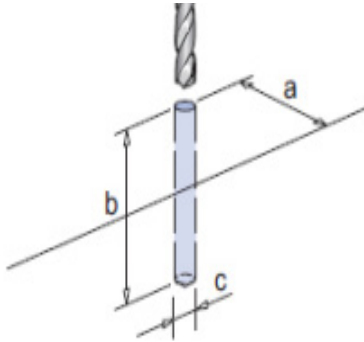
System Overview

Standard Type



| Pos. | Item No. | Description | Quantity | weight(kg) |
|------|-----------------------|----------------------------------------------|----------|------------|
| 1 | TSRN6533DL | SAFETY NET 6.4x3.1 (60X60+20X20) | 1 | 11.8 |
| 1 | TSRN4533DL | SAFETY NET 4.2x3.1 (60X60+20X20) | 1 | 8.3 |
| 2 | TSFDEBY650R | RED DEBRIS NETTING 3.00x6.50m | 1 | 1.7 |
| 2 | TSFDEBY450R | RED DEBRIS NETTING 3.00x4.50m | 1 | 1.2 |
| 3 | TSFK6X60 | KARABINER 6X60 | 4 | 0.01 |
| 4 | TSFRBAN | RAPID EPS LOGO | 1 | 0.5 |
| 5 | TSFPSTRP | PLASTIC STRAP (CABLE TIE) | 50 | 0.36 |
| 6 | TSFROP45 | FOLDING ROPE4.5m | 1 | 0.45 |
| 7 | TSRBD275 | RAPID EPS BODY (2.75m) | 2 | 14.3 |
| 7 | TSRBD325 | RAPID EPS BODY (3.25m) | 2 | 16.9 |
| 8 | TSSANBM12X120 | ANCHOR BOLT M12x120 | 2 | 0.1 |
| 9 | TSRSA | SLAB ATTACHMENT | 2 | 5.0 |
| 10 | TSFDBLCP | DOUBLE COUPLER 48/60mm | 2 | 1.4 |
| 11 | TSRAC | ADJUSTABLE COUPLER | 2 | 1.0 |
| 12 | TSRE150 | LONG EXTENSION LEG 1.5m | 2 | 5.9 |
| 12 | TSRE075 | SHORT EXTENSION LEG 0.75m | 2 | 3.0 |
| 13 | TSRWL | WIND LOCK | 2 | 2.5 |
| 14 | TSR60AT425 | DIAGONAL TUBE 4.25m | 2 | 7.9 |
| 15 | TSR48AT600/TSR48AT400 | HORIZONTAL TUBE 6.00m/ HORIZONTAL TUBE 4.00m | 2 | 8.2/6 |
| 16 | TSRST100 | SPLICE TUBE | 2 | 0.5 |
| 17 | TSFLS250 | LIFTING SLING | 2 | 0.04 |
| 18 | TSRKB | KNEE BRACE | 2 | 7.9 |
| 19 | TSRKBE | KNEE BRACE EXTENSION | 2 | 1.4 |
| 20 | BTM1290FT + NUTM12 | Bolt M12x90 FULL THREADED + Hexagon nut M12 | 4 | 0.1 |
| 21 | BTM1280FT + NUTM12 | Bolt M12x80 FULL THREADED + Hexagon nut M12 | 8 | 0.1 |

Anchoring to the Structure



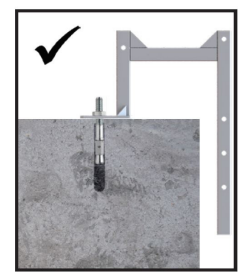
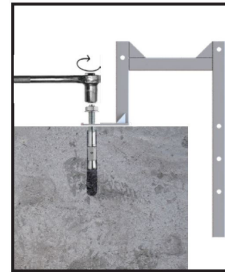
- a. Distance from edge min. 100 mm
- b. Depth of drilled hole min. 100 mm
- c. Diameter of drilled hole 12 mm
- d. Minimum slab thickness 150 mm
- e. Installation torque min. 50 Nm

Required design load capacity of the anchor bolts:

- Tensile force: 13.90 kN
- Shear force: 9.40 kN

e.g. Rawlplug Throughbolt R-XPT-12120/25 (European approval Eta-08/0339) – in uncracked concrete C20/25, or equivalent products from other manufacturers.

Installation Guide



1. Drill a hole and clear it from drilling dust and debris (using blowpump or equivalent method).
2. Lightly tap the throughbolt through the fixture into hole with a hammer, until fixing depth is reached.
3. Tighten to the required torque to point 3 (50Nm).

Required Tools for Assembly

Ratchet Spanners 19mm / 21mm



Measuring Tape



Hammer



Spanners 19mm / 21mm



Marker Pen



Assembly Stool [2 pcs.]

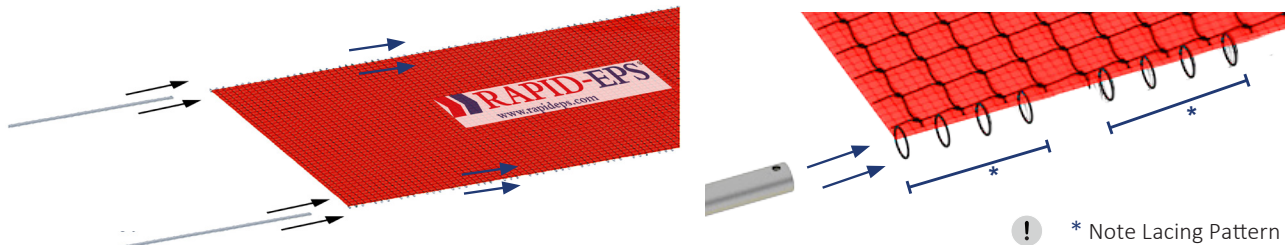


- All operatives involved must wear necessary Personal Protection Equipment suitable for the job and environment and are trained and competent for this task.
- Prior to assembling the Fans on site, ensure that an even and clean area 7mx10m in dimension is allocated to this operation allowing ample additional space for stacking of assembled Fans.
- Assembly area must not be below any operation where there may be risk of falling debris.
Installation team must also ensure that assembly area is accessible by site crane for moving into location.

Step By Step Installation Guide

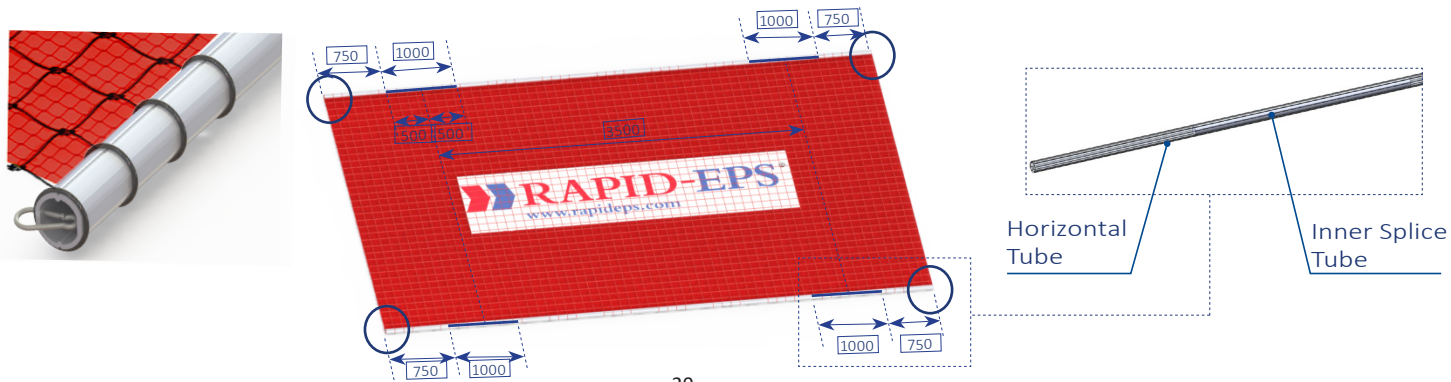
Step 1: Lacing Nets into Horizontal Tubes

- A-** Lace the inner and outer Horizontal tubes in to the safety net units, ensuring the tube is fed every fourth mesh as indicated. For ease of assembly ensure that the 20x20 net portion is facing downward.

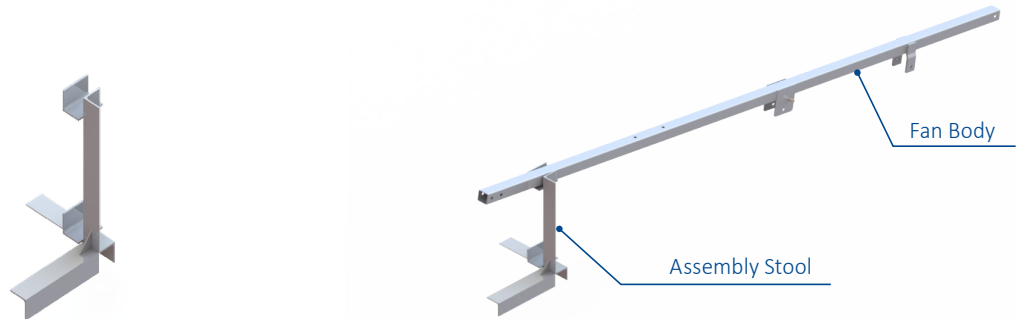


- B-** Secure the ends of the Nets using a steel Carabiner or similar. Carabiner is fed through the pre-drilled hole on Horizontal tube ends.

- C-** Insert Inner Splice Tube / Reinforcing Tube at specified distance to strengthen the Net at the overlap.

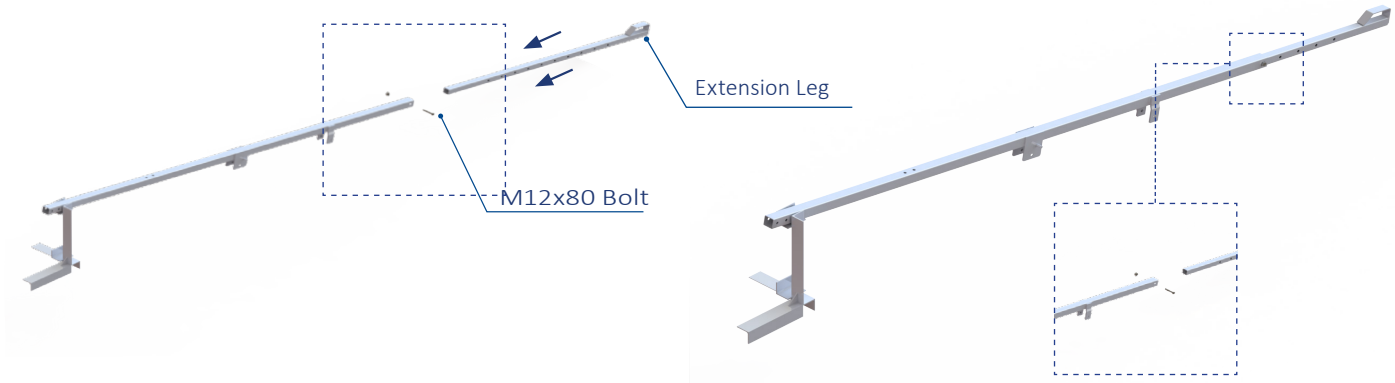


Step 2: Place the Rapid-EPS Fan Body within the upper housing section of the Assembly Stool. Ensure that the housing brackets for the diagonal tube is facing down.



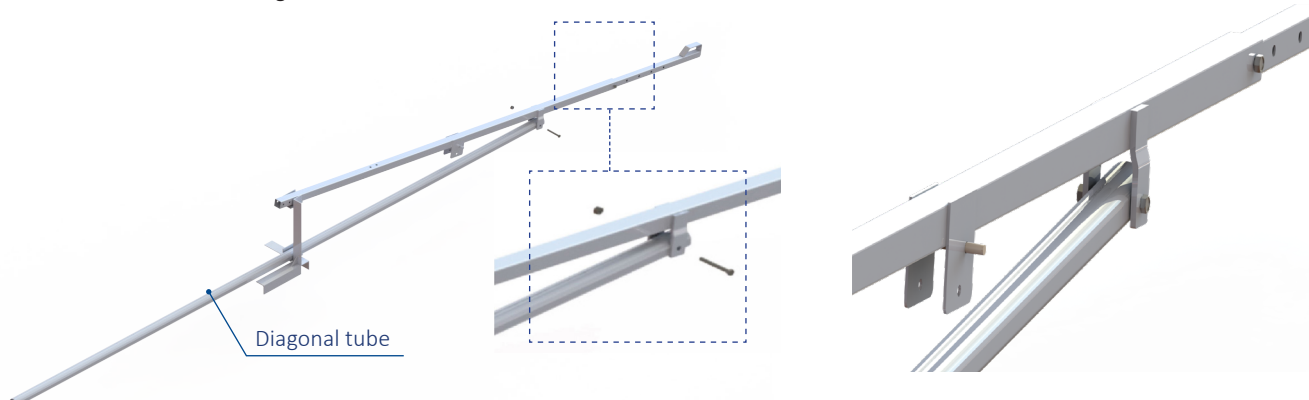
Assembly Stool

Step 3: Insert and connect Extension Leg to Rapid-EPS Safety Net Fan body using M12x80 Bolt & Nut. Adjust as necessary to suit floor to floor height of building.

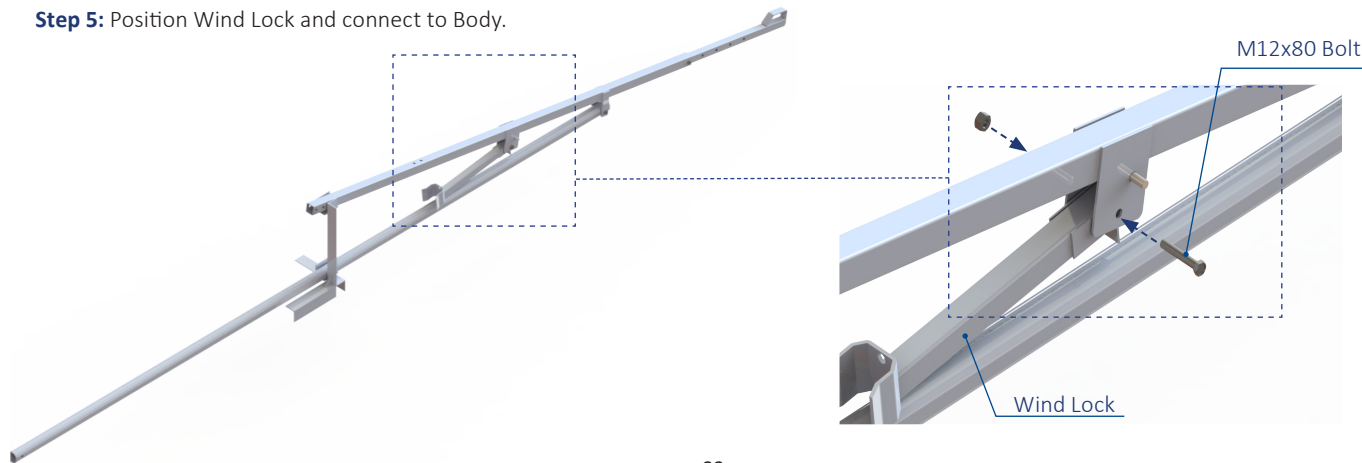


Step 4: Place Diagonal tube in lower section of Assembly Stool and connect to Rapid-EPS Fan Body using M12x90 Bolt & Nut.

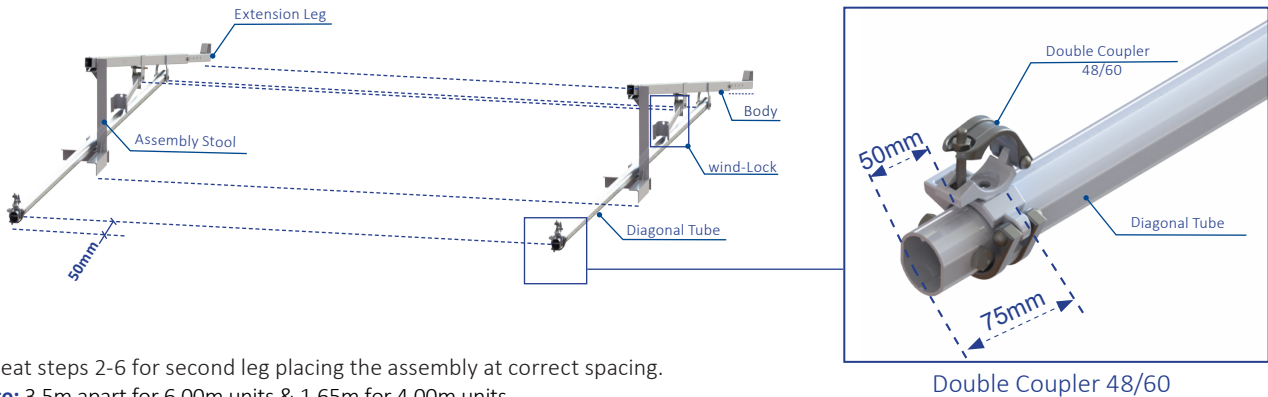
Note: Do Not over-tighten to ensure free movement of the tube.



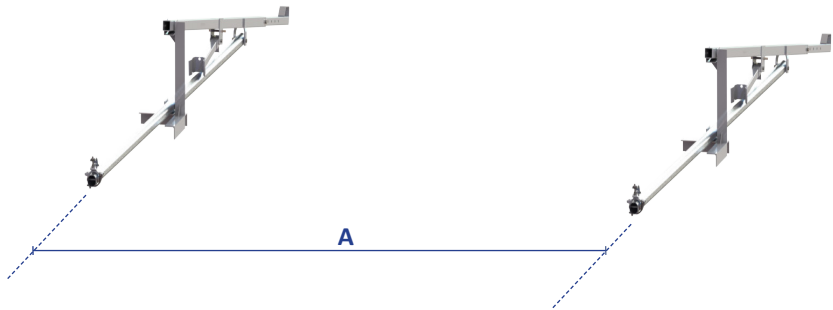
Step 5: Position Wind Lock and connect to Body.



Step 6: Connect 48/60 Double Couplers to Diagonal Tube at 50mm from tube end.
 Connect 48/60 Double Coupler to the body as shown in isometric and add M12x80 Bolt & Nut to the body just above coupler.
Note: Ensure squareness and verticality when connecting coupler and note direction of coupler opening.

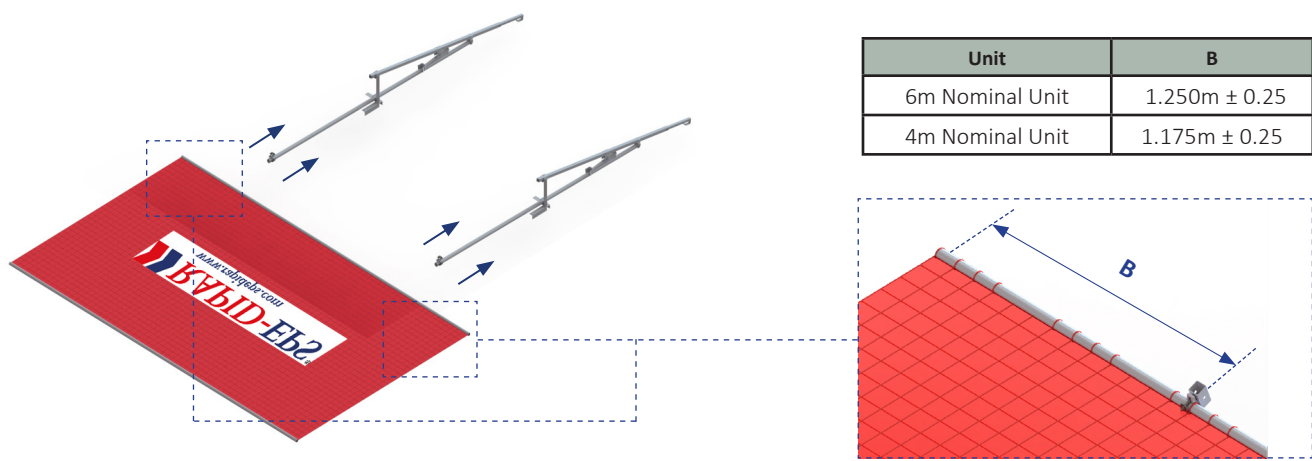


Step 7: Repeat steps 2-6 for second leg placing the assembly at correct spacing.
Note: 3.5m apart for 6.00m units & 1.65m for 4.00m units.

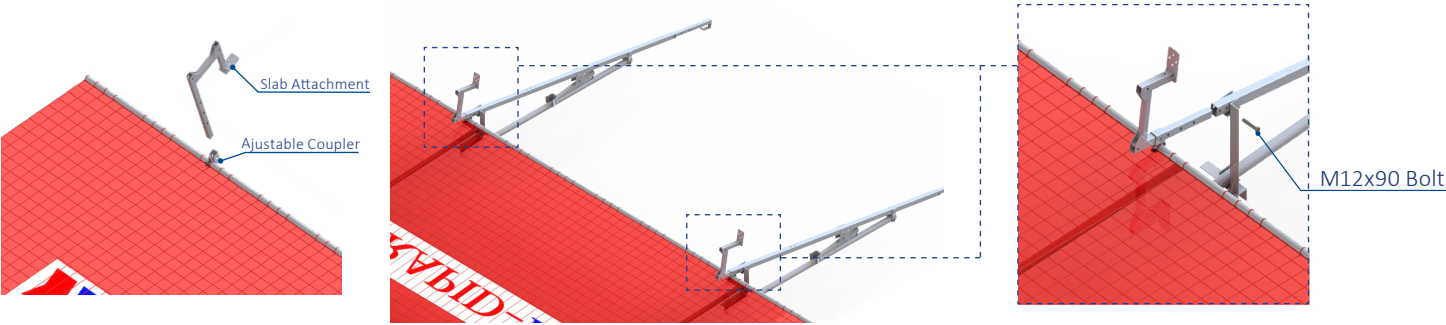


| Unit | A |
|-----------------|--------------|
| 6m Nominal Unit | 3.50m ± 0.25 |
| 4m Nominal Unit | 1.65m ± 0.25 |

Step 8: Insert adjustable coupler on inner horizontal tubes on both end at specified distance (1250mm for 6.0m & 1175mm for 4.0m).



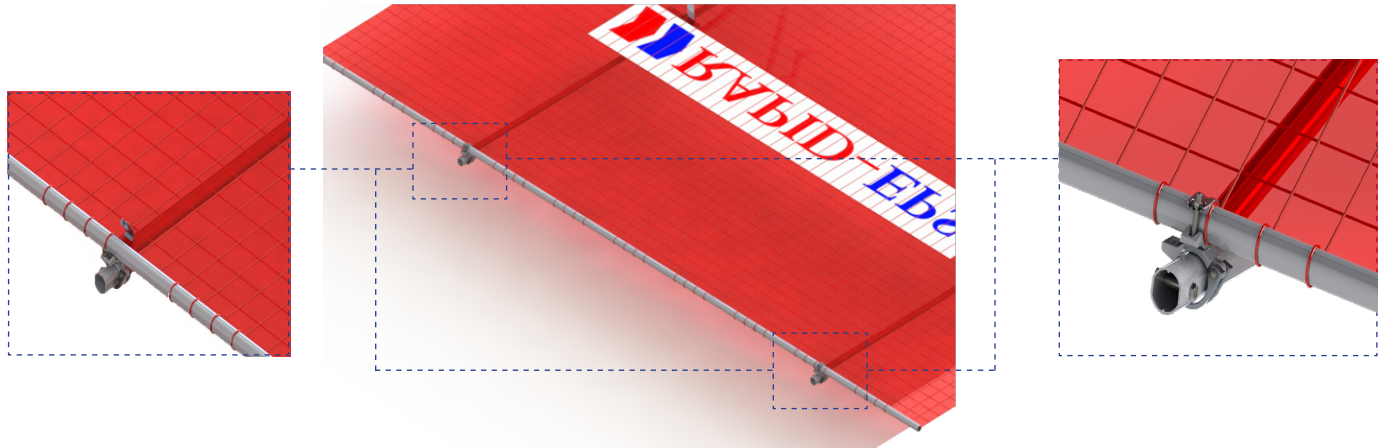
Step 9: Insert Slab Attachment in the Adjustable Coupler from the both ends of the Inner Horizontal Tube and drag the net assembly to insert in the body (both side simultaneously).



Step 10: Insert outer horizontal tube in the coupler mounted on the diagonal tube at same specified distance used for adjustable coupler spacing in previous step (i.e. step 9) and tighten it.

This is critical to ensure that the fan opens out uniformly.

Note: Pay particular attention to the direction of the couplers and ensure no net element is caught under the couplers. Ensure logo is at the bottom and 20x20 net layer is on top.



Step 11: Attach Lifting Slings on each side by choking the sling around both the diagonal and outer tube as indicated in isometric. Ensure no sharp edges are caught within the lifting sling to cause tearing or damage.



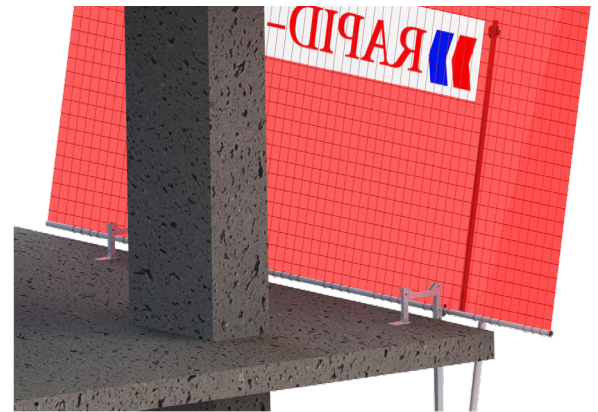
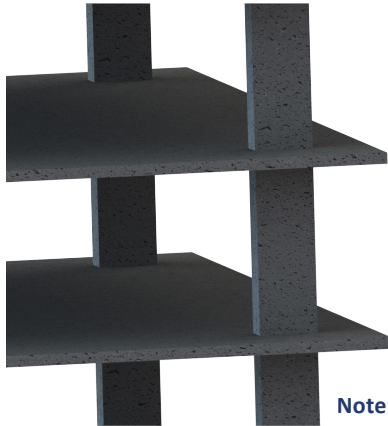
Step 12: Connect lifting sling to crane and lift Rapid Fan unit in a controlled manner. Ensure that assembly stools are removed out of the way.

Note: When Rapid Fan unit is in the vertical position care must be taken as the Fan unit will open up. Ensure no personnel is standing under the unit.



Step 13: Hook the crane to Rapid Fan and lift it on to the slab in a controlled manner ensuring that Slab Attachments lowered on to the slab first.

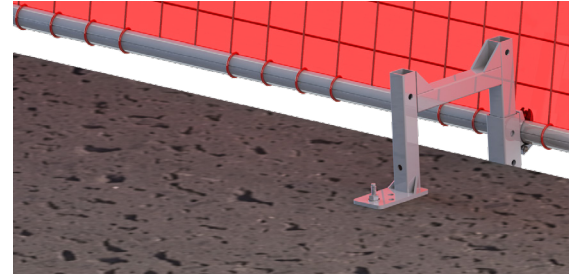
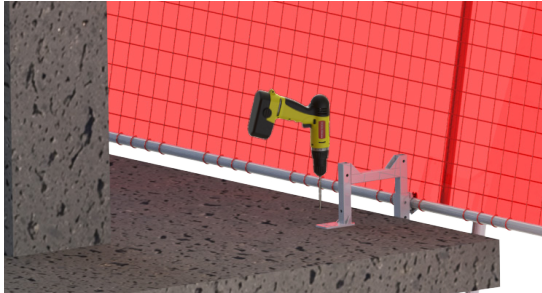
Note: Care to be taken not to expose the operatives to open the edge. All operatives must be trained and competent and equipped with all necessary Personal Protective Equipment.



Note: Edge Protection removed for clarity.

Step 14: Whilst still connected to the crane with nets in a folded manner, drill through the Slab Attachment pre-allocated hole to the required depth and fix 2nos. M12 anchor bolts, one for each Slab Attachment and tighten to ensure correct anchor engagement to the slab.

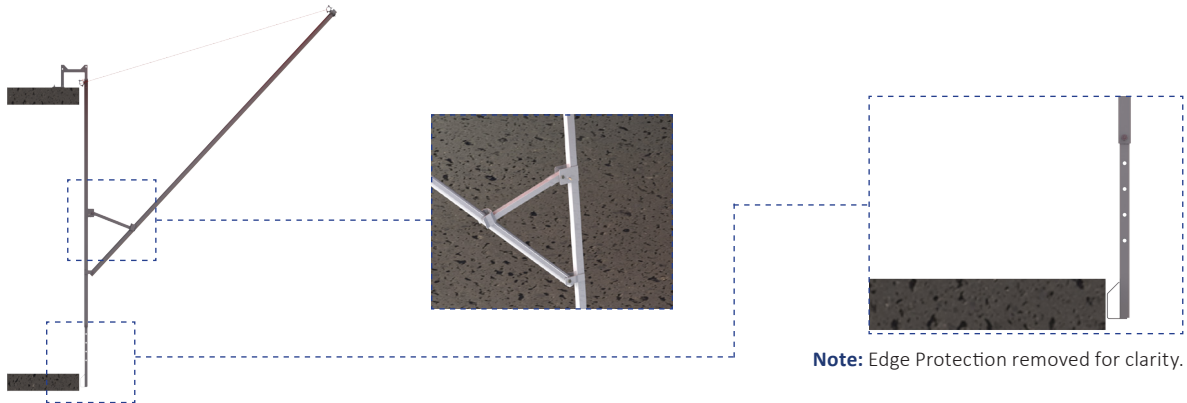
Note: Refer to Anchor Manufacturer data for depth of drilling and strength.



Note: Edge Protection removed for clarity.

Step 15: Once both anchor bolts are fixed, the crane may be released from the Fan unit. Fan unit can be opened in a controlled manner using the Nylon rope pre-connected to the outer tube.

Note: Ensure that wind Lock is engaged.



Note: Edge Protection removed for clarity.

Repositioning on Upper Floors

- Using either a manual or electrically operated suitable lifting hoist positioned on the slabs above, RAPID EPS Safety Net Fans units may be raised a maximum of 3 floors at any one lift, to a new slab.
- Ensure that the Fan units are free of any loose debris that may fall during the crane handling.
- All operatives installing RAPID EPS Safety Net Fans must be trained and equipped with all necessary personal protective equipment, such as Safety Harness with Lanyard or retractable whilst installing or dismantling Safety Net Fans.
- It is strongly advisable to carry out the installation of the Fan units from behind the safety of Temporary Edge Protection, working between the railings to gain access to the edge of the slab. Where operatives have to install Fan units from an exposed unprotected edge, all PPE and fall prevention and arrest systems must be employed to carry out the work safely, with a rescue plan in place in case of fall.
- During lifting operation use only pre-allocated and certified lifting slings.
- For installation on slabs please refer to the section Mounting to the Structure on page (26 & 27).

Corner Unit Kit Overview

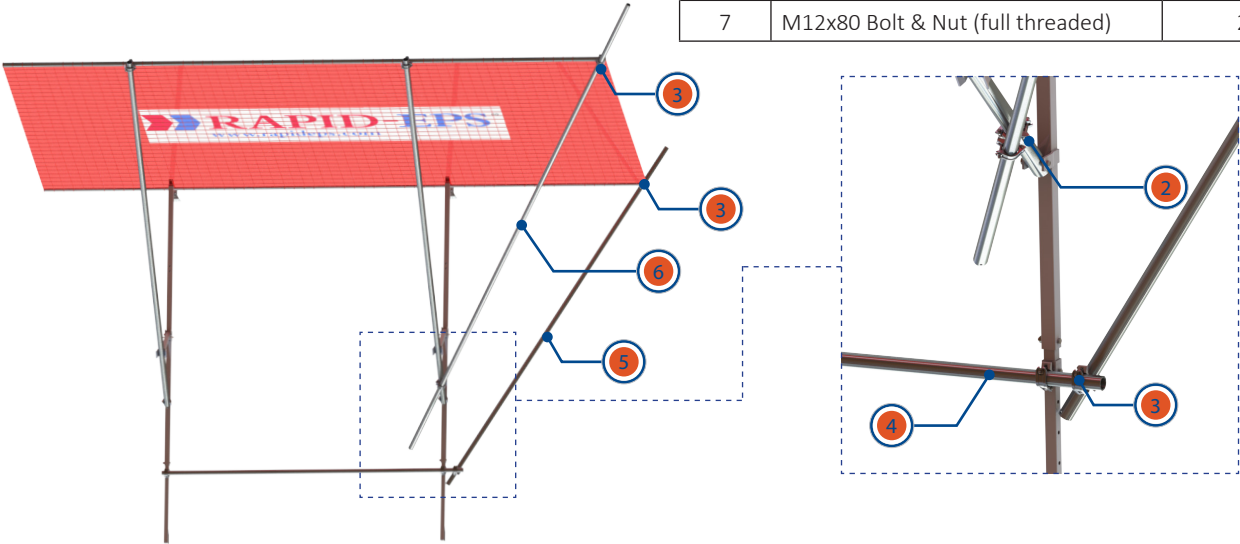
Corner units provide a full closure of the corner area of any building/structure. The Corner Unit is fixed on the Standard Fan.

For cantilevers bigger than 1.50m a corner unit kit needs to be considered. The max. cantilever for a corner unit is 2.00m.

Note: Corner Unit Kits are designed for catching light material only. Corner Unit Kits can be used with 6.00m Safety Net Fans only.

Corner Unit kits do not comply with EN 1263.

| Pos. | Description | STD. Qty |
|----------------------------------------------|-----------------------------------|----------|
| Safety Net Fan Corner Unit Kit consisting of | | |
| 1 | Adjustable coupler | 2 |
| 2 | Swivel coupler 48-60 | 1 |
| 3 | Swivel coupler 48-48 | 3 |
| 4 | Horizontal tube 48mm 3.00m | 1 |
| 5 | Horizontal tube 48mm 4.00m | 1 |
| 6 | Horizontal tube 48mm 6.00m | 1 |
| 7 | M12x80 Bolt & Nut (full threaded) | 2 |





Dismantling and Removal from Site

- Using the pre-allocation lifting slings on the RAPID EPS Safety Net Fans, each unit is connected to the tower crane prior to unsecuring the anchor bolts from the slab.
- Ensure that the Fan units are free of any loose debris that may fall during the crane handling.
- Crane the units down to ground level in a pre-allocated dismantling area.
- All components are dismantled, checked for any damage, cleared of any debris or concrete before storing in a suitable pallet for removal from site.
- Non reusable items such as lifting slings, ropes, anchor bolts etc. are safely disposed off.

Inspection

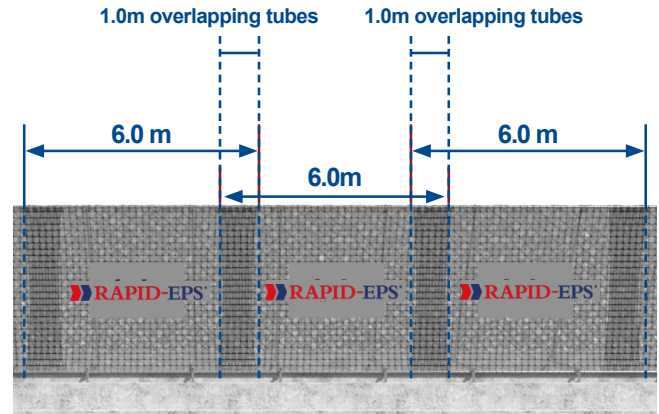
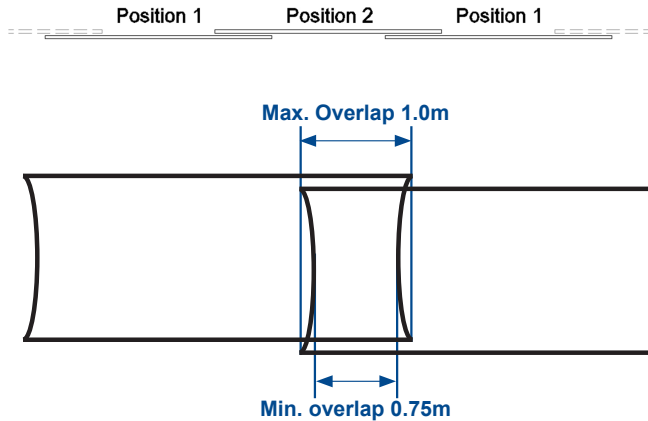
- When installation is complete, all RAPID EPS Safety Net Fans are to be inspected by a Certified Operative before opening zoned off area.
- RAPID EPS Safety Net Fans to be inspected on at least weekly basis or any fall of an object that may have affected its structural integrity, by Certified Operative. Report to Process Safety Management.
- RAPID EPS Safety Net Fans must be cleaned from debris and material. Any damage to the units must be reported to Process Safety Management.
- Any alterations or tampering with the RAPID EPS Safety Net Fans must be reported to Process Safety Management.
- Any visible damage to the RAPID EPS Safety Net Fans is to be reported to Process Safety Management immediately.
- Damaged RAPID EPS Safety Net Fans are to be inspected by competent person.

Overlap

To ensure total coverage of gaps between RAPID EPS Safety Net Fans units, the Fans must either be laced together or overlapped. Using the customary method of overlap, the lower units must be installed prior to upper units as indicated in the sketch below. This method of overlap allows for easy access when folding units for crane-age. The overlapping is achieved automatically using the adjustable coupler when used in conjunction with Slab attachments.

When using other attachments (Wall or Slab attachments Flat), the Fan units simply stack on top of one another.

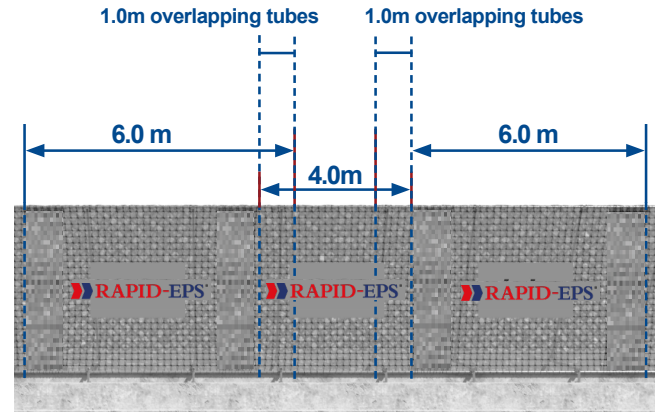
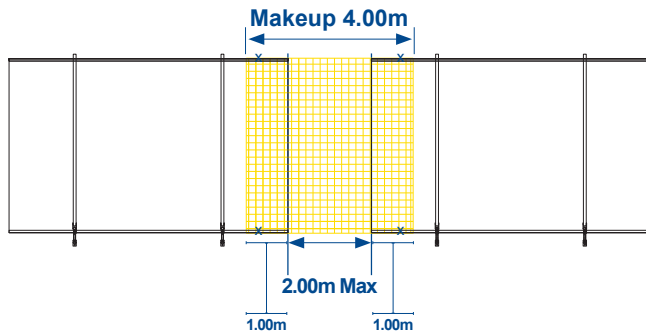
The extent of overlap between RAPID EPS Safety Net Fans units determines the effective length of unit on plan. To maintain the minimum overlap of 0.75m overlapping of nets between RAPID EPS Fan units as required by EN-1263, it is recommended to overlap the units at 1.0m overlapping tubes as the nets are narrower in the middle.



Makeup Units

When it is not possible to overlap the RAPID EPS Safety Net Fans the use of a “makeup unit” will cover the empty space between them and allows a full coverage of the edge protection.

For makeup units typically the standard net unit with 4.00m length is used. The makeup unit will be connected with 2 swivel couplers to the standard RAPID EPS Safety Net Fans on each side. A min. overlap of 1.00m on each side needs to be maintained.



Additional area of use

Knee Brace with Extension: Used to support the Rapid Fan unit from the underside of the slab. Most suitable where floor to floor height exceeds the limits of the extension leg or where there is no slab below or slab is in or out.

Note: Slab thickness range 200mm to 400mm.

Note: Use M12x80 full thread bolt (2 nos.) to connect attachment to the body and to connect a knee brace extension.

Installation: 1. Follow the **Step 1 & 2** (pg: 20 to 21).

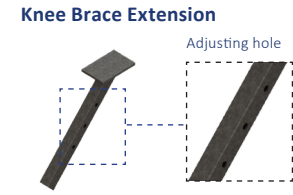
2. **Step 3:** Install the knee brace on the body (2.75m body only) and secure by means bolt and nut by adjusting as per requirements (see pic).

3. Refer **Step 4 to 10** (pg:22 to 25) ***Additional Step** make sure that the gap between bottom of slab attachment and top of Knee Brace extender is same of slab thickness with the help of any adjusting hole provided (2.75m body or knee Brace or Knee Brace Extender).

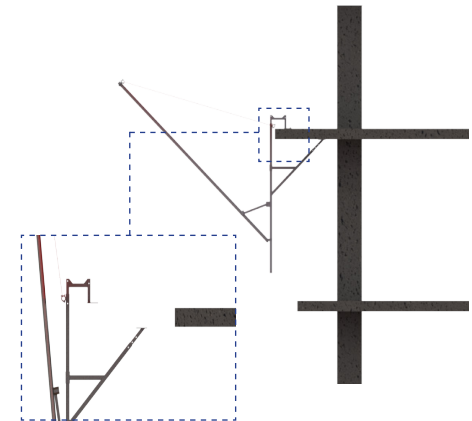
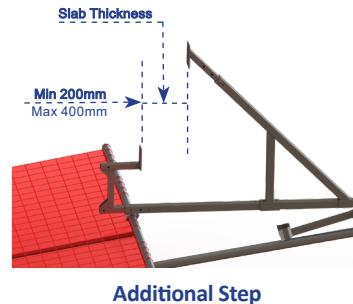
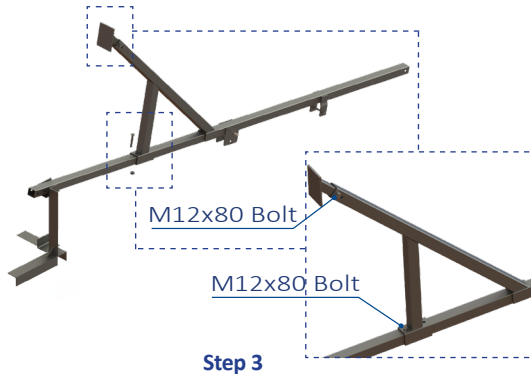
4. Refer **Step 11 to 15** (pg:25 to 27).



| Item No. | Description | Wt.(kg) |
|----------|-------------|---------|
| TSRKB | Knee Brace | 8.9 |



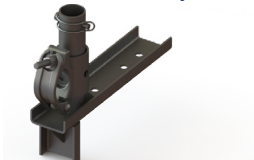
| Item No. | Description | Wt.(kg) |
|----------|--------------|---------|
| TSRKB E | KB Extension | 2.6 |



Slab Attachment Adjustable: Enables anchor connection of the RAPID EPS Safety Net Fans to slabs whilst allowing block work or similar operation on the slab edge. Slab Attachment Adjustable can be installed ahead of the Fan installation enabling speedy erection.

Note: Use M12x120 Anchor bolt to connect attachment to the slab.
 M12x80 bolts & nut (2nos.) to connect splice to adjustable coupler and body.

Slab Attachment Adjustable

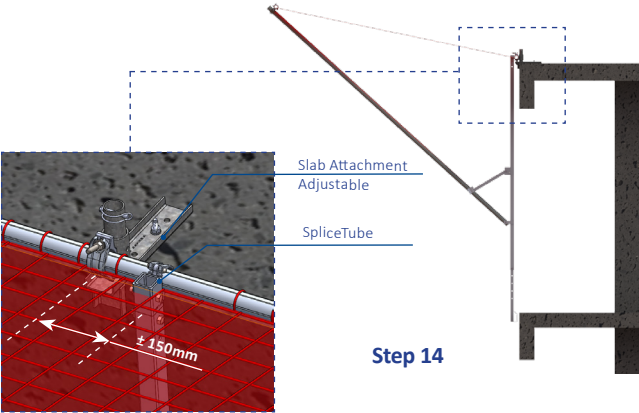
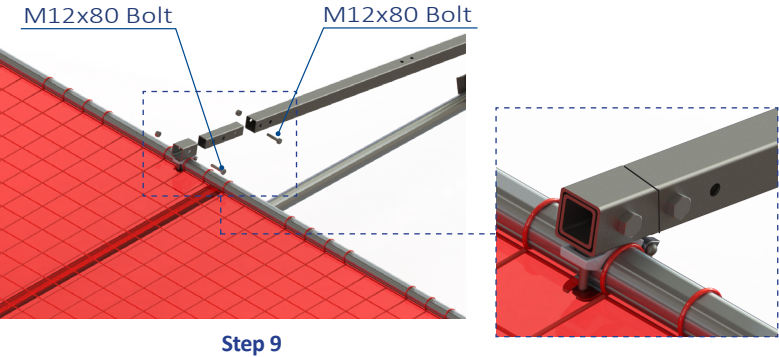


Splice Tube



| Item No. | Description | Wt.(kg) | Item No. | Description | Wt.(kg) |
|------------|----------------------|---------|-----------|-------------|---------|
| TSFSLATADJ | Slab Att. Adjustable | 3.31 | TSRSPLC19 | Splice Tube | 0.7 |

- Installation:**1. Follow the **Step 1** to **8** (pg: 20 to 24).
2. **Step 9:** Insert Adjustable coupler into Splice Tube and into the body and secure by means of bolts (see pic).
3. Refer **Step 10** to **13** (pg: 25 to 26).
4. **Step 14:** Whilst still connected to the crane with nets in a folded manner, install Slab Attachment Adjustable in pre-allocated hole (150mm either side of the body spacing) to the required depth and fix 2nos. M12 anchor bolts, one for each Slab Attachment Adjustable and tighten to ensure correct anchor engagement to the slab and secure the net in the Slab Attachment Adjustable.
- Note:** Refer to Anchor Manufacturer data for depth of drilling and strength.
5. Refer **Step 15** (pg: 27).



Wall Attachment: Enables anchor connection of the RAPID EPS Safety Net Fans to walls and vertical surfaces. Key hole enables pre-drilling for anchors. Locking bolt ensures secure positioning of the Fan.

Note: Use M12x120 Anchor bolt to connect attachment to the slab.
M12x80 bolts & nut (2nos.) to connect splice to adjustable coupler and body.

Wall Attachment

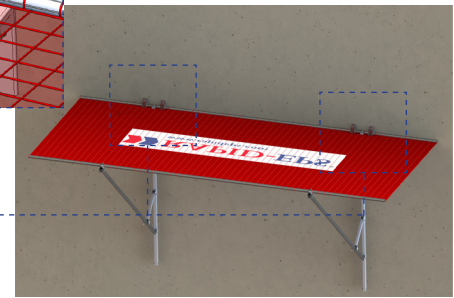
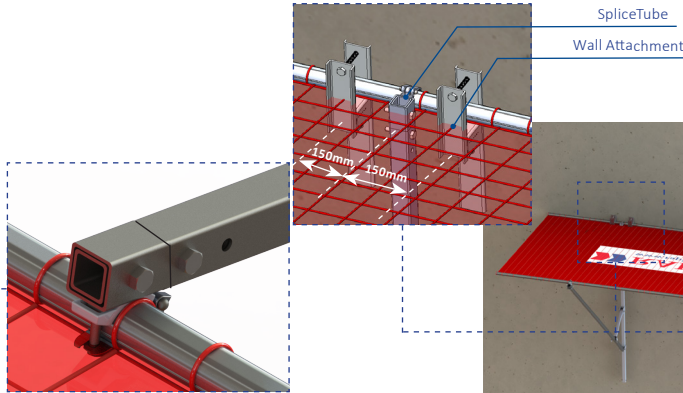
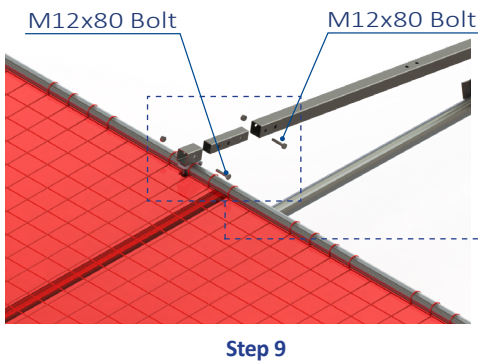


Splice Tube



| Item No. | Description | Wt.(kg) | Item No. | Description | Wt.(kg) |
|----------|-----------------|---------|-----------|-------------|---------|
| TSFWAAT | Wall Attachment | 2.86 | TSRSPLC19 | Splice Tube | 0.7 |

- Installation:**1. Follow the **Step 1** to **8** (pg: 20 to 24).
2. **Step 9:** Insert Adjustable coupler into Splice Tube and into the body and secure by means of bolts (see pic).
3. Refer **Step 10** to **13** (pg: 25 to 26).
4. **Step 14:** Whilst still connected to the crane with nets in a folded manner, install Wall Attachment in pre-allocated hole on the wall (150mm either side of the body) to the required depth and fix 4 nos. M12 anchor bolts, one for each Wall Attachment and tighten to ensure correct anchor engagement to the wall and secure the net in the Slab Attachment Adjustable.
Note: Refer to Anchor Manufacturer data for depth of drilling and strength.
5. Refer **Step 15** (pg: 27).



Slab Attachment Flat: Enables anchor connection of the RAPID EPS Safety Net Fans to slabs whilst allowing block work or similar operation on the slab edge. Slab Attachment Flat can be installed ahead of the Fan installation enabling speedy erection. Locking bolt ensures secure positioning of the Fan.

Note: Use M12x120 Anchor bolt to connect attachment to the slab.
 M12x80 bolts & nut (2nos.) to connect splice to adjustable coupler and body.

Slab Attachment Flat



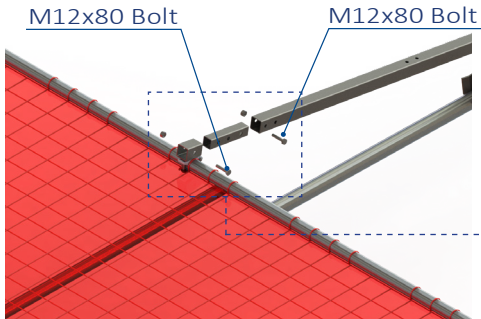
Splice Tube



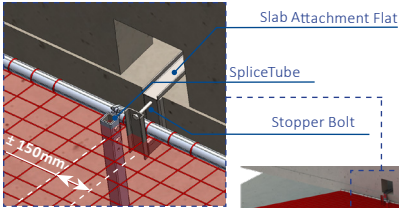
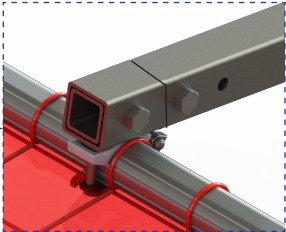
| Item No. | Description | Wt.(kg) |
|----------|----------------------|---------|
| TSFLAT | Slab Attachment Flat | 3.08 |

| Item No. | Description | Wt.(kg) |
|-----------|-------------|---------|
| TSRSPLC19 | Splice Tube | 0.7 |

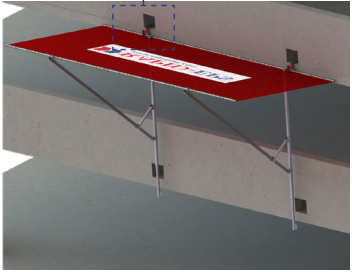
- Installation:**
1. Follow the **Step 1 to 8** (pg: 20 to 24).
 2. **Step 9:** Insert Adjustable coupler into Splice Tube and into the body and secure by means of bolts (see pic).
 3. Refer **Step 10 to 13** (pg: 25 to 26).
 4. **Step 14:** Whilst still connected to the crane with nets in a folded manner, install Slab Attachment Adjustable in pre-allocated hole (150mm either side of the body spacing) to the required depth and fix 2nos. M12 anchor bolts, one for each Slab Attachment Adjustable and tighten to ensure correct anchor engagement to the slab and secure the net in the Slab Attachment Adjustable.
- Note:** Refer to Anchor Manufacturer data for depth of drilling and strength.
5. Refer **Step 15** (pg: 27).



Step 9



Note: Stopper bolt to fully tighten to ensure that horizontal tube will not come out of the Attachment



Scaffold Attachment: Used to connect the RAPID EPS Safety Net Fans to scaffold and shoring structures. Connection must be made to the vertical members and user must ensure that loading imposed on the scaffold structure are designed and catered for.

Scaffold Attachment



Splice Tube



Note: M12x80 bolts & nut (2nos.) to connect splice to adjustable coupler and body.

| Item No. | Description | Wt.(kg) |
|----------|---------------------|---------|
| TSFSCAT | Scaffold Attachment | 3.96 |

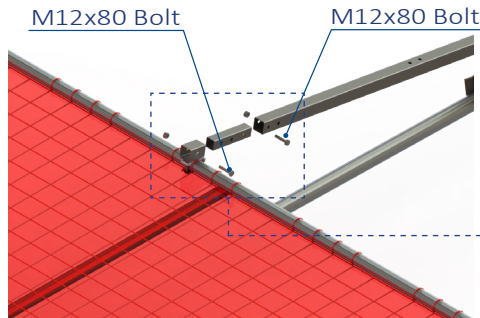
| Item No. | Description | Wt.(kg) |
|-----------|-------------|---------|
| TSRSPLC19 | Splice Tube | 0.7 |

Installation: 1. Follow the **Step 1 to 8** (pg: 20 to 24).

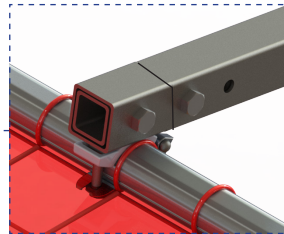
2. **Step 9:** Insert Adjustable coupler into Splice Tube and into the body and secure by means of bolts (see pic).
3. Refer **Step 10 to 13** (pg: 25 to 26).
4. **Step 14:** Whilst still connected to the crane with nets in a folded manner, install Scaffold Attachment (150mm either side of the body spacing) onto the scaffolding.
5. Refer **Step 15** (pg: 27).



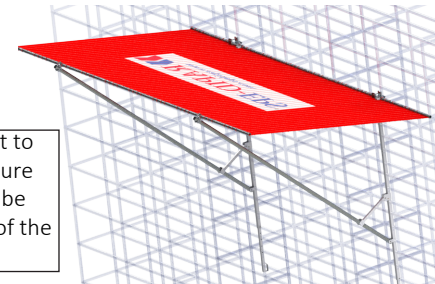
Note: End user must ensure that the scaffold structure is capable of withstanding the imposed forces.
Scaffold attachment must be connected to vertical members of scaffold structure.



Step 9



Note: Stopper bolt to fully tighten to ensure that horizontal tube will not come out of the Attachment



Extender Shoe & Extender Connector: Used to support Rapid Fan unit Leg Extension. Suitable in area where slab is in-out upto 200mm.

Note: Use M12x120 Anchor bolt to connect attachment to the slab.

Extender Shoe



Extender Connector

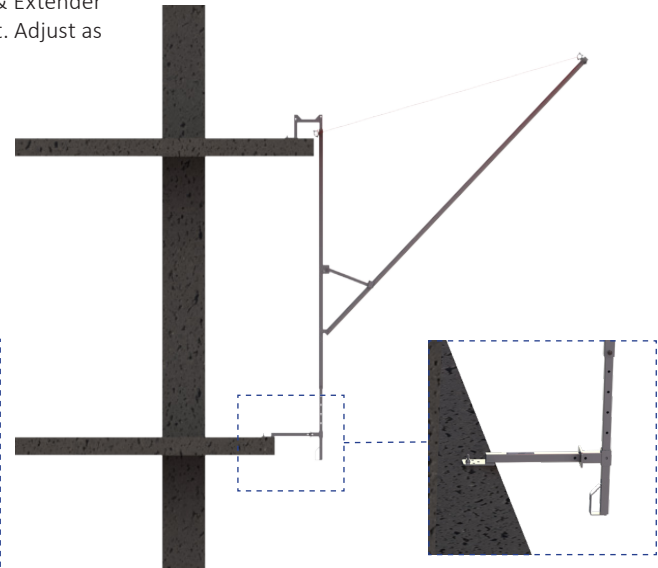
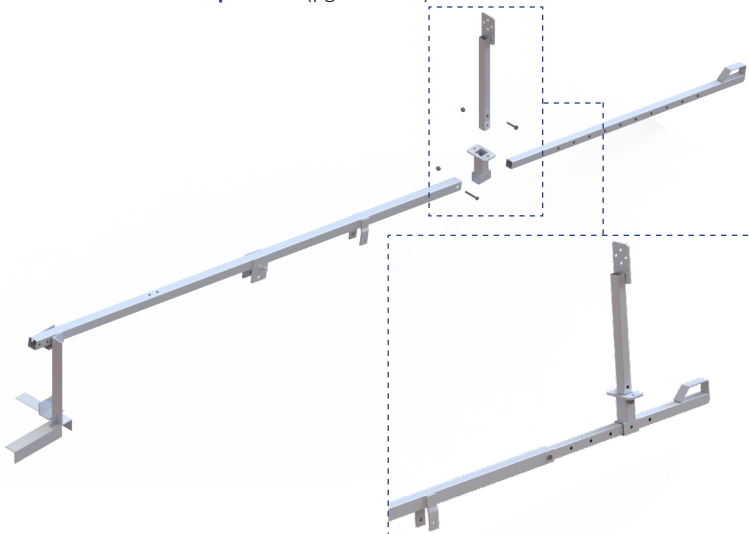


| Item No. | Description | Wt.(kg) |
|----------|---------------|---------|
| TSRS500 | Extender Shoe | 2.1 |

| Item No. | Description | Wt.(kg) |
|----------|--------------------|---------|
| TSREC15 | Extender Connector | 0.5 |

Installation: 1. Follow the **Step 1 to 2** (pg: 20 to 21).

2. **Step 3:** Insert and connect Extension Leg, Extender Connector & Extender Shoe to Rapid-EPS Safety Net Fan body using M12x80 Bolt & Nut. Adjust as necessary to suit floor to floor height of building (see pic).
3. Refer **Step 4 to 15** (pg: 25 to 27).



Wind Loading

Standard Type

| Wind load limitation for Standard Fan | |
|---------------------------------------|----------------|
| Building Height (m) | Wind Speed m/s |
| 50 | 35 (126 kph) |
| 75 | 30 (108 kph) |
| 100 | 30 (108 kph) |
| 125 | 30 (108 kph) |
| 150 | 30 (108 kph) |

| | |
|--|------------------------------|
| | Wind Lock required |
| | Anchor top & bottom required |

Wind Loading Guidance Assumptions:

1. Building category considered = IV
2. Exposure time factor C = 0.7 (not applied)
3. Height above sea level = 16m
4. Aerodynamic coefficient considered = 1.3



Note:

1. End user must calculate actual site wind conditions and apply to wind load limitations in this chart.
2. End user must ensure that during windy conditions beyond fan limitation, all units are folded to prevent damage.

Measures Against Wind

Standard Type

| Wind load limitation for Standard Fan | | | | | | |
|---------------------------------------|--------------------------------|-----------------------|----------|----------|-----------|----------|
| Building Height (m) | | 50 | 75 | 100 | 125 | 150 |
| Wind Speed m/s | Basic Wind Pressure (Qb) | Peak Wind Pressure Qp | | | | |
| | | Cq = 2.35 | Cq = 2.7 | Cq = 2.9 | Cq = 2.95 | Cq = 3.0 |
| 10 (36 kph) | 0.061 | 0.08 | 0.17 | 0.18 | 0.18 | 0.19 |
| 15 (54 kph) | 0.138 | 0.19 | 0.38 | 0.41 | 0.41 | 0.42 |
| 20 (72 kph) | 0.245 | 0.34 | 0.67 | 0.72 | 0.73 | 0.75 |
| 25 (90 kph) | 0.383 | 0.52 | 1.05 | 1.13 | 1.15 | 1.17 |
| 30 (108 kph) | 0.551 | 0.76 | 1.51 | 1.62 | 1.65 | 1.67 |
| 35 (126 kph) | 0.750 | 1.03 | | | | |
| 40 (144 kph) | 0.980 | | | | | |
| 45 (162 kph) | 1.240 | | | | | |

$$Q_{p(z)} = Q_b \cdot C_q \cdot C_t$$

$$C_t = 1 + 0.001 \Delta$$

$$\Delta = 16m$$

$$Q_b = \frac{1}{2} \cdot \rho \cdot V_b^2$$

$$\rho = 1.225 \text{ kg/C}_{prob}$$

$$W_e = Q_{p(z)} \cdot C_{pnet} \cdot C_{prob}$$

$$C_{pnet} = 1.4$$

$$C_{prob} = 0.7$$

| | |
|--|------------------------------------------|
| | No Wind Lock required |
| | Wind Lock required |
| | Anchor top & bottom required |
| | Strap down required |
| | Fold fans in upright position and secure |


Safety Net Fan net label

Safety Net Fan nets are manufactured in accordance to EN1263-1 : 2014 and ANSI 10.37-2016.

Each net is supplied with a label carrying important information for the end user. All manufacturer's data and traceability Identification number is supplied on the label.

End user must ensure that In accordance EN1263-1 : 2014 the nets are tested for UV degradation.

Test Tags are provided with nets for this purpose. Due date for testing is marked on the label. If in doubt, please contact RAPID EPS.

| Designation | Standard | System | Class | Mesh Size | Mesh Configuration | Level | Net Size(m) | Testing Agency | Date of Prototype test | Rated Load | Net Material | | | | | | |
|------------------------------------------------------------------------------------------------|-------------|--------|-------|-----------|--------------------|------------------------------------------------------------------------------------|-------------|----------------|------------------------|------------|--------------|--|--|--|--|--|--|
| Safety Net | EN1263-1 | | | | | | | | | | HTPP | | | | | | |
| Safety Net | ANSI A10.37 | | | | | | | | | | HTPP | | | | | | |
| SAFETY NET COMPLIANT TO: | | | | | |  | | | | | | | | | | | |
| <ul style="list-style-type: none"> • EN 1263-1:2014 • ANSI A10.37-2016 | | | | | | | | | | | | | | | | | |
| Register Number: | | | | | | | | | | | | | | | | | |
| Date of Production: | | | | | | | | | | | | | | | | | |
| Date of Delivery: | | | | | | | | | | | | | | | | | |
| Article No. | | | | | | | | | | | | | | | | | |


Lifting Sling Label




Lifting slings are classed as lifting accessories. In accordance with regulation of each country or territory, thorough examination must be conducted by the end user every 6 months (recommended) or 12 months, depending on local regulation.


Lifting Slings are manufactured to EN 1492-1 (equivalent to OSHA AWSI/ASME B 30.9) with a Safe Working load of 550 lbs.




(F.o.s of 7:1 against failure). Note loading capacity in each orientation on label. If in doubt, please contact RAPID EPS.



| | | |
|------------------------------------------------------------------------------------------------------------|--|--|
| 100% POLYESTER LENGTH: 3.25 FT WLL: 1620 LBS BATCH No. H19315 DATE: 06/2019 ASME/ANSI B30.9 | | |
|  | | |
| CAUTION! INSPECT BEFORE USING STOI: SAFETY FACTOR | | |

| WORKING LOAD LIMIT | | |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| VERTICAL | CHOKER | BASKET |
|  |  |  |
| 1620 LBS | 1296 LBS | 3240 LBS |

| | |
|-----------------------------------------------------------------------------------------------------------|--|
| 100% POLYESTER SF: 7:1 MAXLAST: 525 kg BEDSAB 06-714550 ID.NR.: H19315 EN-1492-1 | |
|  | |

| MAXLAST | | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| VERTICAL | CHOKER | BASKET |
|  |  |  |
| 525 Kg | 420 Kg | 1050 Kg |

Safety

RAPID EPS Safety Net Inspection Check List

1. Ensure that all Fan units are correctly anchored or attached to the structure.
2. Check that there are no gaps larger than 100mm between Fan unit and structure.
3. Ensure that Fan overlaps are 0.75m minimum at joints.
4. All Fans must be clear of debris and fallen objects.
5. Wind lock where applicable must be engaged.
6. Check that on high structures Fan units are anchored top and bottom.
7. Check that all extension legs bear against the slab below.

All Safety Net components must be inspected by a competent person prior to re-use.

A record inspection of the annual testing of Safety Nets must be kept by the customer.

Following the fall of an object in the Nets, the unit must be inspected by a competent person prior to re-use.

Annual inspection of RAPID EPS Safety Net Fans

- All RAPID EPS Nets are supplied complete with 3 test tags, each with a same unique ID as the safety net.
- It is the requirement of the EN standard that the nets are tested at least once a year for UV degradation.
- Depending on the country of use the expected life span of safety nets may be from 2-4 years.
- Due dates for testing of tags are quoted on the safety net label. Otherwise test must be carried out every 12 months following the first use.
- Safety Nets that fail a test or inspection must be destroyed.

RAPID EPS Fan Cleaning Procedure:

Important guidance notes for RAPID EPS Safety Net Fan cleaning:

1. It is strongly recommended that the Fan units are inspected and cleaned on a weekly basis. For inspection guidance notes refer to weekly inspection guidelines.
2. A site risk assessment must be carried out for this process if deemed necessary.
3. Before starting the cleaning process, the area below the Fans must be cordoned off to prevent any workers entering this area.
4. Ensure that all workers involved in the cleaning have adequate PPE and Fall Protection Equipment, are competent in the use of such equipment and are trained in working at height. All cleaning process must be carried out from behind the edge protection. If edge protection must be removed for cleaning, workers must wear fall protection equipment. The open areas of edge protection must also be cordoned off to prevent un-authorised entry of other workers.
5. Using the folding rope provided, fold the Fans so that the debris is bagged into the fan net, ensuring that no object is too close to the edge of the fan nets which may accidentally fall off the edge.
6. First remove the heavy objects from the net e.g. Blocks, timber beams, steel props etc, and place inside a bucket for safe disposal.
7. After removal of heavy objects, lift the fan nets and throw all small debris on the edge of the slab, ensuring no debris fall into the gaps between slab and fan units. Gaps may also be covered with cloth prior to this process. Brush off debris and move into bucket for safe disposal.
8. In case of fall of fresh concrete on the net, it must be washed and cleaned immediately.
9. In case of hardened concrete is on the net, the net must be destroyed and replaced.
10. Fan nets must be inspected for any damage or tear after cleaning.
11. Unfold the Fan net into open position.

RAPID EPS Safety Net Fans First Installation Inspection:

Important instructions & notes for RAPID EPS Safety Net Fan system check list forms:

- Make sure all couplers and bolts are tightened before lifting with a crane.
- Ensure that lifting slings are installed correctly. Two lifting slings are required per unit.
- Fans must be connected to the structure using correct attachment as specified by RAPID EPS using correct anchors as specified by RAPID EPS. Refer to User instruction and drawings.
- Windlocks must be installed at the correct position and engaged when Fan unit is open. See user instruction for more detail.
- Ensure that the structure upon which the Fans are installed on (Slab, walls, scaffolding etc) is capable of carrying the imposed loads. Check with Eng on site.
- Ensure Minimum overlap of 0.75m between Fan units.
- For tall structures and structures exposed to heavy wind load, ensure that Fan units are tied top and bottom. See user instruction for further guidance.
- Installers must ensure that crane operator is lifting the units in position with the guidance of a crane banks-man and communications between the involved parties are in place.

Date of Installation:

Location of Installation:

Inspection carried out by:

Date & Signature:

Project Name:

RAPID EPS Safety Net Fans Weekly Inspection:

Important instructions & notes for RAPID EPS Safety Net Fan system check list forms:

- Ensure lifting slings are intact and the last inspection record is under 6 or 12 months, depending on local regulation. Always use RAPID EPS supplied Lifting Slings.
- Ensure Anchor bolts are tight and untampered with. Always use RAPID EPS Specified Anchor Bolts.
- Ensure there is no wind damage to the Fan Metal structure and wind locks. No Bending of tubes should be visible.
- Fold Fans in upright position and secure if heavy winds are expected.
- Fan nets must be clean of any concrete and debris. Cleaning is required immediately if fresh concrete is on the net.
- Fan nets must be inspected for any damage or tear. Incase of fall of heavy objects in the Fan, RAPID EPS must be notified.
- Ensure Minimum overlap of 0.75m between Fan units.

Date of Installation:

Location of Installation:

Inspection carried out by:

Date & Signature:

Project Name:

Information

Traceability

All Rapid-EPS Safety Net Fan is fully compliant to EN 1263-2 :2004.

Rapid-EPS are Environmentally accredited to ISO 14001.

Rapid-EPS are accredited to EN1090 Execution Class 2.

Product data sheets and test certificates are available upon request.

Contact

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Important

Always carry out your own project risk assessment and produce a method statement for the installation of Rapid-EPS products prior to the commencement of any installation.

Always use Personal Fall Protection Equipment

Disassembly process must follow the instructions in reverse order. Improper installation or removal could result in serious injury or death.