



Pile Cutting & Trimming



TERRADRIVE PRODUCT PORTFOLIO

CAP FOUNDATIONS SYSTEM

PRECAST CONCRETE PILING

LOW VIBRATION PILING

RESTRICTED ACCESS PILING

STEEL BEARING PILES



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Pile cutting and trimming, to expose the reinforcement for incorporation into the pile cap, is a process in the construction sequence that, at best is not given sufficient thought and more commonly is often ignored and treated with no regard.

The fact is that it is one of the most important stages in the construction of the foundations as it will dictate whether there is a proper interface between the foundation piles and the superstructure.

Improper treatment of piles during the breaking down process can result in serious structural defects to the pile and/or excessive settlements of the superstructure due to a substandard interface between the pile and the foundations.

Specific risks associated with pile breaking include;

- *Hand arm and whole body vibration,*
- *Noise,*
- *Dust, and*
- *Manual Handling*

Techniques for breaking down piles

There are a number of proprietary techniques available for breaking down piles. The choice of the technique will often depend on the type and size of the pile.

Precast concrete and small diameter piles

Precast concrete and small diameter (up to 600mm dia) bored piles are generally broken down using a hydraulic crusher (see photo opposite and www.taets.nl) which ensures little or no stress to the pile below the level of cut-off.

Larger piles

Larger piles are typically broken down using excavator mounted hydraulic breakers. However, if used incorrectly these can cause cracking and distress to the piles below ground level.

Integrated systems

In more recent times, integrated systems have been developed such as the Elliott System (www.elliott-europe.com) and the Coredek 'Corbreak' System (www.cordek.com).

These systems involve casting in lifting anchors to the pile head and having debonding foam on the reinforcement.

Once the pile has set, the pile is sheared at the cut-off level and the redundant head lifted off and discarded.

From a contractual point of view, it is better that the piling contractor is charged with cutting and breaking down the piles. Firstly, the piling contractor understands the pile and is unlikely to adopt procedures that will result in damage to the pile. Furthermore, it removes the issue of responsibility if there is a subsequent structural defect with the pile (ie there is no third party involvement).

References: *Federation of Piling Specialists 'Pile Breaking Guidance' (July 2006)*

(<http://www.fps.org.uk/safety/safety.php>)