# NEW UNDERLAYMENTS Take The Place Of Lauan

*By Christopher Capobianco*

I have sometimes been asked about the use of new underlayment materials such as Oriented Strand Board (OSB), Fiber reinforced panels, and branded plywood underlayments as compared to lauan. Most resilient flooring manufacturers are no longer recommending lauan as an underlayment because it can be soft and susceptible to denting and crushing under concentrated loads such as furniture legs or high heels. Many of these panels have caused severe problems such as discoloration, delaminating, and adhesion failures. If you are using lauan, the flooring manufacturer will not cover any failures and the manufacturer of the panel will be nowhere to be found if you have a problem.

Plywood and OSB panels are often used as a single panel 3/4" subfloor and underlayment system, such as in certain types of manufactured housing and even some residential projects. Although this may be suitable for the installation of hardwood flooring or carpet, this is usually not a thick enough system for the installation of tile, stone, or resilient flooring. The industry standard, ASTM F 1482 Standard Guide to Wood Underlayments Available for Use Under Resilient Floors, states: "A combination of a wood subfloor and panel underlayment shall be of double layer construction. Total thickness shall be a minimum of 1". The reason for this is "flex" in a floor can cause the adhesive bond to break and cause gaps between tiles or cause loose tiles in the finished floor. For this reason, the floor should be as firm and solid as possible, which is why the 1" standard applies.

OSB makes a good substrate for carpet and hardwood flooring, but there are several concerns with regard to the use of this product with an adhered resilient floor covering. There has been some history of staining of light coloreds flooring products by the darker colored strands in OSB. If you are going to use OSB as an underlayment, make sure that the manufacturer has a warranty that covers this. With regard to the smoothness of the panels, the following is an excerpt from a recent publication by the Division of Building Materials and Wood Technology, University of Massachusetts, Amherst, MA about OSB as an underlayment:

"While there are over a dozen APA-approved oriented strand board (OSB) subfloor and sheathing products, there are no APA-approved OSB underlayment products. Surface smoothness can be a problem with OSB underlayment because strands adjacent to each other in the panel's matrix may shrink and swell differently due to their natures. The irregular OSB surface will telegraph through thin resilient flooring."

This article claims that one manufacturer claims a product that is stable enough to prevent this from happening. That being said, if OSB panels are guaranteed for use under resilient flooring, they will be a non staining type and will be sufficiently smooth so that irregularities will not telegraph. If not, it may be wise to cover the OSB surface with a smooth underlayment panel before installing a "glue down" resilient floor.

Today, some of the new "air gap" subfloors use a very moisture resistant type of OSB that is a suitable substrate for a variety of different floor covering materials. These subfloor systems are able to be installed over an existing concrete surface that may have a moisture problem. The way they work is that the wood core never touches the concrete floor because plastic cleats raise the floor up off the cold and damp concrete. A permanent air space is created between the concrete and the subfloor, ensuring that the finished floor remains warm and dry.

As far as the 1/4" panel underlayments that get used under a lot of resilient floors, OSB had a growth in popularity as an underlayment in the late 1980s and into the 90s. Under the right type of flooring material it can be a good underlayment. Today, the three most common panel underlayments are plywood, lauan, or fiber reinforced panels.

Plywood is a superior product to Lauan and there are a number of "real" plywood products readily available today from flooring supply distributors and even some home centers and lumber yards. These "branded" products come with instructions for how to install them and usually have a good manufacturer's warranty. Even though they cost more than lauan, the warranty makes it worth the extra cost.

Another recent entry into the underlayment category is fiber reinforced panel underlayments. These have been are used a lot in the stone and ceramic industry and are starting to gain popularity for resilient flooring as well. These products are similar to drywall in appearance and in their "score and snap" method of cutting, but they are designed to be underlayments so they carry the performance characteristics and warranties for use under resilient.

Regardless of the type of underlayment you use, it is important to match the underlayment with the job. Some products, for example, would not be recommended for commercial use. Others may be acceptable for use under certain types of flooring products but not approved for others. It pays to take a little extra time to be sure that the panel you want to use is the right one for the job.