Rustication grooves, chamfers and drip recesses created to direct rain flow over and off building surfaces all require carefully detailed formers to achieve satisfactory construction quality. Contractors once had to cut all these pieces from wood, but now an array of ready-made products is available to do the job. Precut wood, elastomeric and rigid plastics, foamed plastics, and metal formers can be purchased in a variety of sizes and shapes. Some of the plastic strips have tails attached to seal the form joints, or internal stiffeners to help maintain accurate dimensions.

Prices for these products range from a few cents to a few dollars per foot. To select the most cost-effective material for a job, consider its reuse potential as well as the project's architectural requirements. In

3/4" form plywood

Plastic chamfer

Positions of vertical 2x4s

1/8" gap

Rigid-plastic chamfer strip designed for use with 3/4-inch plywood sheathing. This column-form corner detail shows the hollow strip attached by screws into the edge of one piece of plywood and butting against the adjacent piece of plywood.
most cases, using these precut pieces will save labor, speed construction and reduce the need for tedious manual cutting.

**Chamfers**

A chamfer is a corner beveled at a 45-degree angle and is created by placing a three-cornered piece of wood or other material, called a chamfer strip (or sometimes a cant strip) in the corner of the formwork. The beveled corners are less likely to be chipped or damaged while the concrete is green, and some designers prefer the beveled surface because minor defects are not as apparent.

All square or rectangular columns should have chamfers if appearance is a concern, unless architectural limitations prohibit them. Corners of concrete beams often are chamfered as well. The chamfer strips usually are attached to two opposite panel units when the form panels are being assembled. For a sharp, flat 45-degree corner, wood, steel or rigid-plastic chamfer strips can be used. Elastomeric (rubbery) plastics can also be used, sometimes with internal stiffeners. For a quarter-round corner, plastic radius formers, also

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**Typical chamfer strips: available in $\frac{1}{2}$, $\frac{3}{4}$, and 1-inch nominal sizes**

<table>
<thead>
<tr>
<th>Radiused chamfer strip with tail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triangular rustication strip with tail</td>
</tr>
<tr>
<td>Triangular without tail</td>
</tr>
<tr>
<td>Reusable plastic of various compositions</td>
</tr>
<tr>
<td>Precut wood, plastic or steel</td>
</tr>
</tbody>
</table>

**Rustication strip options**

Standard sizes in molded plastic

![Rustication strip options diagram](image)

(Note: Custom sizes cut to order in wood; custom sizes in plastic may have internal stiffeners of wood or metal.)

**Drip formers**

Available in plastic; use in overhangs to create a groove that directs water flow away from building.

![Drip formers diagram](image)

*Some manufacturers make larger standard sizes or can handle custom orders.*
called fillets, may be placed in the forms. Where positive sealing of the form is essential, a tail molded into the plastic chamfer strip fits into the joint (see table on page 854).

The weakened plane induces the inevitable crack at controlled locations, thus relieving shrinkage stress.

Some authorities suggest a joint spacing of 10 to 16 feet for architectural concrete (Ref. 2), while others say 20 feet is satisfactory. Ideally, the location of such joints is shown on the contract drawings. If not, a layout of proposed joints can be included when formwork drawings are submitted for approval. Construction joints also can control cracking, but it’s seldom practical to require them at such short intervals.

A contraction joint is formed by attaching a beveled insert of wood, plastic or other material to the form face. This insert produces a groove, called a rustication or reveal, in the concrete to control surface cracking. For optimum control, the grooves should be formed in both wall faces, reducing the wall thickness about 20% at that point (Ref. 2).

Like chamfer strips, rustication strips are made of wood, plastic or metal. Special care is required if you must remove contraction-joint strips along with the form itself. If you remove the insert too soon, the area around the joint can be damaged. When the strips are to be left in the concrete for some time after the forms have been stripped, attach them only lightly to the form. If wood strips are used, they are sawcut (kerfed) on the back to compensate for swelling. They can be lightly nailed so they will pull loose and stay in the concrete after the main forms are stripped. After the lumber has dried and shrunk, these items can be removed easily. Plastic strips often are removed with the form, but if left in place, the strips can protect groove edges.

In addition to serving as contraction joints, rustications are used by architects as design elements. They can relieve otherwise plain surfaces by dividing large expanses and creating shadow effects. Horizontal grooves to conceal construction joints can be part of this planning. Shadowed rustication grooves can also be used to conceal tie holes and joints in form-facing materials.

The typical shape of rustication strips is trapezoidal (see page 854) because a draft, or taper, on the edges is needed to ease stripping. When applying wood rustication strips to the face side of the form, workers sometimes use long casing nails that extend through the strip and the sheathing. Since the heads of these nails are very small, the nails can be pulled through the strip and sheathing just before the form is removed, allowing the wood strip to remain in place until it dries thoroughly.

**Rustication strips and joint formers**

Contraction joints (or control joints) are placed in concrete walls to prevent haphazard cracking by creating a vertical weakened section.

A preferred wood for chamfer strips is Western pine, which is straight and smooth. It’s also supple enough to take a nail without splitting yet hard enough to provide a rigid surface. Strips made of South American woods also are satisfactory.

A wide range of molded-plastic chamfer strips, both rigid and flexible, are available. Though typically more expensive than the wood products, they are durable and reusable. The number of reuses depends on the quality of the plastic, so check the manufacturer’s literature for reuse data.

Steel chamfer strips are available for use with steel forms. Most of these products come in ⅛-, ⅜- and 1-inch sizes, but larger custom sizes are available.

References
