

## Product Name – Nextep FRP Rung Ladder

### Reference Standards

AS1657:2018, AS 5216:2018

### Product Description

Glass fiber reinforced plastic 'Rung Ladder' manufactured in accordance with AS1657:2018.

### Purpose of use

To be used as a means of access in manholes and other underground entry chambers to facilitate entry and exit.

### Recommendation

When installing a Nextep FRP Ladder, be sure that the ladder is firmly installed/ fixed in accordance with the relevant specifications and installation notes as mentioned in this document.

The recommended anchor bolt for use with a Nextep FRP Ladder are as follows,

- stainless steel 70 x 12mm mechanical type anchor.
- chemical set M12 galvanised threaded stud, minimum embedment depth 110mm for outdoor environment.
- chemical set M12 (SS316) threaded stud, minimum embedment depth 110mm for costal/corrosive

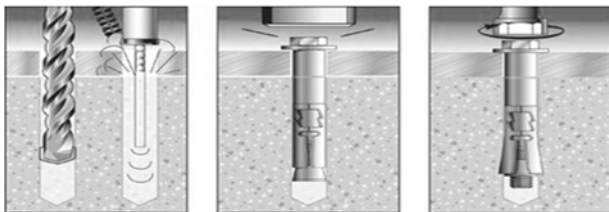


Figure 1: Use of Mechanical Expansion Anchor System

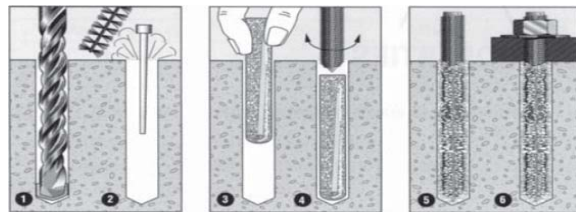


Figure 2: Use of Chemical Anchor system

### Condition of Host Material

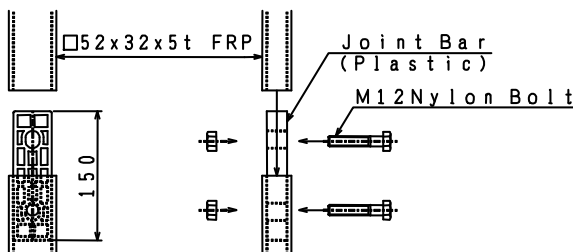
- Use on concrete that is not "cracked" or deteriorated (weathered or neutralized).
- Use on concrete with an actual compressive strength ranging from 17.65 – 35.3 MPa.

### Anchor Positions for Installation

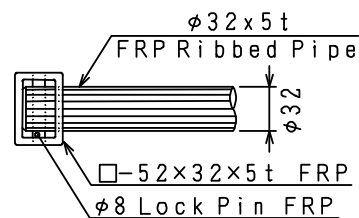
Restrictions regarding the positioning of anchor bolts are as follows:

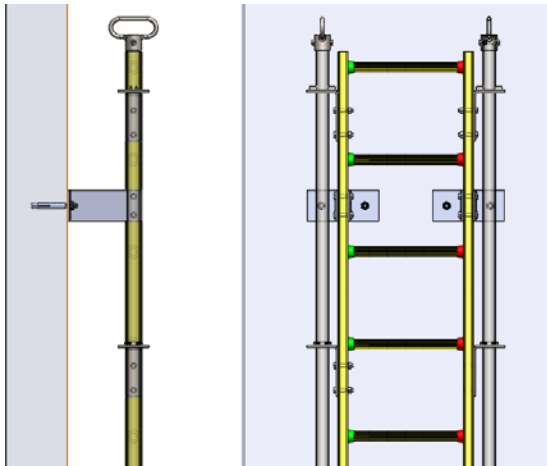
- Edge distance (distance from all edges of host material), minimum of twice the anchors buried depth i.e., 100mm.
- Concrete Thickness, a minimum of twice the anchors buried depth i.e., 100mm.

#### Detail For Ladder Joint

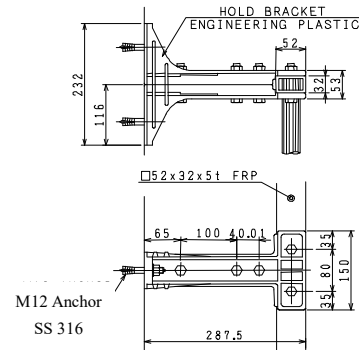


#### Rung Detail





## Sample Bracket



## Installation Procedure

1. Remove any protruding concrete slag that may interfere with bracket positioning or anchor bolt installation.
2. Suspend or support ladder in the correct installation position. If lenses are fitted, red is for the left and green is for the right side when looking from the base of the ladder to the top. Check both the base and top of stiles and rungs are the correct distances as per W.S.A.A requirements (if applicable, refer to W.S.A.A drawing number SEW-208).
3. Starting with the uppermost set of brackets using the elongated anchor bolt holes molded into the bracket face as a guide, drill the required number of 13mm holes. Using a drill depth gauge drill the hole by an amount of 10mm deeper than the anchor bolt's "effective burying depth" i.e., 50mm. Holes must be drilled at a right angle to the host material.
4. Clean out the hole thoroughly so that no chips or concrete dust is present.
5. Insert the anchor and hammer the centre pin downward in a perpendicular fashion until it touches the top of the main body. Do not tighten nut.
6. Ensure ladder stiles are perpendicular with host material then repeat anchor installation procedure on the lowest set of brackets. Do not tighten nuts.
7. Complete all remaining anchor bolts for centre brackets (if applicable).
8. Completing the Installation.
9. Check to ensure all bracket mounts are flush with host material, there must be no gap between the clamp face and the bracket face.
10. Check to ensure ladder stiles are perpendicular to surrounding host material.
11. Visually check to see that the head of the centre pin is in contact with the anchor bolt's main upper body surface.
12. Use a wrench or similar tool to tighten the anchor bolt nuts.
13. Ladder installation is complete and ready for use.

**Note:** ① On-site fixing is the responsibility of the contractor and must be based upon site conditions and materials.

② Different styles of anchor bolt may be substituted for the type as described in the manual. When using a different shank length, ensure to adjust corresponding installation dimensions.

③ For ladder stiles cut on-site to suit the conditions, all cut surfaces must be re-coated with a polyester resin. Apply sparingly and wipe excess with a wet cloth and allow to cure as per resin manufacturer's instructions. For further resin details, please contact your local Nextep distributor.