

Suspended Wood Ceiling Systems

By N. Bruce Weir; P.E.

Wooden ceilings are known to provide beauty, charm and warmth wherever installed. Now the old nailed-in-place installations have been replaced by lightweight, easy to install, pre-engineered suspended ceiling systems. They work better, look better and, when used, one wonders why they hadn't been thought of before.

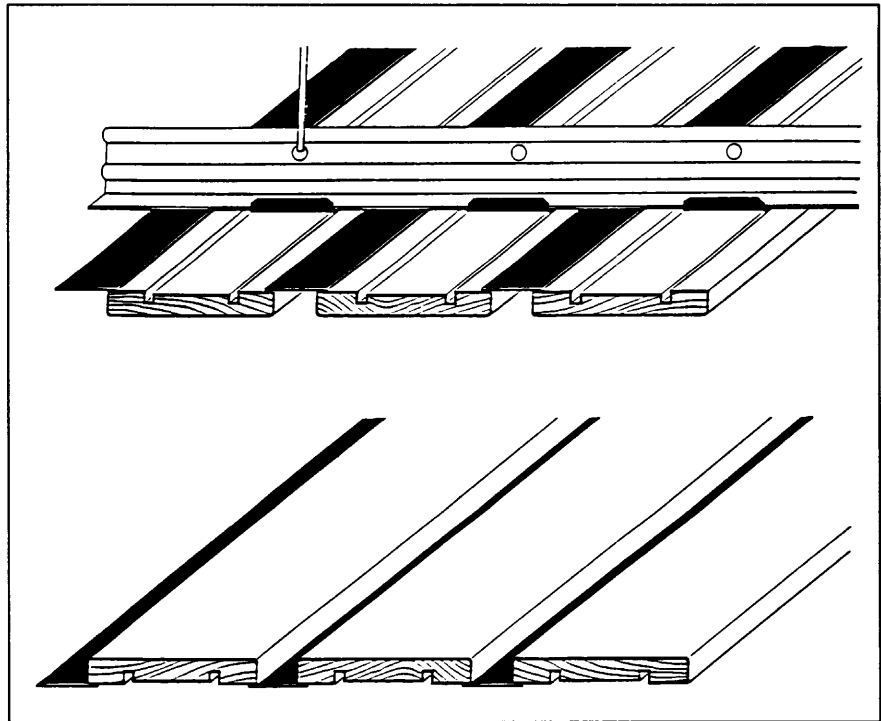
Such is the new design of the Rulon Derako Linear wooden ceiling system. Wooden ceilings have long been used in a variety of applications—such as to develop a particular mood, create a lasting impression, or add an upscale elegance.

Rulon's Derako all-natural linear designs include both open and closed styles—in several versions. The standard open style is a 4" module consisting of 3-1/4" wood strips, with 3/4" spacing between boards. The spaces between wood strips can be reduced to 1/4" or expanded to greater widths, at the designer's choice. The space is not usually left open, but is covered with a black fiberfelt material to provide a uniform background and to block air, dust, or particles from getting above the ceiling.

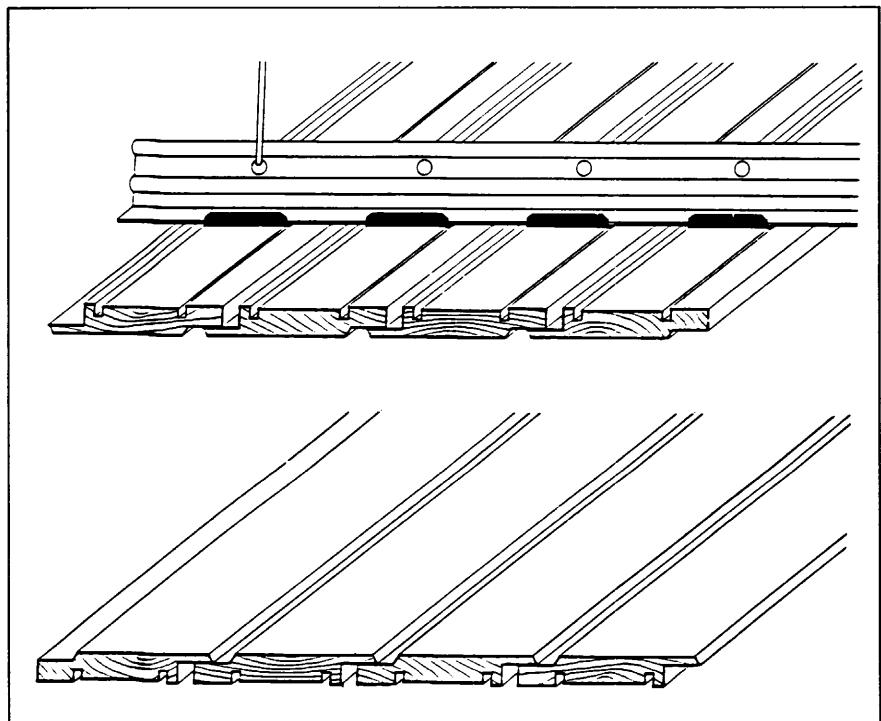
The standard closed shiplap style utilizes a solid wood ceiling design, with a shadow line reveal at each overlap. The effect is a sturdy and striking installation, with a uniform, solid wood appearance.

One of the most unique ideas incorporated into the Rulon product is the means for wood suspension. The patented system uses a modified T-rail that has been notched at the module distance along its length. Clips with barbed teeth are added at the factory, and the resulting cliprail (as it is called) is shipped to the jobsite in standard 12' lengths.

The pre-finished solid wood strips have milled grooves into which the



Above, standard open system; below, standard closed system.





St. Thomas More Church in Allentown, Pennsylvania.

barbed teeth of the cliprails are fitted. These prepositioned clips on the cliprails give accurate spacing to all boards when installed. Insertion of the cliprail teeth into the wood strips is rapid and easy with the use of the Rulon clamping tool.

In addition, cliprails can be obtained for either fixed or removable systems. A wood strip suspended with removable clips can be easily removed and replaced in a ceiling many times—with no tendency to loosen or become misaligned. Should a need arise to remove a wood strip after the cliprails have been hung, fixed clips can be readily removed and replaced with removable clips in areas requiring accessibility.

Designed with the contractor in mind, all wood strips are tongue-and-grooved on each end to provide accurate alignment and proper support at the joints. This is unique with Rulon in the wood ceiling industry, and a major factor in the lower installation costs realized when using this suspended ceiling system.

A great asset to the contractor is having the fiberfelt spacer material already attached to one side of each wooden strip. That means less handling since it does not require jobsite gluing or stapling and results in a perfectly uniform and smooth background surface.

Installations with the cliprail suspended ceiling systems have simplified methods, previously used. The cliprails are hung on 2' centers, beginning and ending 4" from each wall. The cliprails are placed perpendicular to the wood direction, and are hung on quick-action hangers every four feet.

As installation of cliprails progresses, the final positions of the wood strips become evident by the alignment of clips attached to the cliprail.



Curved cliprails for the Marriott Marquis Theater in New York City.

This gives the contractor the opportunity to slightly shift ceiling penetrations (e.g., can type lighting fixtures, diffusers, etc), or slightly move cliprails to avoid interferences with wood strips. Very often a slight shifting of cliprails in the ceiling area can avoid unnecessary wood cutting during the ceiling installation. Most suspended ceiling systems do not show wood strip positions in time to reduce cuts, because clips are not attached to the cliprails in the factory.

The tongue-and-grooved ends permit very rapid installation times and reduce wood waste. Experience has shown that two men can readily install 350-400 square feet in an 8-hour day--assuming the ceiling is flat and does not exceed 14' in height. For estimating purposes, our experience

has determined that it takes approximately 30 minutes for fitting 1'x4' and 45 minutes for fitting 2'x4' lighting fixtures. Incandescent can lights require about 30 minutes for each unit. Approximate times to fit other penetrations are: sprinklers, 15 minutes each; smoke alarms, 15 minutes each; and air diffusers, 30 minutes each. The most often used perimeter trim, Detail #101, which ties the ceiling into the wall can be attached to the wall at an average rate of 60 linear feet an hour for an individual installer.

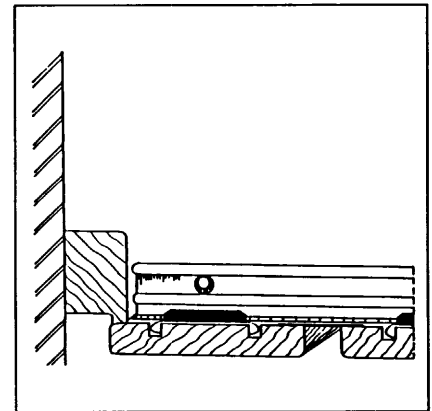
Ceilings become easy installations when the curved-cliprail capabilities of the company are brought into use. Radiused or free-form curves are bent into the cliprails in the factory, and they are shipped to the jobsite. The contractor suspends these curved

cliprails in the normal way. The wood is applied, as described above, and interesting ceiling contours are the result.

Careful evaluation of projects in all categories of work (such as churches, schools, malls, etc.) has shown that Rulon's Derako suspended wood ceiling system has an average installation cost savings of 30% to the installer, when compared with nailed-in-place or other suspended types.

Technical advances incorporated into the Rulon Derako ceiling system reduce costs and bring new excitement and interest to this portion of the ceiling industry.

Not only is the product "user friendly" to the contractor, but also the appearance of the finished ceiling has been enhanced by the accurate alignment and tailored fit of each wood strip. These elements offer the contractor additional business and greater profits with no added expense for jobsite callbacks.



Detail #101 Perimeter Trim ties the ceiling into the wall and can be attached at an average rate of 60 linear feet an hour for an individual installer.

About the Author

N. Bruce Weir, P.E., is a registered engineer in both Pennsylvania and New Jersey. He is Technical Director of Rulon Company in Souderton, Pennsylvania, and does additional engineering consulting. With degrees from both Cornell University and Drexel University, he has considerable background in all facets of engineering construction.