

**Spec Formliners, Inc.**

Impressive on Concrete

## **ElastoSpec Installation / Application Guide**

ElastoSpec is Spec Formliners' premium form liner, combining great resilience and high tensile strength. ElastoSpec form liners provide superior toughness and wear resistance so that reproductions of even the most difficult undercut and complex designs is consistent, even after many re-uses.

### **Form Placement**

It is important that forms for architectural concrete be aligned and in common planes. A "stack up" of manufacturing tolerances can result in forms being in different planes, even when properly aligned. This creates a noticeable "step" in the finished surface, particularly with shallow ElastoSpec form liner patterns.

All formwork should be sufficiently rigid to remain sealed during concrete placement and vibration. Seal all joints and tie holes by caulking or gasketing to prevent grout leakage. Further recommendations are contained in ACI 347-68.

Do not lap formwork over previous pours, which have uneven architectural surfaces. Such lapping will result in an uneven surface and grout leakage, marring the finished appearance.

### **Tie Placement**

Plan formwork so that tie placement is at rustication, reveals or other locations, to minimize the visual effect in the finished surface. Remember to allow for the depth of the ElastoSpec form liner when calculating the break back requirement for ties.

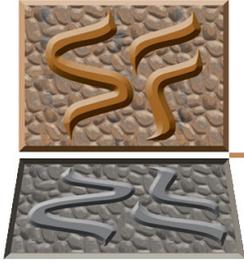
When using a rib pattern ElastoSpec, locate ties at the high point of the form liner rib. This places the tie in the recess of the finished surface where it is less visible. The maximum diameter of the tie (cone, she-bolt, taper tie) should not exceed the minimum width of the rib. Provide a minimum of 1" concrete cover for ties requiring breakback. If cones are used, the diameter of the cone should be less than its depth to facilitate patching.

The rubber-like nature of ElastoSpec form liners simplifies sealing the tie holes. A slightly smaller tie hole diameter (1/8" less) in the form liner will create a gasket effect and minimize grout leakage. Of course, the tie hole in the plywood or steel backing must be large enough to accept the tie being used.

### **Form Liner Joints**

It is very difficult to match pattern features at joints to make the surface appear continuous. Slight differences in shape, thickness and texture will have a visible effect on the finished surface. For this reason, avoid or minimize both vertical and horizontal joints. For best results, use rustication at ElastoSpec form liner joints to avoid joint problems.

When joints are unavoidable, make the joint along the main features of the pattern. Match pattern features carefully, and minimize grout leakage at the joint. This practice will help reduce the visible effect on the finished surface. Consider the pattern dimensions of ElastoSpec form liners constantly to achieve an overall balanced design. It is especially important to consider pattern dimensions when planning for unavoidable joints, boxouts and corners in the finished surface.



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### Rustication

Rustication, or feature strips, are often used at ElastoSpec form liner joints. This not only accentuates the pattern, but eliminates the need to produce a perfect butt joint. For the best results, it is recommended that rustication be used instead of butting liners next to one another.

### Handling

Once attached to formwork, store ElastoSpec form liners on edge. Avoid striking the face with heavy, sharp or heated objects that could cause permanent damage.

### Cutting and Drilling

ElastoSpec form liners can be modified by cutting and drilling. A cylinder type hole saw can be used for drilling. Perform these operations on ElastoSpec form liners that are securely clamped to a workbench with a cutting guide or drilling template. The rough edges created by cutting and drilling can be dressed with sander. Remember to remove all dust and debris from the surface.

### Attachment to Formwork

- Liners can be attached to the forms from the front of the form with bolts or lag screws 12"-16" on center around the perimeter and interior of the liner. The head of the bolt can be screwed into the face of the liner and covered with a silicon or urethane caulking material.
- Assemble and brace the architectural side of the formwork first. Attach ElastoSpec form liners before setting ties or opposite formwork side.
- Position ElastoSpec form liners against the formwork so that edges, pattern and joints are square. Work with one sheet at a time.
- Should joints be required, apply adhesive to ElastoSpec form liners edges and then firmly butt edges. Compress the joint as tightly as possible, without buckling or distorting the pattern.
- Dress joints and edges with a utility knife or sander to match pattern features as closely as possible.
- Cover ElastoSpec form liner when not in use.

### Repair

Cuts or tears in ElastoSpec form liners can often be repaired with shoe glue or other urethane adhesives. Work the adhesive into the formwork face behind and the edges of the cut or tear. Tack or weight the area while the adhesive is setting. After setting, lightly sand residual adhesive to avoid a gloss-producing spot on the concrete.

### Form Release

Spray ElastoSpec form liners with a vegetable oil V.O.C form release such as Spec Form Release before each use and within the same day that concrete is placed. Apply with low flow, wide angle, flat spray nozzle and wipe with a cloth to insure a complete even coat to the entire form liner surface (it also may be necessary to use brush application in temperatures below 40° F). **Do not over apply form release agent.** Protect treated form liners from precipitation, dust, and debris. **Do not apply to reinforcing steel.** Once sprayed, do not walk on the ElastoSpec form liner.



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### **Stripping Formwork**

Strip formwork with ElastoSpec form liners at right angles to the form. The force required to strip a form will depend on the surface area of the pattern and on the percentage of the pattern at right angles to the direction of stripping. A low profile pattern will be easier to strip than a high profile pattern. Strip formwork with ElastoSpec form liners within 24 hours of concrete placement. It is important to maintain a consistent interval from time of placement to time of stripping through the entire project to avoid variations in concrete color.

In stripping ElastoSpec form liners, the material resiliency can be used to allow the formwork to strip itself. Use a hydraulic jack to separate (push) the top of the formwork from the concrete. Allow the jack to remain in place for approximately 15 minutes. The formwork will slowly resume its original shape and strip itself away from the finished surface. If jacking is not possible, a stripping force can be used on the jack side of the form to separate (pull) the top of the formwork from the concrete. The stripping angle should always be as perpendicular to the form as possible.

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