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Starting the Job

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A. THE INSTALLER

As an installer, you play an important role in your customer's warranty protection. For the most complete warranty protection, you should install your customer's floor according to the Armstrong Flooring Guaranteed Installation System. Your customer is counting on you to use the proper adhesives and to install the floor according to Armstrong Flooring guidelines. It is highly recommended that you review the appropriate chapters in this manual before starting the job. If you have any questions about these guidelines, the flooring materials or adhesives, the suitability of the flooring material for a particular application, or you would like a copy of the warranties, please call Armstrong Flooring at 1 800 233 3823.

1. Material Inspection:

- Inspect all flooring products to ensure the correct type, pattern, color and quantity.
- Inspect all adhesives to ensure the correct type and quantity.
- Inspect all materials for defects or damage. Defects are easier to correct **before** installation.
- Make sure you have the proper equipment and materials for the installation.

2. Training:

Do not try to install resilient flooring unless you are thoroughly familiar with the material and installation system. Armstrong Flooring conducts installation courses across the country. If you have not had specific training in resilient installation, you should attend one of these courses. Ask your local distributor for the time and location of installation schools and seminars.

3. Appearance:

It's important to make a good impression on the customer when you arrive at the jobsite. If you arrive in dirty clothes, unshaved, and generally looking less than professional, the customer will assume you will do the same kind of work. Wear a uniform or neat work clothes. Remember, first appearances are lasting.

4. Conduct on the Jobsite:

This is more important on residential work than commercial, but should be considered on every job. Be considerate and respect the customer. This includes the language you use, the respect you give the homeowner's property and the condition of the living area when you leave. Do not use the homeowner's property without asking. Protect other flooring products with runners if you need to move materials over them. Do not clean trowels in sinks. Do not "borrow" cleaners from under the sink. Do not smoke without asking permission.

B. JOBSITE

1. Jobsite Conditions:

- Armstrong® Flooring products are intended for interior applications only. They should not be used for exterior installations, commercial kitchens and commercial food processing areas, heavy industrial areas, or where pointed spikes such as golf or track shoes will be used.
- The environment where resilient flooring will be installed is of critical importance to a successful installation and the continued performance of the flooring products.
- It is highly recommended that the installation of resilient flooring not begin until the work of all other trades has been completed.
- Areas to receive resilient flooring should be clean, fully enclosed, weather-tight and have the permanent or temporary HVAC in operation (see additional information in Section 3, Temperature Requirements).
- The entire area should be well lit, so the installer can properly prepare the substrate and install the floor.

2. Material, Storage and Handling Requirements:

If it becomes necessary, resilient flooring may be stored in an unheated warehouse at temperatures between 30° F (-1° C) and 85° F (29° C), as long as the flooring is protected from the weather and the area is dry, out of direct sunlight and free of internal combustion. (Exposure to exhaust from gas or oil combustion in the form of oxides of nitrogen can lead to warehouse yellowing, especially in residential flooring.) Prior to installation, the following requirements must be followed:

- Deliver all flooring materials, adhesives, patches and seaming products to the jobsite a minimum of 48 before installation.
- Materials should be stored in a dry, temperature-controlled interior area out of direct sunlight (see additional information in Section 3, Temperature Requirements).
- Store and secure all 6' and 6' 7" resilient sheet materials vertically (on end) and rolled tightly, face-out, on a suitable cardboard core.
- For 12' or wider resilient sheet materials, store horizontally with the weight supported across the entire width and rolled tightly, face-out, on a suitable cardboard core.
- Store all cartons of tile or plank flooring on a dry, flat, level surface, carefully stacked squarely on top of one another and never more than five cartons high. Cartons should never be stored on edge.
- Material should always be visually inspected prior to installation.

3. Temperature Requirements:

Resilient flooring should only be installed in temperature-controlled environments. It is required that the permanent HVAC system be in operation before the installation of resilient flooring. Temporary HVAC systems are acceptable. Portable heaters are not recommended as they may not heat the room and subfloor sufficiently. Kerosene heaters should never be used.

- Allow all flooring materials and adhesives to condition to the room temperature for a minimum of 48 hours before starting the installation.
- The area to receive resilient flooring should be maintained at a minimum of 65° F (18° C) and a maximum of 100° F (38° C) for 48 hours before, during, and for 48 hours after completion. **NOTE:** When using S-240 Epoxy Adhesives or installing SDT, the maximum room temperature should not exceed 85° F (29° C).
- During service life of the floor, the temperature should never rise above 100° F (38° C) nor fall below 55° F (13° C). The performance of the flooring material and adhesives can be adversely affected outside this temperature range.

4. Subfloors/Underlayments:

Is the substrate or underlayment appropriate in the area to be covered? Remember, if you cover an underlayment with a resilient floor covering, you have – in essence – **approved** the underlayment.

If the underlayment is acceptable, check the condition and preparation needed before installation. It may not be your responsibility to make the repairs, but it is certainly your responsibility to check for repairs or preparations that are needed. These would include: patching, removing paint or adhesive and leveling or repairing existing floors that will be used as an underlayment. Check concrete subfloors for signs of moisture (i.e., wetness on the bottom of boxes, moisture under mats or rugs, and alkali deposits). Bring these issues to the attention of the dealer/contractor who sold the installation. **See Chapter 3, Subfloors and Underlayments for more details.**

5. Radiant Heat:

Radiant-heated substrates must not exceed a maximum surface temperature of 85° F (29° C).

C. ROLL LABELING INFORMATION

The highest quality of material and workmanship is employed in the manufacture of Armstrong Flooring resilient sheet products. However, a certain degree of shade variation can occur as a result of the manufacturing processes. When installing more than one roll of material in any one area, any potential jobsite shade variation can be reduced by:

1. Making sure all rolls share the same pattern number and the same shade lot/batch number.
2. Installing material sequentially by roll number.
 - a. For linoleum, the tolerance in the sequence of roll numbers should not exceed 20.
3. Installing all cuts in the order of their removal from the roll.
4. If material from more than one batch is unavoidable, the job should be planned so that different batch numbers are not installed side by side or in the same location.

D. PRODUCT PERFORMANCE UNDER CONCENTRATED STATIC AND DYNAMIC LOADS

Armstrong® commercial flooring is used in many applications in which it is subjected to heavy static and dynamic loads. Some furnishings, appliances and equipment in certain environments may be equipped with wheels, casters, rests or other floor contact devices, which concentrate rather than distribute the load over the surface of the flooring (e.g., hospital beds). With respect to portable furnishings and equipment, although concentrated wheel/caster loadings provide for easier mobility, they can be particularly damaging to resilient flooring installations. Armstrong Flooring recommends that any furnishings or equipment be fitted with floor contact devices that avoid concentrating weight loads.

Our experience has shown the use of hard setting reactive adhesives like S-240 Epoxy Adhesive, or the use of Armstrong Flooring Flip Spray Adhesive, offers advantages and may help protect against damage if used to install flooring under such furnishings and equipment. Depending on the application, the epoxy may only be necessary in limited areas of any particular installation such as an area immediately under and adjacent to the primary areas of contact with the flooring. In the case of certain heavy hospital beds, the application of the epoxy adhesive in an area that extends a minimum of 1' beyond the wheelbase or footprint of the four casters (approximately 4' by 8') may be sufficient. **For questions regarding product suitability and detailed instructions for floor preparation and installation in these types of applications, please contact Armstrong Flooring.**

Armstrong Flooring cannot accept responsibility for floor damage resulting from the use of inappropriate, improperly designed, or inadequate floor protection devices. Because rolling-type casters and certain floor rests on furniture, appliances and equipment may damage resilient flooring, any warranty as to their suitability rests with the furniture, appliance, or equipment manufacturer.

E. SAFETY

1. Lifting:

Floor covering installers often lift heavy objects, such as rolls of sheet goods, tile boxes, heavy tools, or toolboxes. Lifting correctly and carrying only as much as is comfortable are your first protections against injury. When an object is too heavy or awkward for you to lift alone, get help or use mechanical aids. While one person may be able to safely lift many smaller rolls or tile boxes, two people should lift heavier rolls of sheet goods. Cut large rolls of material into needed sizes before leaving the shop. Both people should use correct lifting techniques. Mechanical lifting and carrying aids such as straps and dollies can be used even when two people are lifting an object. You should also use dollies and straps to move heavy furniture and appliances.

2. Tools:

a. Knives: Knives cause more disabling injuries than any other hand tool. To reduce the possibility of injury, always keep knives sharp and in good repair. Dull knives require more pressure and are more likely to slip. Always cut away from the body. If this is not possible, keep hands and body clear of the knife's path. Always cut with smooth, not jerky, motions. Never store knives in pockets. While working, keep knives in pouches with the edge or point down into the pouch. At the day's end, store knives in toolboxes.

b. Safety Glasses: Wear safety glasses to protect your eyes against flying chips or nailheads. If you are using torches, be aware of your surroundings and other workers in the area. You should always fill torches outside, taking care to avoid spilling flammable liquids.

c. Electric Tools: Electric shock is a primary hazard from electrically powered tools. Electric shock can cause burns, injuries from falls or even death. To protect yourself, use only approved electrical tools. These are usually listed by Underwriters' Laboratories, Inc.

Most electric tools are grounded with a third wire. This ground wire protects users by draining the current from any short circuit or other tool defects. Otherwise, the resulting current would pass from the tool to the operator's body. Never cut the third prong off the plug of the grounded tool. To prevent shock:

- Keep hands dry.
- Wear non-conducting rubber-soled shoes and rubber gloves when working on wet or damp surfaces.
- Use heavy-duty extension cords.
- Keep electric lines away from nails, sharp edges and corrosive chemicals.
- Never leave electric lines where they may be run over by vehicles.
- Regularly inspect all electric cords and tools.
- Repair/replace frayed cords immediately.
- Disconnect power lines before changing tool accessories or before adjusting or repairing tools.
- Always use a ground fault interrupter (GFI) when using power equipment in a damp or wet area.

To remove a person in contact with live or hot tools, shut off the power. If this is impossible, push the person away with a non-conducting material such as a wooden tool handle.

3. Housekeeping:

Following these general rules may help eliminate on-the-job accidents:

- Keep all walkways, work areas, stairways and doorways free of obstruction or trash.
- Keep tools put away when not in use.
- Store unused material, such as tile and sheet goods, out of the work area.
- Keep area clean and properly dispose of scrap materials.

4. Work Site Environment:

Initially there may be a potential adverse impact on indoor air quality within the general working area associated with the installation of resilient floor covering materials. Therefore, you should advise the building manager or other appropriate person that:

- It will be necessary to establish and maintain adequate ventilation of the work area without causing the entry of contaminants to other parts of the building.
- Persons who are sensitive to odors and/or chemicals should be advised to avoid the work area during this process.

Safety on the job is your responsibility! To assure the protection of yourself, others on the jobsite, and the end users of Armstrong® Flooring products, warnings and instructions should be strictly followed. Good work and hygiene practices require careful review of all safety and health warnings and instructions contained on labels, specifications, instruction sheets and Safety Data Sheets (SDS).