Amtico Spacia
Installation Guidelines
Date of issue: 24th January 2013

INTRODUCTION
Installing Amtico Design Tiles is straightforward and follows the same guidelines that apply to all quality resilient tile floors. Good preparation is essential as the finished appearance of the floor will only be as good as the quality of the base and preparation over which it is installed. The base should be hard, smooth, clean and dry and free from defects. The surfaces should be even in order to achieve good fitting and adhesion. Any irregularities in the sub-floor will show through the finished floor.

The guidance notes provided by Amtico International are intended to give general information on the methods that can be used to prepare various sub-floor types.

SURVEYING
Suitability of sub-floors and site conditions must be assessed prior to beginning an installation to ensure that they are in accordance with Amtico International and sub-floor manufacturers' guidelines and national standards.

Amtico International products are not suitable for external installation or unheated locations.

PREPARATION OF SURFACE
The quality and preparation of sub-floors, testing for moisture content and relative humidity, and installation procedures must be in accordance with Amtico International technical guidelines and BS 8201, BS 8203 and BS 8204.

INSTALLATION OF MATERIAL
Handle, store and acclimatise product according to Amtico International recommendations. Installation must not begin until all other trades have been completed.

The adhesive used must be Amtico International PS, Amtico International SF, Amtico International HT or Amtico International Universal 2-Part adhesive. The appropriate adhesive is required for all installations involving Amtico International products. Adhesive selection should be made according to the specific site conditions.

RECEIVING MATERIALS, CONDITIONING & STORAGE
Before laying flooring, all materials must be checked to ensure that the batches are identical and free from defects. Complaints with regard to clearly identifiable defects cannot be accepted once the flooring has been laid.

Boxes of tiles should be removed from pallets and separated from one another as part of the acclimatisation process.

Ensure that the heating/air conditioning is fitted and operating. Alternatively, temporary heating or cooling may be used to maintain a constant temperature within the specified range.

Tiles, adhesive and sub-floor must be allowed to stabilise to a constant temperature between 18°C-27°C for a period of at least 24 hours before, during and after installation. If tiles and adhesive have been stored outside of this temperature range, then it is recommended that acclimatisation between 18°C-27°C is increased to 48 hours. Tiles must be stored flat and kept away from direct sunlight, heaters or air vents for proper conditioning.

MOISTURE IN SUB-FLOORS
Moisture testing of all sub-floors is essential before installation can begin. This is true of new and old buildings. Moisture testing must be carried out and recorded. All moisture tests must be undertaken in accordance with BS 8203 and using an appropriate method to suit the subfloor type.

The sub-floor may be considered dry when the relative humidity is 75% or below. If readings are above this level, a surface damp proof membrane can be applied. Consult manufacturers for instructions. Alternatively sub-floors can be given sufficient time to dry.

PREPARING A SUB-FLOOR TO RECEIVE TILES
1. SOLID SUB-FLOORS
Concrete/Sand and Cement
Tiles must only be installed on suitably dry concrete or sand and cement sub-floors. Drying time will depend on several conditions, including thickness of slab, location, type of construction, temperature and humidity. New concrete bases contain a high percentage of residual moisture.

Sub-floors must be thoroughly mechanically cleaned of all paint, curing agents, grease, wax and any other foreign matter. The use of solvents to remove surface contaminants is not permitted.

The floor must be hard, smooth, level and free from cracks. Use a suitable repair compound to fill grooves, cracks, holes and depressions.

A levelling compound should be applied. Please refer to section titled Levelling Compounds for Solid Sub-floors.

Power Floated Concrete
Power floated concrete has a relatively non-absorbent, low porosity surface which will increase the drying time. It is not a suitable surface for direct application of adhesive. Surface laitance may also be produced by the power floating procedure. For these reasons, it is recommended that an appropriate method of mechanical preparation such as shot blasting or scarifying is used to prepare the surface.

A levelling compound should be applied. Please refer to section titled Levelling Compounds for Solid Sub-floors.

Anhydrite
Anhydrite screeds can be difficult to identify and can be mistaken for the more traditional cement based products.

Provided ambient conditions are acceptable, anhydrite screeds dry at a similar rate to their cement-based counterparts. In the case of the floor screed not being sufficiently dry please consult the manufacturer on how to proceed, in most cases the screed should be allowed to dry out to an acceptable level.

When the floor is sufficiently dry a levelling compound should be applied. Please refer to section titled Levelling Compounds for Solid Sub-floors.

Asphalt
Mastic asphalt is normally applied between 15 and 20mm thickness and sets to a dense hard mass which is impermeable to moisture and therefore forms an efficient damp-proof membrane. Mastic asphalt is often applied over an existing concrete base which lacks a conventional DPM. If the asphalt is cracked or damaged it will need to be repaired and damp proofing may be required.

The asphalt will need to be cleaned before a levelling compound is applied. Please refer to section titled Levelling Compounds for Solid Sub-floors.

Levelling Compounds for Solid Sub-floors
Most solid sub-floors will require an application of a levelling compound to provide a hard, smooth and level surface to which adhesive and tiles can be applied.

The selection of a suitable levelling compound is critical in determining the long term durability and appearance of the flooring system. Generally levelling compounds should be applied at a minimum of 3mm thickness. The manufacturer of this compound can supply details of the product within their range that should be used to suit the end use application together with details of which primer should be used.

Expansion Joints
Expansion joints are incorporated into concrete floor slabs in order to permit movement without causing cracks to form. These joints should not be filled with smoothing compound or overlaid with Amtico floor coverings. In all cases they should be mirrored through to the surface.

2. TIMBER FLOORS

Existing Floorboards
Loose floor boards should be firmly nailed down and any damaged boards replaced. If necessary, the boards should be planed and/or levelled with a suitable levelling compound prior to covering with plywood. See section on Plywood Overlays.

Wood sub-floors that exhibit excessive deflection, or are "springy" or "give" when walked on are not suitable for installing Amtico Design Tiles unless suitable remedial work is carried out.

Chipboard, Hardboard, Particleboard
Tiles should not be adhered directly to such sub-floors whether they are free floating or fixed, and floors should always be overlaid with plywood prior to installation of tiles. See section on Plywood Overlays.

Wood Block Floors
Existing wood block floors laid onto a concrete base are unsatisfactory as an underlayment for resilient floors, even when plywood has been fitted. Such floors must be lifted and the sub-floor levelled.

Plywood Overlays
Plywood should be a minumum of 6 mm thickness Class 3 exterior grade, glue bond EN 314-2:1993. The thickness selected should be determined by the quality of the surface being covered.

Panels should be acclimatised to the site conditions as recommended by the supplier. Plywood should be protected against damage or water prior to application.

The plywood should be laid in sheet sizes not exceeding 2400 x 1200 mm, and fixed using screws, twisted shank or ring shank nails, serrated or divergent staples. Fixing should start at the centre of each sheet – nailing, screwing or stapling at 150 mm intervals at intermediate centres and at 100 mm centres along the perimeters with the fixing line 12 mm from the edge. All fixings should be finished flush with the surface.

Joint lines should be staggered, and every effort made to prevent coincidence of joints in the sheets and the timber base.

We would recommend the use of a suitable compound to ensure the joints of the plywood and all fixings are not visible when the installation is complete. The manufacturer of this compound can supply details of the product within their range that should be used to suit the end use application together with details of which primer should be used.

OTHER SUB-FLOOR TYPES

Existing Resilient Floors
It is recommended that Amtico Design Tiles are not directly applied over existing resilient floors, with the exception of Amtico Access and Amtico Click. Generally, the old flooring should be removed and as much of the old adhesive scraped away by hand or using an appropriate mechanical method. Under no circumstances should solvents be used.

NB: Some resilient tiles and adhesives can contain asbestos. In case of doubt, contact the relevant local authority for advice on their removal and disposal.

Terrazzo, Stone, Quarry tiles
Some existing flooring materials such as quarry tiles, ceramic or terrazzo may be suitable for the installation of Amtico Design Tiles if properly prepared. These bases may be sufficiently porous to allow moisture to pass through to the back of the tile, and must be checked for moisture and damp-proofed if necessary. Worn and damaged areas must be repaired, including any tiles that are insecure, which must be removed.

The surface must be thoroughly cleaned of all sealants and varnishes, as well as foreign matter such as oil, grease, wax, etc. It is recommended that a suitable mechanical method is used to prepare the surface, as this will also provide a satisfactory surface to accept a levelling compound. Please refer to section titled Levelling Compounds for Solid Sub-floors.

Metal
(i) Direct Application
The metal surface should be cleaned/degreased and then prepared by grinding or scarifying to ensure that it is clean and free from any contamination, such as rust or metal oxide. It should then be mechanically abraded to give a surface key. Amtico Design Tiles can then be installed onto the prepared surface using Amtico International Universal 2-Part Adhesive.

NB: under no circumstances should a water-based adhesive be used for bonding directly to metal.

(ii) Indirect Application
The metal surface should be cleaned/degreased and then prepared by grinding or scarifying to ensure that it is clean and free from any contamination, such as rust or metal oxide. It should then be mechanically abraded to give a surface key.

A suitable primer should be applied to the metal surface prior to putting down a suitable levelling compound, which must be applied as recommended by the manufacturer.

Once the levelling compound has dried, any adhesive from our range can potentially be used subject to the restrictions described in the Adhesive Section.

Raised Access Floors
Amtico Design Tiles cannot be fitted directly to raised floor panels. Where this is required, the panels should be level and stable, and then overlaid with plywood, using appropriate fixings to suit the panels surface - see section on Plywood Overlays.

Note that Amtico Access has been specifically developed for fitting directly onto raised access floor panels.

Underfloor Heating
There are various types of underfloor heating systems available – including hot water pipes embedded in the sub-floor and electrical systems that can be laid onto the surface of the sub-floor. In all cases, the temperature limitations are the same – the heating system must operate so that the temperature at the sub-floor surface (i.e. the adhesive interface) should not exceed 27°C.

The heating system must be commissioned before the floor tiles are installed, to ensure that the sub-floor is stable, the heating system is working as required with no leaks or cable breaks.

Underfloor heating should be switched off for 48 hours before, and should not be switched back on until 48 hours have elapsed after installation. It is recommended that the heating is slowly re-applied to return it to the required operating temperature.

With underfloor heating systems, it is the responsibility of the manufacturer and/or installer to recommend appropriate procedures and materials for producing a surface suitable for installing floor tiles. For electrical systems, this will require that the heating elements are fully embedded in a well-bonded and appropriate levelling compound, and that the temperature is adequately controlled to maintain the temperature at the sub-floor surface at a maximum of 27°C.

Care should be taken in the placing of large insulating items such as rugs, beanbags and towels onto floors containing underfloor heating. This can result in localised "hot-spots" which may lead to distortion or discolouration of the tiles. No responsibility can be accepted under these circumstances.

ADHESIVE SELECTION & APPLICATION

Recommended Adhesives
Only Amtico International adhesives should be used – others may not give adequate performance and could fail.

Amtico Marine can only be installed using Amtico International SF, PS or Universal 2-Part Adhesive

(i) Amtico International SF Adhesive

SF Adhesive is a water-based acrylic adhesive with a working time of 1 hour that is recommended for use in all areas except those subject to heat and moisture.

(ii) Amtico International PS Adhesive

PS Adhesive is a very low emissions (EC1 Plus), water-based acrylic adhesive that has an extended working time of 3 hours and is recommended for all areas except those subject to heat or moisture.

(iii) Amtico International HT Adhesive

HT Adhesive is a single-part, wet-set water-based acrylic adhesive that has very good temperature resistance; it has a working time of 30 minutes. It is recommended for areas subject to some heat variations, such as conservatories and areas receiving direct sunlight. It is also suitable for use where underfloor heating has been installed.

(iv) Amtico International Universal 2-Part Adhesive

Universal 2-Part Adhesive is a wet-set adhesive that can be used for bonding Amtico Design Tiles in wet areas such as bathrooms. It may also be used for high temperature areas. Universal 2-Part has a working time up to 60 minutes, is entirely solvent free and classified as EC1R Plus with respect to very low VOC emissions.

Follow the instructions on the packaging. Spread adhesive evenly using a trowel with notch size 1.5x5mm (UK) or a Euro A2 (1.8x1.2x1.65mm). Do not use worn trowels.

Only spread sufficient adhesive that can be covered within the recommended working time.

Amtico Design Tiles should be rolled with a 45kg (100lbs) roller after laying and before the adhesive sets – timing will depend on site conditions and adhesive selection – see data sheets for more information.

Always clean away excess adhesive before it is allowed to dry – use a soft cloth moistened with Amtico International Adhesive Remover. Dried adhesive can be removed by carefully scraping it off the tile, or by using a 3M red pad moistened with Amtico International Adhesive Remover.