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MAPEFLEX PU21[®]

TWO COMPONENT SELF-LEVELLING POLYURETHANE SEALANT



WHERE TO USE

- For abrasion resistant sealing of joints in industrial floors subject to heavy traffic, both interior and exterior.
- Sealing joints in rubber and PVC floors.
- Self-levelling, waterproof, flexible membrane suitable for pedestrian traffic.

Typical applications

- Sealing flexible joints in ceramic tile floors in areas subject to heavy traffic such as supermarkets, industrial buildings with fork lift trucks, sidewalks, pedestrian subways, arcades, squares etc.

- Sealing movement joints in concrete floors in car parks and industrial buildings subject to vehicle traffic or where a high resistance to chemicals is required.
- Sealing rubber and PVC flooring, filling joints between tiles and sheets.
- Flexible sealing around industrial machine bases.
- Flexible sealing around pipelines, outlets, drains etc.
- Elastic, waterproof and damp-proof membrane suitable for foot traffic on floors and surfaces of rooms and areas subject to the standing water.



Mixing the two components

- Waterproof membrane for bathroom and shower floors to be covered with ceramic tiles.

TECHNICAL CHARACTERISTICS

MAPEFLEX PU21 is a two-component, self-levelling sealant composed of a polyurethane polymer devoid of free isocyanates (part A) and a special hardener (part B).

The two components must be mixed together thoroughly to obtain a self-levelling, evenly coloured smooth paste that is easy to pour.

MAPEFLEX PU21 can only be applied to horizontal surfaces.

After hardening by chemical reaction alone, which takes place in about 24 hours without shrinkage, MAPEFLEX PU21 becomes elastic, resistant to water and heat, with high mechanical strength and abrasion-resistant properties, and a good adhesion to almost all materials that are commonly used in building.

The resistance of MAPEFLEX PU21 to chemicals is good; however, due to the variety of products and working conditions under which it can be used, it is advisable to carry out preliminary tests in cases of doubt.

MAPEFLEX PU21 is resistant to temperatures from -30°C to $+80^{\circ}\text{C}$.

RECOMMENDATIONS

- Do not use on substrates that are subject to rising damp.
- Do not use on damp surfaces.
- Do not use on bituminous surfaces where the bleeding of oils may take place.
- Do not use MAPEFLEX PU21 at temperatures below 10°C .

DIRECTIONS FOR USE

Mixing

The two components of MAPEFLEX PU21 are supplied in the correct proportions:

- Component "A" 94 parts by weight.
- Component "B" 6 parts by weight.

Mixing should be carried out, preferably by means of a low speed mechanical stirrer, until the colour of the mix is uniform.

The setting speed and open time in the drums are closely linked to ambient temperature (see table).

The working time of the mixed product at a temperature of $+20^{\circ}\text{C}$ is about 2 hours but the optimum self-levelling properties are obtained in the first 30 minutes. Use the most suitable pack size for the estimated usage within this time.

WARNING

The ratio of the resin (part A) to the hardener (part B) is fixed.

Never use part of the packs unless the proportions of the two components (94:6) are measured with a precision balance. Never use when the temperature is lower than 10°C , because the setting time may be too long.

Application as a joint sealant

All surfaces to be sealed must be dry, solid, free from dust, loose particles, oils, grease, wax, old paint and rust.

To ensure that the sealant will function



Expansion joint in red quarry tile floor sealed with MAPEFLEX PU21



Cleaning out the joint with a dust extractor



Filling the joint with MAPEFLEX PU21



Smoothing the joint



Removing the masking tape from the joint

Setting time of MAPEFLEX PU21 in relation to Temperature

Temperature in $^{\circ}\text{C}$	30	25	20	15	10	5	0
Time in hours	4	6	8	12	20	36	-

properly, it is essential that, once applied to the joint, it can expand and contract freely.

It is therefore important to ensure that the MAPEFLEX PU21 adheres perfectly only to the lateral sides of the joint and not to the bottom and also that the thickness of the joint is always less than its width.

The joint must be sized so that the maximum anticipated expansion is less than 10% of the total width.

To regulate the depth and prevent the MAPEFLEX PU21 from adhering to the bottom of the joint a compressible strip of MAPEFOAM or similar material must be inserted before the sealant.

Joints are normally filled by pouring in the properly mixed MAPEFLEX PU21 using a container with a spout or by utilising a sealant cartridge. Sometimes it may be necessary to mask the joints to prevent the sealant spreading onto the surface.

Application as a self-levelling membrane

The substrate must be dry, flat, resistant

to compression and traction, free from dust, loose parts, paint, wax, oils, rust and traces of gypsum.

The maximum moisture content should be as set out in the standards for the particular country, e.g:

- max 2.5% for cement substrates.
- max 0.5% for gypsum or anhydrite substrates.

The moisture must be checked throughout the whole thickness by means of a carbide hygrometer or an electric moisture meter bearing in mind that the latter only gives indicative values.

Concrete surfaces that are not sufficiently solid must be removed or, where possible, consolidated with PROSFAS or PRIMER EP and allowed to dry.

Crevices or cracks in the concrete surfaces must be repaired with EPORIP.

Floating screeds over light-weight or insulating layers and screeds cast directly on the ground must be laid on a damp-proof barrier to prevent rising damp.

TECHNICAL DATA

PRODUCT IDENTITY: Type:	Part "A" thick paste	Part "B" fluid liquid
Colour:	– grey	transparent straw-coloured
Specific gravity:	1.5 g/cm ³	0.92 g/cm ³
Inflammability:	no	no
Dry solids content:	96.5%	100%
Brookfield viscosity (mPa•s):	50,000	250
Storage life:	MAPEFLEX PU21 has a stable storage life of at least 12 months in unopened original packing.	
Health Hazard (EEC Sec. 88/379):	yes MAPEFLEX PU21 Part A is an irritant MAPEFLEX PU21 Part B is corrosive Handle with care complying with the precautions indicated on the packing.	
Customs class:	3909 50 00	
APPLICATION DATA (at +23°C - 50% R.H.):		
Mixing ratio:	Part A : Part B = 94 : 6	
Consistency of mix:	flowing liquid	
Brookfield viscosity of mix (mPa•s):	20,000	
Specific gravity:	1.48 g/cm ³	
Pot life (workability):	40-50 min.	
Application temperature range:	from +10°C to +35°C	
Initial set:	8 hours	
Final set:	9 hours	
Open time:	40-50 minutes	
Ready for traffic:	after 24-36 hours	
Cure time:	3 days	
FINAL PERFORMANCES:		
Shore-A-hardness:	65	
Resistance to tension (acc. to DIN 53504S2):	4 N/mm ²	
Elongation at break (acc. to DIN 53504S2):	100%	
Resistance to abrasion:	excellent	
Resistance to moisture:	excellent	
Resistance to aging:	excellent	
Resistance to solvents and oils:	good	
Resistance to acids and alkalis:	good	
Resistance to temperature:	from –30°C to +80°C	
Flexibility:	yes	
Elongation in operation (continuous duty):	max 10%	

External substrates must also be isolated from rising damp with a water-proof barrier (unless they are already covered in asphalt).

Surfaces formed from hot applied asphalt must have a suitable consistency to bear anticipated loads.

It is not possible to use MAPEFLEX PU21 over bitumen based surfaces with a low melting point as they may bleed oils. The choice of application procedure (trowel, roller or float) depends on the type of flooring to be laid and on the substrate.

COVERAGE

As a sealant: coverage depends on the size of the joint; for calculations bear in mind that the density of MAPEFLEX PU21 is 1.48 g/cm³.

As a self-levelling membrane: 1.48 kg/m².

Cleaning

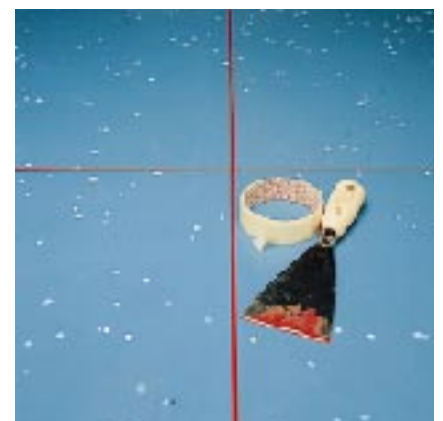
MAPEFLEX PU21 can be cleaned from surfaces, tools, clothes etc. with toluol or alcohol while fresh; after setting, cleaning can only be carried out mechanically or with PULICOL.

COLOURS

MAPEFLEX PU21 is available in grey. Special colours are only available on



Filling a joint between rubber floor tiles



The joint after removal of the masking tape



Movement joints of an industrial concrete floor sealed with MAPEFLEX PU21

request and for minimum quantities of 500 kg.

PACKING

MAPEFLEX PU21 is available in 10 kg

units (part A 9.4 + part B 0.6) and in 5 kg units (part A 4.7 + part B 0.3).

WARNING

Although the technical details and



recommendations contained in this product report correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical applications; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use the product.

N.B. FOR PROFESSIONAL USE ONLY

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