

## Carpet Installed Over Particle Board

To understand the issue of installing carpet over particle board, it is important that you understand the types of particle board.

There are three basic types of particle board all having specific uses, (MDF) Medium Density Fiberboard is mostly used in the production of furniture, shelving, cabinetry, and moldings. (OSB) Oriented Strand Board is used in sheathing, and underlayment. Particleboard is primarily used as an underlayment for flooring.

Particleboard is a waste-wood product that is made by mixing sawdust with adhesives. Although it will not bow or buck like plywood, it will swell if exposed to moisture.

Oriented Strand Board (OSB) is an engineered wood product that is made with flakes or large thin chips of wood. The panels are formed from layers or plies glued together with their strands at ninety-degree angles to one another. The cross orientation of the layers adds strength to the panels and makes OSB well suited for use as a structure board.

With the properties of particle board consisting mostly of sawdust and glues, fasteners such as nails and screws that enter the surface of the board but do not fully penetrate the board tend to weaken the substrate surface, causing it to burst open. To get full fastener strength nails and screws must fully penetrate the board. In the tackless installation method, it is imperative that the tack strips be securely fastened to the subfloor. The tack nails on tack strips will only penetrate the particle board approximately one quarter of an inch. Thus, when the carpet is properly power stretched, the tack strips will tend to pull away, causing the carpet to loosen, which will cause wrinkling and buckling. One suggested solution to this dilemma is to replace the existing tack strip nails with a fastener (nail or screw) that will completely penetrate the particleboard.

Another issue with particleboard is the presence of Phenol-Formaldehyde adhesive resin. This volatile organic compound (VOC) classified as a probable human carcinogen. Formaldehyde can cause headache, nausea, allergic reaction, and burning sensations in the eyes, nose, and mouth. Formaldehyde is also known to cause Olefin and Nylon fibers to yellow. One solution to this problem is to prime the board with a stain killing primer (low VOC), followed by a second coat of an oil based (low VOC) paint.

Installing carpet over particle board can be time consuming, and it is not a desirable substrate to install carpet over.

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