FORMLINER ATTACHMENT & REMOVAL GUIDELINES

Custom Rock International

(General Practices & Procedures)

General Notes: All Formliner Types and Materials.

Regardless of formliner material, patterns with low relief ¼ " to 1" normally release without too much difficulty. The deeper the relief, the greater the challenge. Formliners with 'busy' patterns and narrow joints only compound the difficulty level. Also, the first removal is the most difficult for all new formliners. As formliner become 'seasoned' from multiple pours, latence and release agent build-up, the removal process becomes less difficult from the previous. Do not pressure wash and 'scrub clean' the surface after each removal.

General Notes: Formliner Removal Methods.

There are basically only two ways formliners are removed from the concrete surface. Either one at a time by hand, (which is very difficult and time consuming), or the formliners come off at the same time when a crane removes a 12' or 16' section of gang-forms. However, the formliners must be properly attached with effective release agent, or even a crane may struggle to remove a 12' or 16' section of gang-forms. The attachment guidelines for a handset forming system is different from a crane-gang-form system.

Attachment & Removal Guidelines: Handset Forming System

When using a handset forming system, plan on removing the concrete forms and leaving the formliners still attached to the concrete surface to be removed later by hand. Using the minimum type and amount of attachment hardware will allow the concrete forms to pull away from the formliners during removal, leaving the formliners on the concrete wall. Using too much attachment hardware will prevent a laborer or carpenter from physically pulling a 'section' of concrete forms away from the formliners/concrete wall. Once the concrete forms are removed, then the formliners can be removed The type and amount of attachment hardware depends on the type of formliner, pattern and relief. A rule of thumb is to use just enough to prevent the concrete from 'knocking-off' the formliner during concrete placement. Using nails or smooth surface pins allows the concrete forms to 'pull away' from formliners/concrete wall easier than a coarse thread hardware.

Attachment & Removal Guidelines: Gang-Form & Crane System

The type and amount of attachment hardware depends on the type of formliner, pattern and relief. There must be enough coarse thread attachment hardware to prevent the concrete forms and formliner from 'pulling apart' during the removal process by a crane. Properly attached formliners will allow the formliners and concrete forms to be removed together. Poorly secured formliners will result in portions of the liners remaining on the wall while others remain attached causing even greater problems. The deeper the relief, the 'busier' the pattern and tighter the joints, the more hardware required. Hardware can vary from 18" o.c. to 12" o.c. with additional hardware at the perimeter as needed. Undersize cranes, poor access, or pull leverage positioning of the crane can cause additional difficulties. Once a seal is broken at the top, compressed air, sand, carefully positioned pry bars can assist the crane in breaking the bond.

Other Attachment General Notes

Formliners are either attached from the urethane or textured side (front side) or the plywood backed (back side). It is easier to find the attachment hardware that has been placed from the back side (plywood side). Attachment hardware set in the front side is usually buried in the urethane and is almost impossible to find later. This results in using pry bars and 'ripping' the formliners off the concrete forms.

Additional Release Precaution

Using chamfer at the ends or the bottom row of the formliner will assist in the release. Not using chamfer causes the formliner to be "boxed" in with concrete. Larger the chamfer, the better the release. If possible, the chamfer should equal the edge height of the formliner. Also, formliners resting on the top of footing can cause friction, damage and difficulty in releasing and sliding the forms away from the wall during removal.

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