

**Spec Formliners, Inc.**

Impressive on Concrete

## SpecVac Installation / Application Guide

SpecVac form liners are available either in Single-use or Multi-use High Impact Polystyrene (HIPS) Plastic. Both are rigid plastic liners, which are ideal for tilt-up or cast-in-place concrete.

### Trimming

Most SpecVac form liners are shipped in 4' x 10' sheets. Because of the nature of plastic to expand and contract it is often necessary for the material to be trimmed. The easiest way to cut SpecVac form liners is to use a circular hand saw (skill saw) with a fine tooth, plywood blade, such as the type used for cutting fine veneer paneling. If the liner is to be butted against a rustication strip or reveal, the blade angle should be set so that the liner is cut at the same angle as the reveal. The effects of temperature must also be considered. 140 degree plus Fahrenheit will cause permanent damage to the elasticity of the material. The size of the liner can grow or contract 1/16" in 10' with each 10 degree temperature change from thermal expansion. Form liners should be installed at about the same ambient temperature as expected during the placement of concrete

### Attachment to Formwork

SpecVac form liners can be used in tilt-up or cast-in-place applications. Single-Use HIPS is most frequently used for tilt-up applications and can be installed in many ways. Thicker gauge HIPS can be reused under certain conditions (most commonly for cast-in-place) and can be attached with mechanical fasteners or adhesives. Before attaching the form liner, first identify the side to be poured against. The side facing the formwork has a smooth, shiny surface; the concrete side has a roughened "hair cell" appearance. Listed below are recommended procedures for installation.

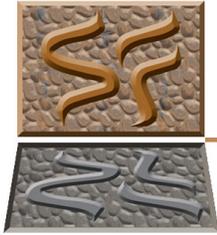
- Screws should be spaced approximately 6" to 12" on center around the perimeter and 18" to 24" in the center. Tek drywall screws work very well, they are self-drilling and are easy to install.
- Pneumatic staplers make installation easy, although they do not hold as well as screws and should be spaced closer together.
- The recommended method for tilt-up jobs is to use wooden dowels inserted in the casting slab. Drill a 1/8" to 1/4" hole through the form liner and slab and then insert a 1/8" wooden dowel. Secure to the slab with a screw. The dowels are drilled out and the holes are patched after the job is complete.
- Double-sided form tape may be used for tilt-up jobs. Make sure the casting slab and form liner are clean of all dust and are dry.
- When adhering plastic liners to metal forms, use "Formica Top" adhesive or an adhesive for bonding plastic to metal. As a rule, glues and adhesives are not recommended. Some have excellent holding power, but are difficult to work with on the jobsite.
- Heavy Duct Tape can be applied to the form liner at joints on the formwork side. This is the recommended method for pre-assembling large liners for pre-cast or tilt-up beds. The liner is assembled upside down and alongside the bed and then rolled into the formwork.

### Placing Concrete

Cast-in-place architectural concrete usually requires a mix which has very good workability. Proper vibration will reduce the risk of air bubbles, honeycombing and surface blemishes. Architectural concrete should be placed using a pump and an elephant trunk to avoid mix separation, splatter, and trapped air. Most form liners cannot withstand a rate of pour in excess of 4 feet per hour. Generally, the more texture of relief on the form liner, the slower the concrete must be placed. If a plasticizer is used, the rate of pour may have to be reduced to limit form pressures.

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In placing concrete for tilt-ups, make sure that all joints are sealed and/or taped and avoid stepping on the form liner as much as possible. All dirt, debris, and water should be removed before placing concrete. Follow ACI recommendations for the vibration of concrete.

## **Stripping Form liner**

It is essential that all form liners be stripped with an equal time interval from concrete placement to stripping. Different time intervals will result in inconsistent coloring from different levels of moisture loss. If possible, forms should be stripped within twenty-four (24) hours of concrete placement. Formwork should be stripped at 90-degree angles to the form if possible. Ribbed fractured textures will require special care to avoid breaking off fins from both concrete and form liner.

Tilt-up panels should not be lifted until the concrete has reached the specified concrete compressive strength. In most cases the form liner will remain on the slab. Single-use form liner may be discarded after stripping. Multi-use form liner is easily cleaned by hosing down with water and/or scrubbing with a brush.

A neutral, non-staining and non-reactive release agent can be used to aid in stripping and to ease clean up of form liner for additional pours. Release agents should be sprayed on form liners as close as possible before concrete placement time. For best results, the liner should be cleaned after each use and a new coat of release agent applied before each concrete placement.

## **Rustication**

Reveals or rustications are recommended at butted joints. Seams should be made at the valley of the concrete, as that joint is less visible. All butted joints should be taped and/or caulked to reduce grout leakage.

## **Care and Storage of Form Liner**

All SpecVac Form liners are sensitive to the effects of the sunlight, ultraviolet rays and extreme weather conditions. Form liners should never be stored outside in direct or indirect sunlight. When not in use or being cleaned, form liners should be stored either indoors or under black polyethylene. Ultraviolet rays may cause the form liner to become brittle or may cause discoloration, which could be translated to concrete surfaces. Concrete form liners should never be exposed to temperatures in excess of 140 degree Fahrenheit. Excessive temperatures cause permanent deformation.

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