

LIPPED BRICK

Introduction

The use of brick shapes is a popular architectural feature on many projects. The proper manufacture and use of these special shapes is crucial to their intended performance. This *Brick Brief* discusses some of the important points to consider for lipped brick shapes and their applications. Brick manufacturers should be consulted for specific information regarding their products.

Lipped brick, also called shelf brick and rabbeted brick, are typically used at shelf angles and steel lintels to hide the steel from view. In some cases a rather large horizontal expansion joint may be necessary to allow for movement, and the resulting sealant joint can be sizable and visually unappealing. To reduce the apparent size of the joint, a lipped brick can be used to cover the toe of the angle. Typical dimensions of lipped brick are shown in **Figure 1**. The manufacturer should be consulted to determine the dimensions of a lipped brick.

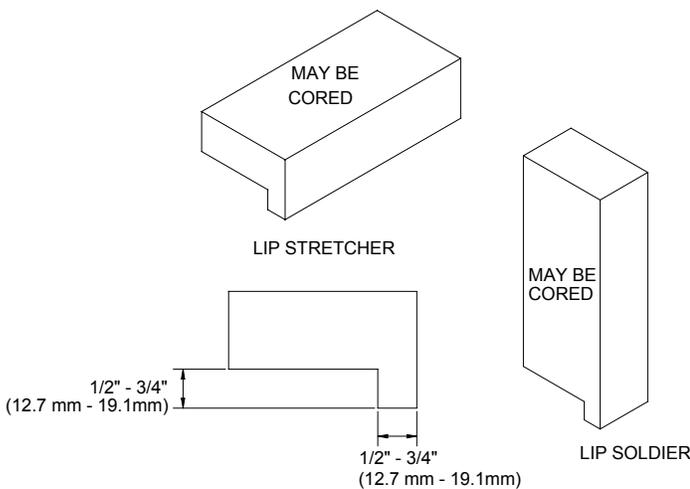


Figure 1
Lipped Brick Shapes

Manufacturing Lipped Brick

Lipped brick can be manufactured using either the extrusion process or the molding process. Molded lipped brick can be produced by either using a mold box with a lip form set in it or by saw cutting the shape from a regular brick. Saw cutting is more common for molded brick. When lipped brick are produced by the extrusion method, the direction of extrusion with respect to the projecting lip must be considered. A lipped stretcher can only be produced by extrusion if the unit is produced by end extrusion and is end cut. Units produced by extrusion with the bed surface perpendicular to the direction of extrusion must be cut to a rectangular shape before the lip can be formed. The lip is then hand cut. The latter is the most common method of manufacturing extruded lipped brick.

The lip can be formed before or after the brick is fired.

Either technique is acceptable. If formed after firing, the lip is always cut with a masonry saw. Neither method will impair the integrity or strength of the brick or increase its susceptibility to water penetration.

Site Cutting Lipped Brick

In situations when lipped brick are not manufactured for a job, the mason may cut the lipped brick at the site. Extreme care should be taken to ensure the proper size is achieved, and the cut brick should be subject to close scrutiny. Oversawing may cause the lip to be fragile. On the other hand, if the lip is too wide there may not be adequate room for bearing on the shelf angle.

The brick should first be cut parallel to the face. This will keep any oversawing from reducing the width of the projecting lip. The depth of the cut should be within $1/8$ in. (3.2 mm) of the specified dimension. Receiving lipped brick from the manufacturer avoids the problem of field quality control.

Details

Detailing of lipped brick supported on shelf angles can be difficult. Since the lipped brick is at a support condition, two items must be considered: bearing and flashing. All brick walls must be supported on at least $2/3$ the thickness of the brick wythe. For most 4 in. (102 mm) nominal width brick, this requires $2\ 7/16$ in. (62 mm) bearing on the angle. Tolerances in construction may make it difficult to achieve this minimum bearing, particularly if the lip prevents the brick from being adjusted on the shelf angle. Minimizing the width of the lip allows some room to accommodate construction tolerances.

Flashing is usually placed directly above the shelf angle as part of the drainage system of the wall (see **Figure 2**.) However, the lip may interfere with the placement of the flashing. This is particularly true when using a metal flashing, which would have to be bent to several planes. Flexible flashing can be bent easier in this application. To avoid difficulty in placing the flashing an alternate detail is proposed in **Figure 3**.

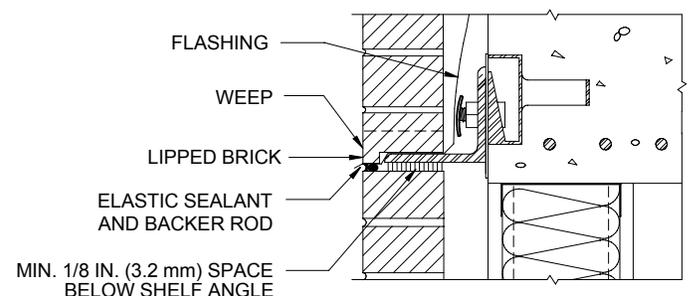


Figure 2
Lipped Brick Above Shelf Angle

The preferred alternative is to place the lipped brick upside down beneath the angle (Figure 3). This allows the flashing to be placed directly on the angle without the problems of multiple bends. A disadvantage to this detail is the location of the lip relative to the toe of the angle. Due to construction tolerances the angle's toe may be directly above a portion of the lip or in contact with the lipped brick. If this occurs the angle may cause the lip to break off. This can be avoided by detailing the lip to be in front of the toe with additional room for tolerances.

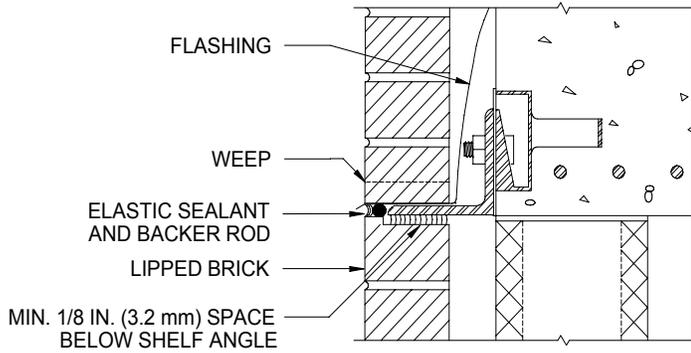


Figure 3
Lipped Brick Below Shelf Angle

Corners

When using lipped brick, it is important to consider what happens as this unit turns a corner. In many cases, a specially made shape will look better than a cut brick or a joint at the corner. A lipped corner brick is difficult to fabricate and impossible to cut at the job site. Proper discussions with the manufacturer can avoid problems with these units.

Brick Briefs are short discussions of a particular topic. The information contained herein is based on the experience of Brick Industry Association technical staff and must be used with good technical judgment. Final decisions on the use of this information must rest with the project designer and owner.