



Technical Manual

Specification, installation, care and maintenance



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1.0 Product Description

1.1 Product Description

Luxury Vinyl Floor Tiles (LVT)

1.2 Areas of Use

Suitable for all marine environments, including high speed ferries, cruise ships, off-shore rigs and boats where a quality, fashionable product with excellent wear and appearance retention is required.

1.3 Product Details

| | |
|--------------------|---|
| Thickness Overall: | 2.0mm |
| Wear Layer: | 0.55mm |
| Typical Dimensions | |
| Woods: | 114 x 915mm (4½" x 36") |
| Stones: | 305 x 305mm (12" x 12") 305 x 457mm (12" x 18") 457 x 457mm (18" x 18") |
| Abstract: | 305 x 305mm (12" x 12") 457 x 457mm (18" x 18") |
| Weight: | 2.85 kg/m ² |
| Packaging: | 5 yds 2 (4.2 m 2) per box |
| Design Options: | Woods, Stones, Abstract and Custom Made Designs |

2.0 Installation Guidelines

2.1 General

Manufacturers instructions must be followed when using proprietary materials for floor preparation.

Amtico Marine can be installed on screeded subfloors that have been suitably prepared.

Existing resilient floors must be removed and the floor re-prepared. Some resilient floor tiles and adhesives can contain asbestos - in case of doubt when removing existing tiles, contact the relevant local authority for advice on removal and disposal of flooring products containing asbestos.

Amtico Marine must not be installed externally or in unheated locations.

It is preferable to protect the floor from heavy traffic for 24 hours after installation. The floor must not be washed for 48 hours.

2.2 Sub-floor Preparation

It is the responsibility of the installing contractor to ensure the floor is fit to receive a resilient floor.

To ensure good quality appearance and adhesion, the floor/sub-floor must be hard, smooth, clean, dry and free from defects.

Ensure the floor is clean before proceeding with the installation.

Use of a suitable levelling compound in accordance with manufacturers instructions will ensure that no irregularities show through to the surface of the finished floor.

2.3 Installation

The tiles, adhesive and floor/sub-floor should be allowed to stabilise to constant temperature conditions of 18-27°C (64-81°F) for a period of 24 hours before, during and after installation.

Tiles must be stored flat. Select the appropriate adhesive for the installation (see under recommended adhesives), ensuring that the adhesive has been protected from frost during storage. Use the trowel notch size as recommended and do not use worn trowels.

Follow the instructions on the packaging and roll the floor with a 45kgs (100lbs) roller before the adhesive has completely set to ensure a good bond between tile, adhesive and floor. Do not walk on freshly installed tiles for 5- 6 hours (SF adhesive), 8-10 hours (Universal 2 Part) or 4 hours (PS Adhesive).

Clean away excess adhesive before it is allowed to dry. Use a soft cloth moistened with Amtico Adhesive Remover.

2.4 Recommended Adhesive

It is imperative that the correct adhesive is used.

Only Approved adhesives can be used for bonding Amtico Marine to screeded floors. Amtico International SF, Amtico International PS & Amtico International Universal 2-Part Adhesive are approved for use.

Other adhesives may be approved. Please contact UK sales for complete list of approved adhesives.

The use of an approved adhesive is required in order to comply with MED approval.

2.5 Repair

All repairs must be carried out using Amtico Marine tiles and the recommended adhesive. These instructions must be followed in order to comply with MED approval.

3.0 Sub-floor Preparation

3.1 Introduction

Amtico Marine can be installed on screeded sub-floors which have been suitably prepared, and is also appropriate for use with under-floor heating. It must not, however, be installed either externally or into unheated locations.

These guidance notes are intended to give general information on the methods that can be used to prepare various sub-floor types. However, the selection of suitable materials, including smoothing and levelling compounds and any ancillary products is dependent upon the end use of the completed flooring, and must be agreed by the supplier of the preparative materials and the flooring contractor.

Any proprietary materials used for floor preparation must be used in accordance with the manufacturers recommended instructions. The finished appearance of an Amtico Marine floor will be as good as the quality of the base 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 effective application of Amtico Marine flooring is dependent upon suitable site conditions, which must comply with the requirements of the relevant national standards eg British Standard 8203.

Floor laying work should not begin until the installer has assessed and approved the sub-floor conditions.

Serious defects should always be reported immediately to the appropriate authority and corrected before installing the floor covering.

4.2 Smoothing and Levelling Compounds

The purpose of smoothing and levelling compounds is to repair a damaged surface or to provide a smooth and level surface on an otherwise suitable sub-floor.

Only cementitious (portland cement-based) under-layment materials should be used. The selection of the correct type of smoothing and levelling product is critical in determining the long-term durability and appearance of the flooring system. It is essential that only good quality water-based smoothing and levelling compounds and latex are used for installing Amtico Marine.

Proper preparation of the surface of the metallic sub-floor to receive the under-layment material is essential to the long-term performance of the flooring system. Good adhesion of the under-layment to the sub-floor is critically important, and may require the use of a suitable priming material. The flooring contractor must decide whether the adhesion is satisfactory.

If expansion joints are incorporated into the floor in order to permit movement these joints must not be filled with under-layment products or other materials, and floor coverings must not be laid over them.

Smoothing and levelling compounds should be protected from other trades against contamination and damage, and must be as dry as possible prior to installation of Amtico Marine floors (See BS 8203).

Cement screeds incorporating resin additives dry out quicker, give improved surface hardness and can be used when shorter drying times are required.

4.3 Repair/Finishing Compounds

These compounds have been specially formulated to dry rapidly and provide a high bond to existing sub-floor smoothing. Metallic surfaces should be prepared as described below. The sub-floor must be dry, sound and clean, free of dust, grease and other barriers that might impair adhesion to the base.

In certain applications, they may be used to blind out existing adhesive residues that are hard, thin, sound and well-bonded. The residues must not be affected by either the initial wetting from the applied mortar or the adhesive used to install the new floor covering.

4.4 Metal

4.4.1 Indirect

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 recommended levelling or smoothing compound, which must be a minimum thickness of 3mm.

Once the smoothing or levelling compound has dried, Amtico Marine can be installed using Amtico International SF or PS Adhesive. If there is doubt as to the levelling or smoothing compound being a minimum of 3mm in thickness, then Amtico International Universal 2-Part Adhesive must be used.

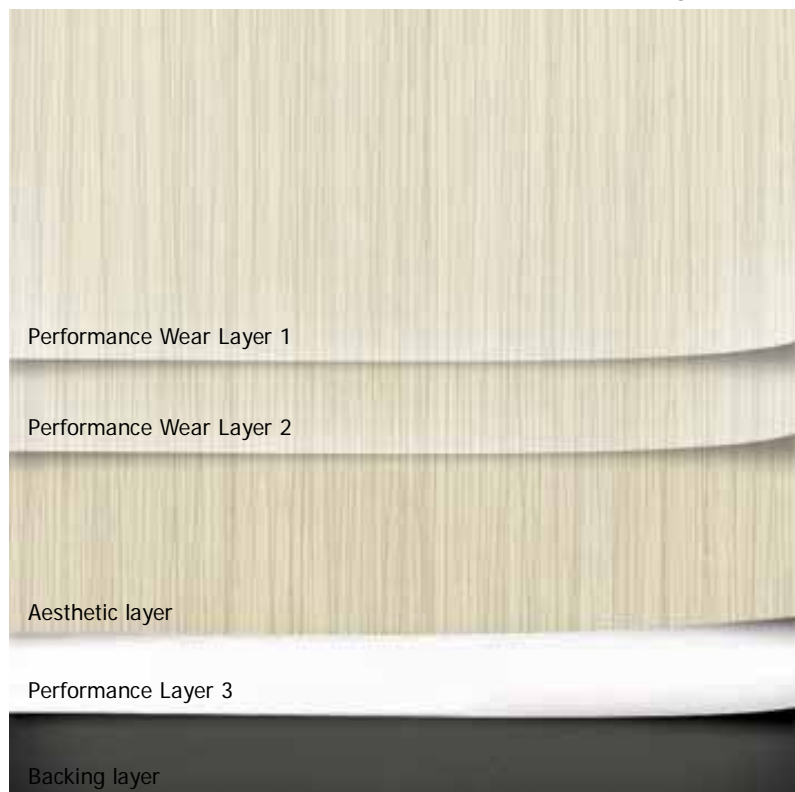
Other adhesives may be approved for use with Amtico Marine. Please contact UK sales for complete list.

4.5 Existing Resilient Floors

It is not recommended that Amtico Marine products be applied over existing resilient floors. In such situations the old flooring should be removed, and as much as possible of the old adhesive scraped. Provided the remaining residues are well-bonded and non-water softenable, it may be possible to prime and then apply a suitable levelling compound, otherwise the residues will need to be removed using an appropriate mechanical method. Under no circumstances should solvents be used.

N.B. As a safety precaution when lifting vinyl asbestos tiles the appropriate safety measures should be adhered to.

Amtico Marine Multiple Performance System



Performance Wear Layer 1

Provides improved slip resistance, durability and reduced flammability. Engineered ceramic particles work in a similar way to the technology used in industrial safety flooring for the most demanding commercial environments. Reduced flammability is achieved by these particles forming a char layer during the burning process.

Performance Wear Layer 2

Provides improved smoke and toxicity performance. Made up of a polymer alloy, this layer offers reduced smoke production and toxicity during burning. This helps Amtico Marine meet the very stringent criteria required to achieve Wheelmark certification issued by Lloyds Register Verification.

Aesthetic layer

Our in-house design team create a perfect replication of natural wood, stone and marble, as well as abstract products.

Performance Layer 3

Provides improved reduction of flammability. Constructed from a combination of PVC and resins to form an engineered polymer alloy. The added performance fillers provide good bulk mechanical properties which also exhibit low smoke/toxicity and flammability characteristics.

Backing layer

A PVC layer to provide additional low flammability and good adhesion properties.

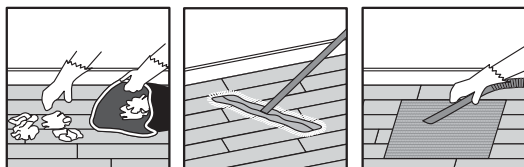
| Standard | Reference | Result | Standard | Reference | Result |
|---------------------------------|------------------------------|-------------|---------------------------|-----------|---|
| Flammability / Smoke / Toxicity | IMO MSC 61(67) Parts 2 and 5 | Pass | Abrasion Resistance | EN660 | Group T |
| Light Stability | ISO 105 B02 | 7 or better | Thermal Resistance | DIN 52612 | 0.0063 Km ² /W (underfloor heating suitable) |
| Wear Layer Thickness | EN429 | 0.55mm | Wear Group Classification | EN649 | Class 33, 42 |
| Tile Thickness | EN428 | 2.0mm | Chemical Resistance | EN423 | Pass |
| Residual Indentation | EN433 | Pass | Flexibility | EN435 | Pass |
| Dimensional Stability | EN434 | Pass | Castor Chair Resistance | EN425 | Pass |

5.1 Guidelines for all floor sizes

5.1.1 Introduction

This document gives information for routine maintenance of Amtico Marine PVC floors. For further information, contact Amtico International AfterCare Services on 024 76 861409 or technical.support@amtico.com. All floors should be swept and dust mopped daily, following which soiling and marking can be removed using the appropriate method (or combination of methods for a systems approach) described below. Before commencing work, put out signs to warn people that cleaning is in progress.

5.1.2 Daily sweeping and dust mopping



- (i) Pick up litter and thoroughly sweep the floor area.
- (ii) Pick up debris with dustpan and brush or vacuum.
- (iii) Vacuum walk-off mats and crevices at entrance(s).

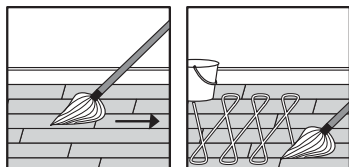
5.1.3 Manual mopping

Ideal for small or congested areas

Manual mopping is used for soil removal in small or congested areas (including within large floors) and some mark removal. Spray cleaning may be required for heavier surface marking.

(Note: In conditions of heavy soiling, perform a pre-wash by preparing a solution of Amtico International FloorCare Maintainer diluted in accordance with the label and pre-wash heavily soiled areas).

Prepare a solution of Amtico International FloorCare Maintainer diluted in accordance with label.



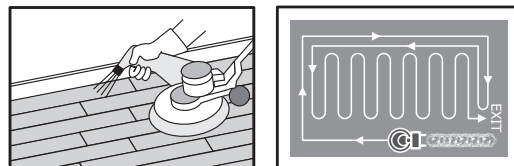
- (i) Using a two-bucket mopping system, apply solution using a well-wrung mop to remove soiling.
- (ii) Mop using overlapping strokes.
- (iii) Rinse the mop frequently and change the solution as necessary.
- (iv) Allow entire floor area to dry thoroughly.
- (v) Remove "Caution" signs.

Ensure all equipment is cleaned thoroughly after use and stored safely.

5.1.4 Spray Cleaning

Ideal for small / medium size areas

Spray cleaning can be used for light soil removal in small/medium size areas and removal of most scuff marks from all floor sizes. Pre-wash (see Manual mopping) if the floor is heavily soiled.



Spray Clean/Spray Polish 2 sq.m at a time

- i) Follow daily sweeping and dust mopping instructions.
- ii) Pour diluted Amtico International FloorCare Maintainer solution into a suitable spray container.
- iii) Apply a fine mist of liquid on to an area of approximately 2 square metres at a time. Use a rotary buffing machine (approx. 450 rpm) fitted with a red 3M nylon scrubbing pad (or equivalent).
- iv) Work in parallel overlapping passes until the floor is clean and dry.
- v) Remove "Caution" signs.

5.1.5 Scrubber Drying

Ideal for large areas

Scrubber dryers may be used for high productivity removal of soiling and some scuff mark removal. Spray cleaning may be required to remove heavier surface marking.

- i) Follow daily sweeping and dust mopping instructions.
- ii) Prepare solution of Amtico International FloorCare Maintainer as per label and pour into the dispensing tank. The scrubber dryer should be fitted with a red 3M nylon scrubbing pad (or equivalent).
- iii) Scrub entire floor area.
- iv) Remove "Caution" signs.

Ensure all equipment is cleaned thoroughly after use and stored safely.

- 5.1.6 Tips – Dealing with spills
- i) Spills of water, grease, food, chemicals and other foreign matter may cause the floor to become slippery.
 - ii) Wipe up spills immediately with an absorbent cloth, then wash thoroughly using Amtico International FloorCare Spillage Remover as directed on the label or properly diluted Amtico International FloorCare Maintainer until the spill area is completely clean.
 - iii) Allow the floor to dry thoroughly.
- 5.1.7 Periodic Maintenance
- At least once a year the floor should be scrubbed thoroughly to remove in-grained dirt and floor dressing if applied. Please refer to the Amtico guide to stripping a floor see section 6.2.
- 5.1.8 Notes
- (i) Amtico Marine products should not be buffed with any pad more abrasive than a red 3M pad (or equivalent).
 - (ii) Entrance mats, when properly serviced, can effectively remove any abrasive and foreign materials from foot traffic and cut down on tracked in water. Amtico recommend a minimum of two full strides of entrance matting.
 - (iii) For further information contact Amtico International AfterCare Services on 024 76 861409 or support@amtico.com
- Other maintenance data sheets only available upon request as follows:
- The Amtico Guide to Manual Mopping
 - The Amtico Guide to Spray Cleaning
 - The Amtico Guide to Scrubber Drying

5.0 Floor Maintenance

Part 2 - Guide to Stripping an Amtico Marine Floor

5.2 Guide to Stripping an Amtico Marine Floor

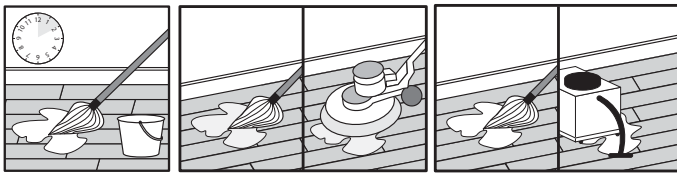
5.2.1 Notice

This sheet gives information for stripping a floor to remove in-grained soiling and floor dressing if applied.

Before commencing work, put out signs to warn people that cleaning is in progress.

5.2.2 Preparing the Solution

Prepare a solution of Amtico International FloorCare Stripper using hot water as per label. Carefully follow all safety instructions, particularly noting that the floor can become slippery during the stripping process.



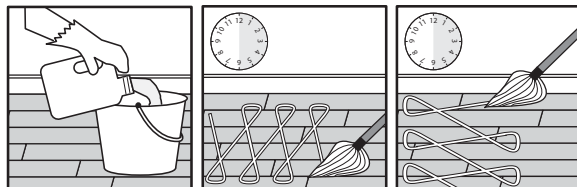
(i) Apply plenty of solution over a manageable area.

(ii) Allow 10-15 mins contact time.

(iii) Either machine scrub with a green 3M (or equivalent pad) or agitate solution with mop. Do not allow slurry to dry.

(iv) Either remove slurry with wet vacuum machine or mop and bucket. Rinse floor twice with clean water, allow to dry.

5.2.3 Application of Dressing if required



(i) Pour quantity of Amtico International FloorCare Dressing into bucket.

(ii) Load a clean mop or flat-type applicator with dressing

(iii) Apply thin even coat.

(iv) Start at furthest point from exit.

(v) Apply a thin even coat 15-25 cm from the skirting and fill in with overlapping passes. Allow to dry (approx 30 minutes).

(vi) Apply second coat at 90° (angle) to first.

(vii) Allow to dry (approx 30 mins). Do not buff for 24 hours.

(viii) Remove "Caution" Signs.

All equipment should be cleaned thoroughly after use and stored safely.

5.2.4 Notes

Do not use the same equipment for stripping as that used for application of FloorCare Dressing.

5.0 Floor Maintenance

Part 3 - Amtico International Guide to Maintenance Products

Amtico International Wear & Care products

Our range of FloorCare products have been specially formulated for use with Amtico International and most vinyl, rubber and linoleum floors.

Amtico International FloorCare Maintainer

Our concentrated anti-bacterial cleaner has a fresh, citrusy aroma for routine cleaning. Suitable for use with all cleaning methods including manual, spray buffing and scrubber-drying.

Availability: 1Ltr / 5Ltr

Amtico International FloorCare Dressing

A specially formulated polish with a satin finish which will help provide added protection against scuffing and scratching.

Not suitable for Stratica or Spacia Access products.

Availability: 1Ltr / 5Ltr

Amtico International FloorCare Stripper

This should be used periodically to remove the existing dressing and provide a clean floor, ready for an application of Amtico International FloorCare Dressing. Can also be used for periodic deep cleaning.

Not suitable for Stratica or Spacia Access products.

Availability: 1Ltr / 5Ltr

Amtico International FloorCare Spillage Remover

A ready to use anti-bacterial cleaner with a citrusy aroma. Formulated for the convenient removal of spills and other deposits. Safe to use on floors in food preparation areas.

Availability: 500ml

Machines, Pads and Mopping systems

| Manufacturer | Rotary Buffing Machines | Scrubber Driers | Cleaning Pads | Mopping Systems |
|---|-------------------------|-----------------|---------------|-----------------|
| Karcher (UK) Ltd Tel: 01295 752099 www.karcher.co.uk sales@wetrok.uk.com | ■ | ■ | | |
| Victor Tel: 0121 706 5771 www.victorFloorCare.com www.victorcentral.com sales@victorcentral.co.uk | ■ | ■ | | ■ |
| 3M United Kingdom PLC Tel: 08705 360036 www.3m.com/uk commcareuk@mmm.com | | | ■ | |

1 Identification

Material: Amtico International SF Adhesive
Company: Amtico International
Address: Kingfield Road, Coventry, CV6 5AA, UK
Tel: +44 (0) 24 7686 1400
Fax: +44 (0) 24 7686 1552

2 Composition

| Substances Posing a Health Hazard | |
|-----------------------------------|----------------------------------|
| Substance: | Ethylene Glycol MonoPhenyl Ether |
| CAS No: | 122-99-6 |
| EC No: | 204-589-7 |
| Symbol: | Xn |
| Risk Phrases: | R22, R36 |
| Conc. (% w/w) | <5% |

General Description

Blend of aqueous acrylic polymer emulsion, resin, process oil and structuring filler with small percentages of stabilisers and thickening agent.

3 Hazard Identification

Most Important Hazards to Persons

Prolonged or repeated contact with the skin may cause dermatitic effects in sensitive individuals.

Most Important Hazards to the Environment

Product is not readily bio-degradable and should not be discharged to surface waters or land without pre-treatment.

4 First Aid Measures

Inhalation

Move affected person to fresh air immediately. Get medical attention if any discomfort continues.

Skin Contact

Wash affected area immediately with plenty of soap and water. Get medical attention if any discomfort continues.

Eye Contact

Irrigate the eye immediately with water or suitable proprietary eyewash for at least fifteen minutes. If irritation persists seek medical advice.

Ingestion

Wash mouth out with water but do not swallow, give plenty of water to drink. DO NOT induce vomiting. If symptoms persist, seek medical advice.

5 Fire Fighting Measures

Product is not flammable as supplied. Dried adhesive film will burn in a general fire situation to produce oxides of carbon. Use extinguishing media suitable for the general fire situation. Fire fighters must wear self-contained breathing-air apparatus.

6 Accidental Release Measures

Small spillages should be absorbed onto sand or similar absorbent material and transferred to a suitable labelled container prior to disposal.

Larger spillages should be retained by a sand barrier and collected into a suitable labelled container prior to disposal.

Prevent product from entering drains or other watercourses.

Wear suitable protective equipment to prevent skin or eye contact.

7 Handling and Storage

Store product away from heat sources and foodstuffs in tight sealed containers. Store away from direct sunlight at a temperature between 5°C and 30°C in dry well ventilated areas. Protect from frost.

Avoid transfer of product from hand or glove to face, eyes or lips. Employ good hygiene practices, wash hands before smoking, meal or beverage breaks, and at the end of work periods. Smoking and the preparation or consumption of food or drink in the work area should be prohibited. Avoid frequent or prolonged contact with the skin. Remove grossly contaminated clothing and launder before re-use.

8 Exposure Controls/Personal Protection

Ensure provision of constant fresh air ventilation during and immediately after use. Use mechanical means where natural ventilation facilities are inadequate.

Where danger of splash or eye contact exists, wear goggles or face-shield.

Where possibility of hand contact occurs, use barrier cream or impervious gloves.

Wear overalls and boots. An impervious apron should be worn where gross contamination of overalls is foreseeable in use.

9 Physical and Chemical Properties

| | |
|--------------|-------------------------------|
| Appearance: | Viscous off white emulsion |
| Odour: | Typical acrylic |
| pH: | 7 – 8 |
| Volatiles: | 30% w/w approx |
| Rel Density: | 1.19 @ 20°C approx |
| Flashpoint: | N/A |
| Viscosity: | 450 – 650 Poise @ 20°C approx |
| Other: | N/A |

10 Stability and Reactivity

Stability

Stable under normal temperature conditions and recommended use.

Conditions to Avoid

Avoid frost. Avoid exposure to high temperatures or direct sunlight.

11 Toxicological Information

Inhalation

May cause some discomfort in poorly ventilated areas.

Skin Contact

May cause reddening and soreness of the skin with prolonged or repeated contact.

Eye Contact

May cause irritation of the eye.

Ingestion

May cause some irritation of the alimentary tract and gastric discomfort.

12 Ecological Information

Material should not be discharged to surface waters without pre-treatment. symptoms persist, seek medical advice.

13 Disposal Considerations

Small Quantities

Small quantities may be mixed with inert material, allowed to dry and disposed of as low hazard general solid waste.

Large Quantities

Large quantities should be disposed of as controlled liquid waste by licensed operators.

14 Transport Information

General

This product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID)

No transport warning sign required.

ADR Class

Not classified for transportation.

Marine Pollutant

Not classified as a marine pollutant.

15 Regulatory Information

(i) Classification/Symbol: Not Classified

(ii) Risk Phrases: Not Classified

(iii) Safety Phrases: P13 Safety Data Sheet available for professional user on request.

The information contained in this data sheet does not constitute the user's own assessment of workplace risk as required by other health and safety legislation.

16 Other Information

Risk Phrases in Full

R22 Harmful if swallowed

R36 Irritating to eyes

1 Description

An acrylic emulsion adhesive, which is designed to give a high bond strength, strong initial tack and a long open time. It is protected against bio-degradation. For securing floor coverings from Amtico International onto sound, smooth, dry sub-floor of concrete including ones with a power floated surface finish; terrazzo; granolithic; sand/cement screed, smoothing underlayments, plywood and many other substrates that have been suitably prepared. Asphalt and waterproof membranes must be skimmed with a minimum of 3mm of the appropriate smoothing underlayment.

2 Restrictions

For areas that are subject to large variations in temperature (e.g. conservatories or adjacent to sunny windows) or where under-floor heating is installed, Amtico International HT Adhesive should be used. In wet areas such as shower rooms, Amtico International 2-Part Adhesive is recommended. We recommend that the installed floor should not be allowed to cool below 13°C during its' service life.

3 For Installing

Amtico International floor coverings.

4 Standards

All aspects of the installation of floor coverings should be in accordance with the requirements of the relevant British Standard Code of Practice i.e. BS 8203 (Installation of resilient floor coverings) and supplementary specifications.

5 Preparation

Proper subfloor preparation is essential for the correct installation of any floor covering. Subfloors must be sound, smooth, dry and free from any contaminants which will affect adhesion. Tiles, adhesive and subfloor should be allowed to stabilise to a temperature as close as practical to room temperature, but in all cases between 18°C and 27°C for a period of 24 hours before, during and 24 hours after installation. Tiles must be stored flat.

6 Damp Floors

Treat with waterproof surface membranes.

7 Smoothing

Use the appropriate smoothing underlayments.

8 Priming

On very absorbent surfaces use a suitable dilute PVA primer.

9 Technical Characteristics

| | |
|------------------|--|
| Colour | Off-White |
| Consistency | Viscous Liquid |
| Specific Gravity | 1.19 |
| Flash Point | Not Applicable |
| Coverage | Approximately 4m ² per litre using the 1.5mm x 5mm or A2 trowel, depending on the condition and absorbency of the subfloor. |
| Open Time | Up to 60mins, depending on temperature, and absorbency of subfloor. |
| Storage | To avoid damage store at temperatures between 5°and 30°C. |
| Shelf Life | 12 months in unopened containers, stored under good conditions. |
| Packages | 15 litres, 5 litres and 2.5 litres. |

10 Tools

1.5mm x 5mm or Euro A2 'V' notched trowel. 45kg flooring roller. Paint roller. Trimming knife. Tools should be cleaned with water while the adhesive is still wet.

11 Application

Stir adhesive well before use.

Holding the trowel at an angle of 60°, spread the adhesive evenly over an area of subfloor that can be covered whilst the adhesive remains receptive and gives good transfer.

On absorbent surfaces – Leave the adhesive for approximately 10 minutes before placing the flooring, to reduce the potential for sliding.

Non-absorbent surfaces – allow the adhesive to partially dry to a firm tack before laying the floor covering.

Lay the floor covering into the adhesive and press from the centre outwards to ensure overall contact with the adhesive. Roll with the 45kg flooring roller, from end to end and side to side to ensure overall contact paying particular attention to the tile edges. 30 minutes later when the floor has been completely covered roll as necessary to ensure overall contact is maintained. Remove any adhesive from the face of the tile with a cloth moistened with Amtico International Adhesive Remover.

12 Precautions

The finished floor should be protected from point loads and heavy traffic for 24 hours after installation.

Tiles may be damp mopped 24 hours after installation.

13 Health and Safety Advice

Obtain the relevant Material Safety Data Sheets and follow the advice given.

Ensure adequate fresh air ventilation during and after use.

Avoid prolonged contact with skin, use barrier cream or gloves for the hands. In case of contact with eyes, mouth or nose, wash with water and obtain medical attention.

If spilled, remove and dispose of in accordance with national and local regulations for waste materials.

Appendix 3:

Amtico International Universal 2 Part Adhesive

Material Safety Data Sheet - Component A



1 Identification

Product

Amtico International Universal 2-Part Adhesive

Two component polyurethane adhesive. - Component A
This component has to be mixed with the component B of the product according to the mixing ratio. Please note also safety data sheet of component B.

Company

Amtico International

Kingfield Road, Coventry, UK CV6 5AA

Tel: +44(0)24 7686 1400

Fax: +44(0)24 7686 1552

2 Composition/Information on Ingredients

Adhesive preparation based on polyalcohols and fillers.

3 Hazards Identification

According to our present information, this product is not classified as a dangerous preparation under the Chemicals (Hazard Information and Packaging for Supply) (CHIP) Regulations (1994).

Maintain good personal hygiene as usual when handling chemicals.

4 First Aid Measures

After contact with skin – Wash with plenty of soap and water.

After contact with eyes – Rinse immediately with plenty of water and seek medical advice.

After Ingestion – Seek medical advice.

5 Fire Fighting Measures

Extinguishing media: alcohol resistant foam, CO₂, powder, water spray. Closed packages may be cooled with water spray.

6 Accidental Release Measures

Scoop up, soak up remainder with sand or earth and remove. Do not empty into drains.

7 Handling and Storage

Handling

Wear suitable protective clothing, gloves and eye/face protection.

Storage

Keep container tightly closed and dry.

Keep away from food stuffs.

8 Exposure Controls/Personal Protection

Exposure Controls

Ingredients assigned either maximum exposure limits or occupational exposure standards in HSE Guidance Note EH40: None.

Personal Protection

Avoid contact with skin and eyes.

Wash hands before breaks and end of work.

Take off immediately all contaminated clothing.

Eye protection: recommended minimum light eye protection.

Hand protection: protective gloves (vinyl or polyurethane rubber).

9 Physical and Chemical Properties

| | |
|----------------------------|--|
| Form | Pasty |
| Colour | Yellowish |
| Odour | Slight |
| Density (20°C) | Appr. 1,5g/cm ³ |
| Vapour Pressure (20°C) | Below 1 mbar |
| Viscosity | Appr. 70.000 mPas Brookfield RV 7, 20 rpm |
| Solubility in water (20°C) | Partly soluble |
| Flash Point | Not applicable |
| Ignition temperature | Not applicable |
| Explosion limits | Not applicable |

10 Stability and Reactivity

No thermal decomposition, hazardous decomposition products, or hazardous reactions when properly stored and used as designated.

11 Toxicological Information

According to our experience and present information, this product presents minimal health hazard when used as designated and protective measures are followed.

12 Ecological Information

Do not empty into drains. Product is not a weak water pollutant.

13 Disposal Considerations

Incineration or waste disposal in compliance with applicable pollution abatement laws and environmental regulations (Control of Pollution Act (1974) and Environmental Protection Act (1990)).

Appendix 3:

Amtico International Universal 2 Part Adhesive Material Safety Data Sheet - Component A



14 Transport Information

Not dangerous goods in sense of mentioned transport regulations: ADR/RID, IMDG, ICAO/IATA-DGR. U.N. No – not classified. Marine pollutant – no.

15 Regulatory Informationity

Classified and labelled for supply in accordance with the Chemicals (Hazard Information and Packaging for Supply (CHIP)) Regulations (1994) as follows:-

Health – not classified

Physico-chemical – not classified

16 Other Information

The information herein is given in good faith. No warranty expressed or otherwise is made. Any use of this data and information must be determined by the user to be in accordance with applicable laws and regulations.

Appendix 4:

Amtico International Universal 2 Part Adhesive

Material Safety Data Sheet - Component B



1 Identification

Product

Amtico International Universal 2 – Part Adhesive
Two-component polyurethane adhesive- Component B
This component has to be mixed with the component A of the product according to the mixing ratio. Please note also see safety data sheet of component A.

Company

Amtico International
Kingfield Road, Coventry, UK CV6 5AA
Tel: +44(0)24 7686 1400
Fax: +44(0)24 7686 1552

2 Composition/Information on Ingredients

Diphenylmethane-4, 4'-di-isocyanate (MDI) with its isomers and homologues.

| | |
|-------------------|-------------------------------------|
| Name of Substance | Diphenylmethane-4, 4' di-isocyanate |
| CAS-No: | 101-68-8 |
| % | 50-100 |
| Classification | Xn, R20, R36/37/38 R42/43 |

3 Hazards Identification

As classified under the Chemicals (Hazard Information and Packaging for Supply) (CHIP) Regulations (1994).

| | |
|-----------|--|
| Xn | Harmful, Contains isocyanates |
| R-phrases | R20: Harmful by inhalation |
| R36/37/38 | Irritating to eyes, respiratory system and skin |
| R42/43 | May cause sensitisation by inhalation and skin contact |

4 First Aid Measures

General

In all cases of doubt, or when symptoms persist, seek medical attention. If unconscious, place in recovery position. Give nothing by mouth.

After contact with skin

Remove immediately with paper tissue or gauze. Wash off remainder with plenty of soap and water.

After contact with eyes

Rinse immediately with plenty of water and continue for at least ten minutes. Seek medical advice.

Ingestion

DO NOT induce vomiting, and keep at rest. seek medical advice.

After inhalation: In case of over-exposure, remove person to fresh air, seek medical advice. If breathing is irregular or stopped, administer artificial respiration.

5 Fire Fighting Measures

Extinguishing media: alcohol resistant foam, CO₂ powder, water spray. Closed packages may be cooled with water spray.

Not to be used

Small amounts of water (reacts with hot isocyanate).

6 Accidental Release Measures

Absorb onto suitable material, such as sand or sawdust. Scoop up after 1 hour, and keep in an open container. Keep wet and store outside for 7 to 14 days. Do not empty into drains. Dispose in accordance with applicable legislation.

7 Handling and Storage

Handling

Wear protective gloves and eye/face protection. Use only in well ventilated areas.

Storage

Keep container tightly closed and dry. Keep at temperature between 10°C and 40°C. Frost sensitive. Keep away from foodstuffs.

8 Exposure Controls/Personal Protection

Exposure Controls

Ingredients assigned a maximum exposure limit (MEL) in HSE Guidance Note EH40

| | |
|-------------|------------------------------------|
| Ingredient | Diphenylmethane-4, 4' diisocyanate |
| CAS-No | 101-68-8 |
| % | 50-100 |
| Limit-value | 0.005 ppm |

Exposure of persons by inhalation must at all times be controlled to a level below the MEL.

Personal Protection

Avoid contact with skin and eyes. Wash hands before breaks and end of work.

Take off immediately all contaminated clothing.

Eye protection: recommended minimum light eye protection.

Hand protection: protective gloves (vinyl or polyurethane rubber).

Use only in well ventilated areas. Otherwise, suitable respiratory protection must be worn.

9 Physical and Chemical Properties

| | |
|----------------------------|--|
| Form | Liquid |
| Colour | Brown |
| Odour | earthy-musty |
| Density (20°C) | Appr. 1,23g/cm ³ |
| Vapour Pressure (20°C) | <0,0001 mbar |
| Viscosity | Appr. 250 mPas |
| Solubility in water (20°C) | insoluble, soluble in acetone, ethyl acetate |
| Flash Point | Over 200°C |
| Ignition temperature | Over 400°C |
| Explosion limits | limits not determined |

10 Stability and Reactivity

Thermal decomposition Polymerisation above approximately 260°C and CO₂ generation.

No hazardous decomposition products when properly stored and used as designated.

Hazardous reactions: Violent reaction with alkali, amines, alcohols, acids. Reacts with water with CO₂ generation.

Pressure increase in closed containers possible. Danger of bursting! These containers should be opened carefully.

11 Toxicological Information

LD₅₀ -value oral, rat: over 15,000 mg/kg.

LD₅₀ -value inhalation, rat: over 370 mg/aerosol/m³ (4h exposure).

Effect on eyes: tear flow, burning severe irritation.

Skin: slight redness, occasional blistering or dermatitis. May cause sensitisation.

Respiratory system (aerosol, vapour in high concentration): irritation of mucosa (nose, throat, lungs) dryness of throat, pressure on breast occasionally combined with breathing difficulties and headache. Symptoms and allergic reactions may occur after some delay in sensitised persons. All persons exposed to respiratory sensitisers are subject to appropriate health surveillance.

12 Ecological Information

Do not empty into drains. Product is a weak water pollutant.

This component reacts with water over contact area with slow generation of CO₂ to form insoluble polyurea.

According to our information polyurea is inert and not degradable.

13 Disposal Considerations

Incineration or waste disposal in compliance with applicable pollution abatement laws and environmental regulations (Control of Pollution Act (1974) and Environmental Protection Act (1990).

14 Transport Information

Not dangerous goods in sense of mentioned transport regulations: ADR/RID, IMDG, ICAO/IATA-DGR.

Irritating to skin and mucous membranes. Protect from frost. Avoid heat above +50°C. Keep dry. Keep separate from foodstuffs.

UN No -not classified. Marine pollutant - no.

15 Regulatory Information

Classified and labelled for supply in accordance with the Chemicals (Hazard Information and Packaging for Supply) (CHIP) Regulations (1994) as follows;-

| | |
|-----------|---|
| Xn | Harmful, Contains isocyanates, Contains Diphenylmethane-4,4'-di-isocyanate (MDI), isomers/homologues. |
| R-phrases | |
| R20 | Harmful by inhalation |
| R36/37/38 | Irritating to eyes, respiratory system and skin |
| R42/43 | May cause sensitisation by inhalation and skin contact |
| S-phrases | |
| S26 | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice |
| S27 | Take off immediately all contaminated clothing |
| S28 | After contact with skin, wash immediately with plenty of water and soap |
| S36/37/39 | Wear suitable protecting clothing, gloves and eye/face protection |
| S45 | In case of an accident or if you feel unwell, seek medical advice immediately, (show label where possible). |

Appendix 4:

Amtico International Universal 2 Part Adhesive

Material Safety Data Sheet - Component B



16 Other Information

The information herein is given in good faith. No warranty expressed or otherwise is made. Any use of this data and information must be determined by the user to be in accordance with applicable laws and regulations.

1 Table of Technical Data

Universal 2-Part is a solvent free, two- component polyurethane adhesive.

It can be used for bonding Stratica and PVC onto smooth surfaces like concrete, terrazzo, stone, timber, metal and many other sub-floors.

| | |
|---------------------------|--|
| Packaging | 2.5 and 6 kg metal cans (two-component combi-can) |
| Shelf Life | 12 months |
| Storage | 10 – 40°C Frost-sensitive |
| Colour | beige |
| Specific density | 1.50 kg / litre |
| Hazard Classification | Component A: none Component B: harmful, Xn |
| Consumption | 400 - 500 g/m ² (2.0 - 2.5 m ² /kg) |
| Coverage | 5 - 6 m ² per 2.5 kg drum 12 - 15 m ² per 6 kg drum |
| Trowel Notch Size | see page 2 |
| Pot Life | approx 30 minutes |
| Working Time | 40 – 60 minutes |
| Working Temperature | Amtico 18 – 27 °C Stratica 18 – 24 °C |
| Set to Heavy Foot Traffic | after 24 hours |
| Final Strength | after 3 – 5 days |
| Resistance to castors | suitable (EN 425) |
| Underfloor Heating | suitable (see Ambient Conditions below) |

All information and data provided apply under normal conditions and at 20°C.

2 Sub-floor

Direct to earth bases should incorporate an effective damp-proof membrane. The sub-floor must be permanently dry (maximum 75% RH), smooth, clean, sound, be free from structural defects and have adequate compressive strength.

Surfaces must be free from contamination, attachments or material which would impair adhesion. Uneven surfaces should be smoothed with an appropriate levelling compound – select according to occupational use of the area.

3 Ambient Conditions

Laying conditions should be as close as practicable to the occupational use of the project, but must in all cases be in the range described above (see "working temperature").

Tiles, adhesive and sub-floor must be allowed to stabilise to ambient conditions – the temperature should be maintained for a period of 24 hours before and after the installation – obtain specific advice for sub-floor with under-floor heating. Installation of primers, levelling compounds, adhesives or floor coverings, in conditions outside those defined and prescribed in the relevant standard, may be detrimental to one of the installed components or the overall installation.

Storing Universal 2-Part Adhesive in low temperatures will increase the product viscosity, making the adhesive difficult to mix and spread and will considerably delay curing and strength development. High adhesive temperatures will decrease the pot life and working time.

4 Packaging

Universal 2-Part Adhesive is supplied in two-component metal combi-cans, which contain the correct proportions of resin (A) and hardener (B) for mixing. Under no circumstances must the components or the adhesive be diluted or otherwise adulterated. Always mix the full contents of both parts together – do not split into two or more separate mixes.

5 Protection

Although Universal 2-Part Adhesive is solvent-free and non-flammable, component B is classified as harmful and can irritate the eyes, respiratory system and skin. Wear suitable personal protective equipment (PPE) eg. protective clothing, mask, gloves and eye protection during mixing and application. Once cured, the adhesive presents no physiological or ecological risk. Refer to the Material Safety Data Sheet for more detailed information.

6 Application

Release the hardener (B) completely into the resin (A) by carefully piercing several times through the central plastic cover and bottom of the upper can with a pointed tool, such as a screwdriver. When all of the hardener has been transferred, remove the upper section of the can and thoroughly mix the material, using an electric drill with spiral whisk or paddle attachment, to a smooth and uniform consistency. The adhesive should be spread immediately onto the floor with a suitable notched trowel (see below for typical recommendations).

Worn or damaged trowels must be replaced to ensure the correct adhesive coverage, which is generally 2.0 - 2.5 m² per kg. Trowel type has been carefully selected to ensure adequate adhesive transfer.

7 Standard Trowel Notch Sizes

| | UK | Euro | USA |
|-------------|----------------------|----------------------|-----------------------------------|
| | 1.5 x 5 mm | A2 | 1/16 x 1/16 x 1/16" V-notch |
| Consumption | 400 g/m ² | 450 g/m ² | 500 g/m ² |

8 Covering Installation

Only a sufficient area of adhesive should be applied to the sub-floor that can be covered within 40 to 60 minutes. Pot life must be observed. Higher temperatures will accelerate the cure of the product and lower temperatures will retard the cure. Tiles requiring hand-cutting must not be cut oversize and then sprung into position.

They must be cut such that they fit neatly into position without needing to bend or apply force. Roll the floor covering ensuring there is no ooze-up of adhesive through tile joints, using a 45 kg 3-section roller to ensure full transfer of the adhesive. The product provides excellent grab and very high strength. The finished floor should be protected from point loads and heavy traffic for 24 hours after installation, and floors must not be washed for 48 hours.

9 Cleaning

Tools and tiles should be cleaned immediately with a soft cloth moistened with methylated spirits or denatured alcohol.

Do not use mineral spirits (white spirit, turpentine etc) under any circumstances for cleaning Stratica tiles as, in common with polyolefin products, this will cause swelling and a tendency to curl. Cured adhesive can only be removed mechanically.

10 Other Information

The information contained in this Data Sheet is specific to the installation of floorings from Amtico International.

The information is general and is only given as a guide.

This information is based on our experience to date and the result of careful testing. However, practical application of the products is influenced by varying site conditions and methods of use. Their success is also dependent upon the professional judgement of the user and his/her conformity to proper trade practice, which are factors outside our control.

1 Identification

Material

Amtico International PS Adhesive

Product type and use

Water-borne synthetic polymer based adhesive

Supplier

MAPEI S.p.A.

Via Cafiero 22

Milan

ITALY

Emergency telephone number of the company and/or of an authorised advisory centre

MAPEI S.p.A.

Tel: +(39) 02376731

Poison Centre

Ospedale di Niguarda

Milan

Tel: +39/02/66101029

Competent person responsible for the safety data sheet
sicurezza@mapei.it

2 Hazards Identification

No specific hazards are encountered under normal product use. The product is not classified as dangerous according to the "Preparations Directive" (1999/45/CE); it is a water based preparation in which there are no dangerous components. The preparation contains no free silica capable of inhalation. See paragraph 11 for additional information concerning crystalline silica

3 Composition/Information on Ingredients

Hazardous components within the meaning of EEC directive 67/548 and corresponding classification

5% - 7% free crystalline silica ($\emptyset > 10 \mu$)

CAS: 14808-60-7 EC: 238-878-4

3% - 5% 1-Phenoxypropan-2-ol

CAS: 770-35-4 EC: 212-222-7

Xi; R36

1% - 3% free crystalline silica ($\emptyset < 10 \mu$)(*)

CAS: 14808-60-7 EC: 238-878-4

Xn; R48/20

(*) Substance not classified according to CE regulations.
Precautionary classification for respirable powder quartz:

Xn R48/20

4 First Aid Measures

Contact with skin

Wash with plenty of water and soap.

Contact with eyes

Wash immediately with water for at least 10 minutes.

Ingestion

Induce vomiting. SEEK A MEDICAL EXAMINATION IMMEDIATELY and present the safety-data sheet.

Wash the mouth thoroughly and drink plenty of water.

In case of disease consult a physician immediately and present this safety-data sheet. A suspension of activated charcoal in water, or petroleum jelly may be administered.

Inhalation

Ventilate the premises.

5 Fire-Fighting Measures

The product does not present a fire hazard

Extinguishers not to be used

None in particular.

Risks arising from combustion

The original ingredients or unidentified toxic and/or irritant compounds may be present in the combustion fumes. Avoid inhaling the fumes.

Protective equipment

Use protection for the airways.

6 Accidental Release Measures

Measures for personal safety

None in particular. Use gloves and protective clothing.

Environmental measures

Limit leakages with earth or sand.

Cleaning methods:

If the product is in a liquid form, stop it from entering the drainage system. Recover the product for re-use if possible, or for disposal. The product might, where appropriate, be absorbed by inert material. After the product has been recovered, rinse the area and materials involved with water.

7 Handling and Storage

Handling precautions

Avoid contact with skin and eyes.

Incompatible materials

None in particular.

Storage conditions

Store above 5°C.

Instructions as regards storage premises
 Adequately ventilated premises.

8 Exposure Controls/Personal Protection

Precautionary measures
 Respiratory protection
 Not needed for normal use.
 Protection for hands
 Not needed for normal use.
 Eye protection
 Not needed for normal use.
 Protection for skin
 No special precaution must be adopted for normal use.
 Personal Protective Equipment should comply with relevant CE standards (as EN 374 for gloves and EN 166 for goggles), correctly maintained and stored. Consult the supplier to check the suitability of equipment against specific chemicals and for user information.
 Exposure limit value of single components
 Free crystalline silica ($\emptyset > 10 \mu$)
 TLV TWA
 0,05 (respirable fraction) Carry out the control of the concentrations of the substances with exposure limits assigned, in the working place according to local dispositions

9 Physical and Chemical Properties

| | |
|------------------------------|---------------------------|
| Appearance | Colour Light Green |
| Odour | Typical |
| pH | 5,9 - 5,8 |
| Melting point | N/A |
| Boiling point | 100 °C |
| Flash point | == °C |
| Solid/gas flammability | N/A |
| Autoignition temperature | == °C |
| Explosion limits (by volume) | == |
| Oxidizing properties | N/A |
| Vapour pressure | N/A |
| Relative density | 1.20-1,25 (23°C) |
| Solubility in water | Dispersible |
| Lipid solubility | Insoluble |
| Viscosity | 70000-100000 mPa.s (23°C) |
| Vapour density (air=1) | N/A |

10 Stability and Reactivity

Conditions to avoid
 Stable under normal conditions.

11 Toxicological Information

Route(s) of entry
 Ingestion
 Yes
 Inhalation
 No
 Contact
 No
 Toxicological information related to the product
 No toxicological data are available at the moment on the product itself. The concentration of each substance should be borne in mind in assessing the toxicological effects deriving from the preparation. The product does not contain toxicologically relevant substances.
 Corrosive/Irritating Properties
 Eye
 The product can cause a temporary irritation by contact.
 Sensitizing Properties
 No effects are known.
 Cancerogenic Effects
 The IARC (International Agency for Research on Cancer) believes that the crystalline silica inhaled at the workplace can cause lung cancer in man. However, it also points out that the cancer effect depends on the silica characteristics and on the biological-physical condition of the environment.
 There is a large amount of information in support of the fact that increased risk of cancer is limited to persons suffering from silicosis. In the current situation of studies, protection of workers from silicosis can be ensured by respecting the exposure limit values.
 Mutagenic Effects
 No effects are known.
 Teratogenic Effects
 No effects are known.

12 Ecological Information

Biodegradability
 No data available on the preparation.
 Aquatic toxicity
 The preparation is not to be considered toxic to the aquatic environment based on components. LC50 > 100mg/l - aquatic species (calculated data following 1999/45/EC Directive).

13 Disposal Considerations

Recover if possible. In so doing, comply with the local and national regulations currently in force.

Where applicable, refer to the following regulatory provisions:

91/156/EEC, 91/689/EEC, 94/62/EC and subsequent amendments.

Disposal of hardened product (EC waste code):

08 04 10

Disposal of not hardened product (EC waste code):

08 04 16

The suggested European waste code is just based on the composition of the product.

According to the specific process or application field a different waste code may be necessary.

14 Transport Information

UN Number: ==

Rail/Road(RID/ADR): Not dangerous goods

Sea (IMO/IMDG): Not dangerous goods

MAR/POL 73/78,Annex III: No

Air (ICAO/IATA): Not dangerous goods

15 Regulatory Information

Council Directive 67/548/EEC (Classification, packaging and labelling of dangerous substances) and subsequent amendments. Commission Directive 1999/45/EC (Classification, packaging and labelling of dangerous preparation) and subsequent amendments. Commission Directive 98/24/EC (Protection of the health and safety of workers from the risk related to chemical agent). Commission Directive 2000/39/EC (Occupational exposure limit values). Regulation (EC) No 1907/2006 (REACH).

Special Provisions:

Safety data sheet available for professional user on request.

GEV-EMICODE:

EC 1 (very low emission)

16 Other Information

Main bibliographic sources:

NIOSH - Registry of toxic effects of chemical substances (1983)

Istituto Superiore di Sanità - Schede tossicologiche di solventi organici utilizzati in cicli tecnologici industriali (1985)

Istituto Superiore di Sanità - Inventario Nazionale Sostanze Chimiche

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

ACGIH - Threshold Limit Values - 2004 edition

SAX'S - Dangerous properties of industrial materials - Tenth Edition

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Text of R phrases referred to under heading 3: R36 Irritating to eyes.

R48/20 Harmful: Danger of serious damage to health by prolonged exposure through inhalation.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Manufactured exclusively for Amtico International by Mapei

1 Description

A single-part, water-based, synthetic polymer emulsion adhesive having an extended working time. It is solvent free, non-flammable and protected against biodegradation and mould growth. It is certified as "EC1 – very low emissions".

2 Restrictions

For areas that are subject to large variations in temperature (e.g. conservatories or adjacent to sunny windows) or where under-floor heating is installed, Amtico International HT Adhesive should be used. In wet areas such as shower rooms, Amtico International 2-Part Adhesive is recommended. We recommend that the installed floor should not be allowed to cool below 13°C during its' service life.

3 For installing

Amtico and Spacia floor coverings.

4 Substrates

Can be used over concrete, sand/cement screed, levelling compounds, plywood, and many other substrates that have been suitably prepared. Substrate must be sound, smooth, dry, absorbent, level and free of any contamination that may affect adhesion.

Asphalt, waterproof membranes and non-absorbent surfaces such as granolithic, terrazzo and quarry tiles must be skimmed with a minimum 3mm of an appropriate levelling compound.

5 Preparation

Proper subfloor preparation is essential for the correct installation of any floor covering. Subfloors must be sound, smooth, dry and free from any contaminants which will affect adhesion. Tiles, adhesive and sub-floor should be allowed to stabilise to a temperature as close as practicable to room temperature, but in all cases between 18°C and 27°C for a period of 24 hours before, during and 24 hours after installation. Boxes of tiles must be separated and opened as part of the acclimatisation process and tiles must be stored flat.

6 Moisture

The sub-floor must be tested for moisture content before installation in accordance with the relevant national regulations. If necessary, a suitable surface damp-proof membrane should be applied to the sub-floor.

7 Levelling

Use an appropriate levelling compound when necessary.

8 Tools

Euro A2 "V" notched or 1.5mm x 5.0mm adhesive spreader. Tools should be cleaned with water whilst the adhesive is still wet.

9 Application

Stir the adhesive well in the bucket and then spread the adhesive evenly over the sub-floor with an approved spreader, and if preferred, the adhesive may be rolled using a paint roller pre-wetted with adhesive. Allow the adhesive to develop sufficient tack – this will normally take around 10 to 20 minutes. Lay the floor covering into the adhesive within 3 hours and press each tile from the centre outwards to exclude air and ensure overall contact with the adhesive. Roll the completed installation with a 45kg flooring roller from end to end and side to side. Remove any adhesive from the face of the tile with a cloth moistened with Amtico International Adhesive Remover.

10 Technical characteristics

| | |
|---------------------|---|
| Colour | Light Green |
| Consistency | Viscous liquid |
| Specific Gravity | 1.25 |
| Coverage | Approximately 300 grams per m ² (3 - 3.5 m ² per kg) using either the A2 or 1.5 x 5.0mm notched spreaders, depending on the condition and absorbency of the subfloor. |
| Working Time | Up to 3 hours, depending on the temperature, humidity and absorbency of the subfloor. |
| Storage Temperature | Between 5°C and 30°C. Product is freeze-thaw stable but prolonged exposure to frost should be avoided. |
| Shelf Life | 24 months in unopened containers |
| Packaging | 3, 6 and 14 kg plastic buckets |

11 Drying time

Light foot traffic is allowed 4 hours after installation but the finished floor should be protected from point loads and heavy traffic for at least 24 hours.

Tiles may be damp mopped 24 hours after installation.

12 Health and safety advice

The Material Safety Data Sheet (MSDS) is available for professional users on request.

Manufactured exclusively for Amtico International by Mapei.

