



System Application Guideline

Page 1 of 4

INTRODUCTION

This Application Guideline has been provided to assist the end user in the application and/or installation of Fitzgerald Formliners VinyLok products.

VinyLok form liners are extruded in two types of plastic – a single use rigid polystyrene or multi-use ABS plastic. The panels are extruded in lengths from 2' to 40'. The interlocking system allows for a seamless finish for concrete walls in tilt-up, pre-cast and cast-in-place concrete applications.

CARE AND HANDLING

VinyLok form liners are shipped in covered containers to protect them from weathering and breakage. The VinyLok formliners should be stored and protected when not in use. They should be covered and elevated off the exposed ground. If exposed to intense heat or cold, formliners can deteriorate. Please note that prolonged temperatures above 145° will cause a permanent thermal distortion. In addition, there could be a dramatic drop in their physical properties. Please contact Fitzgerald Formliners about your particular application.

TRIMMING PLASTIC FORMLINERS

VinyLok formliners can easily be trimmed to fit using a circular handsaw. A fine tooth blade is recommended. Many contractors will turn the blade backwards to minimize chattering or chipping of the liner. A table saw can be set up for more precise cutting.

THERMAL EXPANSION AND CONTRACTION

VinyLok formliners are fabricated from thermoplastic compounds. The VinyLok formliner panel will expand and contract as the ambient temperature rises or drops. The co-efficient of thermal expansion is .0001" per inch per degree of temperature change. An example would be 10 ft (120") x 10° x .0001" = .120" or approximately 1/8 of an inch.

When ordering VinyLok formliners, we recommend that you order each length 2" to 3" longer to compensate for temperature variances.



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System Application Guideline

Page 2 of 4

FASTENING THE FORMLINER (Formwork Cast-In Place)

VinyLok is fabricated with an interlocking fastening strip. This strip is designed so the contractor may fasten the liner to his substrate and lock the rib over top of the fastener. This will hide the head of the fastener and prevent its impression into the concrete. We recommend using screws as your fastener for multi-use liners. They hold better and are easily removed to change panels. They will not damage panels as staples will sometimes do. For single-use liners, nails can be used.

Many contractors will pre-drill a hole or slot that is larger than the shank of the fastener. This will allow the panel to slide with the expansion or contraction. It will also prevent a wave or bubble to occur between attachment points. Fasteners should be 24" on center and 8" – 12" on the panel perimeter. Staggering the fasteners on the formliner panel will make the attachment more secure.

CAST-IN-PLACE

Level and square the formwork to ensure proper alignment of the liner. Dimensions should be marked to square edges, patterns and joints. Working with one part at a time, position the formliner against the formwork so that edges and joints are square.

TILT WALL

In tilt-wall applications, a common method of formliner attachment is to place the liner on the slab, drill a hole through the formliner and into the concrete, place a wooden dowel into the drilled hole, break the dowel off flush with the surface, and then use a large-headed roofing nail to hold the liner in place.

It is important that the formliner is contained on all four sides so that concrete cannot move under it. The field area of the formliner must be held flat against the casting surface, insuring that no deformations (blisters) are present in the formliner. Do not allow the formliner to move around freely. Load concrete onto the formliner from the centers, moving the concrete towards the outside perimeter with rakes. Do not allow concrete to be pushed under the formliner at panel-to-panel joint locations.



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System Application Guideline

Page 3 of 4



FORM RELEASE AGENT

The application of a good quality form release agent prior to the first use and after each subsequent re-use is critical to the performance of the formliner. Clean the formliner after each pour to remove any loose debris. Release agents should be sprayed on the liner as close to the time of concrete placement as possible.

A water-based release agent works well for either single-use or multi-use plastic or extended-use elastomeric urethane formliners. ***Solvents and petroleum-based form release agents can attack both plastic and elastomeric urethane liners.*** It is recommended that the form release agent be tested against a small area on the form side of the liner for compatibility. Should the test area become tacky, the release agent is not compatible with the liner material and cannot be used. Consult with your form release manufacturer for specific information, such as coverage rates, drying time and compatibility.

FITZGERALD FORMLINERS TAKES NO RESPONSIBILITY FOR ANY DAMAGE TO OUR LINERS DUE TO THE IMPROPER USE OR APPLICATION OF A FORM RELEASE AGENT. IF UNSURE OF THE RELEASE AGENT'S COMPATIBILITY WITH ANY OF OUR LINERS, CONSULT WITH THE CHEMICAL MANUFACTURER PRIOR TO USE.

PLACING CONCRETE

Most plastic formliners cannot withstand a rate of pour in excess of 600 – 750 psf. Generally, the more texture or relief on the formliner, the slower the concrete must be placed. If a plasticizer is used, the rate of pour may have to be reduced to limit form pressure.

A test panel using the selected material should be poured simulating actual jobsite conditions and procedures, including: pour rate, height of wall, tie holes, reveals, etc. Actual construction should proceed using the same method and materials throughout the project.



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System Application Guideline

Page 4 of 4

Architectural concrete should be placed using a pump and an elephant trunk to avoid mix separation, splatter and trapped air. Placement should be in two-foot lifts with no horizontal movement to avoid flow lines in the finished surface.

To avoid cold joints, architectural concrete placement should never be stopped part way up the pattern. The cold joint will be very apparent in the finished surface of the pattern.

STRIPPING FORMWORK

If possible, forms should be stripped within twenty-four hours of concrete placement. This is important because:

- 1. The heat of concrete hydration can degrade formliner material over an extended period of time and can cause sticking.**
- 2. Concrete may darken the longer the liner is in contact with the formliner surface.**
- 3. When using multi-use liners, the liner life can be shortened if forms are not stripped as soon as is practical.**

Formliners should always be stripped with an equal time interval between lifts. This will result in consistent concrete color in jobs requiring multiple pours.

Formwork should always be stripped at 90-degree angles to the form if possible. Ribbed or fractured textures will require special care to avoid breaking off fins from the concrete or the liner. A low profile pattern will be easier to strip than a high profile pattern.

Allow extra time for stripping formwork when formliners are part of the job requirement. The added care in properly stripping formliners is much less expensive than repair of the surface or replacement of the liner.

MANUFACTURING TOLERANCES

Length: $\pm 1/8$ inch for every 10 feet

Width: $\pm 1/16$ inch per piece



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