

Safety Training Course of Construction Workers of Specified Trade Bar Bender and Fixer (AS5)

Key Points

Version: 2023-07

All Rights Reserved



1. Introduction - Causes of Accidents

1.1 Fall of person

No proper working platform for rebar fixers. Workers stand on timbers between the gaps of steel structure for convenience

1.2 Operation of Machine

Improper operation on rebar bending backing



1. Introduction - Causes of Accidents

1.3 Collapse of Steel Structure

Foundation is not strong enough and Insufficient bracings/ binding points to support the steel structure



source : news.gov.hk

1.4 Fall of Objects

Loose materials (e.g., tools, steel hook) were not put into a proper container for lifting and cause lifting failure (falling objects)



1. Introduction - Causes of Accidents

1.5 Manual Handling

Improper posture and force may cause spine and muscle injuries

1.6 Foot Injury

Step on projecting nails on wooden plates or injured by rolling steel rebars

1.7 Lacerated by Sharp Objects

No proper PPE (e.g., leather gloves) or clothes during work easily cause laceration injury by sharp objects

source : <https://topick.hket.com/>



2. Safe Use on Rebar Bending Machine

2.2 Use of Rebar Bending Machine/ Stirrup Machine:

The rebar bending machine machine can be used to cut rebars ranging from 6-50mm. The diagram shows the information the approximate number of rebars that can be cut in single operation



Diameter (mm)	No. of rebar able to cut
6-10	10
12	8
16	4
20	3
25	2
32	1
40	1
50	1

Source : 優質工序系統, HKHS

2. Safe Use on Rebar Bending Machine

2.2 Use of Rebar Bending Machine/ Stirrup Machine:

- **Pre-use Check** to ensure the machine is in safe working order ;
- Adjust the clearance according to rebar size ;
- Ensure the rebar are straight before cut ;
- Properly hold the rebar during cutting in progress ;



2. Safe Use on Rebar Bending Machine

2.2 Use of Rebar Bending Machine/ Stirrup Machine:

- Do NOT change bar pillar, refuel and clean during operation of rebar bending machine;
- **Understand the direction of rotating part** of the machine. If change of direction is needed, the rotating part shall be fully stopped before going to the other direction;
- All equipment shall be equipped with Emergency Stop Switch



Source : CIC

2. Safe Use on Rebar Bending Machine

2.2 Use of Rebar Bending Machine/ Stirrup Machine:

- Cleaning iron filings with brush. No use of hand and blow by mouth;
- Turn off the rebar bending machine/ stirrup machine when they are not in use;
- Pedestrians are prohibited within the range of 2 meters of rebar bending machine

All Rights Reserved

Source : CIC



3. Storage of Rebars

Collisions shall be avoided during lifting operation of rebars, lifting of excessive amount of rebar in a single time may also cause deformation of steel rebars and eventually affect the quality. Categorization of rebars should be adopted and followed strictly as follows:

1. Stacking of rebars according to types and model:
Rebars of same types and model shall be stacked together. Clear marking of rebars' specifications shall be displayed.
2. Temporary drainage system to rebar storage yard
Store rebars in covered area. If storage yard is an outdoor area, covering rebar with canvas and temporary drainage ditches shall be done to avoid rebars getting corroded and rusty due to water immersion

4. Key points for Fabrication of Reinforcement Cages of Bored Piles

1. Stabilization of reinforcement cage is vital in this task. Place the arc-shaped fabrication frames on rigid ground plates for supporting the reinforcement cage
2. Upon fixing re-bars with tie wires at a span at the bottom of the stiffener rings, immediately fasten all the re-bars (both inside and outside the cage) by U-bolts to the stiffener rings ;
3. Use U-bolts to fix bracings at the top positions of the stiffener rings at both ends of the cage, and then use U-bolts to fasten sufficient tie-bracings with other stiffener rings inside the cage

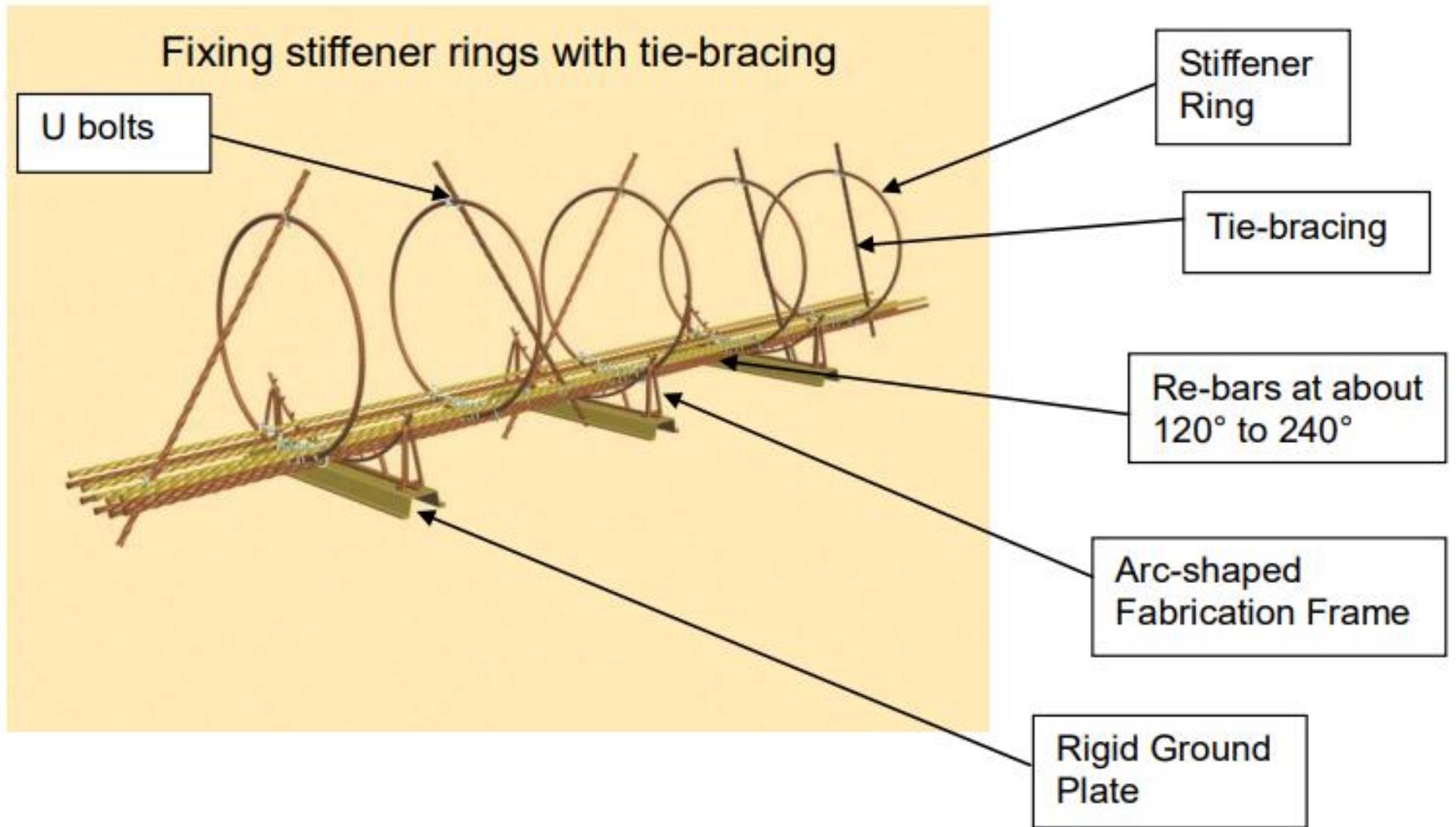


穩固鐵籠的弧形結構支架



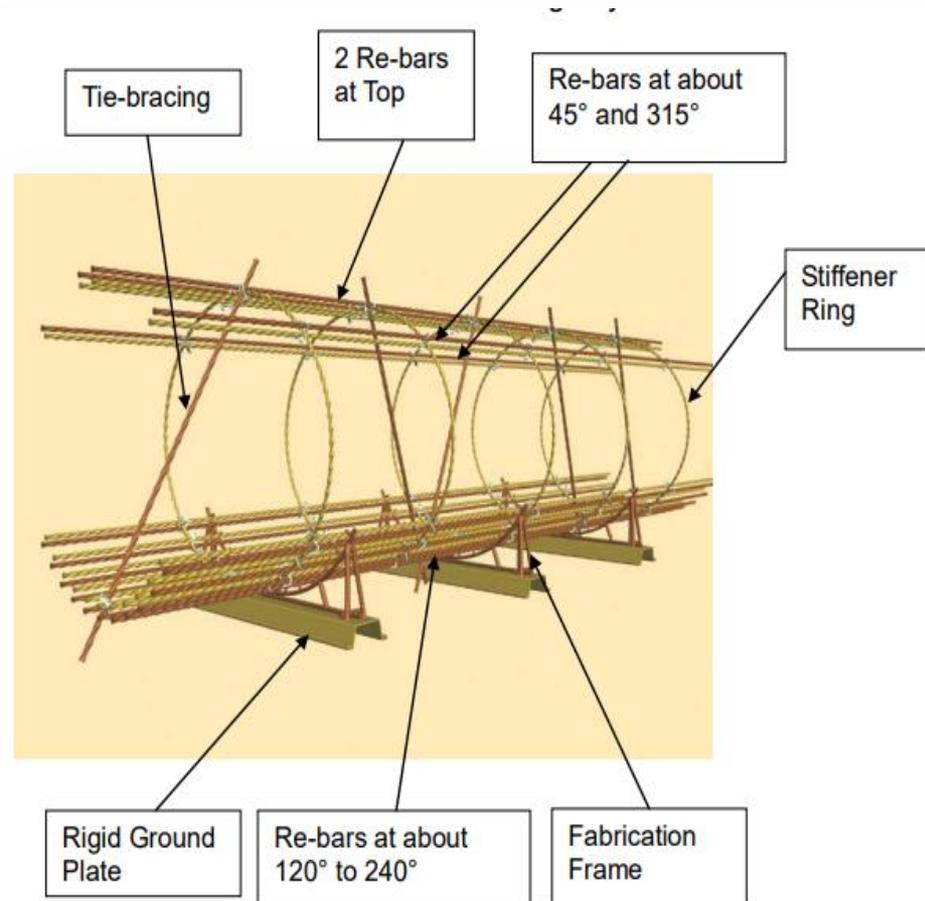
當用鐵線將鋼筋及金鋼圈定位後，
須立即用 U-碼上緊

4. Key points for Fabrication of Reinforcement Cages of Bored Piles



4. Key points for Fabrication of Reinforcement Cages of Bored Piles

4. Fasten U-bolts with suitable wrenches to minimize workers' strain;
5. After fixing tie-wires on top positions of stiffener rings, fasten re-bars at both sides to avoid it collapse;
6. Commence tie-wires task on top position only after the structure of stiffener rings is properly stabilized with U-bolts





CONSTRUCTION
INDUSTRY COUNCIL
建造業議會

會



生命第一
LIFE FIRST



對危險說 **不**

SAY **NO** TO DANGER

Copyright and Republication

All contents and information, including but not limited to graphical design, are proprietary to The Hong Kong Institute of Construction and are subjected to copyright protection. Republication, redistribution or unauthorized use of any content or information contained in this document is expressly prohibited without the prior written consent of The Hong Kong Institute of Construction.

Disclaimer

The author and publisher has made every effort to provide complete and accurate information in this document. Any person using this document must rely on his/ her own skills and judgement. The author or the publisher assumes no liability or responsibility for any error in the information contained and will not be liable for any loss or damage arising from any omissions in this document (whether in negligence or otherwise).