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ACCESSORIES

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ULTRABOND TURF PU2K



- » Two-component, solvent-free, and water-free polyurethane adhesive
- » Component A: Thick paste and Component B: Fluid hardener
- » Mixing ratio: 90:10 (9:1)
- » Forms a uniform, easy-to-apply paste when mixed
- » Provides excellent rib formation
- » Ideal for users allergic to epoxy or epoxy-polyurethane products
- » Performs better than epoxy-polyurethane adhesives in cold conditions
- » Hardens in 24 hours at ambient temperature
- » Cures through chemical reaction without shrinkage
- » Forms a tough film with high adhesion to various support materials
- » Bonding jointing strips between synthetic grass sheets, both indoors and outdoors
- » When used with Ultrabond Turf Tape 100, enables installation of pitches that meet FIFA Standards
- » Approximately 0.4-0.5 kg per metre of 40 cm-wide jointing strip (5 kg of product for 10 linear metres)
- » Available in green and supplied in 15 kg units

Product Identity		
	component A	component B
Consistency:	thick paste	fluid liquid
Colour:	green	brown
Density:	1.65 g/cm ³	1.2 g/cm ³
Dry solids content:	100%	100%
EMICODE:	EC1 R - 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 g/cm ³	
Pot life of mix:	approx. 60 minutes	
Recommended application temperature range:	from 0°C to +30°C	
Open time:	70-80 minutes	
Start setting time:	approximately 3 hours	
End of setting time:	approximately 4 hours	
Set to light foot traffic:	after 12-24 hours	
Ready for use:	7 days	

Final Performance

Shear strength (EN 12228 - EN 13744):	> 1500 N (standard conditions)	> 1500 N (after 14 days water immersion at +70°C)
Peel strength (EN 12228 - EN 13744):	> 120 N (standard conditions)	> 100 N (after 14 days water immersion at +70°C)

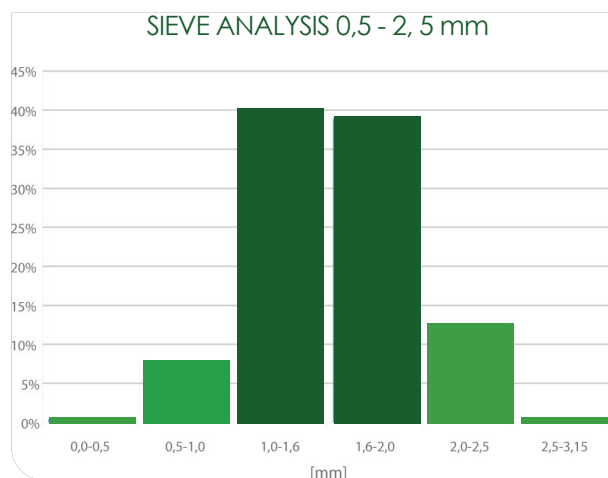
EPDM INFILL



- » EPDM infill granules for artificial grass.
- » EPDM virgin granules vulcanised with sulphur
- » Standard color Reseda green 6011 (number = approximate RAL)

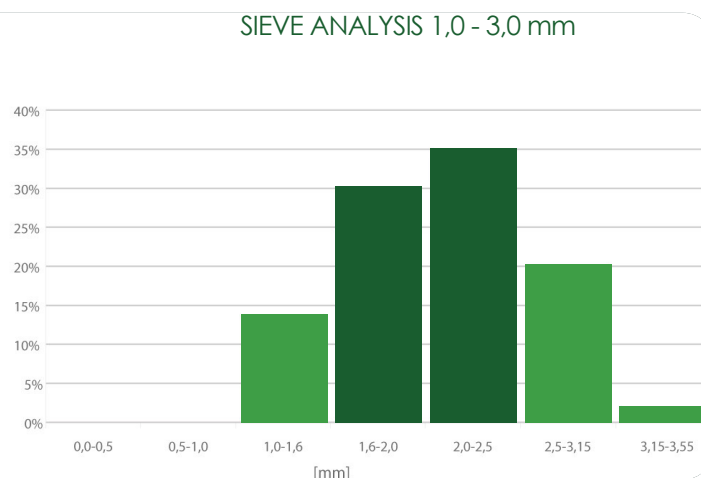
0,5 - 2,5 mm

SIEVE ANALYSIS 0,5 - 2,5 mm



1,0 - 3,0 mm

SIEVE ANALYSIS 1,0 - 3,0 mm



Test according to standard PN-EN 933-1:2012, average values.

Physical Properties

Property	Value/Tolerance	Unit	Test method
Density	1,58 +/- 0,03	[g/cm ³]	PN-EN ISO 1183-1:2019
Hardness	65 +/- 5	[0Sh A]	PN-EN 868:2005
Tensile strenght	> 3	[0Sh A]	PN-ISO 37:2007
Elongation at break	> 300	[%]	PN-ISO 37:2007
Bulk density	approx. 650	[g/l]	PN-EN 1097-3:2000
Dust content	< 1	[%]	PN-EN 933-1:2012
Polymer content	> 22	[%]	
Base polymer	EPDM – ethylene propylene diene monomer		

Flammability class version standard:	C _{fl} -S1	standard: PN-EN 13501-1+A1:2010
Flammability class version indoor:	B _{fl} -S1	standard: PN-EN 13501-1+A1:2010
Standard		Result
DIN EN 71-3:2013-05 Migration of certain elements	100%	Fulls requirements
AfPS GS 2014:01, P AH Category 1		Fulls requirements
DIN 18035-7, DOC, EOX, heavy metals, other		Fulls requirements

SHOCK PAD



- » The XC series includes high-quality shock pads made of closed-cell, chemically cross linked polyethylene foam, specially developed for artificial grass sports grounds.
- » Unique XC punching combined with a laminated PET non woven fabric ensures:
 - Excellent drainage properties
 - Quick and easy installation
 - Very high dimensional stability on every field
- » Available in a wide range of thicknesses (6 - 14 mm) and densities (30 - 90 kg/m³) to suit various sports requirements.

Properties	VALUE	UNIT	METHOD
Width	2000 ± 30	mm	ISO 1923
Slit size (width)	3,0 ± 2,0	mm	ISO 1923
Weight	650 ± 15	g/m ² ± %	ISO 845
Thermal stability 4 h at 80 °C	< 2,0	%	ISO 2796
Shock absorption:	38 ± 5	%	FIFA 04a
Vertical deformation	6,9 ± 1	mm	FIFA 05a
Tensile strength	> 0,15	MPa	EN 12230
Water permeability	> 12500	mm/h	EN 12616
all properties above were measured at finished product(Non woven 100 % PET 150 g/m ² à DIN EN 29073-1)			
Density	50 ± 7	kg/m ³	Internal
Thickness	10 ± 10	mm ± %	ISO 1923
Compression stress at 10 % deflection	32 ± 15	kPa	ISO 3386/1
Compression stress at 25 % deflection	75 ± 15	kPa	ISO 3386/1
Compression stress at 50 % deflection	155 ± 15	kPa	ISO 3386/1
Compression set 22 h / 25 % / 0,5 h	< 16	%	ISO 1856
Compression set 22 h / 25 % / 24 h	< 10	%	ISO 1856
Water absorption	closed cell		ISO 2896

all properties above were measured at prematerial

SAND SILICA

- » Size 0.3mm - 1mm
- » Packaging 1 ton Jumbo Bags



Physical Analysis

Turbidity (FTU)	250
Porosity	40-41.5%
Sphericity	0.70-0.78
Roundness	7.00 (moh's)
Specific Gravity	2.62-2.65 g / cc
Bulk Density	1.50-1.69 Kg/lit
Moisture Content	0.10 – 0.13 %
Electrical Resistivity (ASTM D6431-18)	15151 – 21000 Ω-M
Water Soluble Sulphate (BS 13773-3)	< 0.1 %
Water Soluble Chloride (BS 13773-3)	< 0.004 %

Chemical Analysis

Compound	VALUE
Loss on ignition at 9500C (LOI) %	0.09
Silicon Dioxide (SiO ₂) %	98.7
Aluminium Trioxide (Al ₂ O ₃) %	0.56
Ferric Oxide (Fe ₂ O ₃) %	0.01
Sulphate (SO ₃) %	0.08
Chloride (Cl ⁻) %	LT 0.01
Sodium Oxide (Na ₂ O) %	0.02
Potassium Oxide (K ₂ O) %	0.05
Chromium Oxide (Cr ₂ O ₃) %	LT 0.01
Manganese Oxide (MnO) %	LT 0.01

FINE FILAMENT

SPUNLAID (TNT White Band)



- » Material: Polyester spunlaid, thermally bonded endless filaments
- » Dimensions: 30cm x 150m or 30cm x 300m
- » Weight: 100 g/m²
- » Thickness: 0.36 mm
- » Maximum Tensile Strength: 300 N/5 cm (MD) 256 N/5 cm (CD)
- » Elongation at Max Tensile Strength: 34% (MD) & 45% (CD)
- » Tear Strength: 20 N
- » Air Permeability: 440 L/m²·s at 100 Pa / 5 cm²

Properties	Test Method	Values
Color		white
Weight	Internal test method similar to DIN EN 29 073 T.1	100 g/m ²
Thickness	Internal test method similar to DIN EN ISO 9073-2	0,36 mm
Max. tensile strength	Internal test method similar to DIN EN 29 073 T.3	300,0 N/5 cm 256,0 N/5 cm
Elongation at max. tensile strength	Internal test method similar to DIN EN 29 073 T.3	34,0 % 45,0 %
Tear strength	interne Methode	20,0 N 20,0 N
Air permeability	Internal test method similar to DIN EN ISO 9237	440 l/m ² s 100 PA / 5 cm ²

Technical data on this data sheet refer to non-binding reference samples only. Binding specifications will be agreed upon separately. Subject to change.

BLACK RUBBER GRANULES



- » Black rubber granulate 2.0 to 4.0mm
- » Derived from end-of-life tyres through granulation and cleaning
- » Homogeneous and uniform
- » Free-flowing
- » Eco-friendly & sustainable
- » ISO 9001:2015, 14001:2015,

Typical properties	Test methods	Unit	Typical values	Specification
Specific density	ASTM D1817	kg/m ³	1160	1100-1200
Bulk density	EN 1097-3	kg/m ³	455	455 ±8%
Particle size range	ISO 13322-2	mm	2,0-4,0	2,0-4,0
Total polymer content (RCH)	ISO 9924-1	%	50	> 50
Ash content	ISO 9924-1	%	8	< 20
Impurities	EN14243-2	%	< 0,008	< 0,01
PAH 8 REACH	AfPS GS 2019:01 PAK	mg/kg	< 15	< 20 12230