

## Safety & Health Circular No. 40 / 2014

### Lift-bolt Clamp for Lifting Precast Units

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#### Introduction

In order to simplify the construction process and reduce the amount of concrete loss, some concrete facades are fabricated as precast units at the precast concrete yard, and then transported to site for installation. This will not only accelerate the construction progress, but also improve the quality of the building, in addition, the quality standard can be controlled effectively.

The traditional way to lift a precast facade is by means of steel chains connected to a lifting beam. At the time of slinging, riggers need to climb up to the top of the precast unit (2 meters or even higher) to anchor the chains onto the façade or detach the chains from the facade.

As a result, hazard of tripping or person falling from height is likely to happen, especially when the precast unit is lifted to the working floor, extremely high risk will be encountered. In order to eliminate all these risks, a new lifting frame has been specially designed and introduced.



Traditional Frame



Traditional Installation Method

## **Implementation**

A pair of cast-in hanger has been embedded in each precast facade during manufacturing. Before lifting, workers standing on the floor level can engage the 2 "Lift-bolt Clamps" into the hangers by using a pull rope. After they are engaged, a safety lock, which serves the purpose of reducing the swinging of the facade, is activated by pulling a wire on the right hand side. The embedded hangers can be disconnected easily without affecting the structure and quality of the facades.

## **Effectiveness**

The new design "Lift-bolt Clamp" is suitable for different size, shape as well as height of precast units. It can avoid strenuous work, eliminate the hazards of tripping, and falling of person or objects involved when workers work at height with repetitive climbing on precast facades. The new design can also help to accelerate the construction progress without compromising site safety.



A New Way for Precast Facade Lifting (Lift-bolt Clamp)