

Newton 603 Tile

Decoupling Mat for Tiling

Rev 2.0 17th May 2023

Code: M7

INTRODUCTION

Newton 603 Tile is a composite decoupling mat with an installation height of just 3mm. The blue LDPE (low-density polyethylene) dimpled core has a polypropylene fleece heat-welded to both the upper and lower surfaces, which quickly absorbs adhesives to provide an exceptional bond to both the substrate below and the tiled floor finish above. The material is also elastic and highly impervious to the diffusion of water vapour.

The decoupling mat isolates the finished floor surface from any cracking or movement within the substrate and provides improved distribution and relief from compressive stress acting on specific points on the floor. Furthermore, the interconnecting air channels around the dimples ventilate the substrate below to equalise vapour pressure.

Newton 603 Tile is guaranteed against deterioration for 30 years, has a life expectancy of at least 50 years (DIN 9001:2000), and is inert with good compressive stability. It is highly resistant to water, alkalies, saline solutions and organic acids, and is not affected by minerals. It is also resistant to bacteria, fungi and other small organisms.

KEY BENEFITS

- Accommodates movement and prevents the transfer of stresses from the substrate to the tiled surface
- Low thermal conductivity of 0.0369 W/mK
- Adds only 3mm to the floor finishes
- Effective air and vapour barrier if joints are sealed
- Lightweight and easy to install
- Load-bearing, tough and durable

TYPICAL APPLICATIONS

- Decoupling of the tiled floor from the substrate below
- Tiled or paved floors
- Floor builds that include underfloor heating systems

SUITABLE SUBSTRATE

- Solid floors of concrete or screed
- Ventilated timber floors

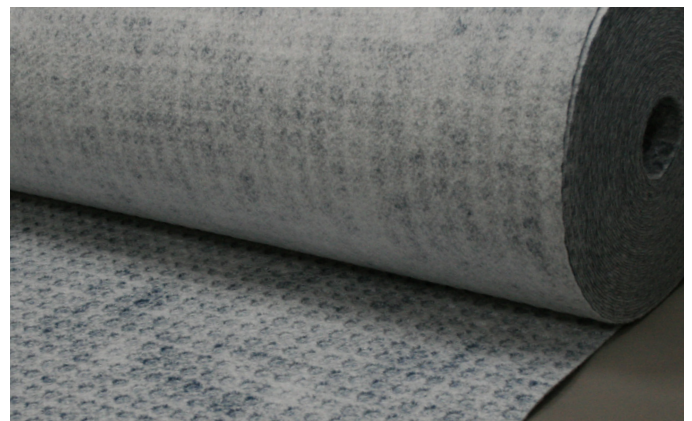
Substrates for Newton 603 Tile must be structurally sound, dry, level, clean, suitable for problem-free tile installation and in conformance with all applicable standards. Screed substrates must have dried to a moisture content of < 2 % (CM test) in accordance with DIN 18365.

When installing over absorbent substrates, observe all relevant instructions of the adhesive manufacturer.

If substrate levelling is required, complete before beginning installation of the uncoupling bed, also observing all processing instructions of the levelling compound manufacturer.

PACKAGING

- Roll size: 30 m x 1 m (30 m²)
- Pallet: 8 rolls (240 m²)



ACCREDITATIONS & APPROVALS

Newton 603 Tile is independently tested by SKZ TeConA GmbH to confirm performance data to the requirements of DIN EN 13967:2012 in accordance with the EU Construction Products Regulations. Please see the CE Label or the products' Declaration of Performance for further information.

In addition to the above, Newton 603 Tile has been tested for the Determination of the Thermal Conductivity to BS EN 12667:2001 which confirmed a thermal conductivity of 0.0369 W/mK.

LIFE EXPECTANCY

When specified, installed and protected in accordance with the Data Sheet and fully and permanently isolated from UV light, physical damage or wearing, and only to those substrates confirmed within this document, Newton 603 Tile has a service life that is equal to the design life of the structure.

PRODUCT WARRANTY

Newton 603 Tile is supplied with a product warranty of 30 years. Please note that this is not a guarantee. The installation guarantee is provided by the installing contractor.

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TECHNICAL DATA

Features	Result	Units
Dimpled sheet material	Low Density Polyethylene	
Fleece material	Polypropylene	
Dimpled sheet colour	Blue	
Fleece colour	White	
Width	1.00	m
Length	30.00	m
Area	30.00	m ²
Overall product thickness	Approx. 3.40	mm
Area weight	Approx. 550	g/m ²
Packaged weight	17.00	kg
Dimple height	Approx. 3.00	mm
Dimple spacing	Approx. 2500 per	m ²
Air gap between dimples	Approx. 1.56	l/m ²
Installation temperature range	No restriction*	
Service temperature range	- 40 to + 80	°C
Thermal conductivity	0.0369	W/mK
Resistance to fire (EuroClass) - BS EN 13501-1	F - Not tested	

* For adhesives please follow the manufacturer's recommendations

SPECIFICATION

Newton Waterproofing Systems work in partnership with RIBA NBS who publish our products on [NBS Source](#). The platform integrates seamlessly into project workflows, providing all product data from Newton's NBS BIM Objects, NBS Plus Clauses and RIBA Product Selector into one single source of product information.

NBS Source also hosts a large selection of Newton [case studies](#), as well as product [literature and certifications](#). A wide range of drawings are available [on our website](#).

SUITABLE ADHESIVE CEMENTS

Use only high-quality, flexible, thin-bed tile adhesives.

Select the adhesive in accordance with the floor type and flooring material installed as well as any specific requirements for use.

Note: Not every tile adhesive is suitable for use with Newton 603 Tile. Use only high quality, flexible, thin-bed tile adhesives after first checking all properties that will be relevant to the use. We urge users to confirm suitability with their own trials before installation. Accordingly we disavow any liability resulting from the use of non-suitable adhesives and resultant damages of any kind. Please note that floors and uncoupling beds installed over underfloor heating systems may require upgraded materials – such as adhesives with higher adhesion strength and/or higher-quality stoneware or ceramic tiles.

MAPEI ADHESIVES

The following Mapei adhesives have been tested as being compatible with Newton 603 Tile:

Adhering the mat to the substrate:

- Mapei Keraquick

Adhering the tiles to the mat:

- Mapei Keraquick
- Mapei Keraquick Maxi
- Mapei Ultralite S1
- Mapei Ultralite S2

Please note: The testing was carried out to dry substrates and standard building industry applications, e.g. sand/cement screeds, concrete or plywood boards.

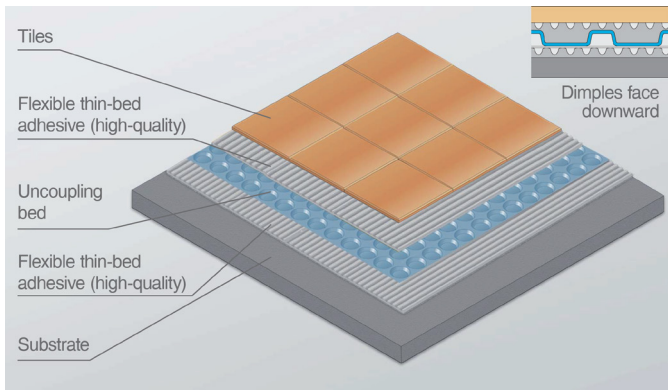
The tests conducted are representative of the materials supplied and may or may not be representative of materials used on site.

The maximum ceramic tile size for the recommended adhesives is 600 x 600 mm bonded to standard dry area floor constructions internally.

Cementitious screeds and placed concrete should be cured, so that they have reached initial strength, before application. This is generally 28 days for both concrete and screed. If application is required before 28 days, or for application to other non-standard construction applications and tiling products outside of these parameters please refer to the Mapei Technical Department for further information.

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INSTALLATION

- Measure the size of the floor
- Cut the decoupling mat to the required length. Please note that the mat can be trimmed during the installation process, so it is better to slightly overcompensate than under-measure
- The mat can be placed either along or across the floor
- Adjacent strips of Newton 603 Tile should be butt-jointed
- Where the installation is to provide an airtight seal, the joints should be sealed with [Newton Mesh Tape](#). Position the tape equidistant to either side of the joint, and using a hot-air gun and wooden roller, firmly effect the seal
- When sealing to the wall, only seal once you have laid/placed the floor coverings, as the weight of the floor coverings will flatten the membrane out and could result in too much membrane at the perimeter of the room
- The walls may need to be primed ready for sealing with Newton Mesh Tape. [Newton 109-LM](#), [Newton 110 WATstop](#) or [Newton 901-P](#) can be used as a primer. See the individual product data sheets for further information

ADHERING THE MEMBRANE TO THE FLOOR

- Using a 4 mm x 4 mm notched trowel, apply a flexible, thin-bed adhesive to the substrate
- Immediately roll out the decoupling mat over the fresh adhesive and press down firmly using a float or roller
- With an airtight system, seal the joints, the perimeter and any protrusions with Newton Mesh Tape as described above

TILING

Apply the tile adhesive over the decoupling mat and set the tiles or slabs in accordance with usual practice.

Movement or tension that is too large for the decoupling mat to deal with may result in cracks to the tiling, that will generally manifest where the tiling is weakest, which is generally at the joints. Please be aware that staggered tiling has significantly less continuous joints and is much stronger as a result, and that instead of the crack manifesting at the joints, the cracking may continue through the tiles themselves. This is a well-known principle of tiling, and it is therefore recommended that if there are concerns that not all movement will be dealt with by the decoupling mat, regular pattens may be preferred as it is much easier to replace the grout at a joint than to replace tiles.

LIMITATIONS

WARNING: Where the membrane is used above a wooden floor and sealed to prevent air leaks, it is vitally important that the void below the wooden floor is fully ventilated.

NOTE: Tiled floor finishes may sound hollow when walking over with hard-soled shoes or if struck with a heavy object. This is normal.



STORAGE



Protect from UV radiation.

HEALTH & SAFETY

Use appropriate PPE for the environment the system is installed within. Use products only as stated within this Data Sheet and the Safety Data Sheet.

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				Newton Waterproofing Systems Newton House 17-20 Sovereign Way Tonbridge Kent TN9 1RH		603 Tile DIN EN 13967:2012 1213 Flexible sheets for waterproofing	
Essential Characteristics		Declared Performance		Test Standard		Harmonised Technical Standard	
Water tightness, 60 kPa; 24h		Waterproof. Pass		EN 1928		DIN EN 13967:2012	
Compressive strength		320 kN/m ²		EN ISO 25619-2			
Tear resistance		MD - npd CMD - npd		EN 12310-1			
Tensile strength (kN/m)		MD - npd CMD - npd		EN 12311-2			
Elongation		MD - npd CMD - npd		EN 12311-2			
Compressive creep (resistance to static load)		npd		EN 13967 Annex B			
Impact resistance		npd		EN 12691-2 Method A			
Durability against ageing		npd		EN 1296 / EN 1928			
Durability against chemicals		npd		EN 1296 / EN 1928			
Fire resistance		F		EN 13501-1			
Hazardous substances		Less than limited by national regulations.				National regulations valid in EU member states.	

Newton Waterproofing Systems reserve the right to update product literature at any time. Please always refer to our [website](http://www.newtonwaterproofing.co.uk) for the latest versions.