

SUBFLOOR PREPARATION



GENERAL INFORMATION

Amorim WISE floors are intended for indoor use only.

Please read the following instructions before installation.

SUBFLOOR PREPARATION

The key to success when installing Amorim WISE floors is to achieve a good bond between the subfloor and the Amorim WISE flooring. Proper preparation of the surface is the most important factor in achieving this bond.

Whatever levelling compound is used to level, smooth or repair a subfloor surface, it will only be as strong as the surface to which it is bonded. The surface, therefore, must be sound, clean and free of oil, grease, wax, dirt, asphalt, curing compounds, latex and gypsum compounds, dust, paint, or any contaminant, which might act as a bond breaker.

The methods required to properly prepare the subfloor vary with the type of subfloor, its surface and condition. Many times, several methods of preparing a subfloor are available. Some methods are used because they are less expensive, easier or faster, depending upon the size of the job. However, taking short cuts in proper subfloor preparation can be an invitation to installation problems and failures.

This technical information is intended to give recommendations for many common subfloor conditions and the proper preparation.

SUBFLOOR REQUIREMENTS

Amorim WISE Glue-down floors can be installed in interior installation sites, below or above grade, on concrete or wooden subfloors but must be flat and within 3/16" in 6 1/2'

SCREEDS WITH UNDERFLOOR HEATING

When using Amorim WISE Glue-down floors in a heated subfloor installation, the surface temperature of the subfloor must not exceed 28°C (82°F).

Remember that rugs or mats placed on top of the floor may function as heat accumulators and will increase the floor surface temperature more than the maximum temperature recommended (must not exceed 20 - 22°C, or 68-72°F).

All hot water pipes elements should be embedded in concrete, in accordance with the appropriate building codes and regulations.

Depending on the system involved, this kind of screed is 4565mm (2 to 3 inches) thick. Testing the moisture of the subfloor using the CM meter (moisture-gas pressure gauge) is always possible if the installer of the screed marked the measuring points. This is the only way to avoid damaging of the heating pipes while the test samples are taken from the screed. If there are no marks, a complaint must be made to the contractor.

Drying out can only be done with a suitable period of drying through heating.

For this reason, the screed must be heated up before installing the flooring.

The drying of a heated subfloor must be made by turning the heating on/off with a pause before installation of the floor, following a documented protocol. After that you can begin the heating phase.

The beginning of the heating phase in concrete subfloors is to be made not before 21 days after complete the cure of the substrate. The heating phase has to begin with running temperature of 25°C, (78°F) during 3 days.

The subfloor should be in place and cured for at least 60-90 days. The temperature should then be increased each day until the maximum temperature allowed according to the manufacturer system. This maximum value should be kept for at least 72 hours and maintained for 5-7 days without any turning off. The decrease of temperature is made by reducing it gradually every day until 18°C, or 65°F on the surface is achieved.

The heating system must be turned on eight days before the application of the leveling compound, so that the concrete slab dries completely.

The heat should be turned off before the leveling compound is applied. Then, 3 days after the flooring is installed, increase it slowly to a normal level. A maximum of 28°C (82°F) should be maintained on the subfloor surface.

IMPORTANT NOTES:

- Failure to observe these precautions can cause a build up of moisture or partial evaporation of the levelling compound, or fast drying of adhesive.

- Lastly, if the heat is turned on when the adhered material has not been conditioned properly on-site for at least 7 days and is not completely dry, the material may shrink. Avoid abruptly turning on radiant heat when cooler weather prevails as it will subject the flooring to rapid movement of expansion and or contraction. Gradually increase temperature 5° per day regardless of the season.

- The adhesive used must be suitable for heated subfloors.

- No responsibility will be accepted in case of malfunctioning of the heating system and related problems.

- For detailed information, follow the instructions supplied by the subfloor heating system manufacturer/contractor, or contact your supplier.

UNSUITABLE TEMPERATURE AND VENTILATION CONDITIONS

The resilient floorcovering should be installed at approximately the same temperature that it will be exposed to, later on during use.

The floorcovering should not be installed at a subfloor temperature below 18°C (65 °F) and the relative humidity should be between 35 to 65% as this kind of indoor climate can have adverse effects on the flooring itself and in its processing.

(For example, low temperatures lead to a considerable increase in the setting time and reaction time of adhesives and levelling compounds; the drying time for primers and levelling compounds and the airing time for adhesives are likewise increased by high humidity).

The corresponding time details given by the manufacturers of adhesives are based on a temperature of 20°C (68°F) and 50% relative humidity as a general rule. This is why floor temperature and humidity measurements are helpful.

MOISTURE PROTECTION

Despite its age, there is always a risk of moisture in subfloors, for that reason it is necessary to ensure that an efficient moisture barrier is installed.

Subfloors must be permanently dry on concrete subfloors without radiant heat, consider the maximum humidity less than 75% RH or conduct calcium chloride moisture tests to ensure that moisture emission levels are less than 3lbs/1000ft²/24 hours (USA and Canada), or Calcium Carbide (CM) Test:

Type of Subfloor	Moisture content CM% Heated	Non-heated
Concrete	1,5	2,0
Anhydrite	0,3	0,5

Subfloors to be covered with Amorim WISE Glue-down floors (almost vapor-proof) require sealing (insulation) against rising damp if there is no cellar underneath (basement). Water-repellent concrete, crawl spaces, or similar materials are not sufficient to prevent the migration of damp into the subfloor.

ALKALINE TESTING PH

In addition to moisture testing, you may also test the concrete for alkalinity. It is quite possible during curing, especially on newly poured slabs, that alkali salts were carried to the surface by moisture.

These alkali salt deposits will adversely affect the adhesive bond. You can test for alkalinity of the concrete with a special pH testing paper. If you have a pH reading of 10 or higher, you must neutralize the alkalinity before beginning the installation.

SUBFLOOR TYPES

The following subfloors are found in practice:

- Cement screeds
- Anhydrite or plaster screeds
- Mastic asphalt
- Concrete
- Chipboard and plywood with tongue-and-groove
- Artificial or natural stone, ceramic tile floorings
- Coatings and paint
- Screeds and underfloor heating

CEMENT SCREEDS

This is the most common type in building construction. Due to the shrinkage tension occurring during the setting phase, separation joints (dummy joints) are laid out during insertion about 6 m(20') away from each other. Cement screeds are absorbent. Dispersion adhesives may be used.

PLASTER OR ANHYDRITE SCREEDS

Attention must be paid to the low permissible moisture of <0.5 %. These screeds can be applied over large surface areas without separation joints. Moisture entering and remaining in the screed after application will damage the screed. Generally speaking, these screeds must be sanded, brushed, vacuumed and treated with primers. In such a case, the reduced absorbency as a result of the primer has to be compensated by using the appropriate thickness of levelling compound (not less than 2 mm or 1/16") if dispersion adhesives are used.

MASTIC ASPHALT

This is applied in a hot, molten condition (200 - 220 °C, or 392-428°F), smoothed and rubbed over with fine quartz sand. If applied properly, mastic asphalt can be used to cover large surfaces without cracks. It can be walked on as soon as it is cold. Mastic asphalt has no pores, and when installed in two layers acts as a damp-proof course in building construction.

If a dispersion adhesive is used, mastic asphalt must be levelled with a minimum of 2mm (1/16") layer thickness. If contact adhesive is used, a levelling compound must also be applied, to avoid direct contact between the mastic asphalt and the solvents contained in the adhesive.

If reaction adhesive is used, only polyurethane adhesive may be used directly on mastic asphalt.

CONCRETE

The moisture content of concrete subfloors can be determined with a CM meter. If you decide to use it, you must take material from the entire thickness of the substrate.

The most reliable method for determining the moisture content is drying it in a heating cabinet; however, this is only possible in a laboratory.

If there are excessive amounts of residual moisture, this can be sealed on the surface using special two-component primers. You must consult the supplier concerned.

PRE-TREATMENT

Subfloors of this type have to be roughened (e.g. by sanding, brushing with wire brushes, sandblasting, beadblasting), primed and levelled. To find out how much (if any) preparatory work will be necessary, it is essential to fix test strips. (Technical advice should be sought from the suppliers of levelling compounds and adhesives.).

CHIPBOARD AND PLYWOOD WITH TONGUE-AND-GROOVE

Fairly large surfaces can be installed without joints by gluing the tongue into the groove. Generally, only the joints between the boards are levelled or sanded. Whether or not priming is necessary will depend on the surface quality of the boards concerned.

If the joints are not glued, they will show later the surface of the flooring.

ARTIFICIAL OR NATURAL STONE AND CERAMIC TILE FLOORINGS

Subfloors of this type are non-absorbent. All soiling (e.g. grease, waxes, soap, etc.) must be thoroughly removed mechanically and with detergents, especially if floors like this have already been in use for some time. Any loose tiles must be re-fixed. Subfloors of this type have to be roughened (e.g. by sanding, brushing with wire brushes, sandblasting), primed and levelled.

COATINGS AND PAINT

These are usually very low in pores or have none. Any flaky parts must be scrupulously removed. As the composition or bonding agent in such coatings is mostly unknown, trial strips with different adhesives will have to be tested, while simultaneously advice must be given from the adhesive manufacturer. Subfloors of this type have to be roughened (e.g. by sanding, brushing with wire brushes, sandblasting), primed and levelled. To have a good compatibility between subfloor and the glue, please use the glues recommended by Amorim WISE and follow the recommendations very carefully, as well as the information from technical data sheets.

EXPANSION JOINTS

Expansion joints in the building must not be closed to the flooring. If it is laid and stuck across expansion joints in the building, it may tear, as it is fixed firmly in place and cannot move with the building. Expansion joints for the building are found, as a rule, in large areas. Expansion joints, which do not run through the whole of the building (e.g. construction joints in the screed), but are designed merely to absorb tension during setting, are what is meant here. The contractor will, however, be well advised to consult the customer concerning the connection to expansion joints.