

TECHNICAL INFORMATION

# SWARCO PREFORMED ECO Playground



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<b>1</b>	<b>Main Characteristics .....</b>	<b>3</b>
<b>2</b>	<b>Technical Information .....</b>	<b>3</b>
<b>3</b>	<b>Surface Preparation .....</b>	<b>3</b>
<b>4</b>	<b>Packaging and Storage .....</b>	<b>3</b>
<b>5</b>	<b>Application .....</b>	<b>3</b>
5.1	Bituminous Substrates .....	3
5.2	Concrete and Other Substrates .....	4
5.3	Block Paving / Granite Setts Advice .....	5
<b>6</b>	<b>Certifications .....</b>	<b>5</b>

## Important Information:

Please consider our General Terms and Conditions and the general notes of the Technical Information Sheet! No liability is accepted for any errors! The information is provided to our best knowledge and experience. This information is, however, no warranty for any properties of the material. We provide this information without obligation, also regarding the rights of third parties. The user has to make sure that the material is appropriate for the respective application.

## 1 Main Characteristics

- No specialist application (plant or machinery) required
- Non-toxic, heavy metal free pigments used
- Fast and easy to apply – flows readily, can be trafficked after approximately 5-10 mins
- Resistant to discolouration
- Tough and durable with a long service life
- No waste
- Can be adapted to suit particular climatic or customer performance specifications

## 2 Technical Information

<b>Ground Substrate Application temperatures range</b>	+5°C and 40°C
<b>Cure time</b>	Typically less than 5 minutes
<b>Colours</b>	Over 15 colours plus bespoke options available. Please check with SWARCO HITEX for latest colours list.

## 3 Surface Preparation

SWARCO PREFORMED ECO Playground markings are fast and easy to apply, with minimal equipment. Please refer to the Section 5 Application for guidance on different surfaces.

## 4 Packaging and Storage

SWARCO PREFORMED ECO Playground markings available in cardboard boxes, the quantities per box vary dependent on customer requirements. However, generally 5 sheets are packed per box.

SWARCO PREFORMED ECO Playground markings are supplied in packaging designed to protect the material during transit. It is recommended that symbols should be kept totally dry and stored away from direct sunlight and areas of potential contamination. The product shelf life is 12 months. Cold temperatures will result in the material becoming more brittle.

## 5 Application

### 5.1 Bituminous Substrates

1. Ensure the application area is thoroughly clean and dry. This includes removal of all loose material, dust, grease, and foreign matter.
2. All moisture must be removed with a gas burner. Gas and compressed air are recommended for this. If a standard burner is being used, you should look to scorch the



substrate slightly before installation of the material. This is to release fresh bitumen binder from the substrate as well as pre heating the base being laid on.

3. A suitable tack coat primer such as SWARCO PREFORMED Primer Spray 200 or SWARCO PRIMER Roll 100 can be applied. This is not essential on bituminous surfaces however if used, allow to dry before laying for best results. Ensure that primers are used in accordance with SWARCO HITEX guidelines, particularly in respect to the application thickness.
4. Lay the SWARCO PREFORMED ECO Playground on the pre-heated area of the substrate with the aggregate side facing up. Take care to place all pieces in the right area and to make sure the edges of the next piece are pushed up tight together, leaving no gaps.
5. When applying heat to the material it is advised to use a heat gun that has approximately three bar pressure or above with a wide area of heat dispersion, we recommend a product such as an Express Hornet.
6. Make sure to move the torch in an even and continuous sweeping motion at a height of approximately 30cm above the material. Making sure not to focus heat in one area for too long. If direct heating is prolonged in any one spot it will cause the material to burn and degrade any pigment areas. Indicators of sufficient heating are:
  - The material should have melted and fused together evenly without any joins being visible.
  - The edges of the preformed will have melted onto the substrate causing a tapered edge.
  - The material will start to bubble as if it is boiling. Once a small amount of bubbling is witnessed a suitable temperature has been achieved.
7. Inadequate heating of the product will result in sub-optimal bonding to the substrate and delamination/failure of the product will occur. If overheated the material can become scorched leaving either a brown spot or in areas where there is colour the pigment will degrade meaning the colour will fade prematurely causing bleaching. This is an irreversible change and should be avoided by keeping the burner moving at all times and looking for the indicators of sufficient heating as listed above.
8. Allow the material to cool and harden for approx. 5–10 minutes after full installation is complete. Please note this is entirely dependent on ambient temperature and exposure to the sun. If it is a warm day it may take considerably longer for the material to cure. If this is the case provision will need to be made to keep the material from being trafficked until it has sufficiently cooled. It is advised not to use water to speed up the cure of the material as this could cause adhesion issues if the product has not cooled sufficiently.
9. When the material has cooled sufficiently an inspection of the installation should be carried out. Checking for adhesion by trying to lift parts of the material with a flat bladed screwdriver, knife or chisel. If the material lifts and no substrate is evident on the underside then adequate adhesion has not been achieved and heat should be reapplied until bonding has occurred. If the material lifts and substrate is evident on the underside of the applied material, there is an issue with the integrity of the substrate, which will likely result in premature failure of the product. Installers should stop work and seek advice if this occurs.

## 5.2 Concrete and Other Substrates

1. Ensure the application area is thoroughly clean and dry. This includes removal of all loose material, dust, grease, and foreign matter.
2. If the concrete is wet it must not be force dried. The moisture held in concrete means that unless it is just a small amount of surface dampness you will not be able to dry sufficiently

to gain a good adhesion with the substrate and failures will be likely. Please note: If you try to force dry the concrete you may also cause it to 'spit' which can be dangerous.

3. When laying material on concrete primer, must always be used across the whole area the material is to be adhered to. The use of SWARCO PREFORMED Primer Spray 200 or SWARCO PRIMER Roll 100 is recommended in order to achieve optimal adhesion. If the surface is very porous then additional primer may need to be used to overcome this. Wait for the primer to fully dry before laying the preformed material.
4. Continue steps 4 through to 9 as explained in the application for bituminous surfaces. Please note: Application problems may still occur on new concrete surfaces even when using a recommended primer. This is due to drying time of newly laid concrete surfaces and the moisture involved. It is recommended to leave new concrete surfaces a minimum of 28 days before application of preformed materials.

### 5.3 Block Paving / Granite Setts Advice

There are increased risks with block paviors, as over time there is always the risk of the individual blocks moving in relation to each other, which can lead to cracking then debonding of the preform.

This can happen with any thermoplastic material, which is why the general recommendation is to use spray applied paints on block paving – if the individual blocks move, the thinner layer thickness of a spray applied coating means it's less prone to cracking. And there's less of a coating thickness at the joins between the blocks as well, so any cracking of the paint will be much less visible in comparison to a thicker thermoplastic layer and won't lead to cracking issues as much.

When using thermoplastics, installers should apply a suitable primer – for thermoplastics including preformed grades, we recommend our SWARCO PRIMER Roll 100 (liquid based) or our SWARCO PREFORMED Primer Spray 200 (aerosol based). Also, as there's no bitumen to bond / fuse to in such paving products, the thermal bond present in bituminous substrates is not present, potentially reducing the effectivity of any bonding.

Obviously, granite setts are even more of a risk, due to the low porosity and absorbency of the surface not allowing primers to permeate down below the surface, so the bond formed by the primer is sub-optimal, so even more of a risk.

## 6 Certifications

SWARCO PREFORMED ECO Playground meets the following International standards: BS EN 1790, BS EN 1436, BS EN 1871, AASHTO and FHWA. BASt certification at P7 level of 4 million wheel-overs.

The management system of SWARCO HITEX LTD has been assessed and registered as meeting the requirements of ISO 9001 and ISO 14001.