

# 1 Product Description

Coulson red cedar-faced plywood cladding is an engineered wood product for exterior use. It is the latest addition to the cladding product family because of its appealing look, good dimensional stability, ease of installation, and its significant cost advantage.

This line of Coulson cladding is made by laminating sawn western red cedar veneer to three- or four-ply softwood plywood using a moisture resistant adhesive, cross-linking polyvinyl acetate (PVA) or emulsion polymer isocyanate (EPI). The plywood is an exterior grade that meets the requirements of the CSA Standard O151 for Canadian Softwood Plywood. Western red cedar is a naturally durable wood species which enhances not only the appearance, but also the durability of the product. The cladding products come in two configurations: (a) as horizontal siding in 5-1/2 inch strips; or (2) 4 inch strips. Both are provided with tongue-and-groove (T&G) joints for ease of installation. The product has passed the requirements of American National Standard for Hardwood and Decorative Plywood (ANSI/HPVA HP-1-2009) for Type 1 (exterior).

The cedar-faced plywood cladding product comes in various thicknesses, 5/8" or 16mm being the most common. The length is usually 6 to 8 feet (182.9 to 243.8 cm), but can come in longer pieces, such as 12 feet or 16 feet.

**Note:** *The installation and finishing instructions outlined below are abbreviated and are not intended to cover every installation requirement. For more detailed information, refer to your local building code authority.*

## 2 Installation Instructions

### 2.1 Care and storage

When the stack of cladding product is received, it should be handled carefully to avoid damage, in particular, to the tongue-and-groove joints. While awaiting installation, the product should be stored in a dry environment, preferably in a shed with a concrete floor. If a shed is not available, the product can be stored outside on 4-inch (10.2-cm) thick dunnage, one at the middle and one each about 6 inches (15.2 cm) from both ends to prevent wetting from the bottom. It is preferred that plastic sheets cover the ground under the dunnage to prevent any contact between the product and soil. Cover the stack loosely with plastic material or tarp and anchor the covering on the ground similar to building a tent, and in such a way that spaces are provided at the top and sides to ensure good air circulation.

### 2.2 Installation

The following is a suggested installation procedure for the 5-1/2-inch wide cladding.

The installation follows the completion of the installation of a building paper or house wrap (e.g., Tyvek™) on the panel sheathing, the latter being usually exterior grade structural plywood or oriented strand board. The cladding must be installed with an air space between the house wrap and the cladding to provide air circulation and to allow any water to escape down the space.<sup>1</sup>

<sup>1</sup> This configuration is called a "rain screen" and may be required by local codes. Check with the local authorities.

To start, if a flashing (usually made of aluminum) has not been installed at the bottom of the sheathing, it should be installed underneath the house wrap as shown in Figure 1a. (Note: Figures 1a and 1b show the whole cross section of a typical wall for reference, but the outer side, which is labeled “outside”, is the main interest here). The flashing is angled (triangular) with the sides 2 inches (5.1 cm) wide. It is attached by 1-inch (2.5-cm) #8 screws spaced about 12 inches (30.5 cm) apart. The flashing redirects water, if any, to flow freely from the air space between the house wrap and the cladding to the outside.

To provide air space between the house wrap and the cladding, preservative-treated lumber 19 to 30 mm in thickness are used as spacers. The larger the air space the better. The lumber is commonly referred to as lath or batten. Nominal 1 x 4-inch pieces (actual thickness 19 mm) are common products from sawmills. Laths treated with ACQ (ammoniacal copper quat) should do the job. Laths are nailed vertically flatwise onto the stud by ringed stainless steel nails 3 to 3-1/4 inches (76 x 82 mm) long as shown in Figure 1b. This type of nail prevents the entry of moisture through the nail port. The nails are spaced 12 inches (30.5 cm) apart. Cladding installation starts from the bottom with the lower edge of the first cladding (bottom cladding) located about ¼ inch (6 mm) from the flashing surface. The cladding is installed horizontally in such a way that the tongue is facing upward and the groove is facing down, and with the red cedar face of the cladding facing outside. This procedure is repeated up to the top of the wall. This arrangement minimizes the amount of moisture that can be trapped between two pieces of cladding, and allows the moisture to evaporate more easily.

The cladding is nailed to the lath, sheathing and stud by stainless steel nails. The selection of nails and their sizes is listed in Table 1. One nail per lath should be sufficient with the location being in the middle of the horizontal cladding. Fasteners compatible with ACQ can also be used.

**Table 1 – Stainless steel nails**

Type	Size	length	Shank diameter	Head diameter
Ring shank siding Nail	6d	2"	0.095"	9/32"
	8d	2-1/2"	0.095"	5/16"
Ring shank common Nail	6d	2"	0.120"	5/32"
	8d	2-1/2"	0.134"	5/32"

When the cladding is not long enough to span the side of the building, another piece can be installed by butting or mitering it with another piece. It is important, however, that when the end of the cladding is cut, the exposed wood must be coated with a moisture-resistant finish before it is installed. The coating that was used initially in the factory can be used. Other products, such as a urethane-modified coating (oil primer and acrylic finish in one) and a self-priming acrylic latex coating can also be used for this purpose.<sup>2</sup> Both products are recommended for use on exterior surfaces.

## 3 Finishing Instructions

### 3.1 End sealing

Since the ends of the cladding are exposed, particularly at the corners where the pieces meet, moisture can enter the wood especially through the end grain. Consequently, the ends must be protected. Protection can

<sup>2</sup> For example, a product such as Flood™ may be used.

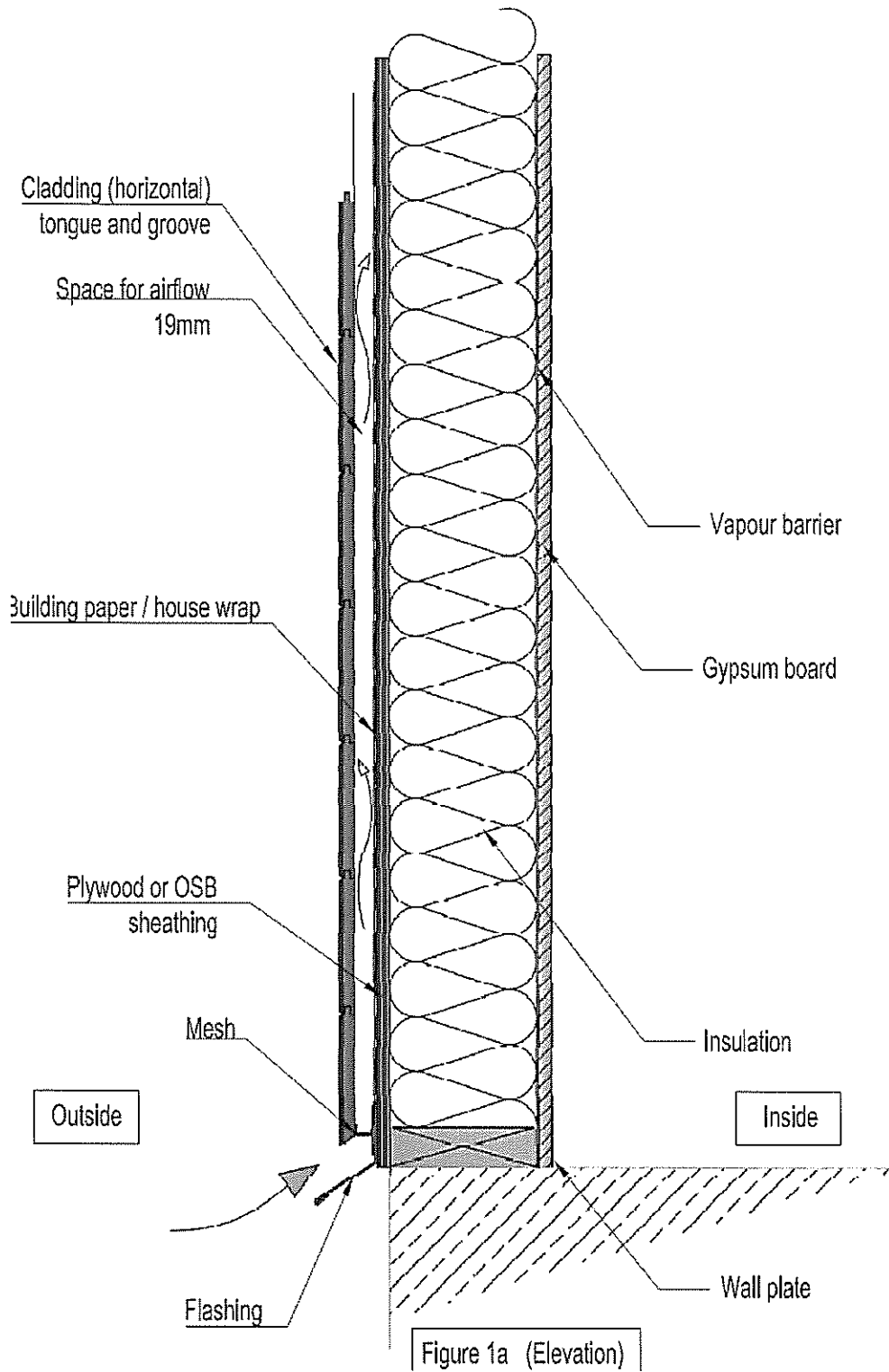
be provided by a corner cover made of an angled wood prepared from the same cladding product. Pieces about 3 inches (76 mm) wide can be ripped from the cladding, and mitered (45°) on the edges. The miter joint is glued using a suitable adhesive, such as polyurethane, and then stapled. Again, any wood exposed during the process will have to be coated using urethane-modified coating (oil primer and acrylic finish in one) and a self-priming acrylic latex coating. The corner cover is nailed using ringed stainless steel nails as described in Section 2. The nails are spaced about 9 to 10 inches (22.9 to 25.4 cm) apart and located about ½ to 1 inch (13 to 25 mm) from the edge of the corner cover. The corner cover not only protects the ends of the cladding, but also provides good aesthetic appearance. We recommend that corner boards are used.

### 3.2 Surface coating

This product is sold unfinished and relies on the natural durability of cedar. If necessary, finishes can be applied to provide further improvement in its water resistance, thus prolonging the life of the outside wall. Prior to the application of the coating, the surface must be planed and cleaned by removing dirt and loose wood fibers with a non-metallic bristle brush. Equally important is that the surface must be dry. The coating should be applied using a brush or a spray equipment during favorable weather conditions following the coating manufacturer's recommendations. We recommend lightly sanding the boards before staining.

### 3.3 Mesh covering

Insects can enter through the air flow openings at the bottom and at the top of the wall. Mesh products made of wire or fabric can be installed at the openings to minimize or prevent the entry of insects. Insects can sometimes do damage to the wood or to other materials (refer to Figure 1a).



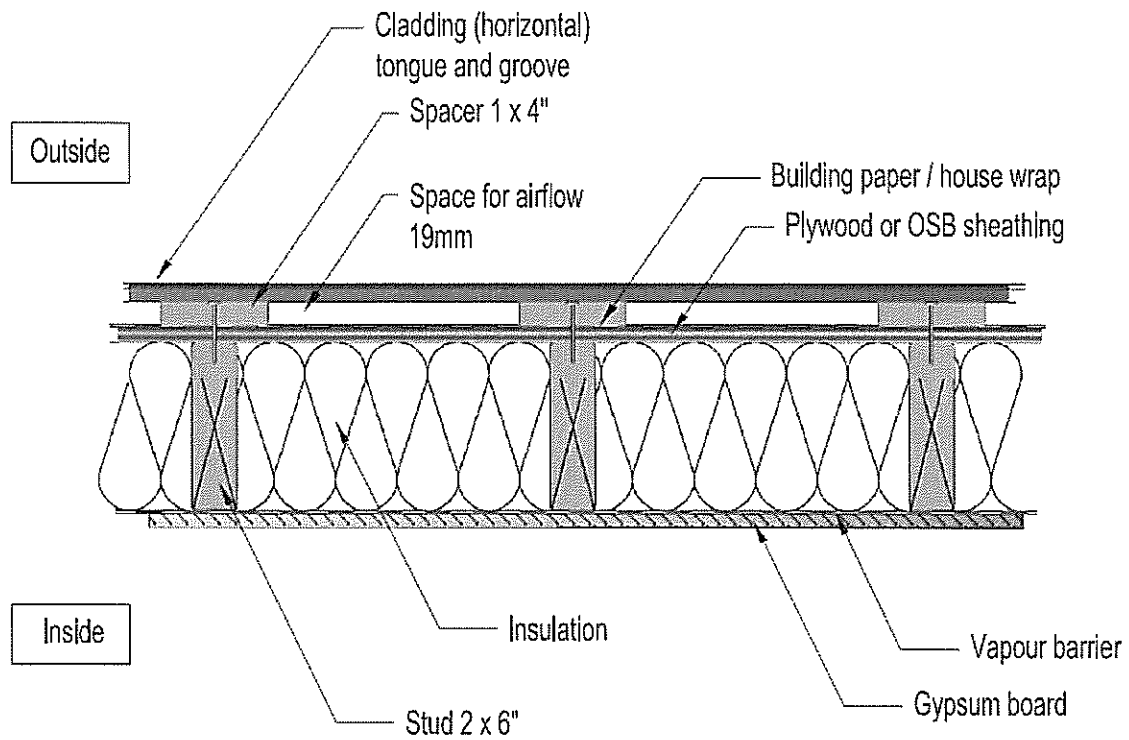


Figure 1b (Top view)