



## Turbodec

*Turbodec is an odourless, industrial anti-slip flooring that can be installed in just one day. It's the perfect solution for both new builds and renovation projects across various sectors. Turbodec is used in the food industry, (large) kitchens, care homes and hospitals, airports, labs, pharmaceuticals, retail, and hospitality. It was developed in collaboration with the University of Ghent.*

### Application area

- Sanded tiles
- Screed
- (Polished) concrete
- Existing poured floor
- Existing broadcast floor
- Existing Turbodec floor



### System structure

The Turbodec system is an odourless acrylic-based flooring system that can be installed in one day.

It consists of three layers:

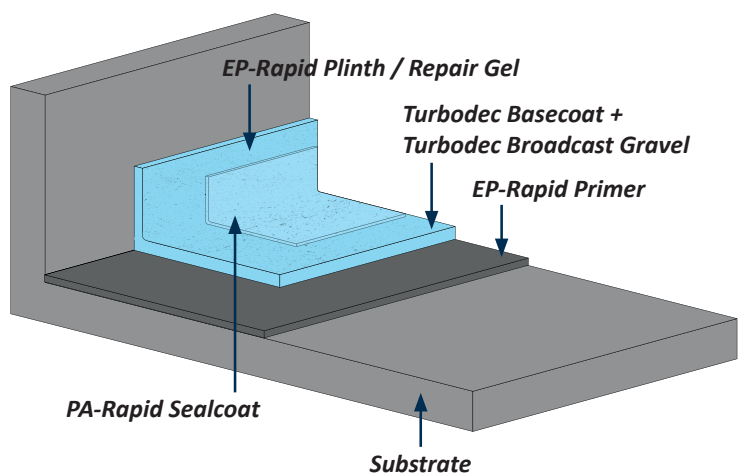
1. EP-Rapid Primer: a quick-drying primer that is dry after just a few hours.
2. Turbodec Basecoat + Turbodec Broadcast Gravel: a casting layer that hardens in less than an hour.
3. PA-Rapid Sealcoat: a sealing coat that is mechanically and chemically resistant after 10 hours.

Total finished thickness: 4-5 mm

For more information, consult the technical sheet of each individual layer.

### System properties

- Can be installed in one day
- Easy to maintain
- Chemically resistant
- No odour nuisance
- No fire hazard
- Hygienic
- Anti-slip
- Hardness
- Patented & certified



## Pre-check

Always conduct a site visit beforehand to check the following:

### Number of m<sup>2</sup>

Based on the m<sup>2</sup>, you can order the correct amount of products.

### Height, depth and number of linear metres of the plinth

Siddec always calculates the consumption of EP-Rapid Plinth / Repair Gel and the gravel on a plinth of 5 to 10 cm high with a depth of 6 mm. If the required plinth deviates from these dimensions, this must be taken into account when ordering. Consult the technical sheet of EP-Rapid Plinth / Repair Gel for the correct quantities, or contact Siddec.

### Surface check

- It is very important, regardless of the type of substrate, that it is completely dry and free from grease and dirt. If there is moisture in the substrate, it can drastically reduce the adhesion of the primer, causing blisters to form over time (within a month). You should therefore measure the moisture content of the substrate in areas where water is used and ensure that there is no moisture present. Areas that deserve attention include:
  - » Washing area
  - » Sink area
  - » Water drainage grates
  - » Cooling systems/freezers/fridges
- In addition to moisture, grease can also cause poor adhesion. You should therefore ensure that the substrate is grease-free and use a degreaser in areas where this problem may occur, such as:
  - » Ovens
  - » Sinks
  - » Cutting tables
  - » Freezers
  - » Oil drain point for machines
  - » ...
- When preparing the substrate, the preference is always to first thoroughly clean it with a degreaser and then to blast it. If blasting is not an option, sanding with a double-ring diamond disc can be done. This must be done very thoroughly to achieve optimal adhesion. On tiles, the glaze or ceramic layer must be completely sanded off.
- It is advised against placing cement-based levelling compound/self-levelling mortar. This has a lower adhesion strength than the Turbodec system, making it the weakest link in the system. Over time, this can lead to local defects such as blisters. If the entire floor is placed on this levelling mortar, it can even come off completely.

### Environmental parameters check

- The environmental parameters play an important role in the curing of the different components of the Turbodec system. A first important parameter is the temperature of both the floor and the environment. A low floor temperature (<16°C) can significantly lengthen the drying time of both the primer layer and the sealing coat. In this case, it is advised to preheat the room so that the floor temperature is at least 18°C. A lower temperature means a drying time of the primer of over two hours. Additionally, the floor temperature also determines which version of Turbodec Basecoat should be used: there is a version for temperatures below 16°C (Turbodec Basecoat

LT) and a version for temperatures above 16°C (Turbodec Basecoat HT). For more information, consult the Turbodec Basecoat technical sheet.

- A second important parameter is the humidity. This must be between 40% and 60%. A very low humidity causes a slower drying of the sealing coat. Too high humidity causes faster drying and at the same time a shorter processing time. In the latter case, the installation will need to proceed at a faster pace.

## Substrate preparation

Before starting the installation of Turbodec, it's essential to inspect the substrate. The substrate must have a minimum compressive strength of 25 N/mm<sup>2</sup> and a minimum tensile strength of 2 N/mm<sup>2</sup>.

The substrate must always be moisture and grease-free. Use a moisture meter to measure the floor's moisture content. The moisture content in the substrate must be ≤ 5%. If it's more than 5% but less than 10%, you can opt to dry the floor as much as possible with a burner. After treating the floor, a new measurement can be taken 15 minutes after stopping the burning. If the moisture percentage has not decreased, there may be an underlying moisture problem. If this is the case, the underlying issue must be resolved before applying EP-Rapid Primer. Clean the floor with a degreaser and then with clean water before proceeding to blast or sand. This action is best performed the evening before installation.

After degreasing, the substrate must always be mechanically pre-treated. This is preferably done by blasting the substrate. If the installation conditions do not allow for this, the substrate can also be sanded with a double-ring diamond disc. The entire substrate must be homogeneously sanded. Any remnants of old coatings and adhesives must be completely blasted/sanded away. All substrates must first be made grease and dust-free before roughening can commence.

Here are some points of attention for each substrate:

- Tiles: the joints must not contain any dirt, grease or other chemicals. Tiles must be blasted so that the ceramic or glaze layer is completely removed. Not fully sanding tiles carries a risk of detachment. Loose or hollow-sounding tiles must be removed.
- Screed: new screed must first cure for at least 28 days. It does not need to be sanded. Given that screed is a very absorbent substrate, an extra layer of primer may need to be applied if it is observed that it completely absorbs into the substrate.
- Concrete: new concrete must cure for at least 28 days. Any existing protective layer, impregnation agent or paint layer on existing concrete must first be sanded away. For polished concrete, it is very important to sand away the curing compounds on the surface. If the concrete is not polished, a cement layer can form on the surface. This layer must also be sanded away.
- Anhydrite: degrease, then sand and make dust-free.

If there is any unevenness greater than 5 mm in the substrate, this must first be levelled. Loose floor pieces or tiles must first be removed and then filled in. For repairing both the unevenness and the loose parts, a mixture of EP-Rapid Primer (15-20%) and

gravel 0.4/0.8 (85-80%) can be used. Always apply this mixture with a trowel and ensure that the gravel mixture is subsequently saturated with enough primer.

You can also choose to fill any unevenness with an EP-Rapid Plinth / Repair Gel gravel mixture and saturate it with the EP-Rapid primer. Consult the technical sheet of the respective product for this. After curing, sand the repaired areas with a double-ring diamond disc to achieve as flat a result as possible.

In the case of cracks wider than 1 mm, these must first be further cut open and then filled with EP-Rapid Plinth / Repair gel. After curing, sand the repaired areas with a double-ring diamond disc.

Expansion joints in the substrate should also be followed when applying EP-Rapid Primer.

Pre-cut drainage holes on the side (1-3 cm) in advance so that the primer can run into them. Always tape these off before applying EP-Rapid Primer and remove the tape immediately after application.

If the floor is not enclosed, you can opt to install profiles or provide grooves at the edges to create an enclosure.

Instead of providing a profile or cutting in, you can also choose to create a slope. These height differences can be smoothed out with either a mixture of EP-Rapid Plinth / Repair Gel or a mixture of EP-Rapid Primer and broadcast gravel. Here, primer can then be rolled over and broadcast so that it is completely sealed. However, keep in mind that the slope should not have an angle above 15°. If this is the case, extra precautions must be taken when applying the base layer. Consult the technical sheet of the Turbodec Basecoat.

## **Installation**

A typical Turbodec installation begins with the placement of the skirting boards, followed by priming. Then the base layer is applied, and finally the floor is finished with a sealing coat. At a temperature of 20°C and 55% RH, the installation can be completed in one day.

### Plinths - EP-Rapid Plinth / Repair Gel

If the client desires, a (coved) plinth can be installed. This plinth can be placed against a profile or under a tile. In both cases, the wall or existing plinths to which it is applied must be checked. Water must not be allowed to enter the top of the plinth under any circumstances. This can seep into the floor and cause defects. If this cannot be guaranteed by the existing structure, you must always place a profile to drain the moisture/water to the front of the plinth and work the plinth against it. The plinth profile must always be sealed with a sanitary sealant before the floor is put into use. Consult the technical sheet of EP-Rapid Plinth / Repair Gel for installation instructions.

**Note:** Always use standard coloured gravel for the plinths, not Turbodec gravel. Both types of gravel look visually the same but have different coatings and will therefore react differently once mixed. Always verify the label on the bags before mixing.

### Primer - EP-Rapid Primer + broadcast gravel

First, prime along the edge or plinth with a brush or a small roller. Then evenly distribute the primer over the area with a roller. Once the primer is fully spread, it can be broadcast. Do this by walking over the floor with spiked shoes and **fully and densely** broadcasting the area with gravel (3kg/m<sup>2</sup>). A loose layer of gravel should remain on the primer for the best result. Pay extra attention to corners, edges, unevenness and places where the primer is thicker. If there are still glossy spots visible after 15 minutes, walk over the floor again with spiked shoes. Broadcast more gravel where necessary and then close the tracks made by the spiked shoes. Any spot that is not (completely) broadcast is a spot where there is a risk of detachment from the next layer. Consult the technical sheet of EP-Rapid Primer for installation instructions.

### Casting Layer - Turbodec Basecoat + Turbodec broadcast gravel

Before proceeding to apply Turbodec Basecoat, verify that the primer layer (EP-Rapid Primer) and any installed plinths are dry. The floor temperature determines which type of Basecoat (LT or HT) should be used. Be sure to measure this in advance. The required amounts of Turbodec Basecoat, Initiator and Max Level Filler always depend on the floor temperature. Consult the technical sheet of Turbodec Basecoat for installation instructions.

**Note:** Always use Turbodec gravel for broadcasting into Turbodec Basecoat, not the standard coloured gravel used for the plinths. Both types of gravel look visually the same but have different coatings and will therefore react differently once mixed. Always verify the label on the bags before mixing.

### Sealcoat - PA-Rapid Sealcoat

Before starting to apply PA-Rapid Sealcoat, check that the broadcast floor on which it will be placed is completely dry. Measure the floor temperature and humidity in advance, and determine based on the processing conditions whether PA-Rapid Sealcoat can be applied. Consult the technical sheet of PA-Rapid Sealcoat for installation instructions.

### Points of attention

- Pay close attention to which gravel you use when. Turbodec broadcast gravel and standard coloured broadcast gravel look visually the same but have different coatings and will therefore react differently once mixed. Always verify the label on the bags before mixing.
- Broadcast Turbodec Basecoat with an upward motion so that the gravel falls nicely. Since the reaction between Turbodec Broadcast Gravel and Turbodec Basecoat starts after a few seconds, you create defects in the floor if you throw the Turbodec gravel onto the floor (bumps or waves).

### Technical data

Impact resistance	EN ISO 6272-1	IR4
Abrasion resistance	EN 13892-4	AR 0,5 ( $\leq 50 \mu\text{m}$ )
Adhesion strength	EN 13892-8	>B2.0
Fire class	EN 13501-1	B <sub>s</sub> s1
Temperature resistance	Sidec method	Resistant up to 60°C (long-term load), but slight discolouration of the floor.
Slip resistance	DIN EN 61165 Annex B Oil (R-value)	R11
Temperature shock resistance	Sidec method	Yes: a brief shock of water at 100°C or oil at 180°C does not change the properties of the system.

### Chemical resistance

	PA-Rapid Sealcoat				Turbodec Basecoat			
	1-2h	24h	48h	>72h	1-2h	24h	48h	>72h
<b>Organic acids</b>								
Acetic acid (33%)	3	2a	2a	2a	3	2a	1	0
Acetic acid (99%)	2a	1	1	1	2a	2a	1	1
Citric acid (50%)	3	3	3	3	3	3	3	3
Lactic acid (90%)	3	3	3	3	3	3	3	3
Formic acid (33%)	3	2a	2a	2a	2a	2a	1	0
Formic acid (99%)	1	0	0	0	1	0	0	0
Oxalic acid (98%)	3	3	3	3	3	3	3	3
<b>Inorganic acids</b>								
Sulphonic chromic acid (10%)	3	3	3	3	3	3	3	3
Nitric acid (12.6%)	3	3	3	3	3	3	3	3
Nitric acid (65%)	1	0	0	0	1	0	0	0
Hydrochloric acid (37%)	2a	1	0	0	2a	0	0	0
Sulfuric acid (50%)	3	3	3	3	3	3	3	3
<b>Alkalis</b>								
Ammonia (50%)	3	3	2b	2b	3	3	3	3
Sodium hydroxide (50%)	3	3	3	3	3	3	3	3
<b>Fuels and oils</b>								
Brake fluid (DOT4)	3	3	3	3	3	3	3	3
<b>Peroxides</b>								
Hydrogen peroxide (30%)	3	3	3	3	3	3	3	3

	PA-Rapid Sealcoat				Turbodec Basecoat			
	1-2h	24h	48h	>72h	1-2h	24h	48h	>72h
<b>Organic solvents</b>								
Acetone	1	1	1	1	2a	1	1	0
Butanol	3	2a	2a	2a	3	3	3	3
Butanone	1	1	1	1	2a	1	0	0
Butyl acetate	3	3	3	2a	3	3	3	3
Cyclohexane	3	3	3	3	3	3	3	3
Dichloroethane	1	1	0	0	3	1	0	0
Dichloromethane	1	0	0	0	1	0	0	0
Diethyl ether	3	3	3	3	3	3	3	3
Dimethylformamide	2a	1	1	0	1	1	1	0
Ethanol	2a	1	1	1	3	3	3	3
Ethyl acetate	3	2a	2a	1	3	3	3	0
Methanol	1	1	1	1	2a	0	0	0
Methyl Methacrylate	2a	2a	2a	2a	3	3	3	3
Tetrahydrofuran	1	1	1	0	3	1	1	0
White spirit	3	3	3	3	3	3	3	3
Xylene	3	3	3	3	3	3	3	3
<b>Mixtures</b>								
<b>Group 4</b> Toluene (60%) - Xylene (30%) - Methylnapthalene (10%)	3	3	3	2b	3	3	3	3
<b>Group 5</b> Methanol (48%) - Isopropanol (48%) - Water (4%)	3	3	3	3	3	3	2a	2a
<b>Group 7</b> Ethyl acetate (50%) - Methyl isobutylketone (50%)	3	2a	2a	2a	2a	2a	2a	2a
<b>Group 8</b> Formaldehyde (35-40%)	3	3	3	3	3	3	3	3
<b>Group 9a</b> Acetic acid (50%) - Propionic acid (50%)	2a	1	1	0	3	2a	1	0

### Legend

- 3: No effect
- 2a: Light softening
- 2b: Slight discolouration
- 1: Strong softening
- 0: Complete relegation

Mixture group 4: All hydrocarbons, except aromatics and crude oil

Mixture group 5: Mono- and polyalcohols (up to 48%) and glycol ethers Mixture group 7: All organic esters and ketones

Mixture group 8: Aliphatic aldehydes

Mixture group 9a: Organic acids (except formic acid) and their salts (in aqueous medium).

### **Packaging**

EP-Rapid Plinth / Repair Gel	Sets of 1.62 kg	Metal can
Coloured gravel	25 kg	Bag
EP Rapid Primer	Sets of 10 kg	Metal can
Broadcast gravel	25 kg	Bag
Turbodec Basecoat LT	18 kg	Metal can
Turbodec Basecoat HT	18 kg	Metal can
Turbodec Initiator	5 kg	Plastic bucket
Max Level Filler	25 kg	Bag
Turbodec broadcast gravel	25 kg	Bag
PA-Rapid Sealcoat	Sets of 18 kg	Metal can

### **Cleaning**

Clean the used tools with Cleaner EP, isopropanol or acetone. Cured product residues must be removed mechanically.

### **Storage and preservation**

Shelf life: 12 months in closed and original packaging when stored in a cool and dry place (10-25°C).

Turbodec Broadcast Gravel should be stored in a dry, cool and dark place.

### **Safety measures**

Please read the safety data sheets carefully before using the individual components. Always wear personal protective equipment according to the applicable local guidelines and legislation. Gloves and safety glasses are mandatory.

### **Technical support**

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*The latest version of this technical data sheet is available on our website.*

