

## PRODUCT DATA SHEET

# Pulastic® Coating-221 W Clear

Transparent 3-part PU finish coat

### DESCRIPTION

Transparent 3-part polyurethane waterbased finish coat for use on pulastic sports flooring systems

### USES

The nature of the product requires (by Sika) trained specialists to process this material.

### CHARACTERISTICS / ADVANTAGES

☑ PULASTIC Coating 221/W Clear is a durable, high-quality transparent coating that complies with the current, strict V.O.C. regulations in Europe and the United States. This product is mainly used for the application of seamless (sports) floor systems. For alternative applications (i.e. other than the standard floor systems) we advise you to contact Sika.

☑ This water-based coating provides optimum skid resistance for sports, has a long-lasting, very matt appearance, high wear resistance, high colour fastness and high resistance to the usual cleaning products. Furthermore, the coating has good adhesion properties and is permanently flexible. The balanced viscosity ensures a uniform structure over the entire surface when applied with a roller.

### PRODUCT INFORMATION

<b>Packaging</b>	Three-can sets with a total weight of 7,875 kg (A = 6.0 kg, B = 1,5 kg, C = 0,375)
<b>Shelf life</b>	Under ideal storage conditions the shelf-life, in original factory sealed cans, is 12 months for both the A and B component.
<b>Storage conditions</b>	Store material in a dry, cool (15-25°C) environment where protection against damage is guaranteed. Avoid prolonged storage at temperatures below 5°C or above 30°C.
<b>Colour</b>	Transparent
<b>Density</b>	A 1,05 kg/litre

B 1.15 kg/litre  
A+B 1.07kg/litre (diluted with 5% water)

<b>Volatile organic compound (VOC) content</b>	< 0.01 gr/litre	(ISO 11890-2)
<b>Abrasion resistance</b>	< 0,223 gram weight-loss	(Taber 1kg, H18/1000 rev / EN-ISO 5470-1)
<b>Gloss level</b>	3%	(EN-ISO 2813)
<b>Solar reflectance</b>	8 (excellent)	(DIN 54004)
<b>Skid / slip resistance</b>	93	(EN-ISO 13036-4)
<b>Chemical resistance</b>	Neutral cleaning detergents, common drinks	

## APPLICATION INFORMATION

<b>Mixing ratio</b>	A : B : C = 76 : 19 : 5 (approx. weight)	
<b>Consumption</b>	±135 gram/m <sup>2</sup>	
<b>Ambient air temperature</b>	+10°C min. / +30°C max.	
<b>Relative air humidity</b>	75% max. During curing the humidity should not exceed 75 % max. Adequate fresh air ventilation must be provided to remove the excess moisture from the curing product.	
<b>Dew point</b>	<p>Beware of condensation!</p> <p>The substrate and uncured floor must be at least 3°C above the dew point to reduce the risk of condensation or blooming on the floor finish. Prior to application confirm relative air humidity and dew point! During installation and curing of the PULASTIC 221W Clear it is of major importance to determine exactly the degree of humidity of the working area. Too humid conditions during installation and curing may result in colour deviation, inconsistent appearance of the floor ("cloudy effect") and reduced strength of the coating layer.</p> <p>The appearances mentioned above can be avoided if the dew point of the room is determined exactly, before starting the coating application. The dew point determines at what temperature, condensation will take place on the floor surface. Condensation of humidity must be avoided at all times for two reasons:</p> <p>1) At a too high humidity in the room the water in the coating will have great difficulties evaporating, or will not evaporate at all. The speed of evaporation of water in the PULASTIC 221W Clear is directly related to difference between the dew point and the floor-temperature. The closer the floor-temperature is to the dew point, the slower the coating will dry. Even if the floor- temperature is equal to the dew point, the coating will stop drying completely.</p> <p>2) Curing of a 2-component, waterborne PU system exists of 2 processes. First the evaporating of the water. Secondly curing of the A- with the B- component. Important to note that the B-component also reacts with water. If evaporation takes too long, a relatively too big part of the B-component will react with the water of the coating and reaction between A and B component may be insufficient, resulting in the deviations mentioned above such as cloudy effects in the floor and/or lower coating abrasion resistance.</p> <p>Basically the following working conditions must be respected*: Temperature of material and working area: 10°C-30°C. Temperature of sub floor: minimal 4°C above the Dew-point. Air humidity: max 75%.</p> <p>If ventilation possibilities are only very limited, the conditions are even more critical and must be respected as follows*: Temperature of material and working area: 10°- 30°C.</p>	

Temperature of sub floor: minimal 5°C above the Dew-point.

Air humidity: max 70%.

\*During Application and Curing!

Higher humidity at lower temperatures (slower drying process) damages the formation of a coating film and reduces wear resistance. Too high temperatures affect the appearance (visible overlaps and reduced matt finish). Drainage, e.g. through open doors, must be avoided.

As already mentioned, it is vital to determine the dew point of the floor when applying the PULASTIC 221W coating. The overview below will help you determine the dew point after measuring the floor temperature, relative (air) humidity and air temperature. The dew point thus determines whether the application of the 221W coating can be started.

It is very important that the floor temperature is measured with a so-called contact thermometer: normal meters only measure the air temperature, which is insufficient for determining the floor temperature.

(Special devices are also available for determining the dew point, such as the TQC DewCheck, which automatically determines the dew point).

The dew-point table indicates the floor temperature at which condensation of the humidity takes place - as indicated for air temperature and relative humidity. Always consult the dew point table (available on request) prior to application.

Example: at 20°C air temperature and 70% relative humidity, the dew point of the floor is at +14.4°C. If the read-out floor temperature is lower than 18.4°C (14.4°C + 4°C safety factor), there should NOT be any coating work to be done.

<b>Pot Life</b>	+/- 20 minutes/30°C			
	+/- 30 minutes/20°C			
	+/- 50 minutes/10°C			
<b>Curing time</b>	<u>walkable</u>	<u>30 hr/10°C</u>	<u>16 hr/20°C</u>	<u>12 hr/30°C</u>
	<u>light loading</u>	<u>5 days/10°C</u>	<u>3 days/20°C</u>	<u>2 days/30°C</u>
	<u>full loading</u>	<u>6 days/10°C</u>	<u>4 days/20°C</u>	<u>3 days/30°C</u>

## BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## ECOLOGY, HEALTH AND SAFETY

Consult the manufactures "Material Safety Data Sheet".

Do not allow unauthorized persons to enter the site. Ensure adequate ventilation.

Follow the instructions on the labels.

## APPLICATION INSTRUCTIONS

### EQUIPMENT

Low-speed 400 Watt mixer, mixing fin, brushes, coat rollers (10 cm radiator roller, 70 cm roller for the floor - number depending on the size of the surface).

Plastic to lay wet rollers on. Immediately after use, clean tools with PULASTIC Thinner 5CO5 !

### SUBSTRATE QUALITY

The substrate must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings

and surface treatments, etc. Pull-off strength must be not less than 1.5 N/mm<sup>2</sup>. If in doubt, apply a test area first.

### SUBSTRATE PREPARATION

The substrate must be free of impurities, blistering, grease, dirt, dust and moisture. Sanding or other pre-treatment of the substrate may be necessary to achieve good adhesion. All dirt, dust, irregularities, visible repairs and the above mentioned items that are trapped in the substrate by sealing this substrate with Pulastic 221W Clear coating are expressly not the responsibility of Sika.

Sika does not accept any liability with regard to plasticizer/pigment migration that may be visible after application of the product. Poor curing or blisters in the subfloor will cause craters in the coating and reduce wear resistance. Take the necessary precautions and ensure adequate ventilation.

Check the availability and condition of materials and tools. Investigate whether all coated cans are from the same production batch and mix equally if different batches are to be handled. Do not add more than 2 units of 1 kg to the 10 kg sets. Remove loose hairs from the rollers with tape.

## MIXING

Mixing A : B : C = 76 : 19 : 5 (approx. weight)

Mixing Time Prior to mixing, stir part A mechanically. When all of part B has been added to part A, mix continuously for 2 minutes until a homogeneous mix has been achieved.

Slowly add the glass beads while mixing at a low speed to prevent dust. Mix for 1 minute until a homogeneous mix has been achieved.

5 % water can be added to achieve a smoother surface, depending on the environment.

Continuously mix for 1 minute after adding the water. Wait one minute and then mix it up again for one minute.

The amount of added water must be the same in every mix, if not it could slightly influence the paleness and the texture.

Check the mixing result and the absence of lumps or agglomerates on a mixing blade.

To ensure thorough mixing pour materials into another container and mix again to achieve a consistent mix.

Over mixing must be avoided to minimise air entrainment.

Mixing Tools 221W Clear must be thoroughly mixed using an electric low-speed 400 Watt mixer or equivalent.

## APPLICATION

Open cans shortly before use and check the contents. The A component should be lump-free and the B component a clear liquid (without fleece).

Pre-mix the A component and then add the entire B component and then mix A+B carefully until a homogeneous mixture is formed. Add the C component and mix again until a homogenous mix is formed. Visually check the homogeneity of the mixture on the mixing fin. Dilution with a small amount of water is only permitted under special circumstances. Pour the mixture into a second can and mix briefly to prevent residual unmixed material from the can walls and bottom into the mixture.

For maximum flow, the entire contents (within the potlife) should be poured out as quickly as possible and distributed over the surface, taking into account the material consumption ( $130 \pm \text{g/m}^2$ ). Make sure that all the material is processed within 45 minutes after mixing. The potlife is limited by the reaction time and not by the flow; the end of the potlife should not be noticeable. Approximately 1 kg of material is needed to saturate a 70 cm roller. The rollers must be well moistened before use. In case rollers are not used

for a while (e.g. when pouring the material), they should be placed on plastic foil and not on the floor, not even for a short time! Placement on the floor leaves visible traces. The edges should be coated with radiator rollers (10 cm) shortly before the rest of the surface so that they can be worked on wet-on-wet to reduce visible transitions to a minimum. Do not work more than 15 minutes ahead on the edges.

Clear sanding areas should be continued a few minutes before further application in order to minimize marking of these areas after drying.

After pouring, spread the material in the direction of the pouring and back with a 70 cm roller. Roll with the same roller the coating at right angles to the direction of casting and then twice with the same 70 cm roller. The track width with the first roller should be about 1.35 m, with the second 1.45 m and with the third 1.50 m.

Check for the presence of holes and an even structure. Do not roll too fast.

If the ends of the rollers get too wet, roll with the sides to avoid creasing. Roll again over these tracks, as usual.

Start with the second track and follow the same procedure. When rolling for the first time, do not allow the material to overlap the previous strip. The second roll should overlap the previous sheet by a few centimeters and the third roll should overlap by 10 to 15 cm. Overlap the previous track with the second and third roller within 15 minutes after applying that track. If, due to the length of the sheets, it is not possible to overlap within 15 minutes, the material must be applied simultaneously with several applicators, each with its own strip. An applicator can treat one section with a maximum width of about 8 meters. Determine the number of applicators to be used at the same time on the basis of the size of the surface and climate conditions (drying time). Because this product in liquid form adheres less to the substrate than solvent-based coating, some pressure must be applied to the roller during the first and second rolling. At the third roll, the roller should not be too dry.

Although this coating is water-based, it should not end up in the environment. Cured material can be dumped as normal waste.

Before applying Pulastic Coating 221 W Clear for the first time, it is advisable to contact the technical staff of Sika Netherlands B.V. to go through all the details.

## CLEANING OF EQUIPMENT

Clean all tools and application equipment with water immediately after use. Hardened and/or cured material can only be removed mechanically.

## LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

## LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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