

Cast-In Floor Anchor –Design Manual

The cast-In Floor Anchor is a European designed and manufactured component that we are currently adding into the Scissorsafe product range.

It's intended use is specifically for floor anchored applications, where it offers the opportunity for permanent use after construction.

Due to its permanence in the structure, there is not a classification for CE marking, so with the generous assistance of McAleer & Rushe, we undertook the following trials.

Several Floor Anchors were cast into a concrete deck on the 19th January 2018. On the 7th March 2018 I arranged for the anchors to be load-tested by Concord Lifting Services and I was present for the tests.

We tested as follows

Test 1

Single anchor. Loaded on a 100mm loop en 795 compliant sling to 12 kN. Then 16kN

Result, the steel bar started to deform at 16kN.

We continued this test to 19kN at which point the short sling started to break, this was entirely due to its short length and limited stitch pattern.

Test 2

We wrapped slings around two anchors approximately 2.5metres apart and pulled together to simulate a horizontal lifeline.

They were loaded initially to 16kN which is the load requirement for Work Restraint Anchor 's at each end of a Temporary Lifeline.

Loads were increased to 22kN which is the load requirement for Fall Arrest on a Temporary Lifeline.

Concord Lifting are preparing a report to verify these tests and this will be made available to you upon receipt.

Conclusions for practical use.

We would advise that the anchors are designed to be cast in pairs 300mm – 400mm apart at the end of lifeline runs, maximum length 20 metres in length.

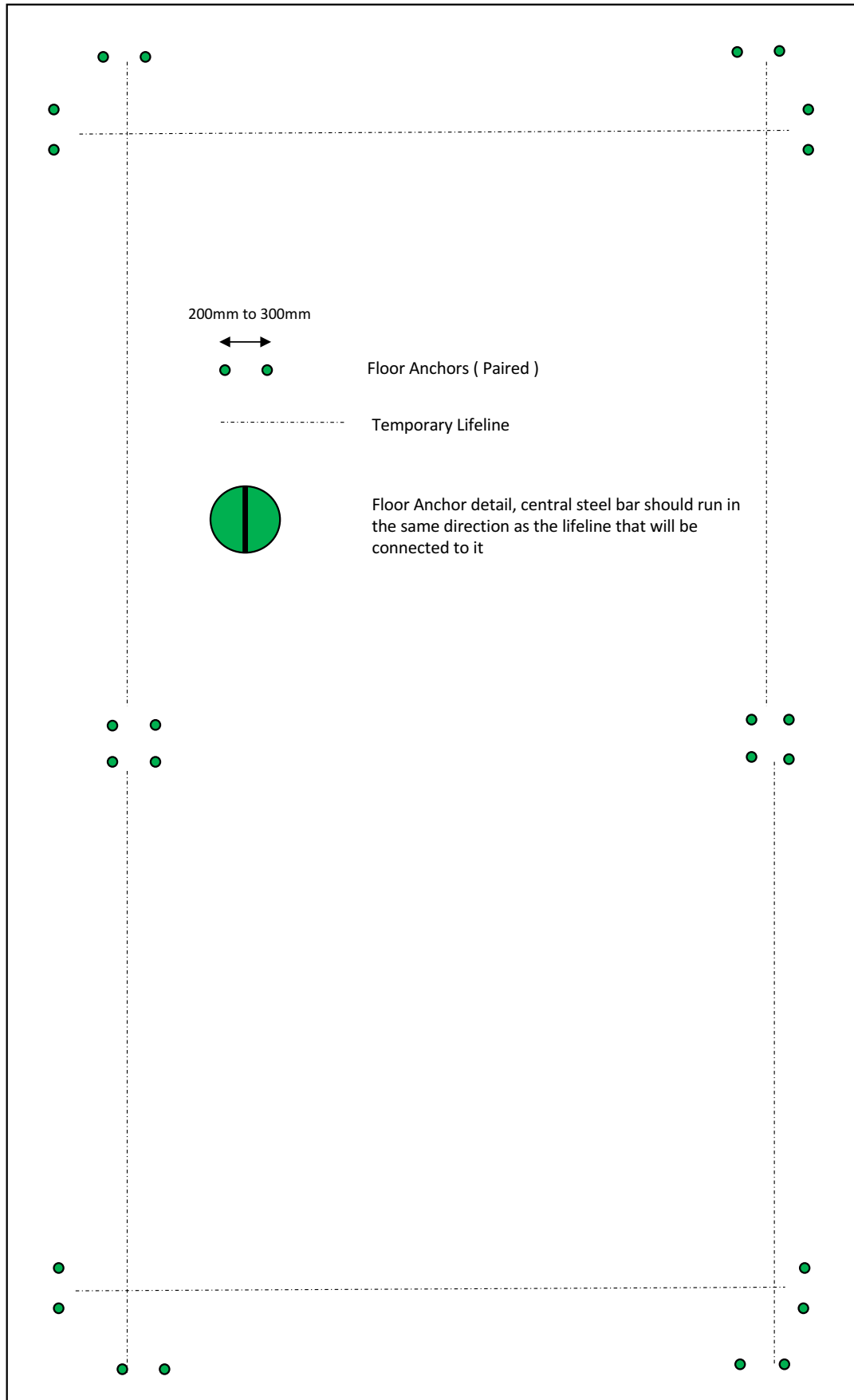
These can be slung together then connected to a lifeline for four simultaneous users in Work Restraint, with the capacity to withstand a fall, if Work Restraint is not implemented by the user.

It is advised that Cast-In Anchors should be aligned with the steel bar running in the parallel direction to the lifeline to reduce the chance of deformation.



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Typical plan layout for Work Restraint





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This is a section of the floor slabs at Wembley showing the floor anchors cast approximately 2 metres back from the perimeter of the slab.



These anchors are set in a pair with the anchor bar's shown aligned for balanced sling attachment.



Anchorage Sling Assembly attached to pair of Floor Anchors



A temporary Lifeline is attached to each end of the sling assembly and tensioned.



This forms the anchorage running line onto which the operative working on the perimeter attaches. To connecting the rear harness point to the lifeline with an Adjustable Work Positioning lanyard.

This document is incomplete but circulated on 4th may 2018 for the purpose of preparing RAMS to issue to McAleer & Rushe.

More information will be prepared and distributed during the next few days.

If anyone wished to discuss the contents please contact Terry Gardner on 07989 684697