

PRODUCT DATA SHEET

Pulastic® Coating-221/W

2 Component Polyurethane

DESCRIPTION

PULASTIC Coating 221/W is a water based, 2-component polyurethane, durable, with high quality, coloured that meets the most stringent V.O.C. regulations in Europe and the USA known today.

USES

Pulastic® Coating-221/W may only be used by experienced professionals.

The product is mainly used for the installation of seamless sports flooring systems.

CHARACTERISTICS / ADVANTAGES

2-component water-based polyurethane manufactured for the care of the environment.

This water-based coating offers:

- the optimal friction properties for sport,
- looks very matte in the long run,
- high abrasion resistance,
- a high colour fastness
- high resistance to common cleaning agents.
- has good adhesion properties and is permanently flexible.
- the viscosity ratio and consistency of the liquid ensures a uniform texture over the entire area when applied by roller.

PRODUCT INFORMATION

Packaging	Two-can sets of 10 Kgs or 1 Kg. Product identification on A component label: 3PU221W A comp. Product identification on B component label: BU4540.
Shelf life	6 months.
Storage conditions	Under ideal storage conditions the shelf-life, in original factory sealed cans. Store material in a dry, cool (10-25°C) environment where protection against damage is guaranteed. Avoid prolonged storage at temperatures below 0°C or above 40°C.
Appearance and colour	16 as per standard colour card Colour fastness 8 (excellent) (DIN 54004)
Density	1,20 Kg/litre (at 20°C)

TECHNICAL INFORMATION

Abrasion resistance	0,15 gram loss of weight (Taber 1Kg, H18/1000 rev / EN-ISO 5470-1)
Gloss level	3% (EN-ISO 2813) Light reflection: Depending on colour. Standard colour range: 0,11-

	0,30	
Coefficient of friction	Friction: 98	(EN-ISO 13036-4)
Chemical resistance	Neutral cleaners, common beverages	

APPLICATION INFORMATION

Mixing ratio	Mixing ratio A : B = 86 : 14 (weight) = 5,8 : 1 (volume).			
Consumption	130 ± 5 grams/m ²			
Material temperature	10°C - 30°C.			
Relative air humidity	max 75%.			
Dew point	Temperature of sub floor: minimal 5°C above the Dew-point.			
Substrate temperature	10°C - 30°C.			
Pot Life	Pot-life	+/- 40 minutes/10-30°C		
Curing time	Foot traffic	36 h/10°C	24 h/20°C	18 h/30°C
	Light-loading	5 days/10°C	3 days/20°C	2 days/30°C
	Full-loading	6 days/10°C	4 days/20°C	3 days/30°C

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.

IMPORTANT CONSIDERATIONS

During installation and curing of the PULASTIC Coating 221W 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"), reduced strength of the coating layer and/or reduced friction of the floor. 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:

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 coating 221W 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.

2) Curing of a 2-component system, waterborne PU system exists of 2 processes. First the evaporating of the water. Secondly curing of the A- with the Bcomponent. 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 insufficient, resulting in the deviations mentioned above such as discoloration, cloudy effects in the floor and/or lower coating abrasion resistance.

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%.

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°C - 30°C.

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

Air humidity: max 70%.

* During Application and Curing!

Higher humidity and lower temperatures (slower drying process) injures the coating film formation and lowers the abrasion resistance. Too high temperatures affect the appearance (visible overlaps and lower matting). Draft, e.g. at open doors, has to be avoided.

As mentioned, it is of vital importance to determine the Dew-point of the floor when applying the PULASTIC 221W coating. The overview mentioned underneath will help you determine the Dew point after measuring floor temperature, relative (air-)humidity and the air temperature. The dewpoint will actually determine whether you can start applying the 221W coating.

It is of vital importance to check the floor temperature with a so-called "contactthermometer"; the regular ones only measure air temperature which is not sufficient for determination of the floor temperature.

(For dew point determination, there also special devices available, such as "TQC DewCheck", which will determine dew point fully automatically)

ECOLOGY, HEALTH AND SAFETY

Follow instructions on the Material Safety Data Sheet and on the labels.

Do not reseal B component container if contamination is suspected.

DIRECTIVE 2004/42/CE LIMITATION OF EMISSIONS OF VOC

V.O.C content: <45 g/L ASTM D 3960 (EPA Method 24)

APPLICATION INSTRUCTIONS

EQUIPMENT

Low-speed 400 Watt electric drill, mixing-blade, brushes, microfiber rollers (10 cm side-roller, 70 cm for surface area – amount depending on size of floor). Plastic sheeting for placement of wet rollers.

SUBSTRATE QUALITY / PRE-TREATMENT

The substrate should be free from irregularities, porosity, grease, dirt, dust and moisture. Sanding or other treatment of the substrate may be necessary, to obtain good bonding. Inadequate curing or porous substrates cause cracking in the coating and lowers the abrasion resistance. Take all the necessary safety precautions and secure sufficient ventilation. Check availability and condition of materials and equipment. Make sure that all cans of coating are from the same production batch, cross blend if different batches have to be used. Never add more than two 1-Kg kits to the 10-Kg kits.

Remove loose hairs from rollers with tape.

MIXING

Open the cans shortly before use, assure correct content and check that the A component is free of lumps and the B component is a clear liquid without a skin. Premix the A Component and add the complete contents of the B Component. Mix A and B thoroughly to a homogeneous mixture. Visually check homogeneity on the mixing blade. Under certain exceptional circumstances minor diluting with water is allowed. Pour the mixture in a second drum and mix for a further few seconds to avoid the use of unmixed material (from the sides and bottom of the first drum). To gain the maximum liquidity the full contents of the mixture should be poured out as quickly as possible (within the pot-life) and should be spread out immediately under stringent observation of the consumption rate ($130 \pm 5 \text{ g/m}^2$). Assure to apply all material within 45 minutes after mixing. Pot-life is limited by reaction time and not by liquidity; note that the end of the pot-life may not be noticeable

Pulastic Coating 221/W & Adding water for dilution purposes

Because of difference in oil-absorption of the different pigments used in the PULASTIC Coating 221W (during production), it may show a difference in viscosity between the different colours.

Under circumstances, it may contribute to the final result to add a minor quantity of water to the coating and make the application a little easier. Please take good notice in the table mentioned underneath of the quantities advised with different humidity percentages in combination with air temperature.

Maximum quantity of water allowed for dilution of PULASTIC Coating 221w in %(and ml per 10 kg Can)*

	R.H.= 30-40%	R.H.= 40-55%	R.H.= 55-65%	R.H.= 65-70%
25-30°C	3,0% (300 ml)	2,5% (250 ml)	1,5% (150 ml)	1,0% (100 ml)
20-25°C	2,5% (250 ml)	2,0% (200 ml)	1,0% (100 ml)	0,5% (50 ml)
17-20°C	1,5% (150 ml)	1,0% (100 ml)	0,5% (50 ml)	0,0% (0 ml)
15-17°C	1,0% (100 ml)	0,5% (50 ml)	0,0% (0 ml)	0,0% (0 ml)

* Point of departure: Floor temperature = Air temperature.

Determine dew point and measure floor temperature

** Below 30% relative humidity the reaction between A- and B-components will start fairly quickly and may result in a structure difference between lane overlaps (please discuss with technical expert).

***R.H.= 70-75% Coating 221W to be used only with sufficient ventilation of the working area.

Please note:

All PULASTIC Coating 221W Standard colours can be used in a good manner in undiluted form. It is at the judgement of the installer, in relation to the roller used, conditional circumstances, colour used and personal preference, how much water should be added (but never more than mentioned above!) Please be aware that water-diluted coating 221W will be more easy to apply, thus bringing also the risk of applying too little coating on the floor. In order to ensure a good end result, do calculate the appropriate quantity in undiluted form.

APPLICATION

Wet the rollers with some material on the floor before starting the application. Assume about 1 Kg loss of material to wet each 70 cm roller.

In case wet rollers have to be stored during the application (when pouring material or working on the sides) the rollers have to be placed on some plastic sheeting and not on the floor! Not even for a short time!

Storage on the floor will leave marks in the finished floor surface. The sides have to be coated shortly before the floor area with side-rollers (10 cm) to assure wet-to-wet connections and minimise visibility. Never work more than 15 minutes ahead on the sides.

Pre-coat any areas that have been strongly sanded just a few minutes before the main application of the coating to minimise visibility of these spots after drying.

After pouring spread the material with the 70 cm roller in the direction of the pour and back.

Apply the coating transversal with to the pour direction starting with the same roller, followed by another

two times with the same 70 cm roller. The width of the lane with the first roller should be approximately 1,35 mtr, the second 1,45 mtr and the third 1,5 mtr. Assure complete absence of shining (glittering) spots and consistent structure. Roll at a limited speed.

When the sides of the rollers get too wet these have to be dried by rolling on the side of the rollers, this avoids rolling marks. Roll again over those lanes afterwards as normal.

Start the second lane, follow the same procedure.

When rolling through the first time the material should not overlap with the previous lane. The second roll should overlap the previous lane with a few centimetres and the third roll should overlap with 10 to 15 cm. Make overlaps with the second and third roller with the previous lane within 15 minutes after application of that lane. If, due the length of the lanes, overlaps

cannot be made within 15 minutes, multiple men should apply the material simultaneously, each taking care of their own lane. One man can typically handle a section with a maximum width of approximately 8 meters. Decide on the appropriate number of men working simultaneously depending on floor size and climate conditions (curing speed). Since the wet product tacks less to the substrate compared to solvent based coatings, it is necessary that some pressure is applied on the roller on the first and second roll through. The third time the roller should not be too dry.

Although the coating is a water based product, it still should not enter the environment. Dry waste can be disposed off as normal waste.

Before applying Pulastic Coating 221 W for the first time the technician should contact technical department of Sika and discuss all details.

CLEANING OF EQUIPMENT

Clean all tools with PULASTIC Thinner 5CO5 immediately after use!

CLEANING

Follow the "Sikafloor cleaning and maintenance Instructions"

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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