ULTRABOND TURF 2 STARS PRO

Two-component solvent-free polyurethane adhesive for latest generation artificial turf sports surfaces installation





DESCRIPTION

Ultrabond Turf 2 Stars Pro is a two-component, solvent-free polyurethane adhesive specifically developed for installing the latest generation of synthetic grass sports surfaces, particularly for sports that require a playing surface with high elastic-mechanical performance properties.

WHERE TO USE

- Installation of the latest generation of synthetic grass for sports surfaces by bonding.
- Installing synthetic grass for sports with high bio-mechanical requirements, such as when combined with shock-pads, elastic layers, etc., that must be installed beneath the turf system.
- Localised filling of hollows of max 2 cm thickness, to level off the flatness of bituminous conglomerate surfaces before applying **Mapecoat TNS** resin systems.
- Installing sports surfaces, such as those from the **Mapecoat TNS** range (e.g. **Mapecoat TNS Comfort** or **Mapecoat TNS Remove**) by fully-bonding high-performance mat to the substrate before installing the top coating.

TECHNICAL CHARACTERISTICS

Ultrabond Turf 2 Stars Pro is a polyurethane adhesive with zero solvent content made up of two components: component A, which has a thick, pasty consistency, and component B, a catalyser with a fluid consistency. Each component is supplied in its own pre-dosed container to make correct mixing of the product easier. When mixed together they form an even-coloured paste that is easy to apply by hand with a notched trowel.

The special rheological properties combined with the adjusted viscosity of **Ultrabond Turf 2 Stars Pro** make it easy to spread the adhesive over the whole of the seaming tape while maintaining excellent ridge stability, including during hot weather.

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Ultrabond Turf 2 Stars Pro may be applied if the rolls to be bonded are damp but any free-standing water must be removed, otherwise the system (seaming tape, adhesive and synthetic grass) may not adhere correctly.

Thanks to the special formulation of **Ultrabond Turf 2 Stars Pro**, once set it has a very high level of tensile and peel strength, which makes it suitable for installing systems requiring approval by federations such as FIFA. Compared with traditional two-component polyurethane adhesives, **Ultrabond Turf 2 Stars Pro** stands out in particular for the level of elasticity of the hardened film of adhesive. When installing sports surfaces this property makes it easier to lay synthetic grass, particularly during the delicate phase of cutting the lines to mark out the playing area. Also, when playing on the surface, the high flexibility of **Ultrabond Turf 2 Stars Pro** allows the bonding system to deform accordingly when subjected to repeated, concentrated loads, especially if there is elastic material with high energy restitution capacity under the grass (such as a shock-pad and/or an elastic layer).

When installing fully-bonding high-performance mat (such as **Mapecomfort R**) on bitumen conglomerate, the high elasticity of **Ultrabond Turf 2 Stars Pro** helps control the level of deformation of the mat-laid cushion system so that the substrate becomes monolithic with the mat installed on the surface (see Fig. 1).

The special viscosity of **Ultrabond Turf 2 Stars Pro** allows to fill cracks on bituminous conglomerate substrates. The product makes it also possible to repair hollows up to 2 cm thick, if mixed with 5-20% of **Quartz 0.5-0.9** and then broadcasted while still fresh.

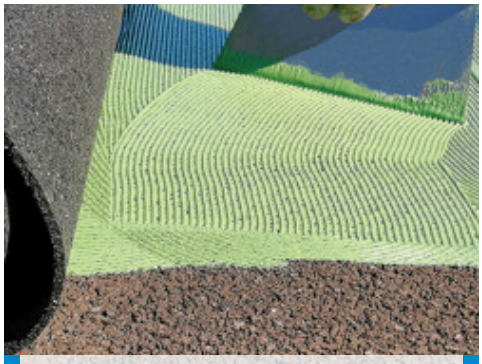


Fig. 1 - Use of Ultrabond Turf 2 Stars Pro for the application of mat-laid cushion systems such as Mapecoat TNS Comfort



Fig. 2 - Application of Ultrabond Turf 2 Stars Pro using a continuous and controlled spreading system

PREPARATION AND APPLICATION METHOD

Substrate preparation

The installation surface for the synthetic grass must be prepared beforehand in compliance with current regulations and standards and according to the final use of the sport surface, that is, the type of sport to be played on it (soccer, rugby, hockey, etc.). The sub-base of the playing field, as with the synthetic grass system, must comply with the technical specifications of the relative Sports Federation responsible for approving the sports surface, such as FIFA (Handbook Quality for Football), One Turf IRB (International Rugby Board), etc.

Acclimatisation synthetic grass

Synthetic grass is usually supplied in rolls and tends to remain slightly deformed, particularly at low temperatures. It is recommended, therefore, to open the rolls and lay them out for a few hours before bonding them with **Ultrabond Turf 2 Stars Pro** in order to reduce the amount of strain in the synthetic grass and to help it return to its original shape. If **Ultrabond Turf 2 Stars Pro** is used to bond high-performance, pre-fabricated rubber mat (such as **Mapecomfort R** for resin courts), or other types of sports surfaces other than synthetic grass, it is recommended to follow the manufacturer's instructions on how to acclimatise the material to be installed.

Mixing Ultrabond Turf 2 Stars Pro

In order to mix the product correctly, the two components of **Ultrabond Turf 2 Stars Pro** are supplied in individual, pre-dosed containers (A+B) (90 : 10 parts by weight). In fact, even if the pre-set dosages of components A and B are only slightly modified, the adhesive may not cure correctly and the final performance characteristics

of the adhesive may be affected. Pour the entire contents of **Ultrabond Turf 2 Stars Pro** component B into the container of component A and mix the two components together with a mixer at low speed, taking care to prevent air from being entrained into the product, until a smooth, even-coloured mix is obtained.

Spreading Ultrabond Turf 2 Stars Pro adhesive

Make sure the surfaces to be bonded are clean and structurally sound and free of any standing water, grease, oil, contaminants or any loose areas that could affect adhesion. The adhesive may be applied if there is moisture or damp present, but any free-standing water on the surface must be removed beforehand. Apply **Ultrabond Turf 2 Stars Pro** on the seaming tape with a MAPEI No. 3 or 4 notched spreader or with a suitable continuous, automatic spreading system (see Fig. 2); make sure there is an even amount of adhesive along the entire width of seaming tape (such as **Ultrabond Turf Tape Pro** or **Ultrabond Turf Tape 300**).

If **Ultrabond Turf 2 Stars Pro** is used to install sports surfaces using the full-adhesion method, such as high-performance rubber mat, it is recommended to follow the instructions supplied by the manufacturer of the material regarding the type of bonding system and bonding surface to use.

At normal temperatures (+23°C) and levels of humidity (50%), the open time of **Ultrabond Turf 2 Stars Pro** is around 40-45 minutes from when mixing of the two components is completed. The setting time and pot life of the adhesive are highly influenced by the surrounding temperature while it is being applied.

Installing synthetic grass

Strictly adhere to the instructions and guidelines regarding the installation surface supplied by the manufacturer in order to ensure correct installation of the grass. The rolls of synthetic grass must be placed on the seaming tape spreaded with **Ultrabond Turf 2 Stars Pro** adhesive while it is still wet within 40-45 minutes (at +23°C). Then apply pressure over the bonded area with a tool, such as a hand-roller, to make sure the backing is in full contact with the adhesive and to eliminate any uneven areas that could affect the flatness of the surface.

Putting into service

Sports surfaces installed using **Ultrabond Turf 2 Stars Pro** can be set to light foor traffic after approx. 12-24 hours. Final performances are reached after approx. 7 days of curing at +23°C and 50% R.H.

RECOMMENDATIONS

- When using the product at high temperatures (more than +35°C) its open time may be significantly reduced.
- To get the best results from the product, store **Ultrabond Turf 2 Stars Pro** component B at a temperature of more than +5°C.
- Only mix whole contents together: we advise against mixing partial quantities because the two components need to be weighed out very accurately.
- Do not apply the product at temperatures lower than the recommended value (0°C). If necessary, **Ultrabond Turf 2 Stars Pro** may be used in combination with **Ultrabond Turf Catalyst**, a special catalyser that increases reaction speed at low temperatures; the amount of catalyser required depends on the increase in reaction speed to be achieved. For further information, please refer to the respective Technical Data Sheet.

CLEANING

Clean tools and remove traces of adhesive that haven't set while still wet. Once hardened the adhesive may only be removed mechanically.

CONSUMPTION

When bonding synthetic grass, the consumption rate of **Ultrabond Turf 2 Stars Pro** depends on the type of seaming tape used:

- 0.4-0.5 kg per metre for seaming tape 40 cm wide (5 kg of product each 10 linear metres);

- 0.3-0.4 kg per metre for seaming tape 30 cm wide (4 kg of product each 10 linear metres).

When **Ultrabond Turf 2 Stars Pro** is used to bond sports surfaces that incorporate high-performance, prefabricated mat (such as **Mapecomfort R**), the consumption rate per square metre can vary considerably, depending on the type of substrate (concrete or bitumen conglomerate), from 1 up to 2 kg per square metre.

PACKAGING

Green **Ultrabond Turf 2 Stars Pro** is supplied in 5, 10 and 15 kg plastic tubs. Upon request, the 15 kg packs can also be supplied in white, yellow, Blu Sidney, Red Swiss.

STORAGE

Ultrabond Turf 2 Stars Pro remains stable for 12 months if stored in its original, sealed containers in a controlled environment. Protect **Ultrabond Turf 2 Stars Pro** component B from freezing weather while being transported and stored. Avoid prolonged exposure to temperatures lower than +5°C by adopting temperature-controlled transportation equipment.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website www.mapei.com.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY		
	component A	**component B**
Consistency:	thick paste	liquid
Colour:	green	dark amber
Density (EN 542):	1.70 ± 0.05 g/cm³	1.20 ± 0.01 g/cm³
Dry solids content (EN 827):	100%	100%
EMICODE:	EC1 Plus - very low emission	

APPLICATION DATA (at +23°C and 50% R.H.)	
Mixing ratio:	component A : component B = 90 : 10
Density of mix:	1.60 ± 0.05 g/cm³
Pot life of mix:	approx. 30 minutes
Application temperature:	from +5°C to +35°C
Open time:	approx. 45 minutes.
Start setting time:	approx. 2 hours
Set to light foot traffic:	approx. 12-24 hours
Ready for service:	approx. 7 days

FINAL PERFORMANCE		
Direct tensile strength (EN 12228-EN 13744):	> 1500 N standard conditions	> 1500 N after 4 days at +23°C and 14 days soaked at +70°C

Peel resistance (EN 12228-EN13744):	> 100 N standard conditions	> 100 N after 4 days at +23°C and 14 days soaked at +70°C

WARNING

Although the technical details and recommendations contained in this product data sheet 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 application; 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 of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation.

The most up-to-date TDS can be downloaded from our website www.mapei.com.

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.

Mapei S.p.A.

Via Cafiero, 22, 20158, Milano

+39-02-376731 www.mapei.com mapei@mapei.it

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