



Method Statement

Ref. #: DCP01/03-0014-A-2024



Keyfix AE100

[Epoxy acrylate anchoring system]



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Section A : General Comments

General Notes:

The information below is a detailed overview for the application of DCP's **Keyfix AE100** anchoring system and should be read in conjunction with the relevant technical data sheet prior to application. All DCP Products should be applied by experienced specialist contractors.

All the points below assume correct preparation of the relevant surface.

High Temperature Working:

It is suggested that, for temperatures above 30°C, the following guidelines are adopted as good working practice:

- i. Unmixed materials and equipment should be stored in a cool shaded area and away from direct sunlight.
- ii. Avoid application during peak temperature of the day.
- iii. Plan for enough materials, tools and labor to ensure continuous applicant process.

Low Temperature Working:

It is suggested that, for temperatures below 10°C, the following guidelines are adopted as good working practice:

- i. Unmixed materials should be stored in a warm (preferably temperature controlled) environment, avoiding exposure to frost or temperatures below 5°C.
- ii. Cold temperatures will affect the properties of the resin.
- iii. Avoid applying the grout if the temperature is around 5°C and falling.
- iv. Do not apply under rain or snow, and avoid dew points conditions during application.

Tools and Equipment:

It is suggested that the following list of equipment are adopted as a minimum requirement

- Personal protection* : *Protective overalls*
- : *Goggles or a face mask*
- : *Good quality gloves*
- : *Safety shoes*
- : *Safety helmet*

- Equipment* : *Hammer drill (Fig.1)*
- : *Drill bit (Fig.2)*
- : *Cartridge gun (Fig.3)*
- : *Cleaning brush (Fig.4)*
- : *Hand air pump (Fig.5)*



Fig.1: Hammer drill



Fig.2: Drill bit



Fig.3: Cartridge gun



Fig.4: Cleaning brush



Fig.5: Hand air pump

Section B : Application

1.0 Substrate Preparation

1.1 Substrate preparation

- 1.1.1 The substrate must be in good condition, clean, and completely free from any grease or contaminants.
- 1.1.2 Clearly mark the specific area on the structure where drilling is intended, using spray paint.
- 1.1.3 To achieve the best anchoring results, it is recommended to use a rotary hammer drill. After drilling, thoroughly clean the hole using compressed air and a steel brush. The hole's surface should be deliberately rough and completely devoid of dust.
- 1.1.4 After drilling, holes should be brushed and blown out twice, to remove all drilling debris.

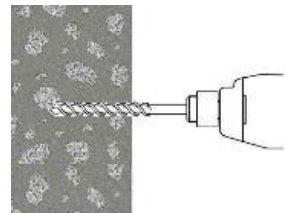
1.2 Steel preparation

- 1.2.1 For optimal design bond strength, bars and anchors must be both clean and devoid of rust. Notably, utilizing deformed bars will enhance bond strength.

Note: Holes should be dry and dust-free.

2.0 Drilling

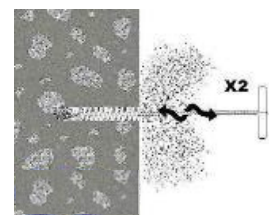
- 2.1 Use a suitable drill bit diameter and drill hole in the concrete to the required embedment depth. (See below table for reference).



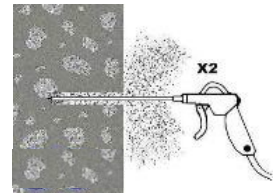
Bar diameter (mm)	Hole diameter (mm)	Embedded length (mm)	Bar area (mm ²)	Maximum pull out force (kN)*	Needed quantity of Keyfix AE15 per hole (ml)
8	10	80	50	30	4.2
10	12	90	79	45	6.8
12	14	110	113	65	11.3
16	18	125	201	90	21.2
20	24	170	314	160	51.3
25	28	210	491	260	86.2

For information regarding typical performance in aerated concrete, loads for solid & hollow masonry, and bond strength and tension load in wood, contact DCP's technical department at technical@dcp-int.com.

- 2.2 Place the steel brush into the rear part of the hole. Begin pulling it out while moving it back and forth in a twisting manner.

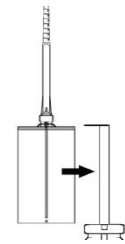


- 2.3 Insert the nozzle extension of the manual air pump into the rear of the hole. Using the pump, expel air into the hole twice to remove any lingering dust.
- 2.4 Once again, brush along the entire length of the hole. Employ the twisting technique as before.
- 2.5 Continue cleaning by using the manual air pump. Blow air into the hole until it's completely free from dust and thoroughly cleaned.



3.0 Placing

- 3.1 Unscrew and remove the cartridge protective cap.
- 3.2 Remove the insert plug and attach the static mixing nozzle tightly.

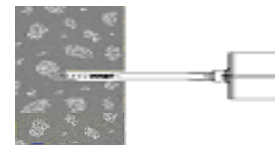


- 3.3 Insert cartridges into the double cartridge gun and dispense sufficient material (typically 10 ml) until an even homogeneous color is achieved.

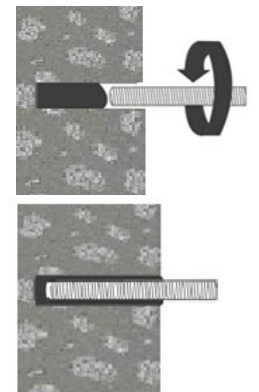


- 3.4 Insert the nozzle into the back of the hole and start applying pressure to the gun, slowly withdraw the nozzle as the hole fills.

Note: As the mixer nozzle is withdrawn, ensure that no air voids are created.



- 3.5 Normally it's sufficient to fill the hole approximately half to two-thirds full.
- 3.6 Immediately, press the stud/steel rebar in a circular motion into the hole to the required embedment depth with slight agitation.
- 3.7 The bar should be left undisturbed until materials reach the final setting.
- 3.8 Clean any excess resin around the hole.
- 3.9 Allow the resin to cure completely. (see table below).



Base Material Temperature	Working and Hardening Times					
	-10°C**	-5°C**	5°C	15°C	25°C	35°C
Gel Working Time	50 min	40 min	20 min	9 min	5 min	3 min
Curing Time Dry Concrete	240 min	180 min	90 min	60 min	30 min	20 min
Curing Time Wet Concrete	480 min	360 min	180 min	120 min	60 min	40 min

***Resin Temperature must be at least 20°C.*

- 3.10 The anchor can be loaded after the required curing time.





Notes:

- *When filling holes overhead or in porous blockwork, the use of plastic sleeves is recommended.*
- *Partly used cartridges are reusable, remove the static mixer and surplus base and catalyst components from the cartridge nozzle, insert the plug, and screw on the protective cap.*



4.0 Cleaning

4.1 All tools should be cleaned immediately after finishing. Hardened materials can be cleaned mechanically.

Section C : Cautions

Health and safety

Keyfix AE100 is an irritant to the skin, eyes, and respiratory system. Wear suitable gloves and eye protection.

Fire:

Keyfix AE100 is flammable and should be kept in a cool place.

For further information on refer to the Material Safety Data Sheet.

Section D : Approval and Variations

This method statement is offered by DCP as a 'standard proposal' for the application of **Keyfix AE100**. It remains the responsibility of the Engineer to determine the correct method for any given application. Where alternative methods are to be used, these must be submitted to DCP for approval, in writing, prior to commencement of any work. DCP will not accept responsibility or liability for variations to the above method statement under any other condition.