



LigaTurf Trion R

Test Report No. K5927

1. Client / fabricator

Polytan GmbH
Gewerbering 3
86666 Burgheim

Germany

2. Type of Test

Artificial turf surface test according to

- DIN 18035-7:2019-12 „Sports ground - Part 7: Synthetic turf systems”, Annex B: Environmental protection recommendations;
- NF P90-112:2016-12-30 “Sport grounds – Unbound mineral surface for outdoor sport areas – Specifications for construction”.
- EN 71-3:2019 Safety of toys – Part 3: Migration of certain elements,
- EU Regulation (EC) N° 2021/1199 - REACH Annex XVII entry 50 (PAH) - test method AfPS GS 2019-05 GC-MS

3. Test details

Start of the test procedure:	January 17 th 2024
End of the test procedure:	February 26 th 2024
Approval by:	M. A. Matthias Schucht
Test status:	completed
Test result:	passed

4. Test Specimen

Artificial turf surface – Polytan LigaTurf Trion R 230 20/8

(Sample ID: 2023 - 422)

Sample Size: 6.0 x 1.0 m (received December 20th 2023)

Retained samples are kept in the laboratory. The results in this test report are only according to the Prepared sample itself, as well as to the individual parts.

5. Test results

5.1 Test result*

DIN 18035-7:2019-12 - Environmental protection recommendations.

Polytan LigaTurf Trion R - sample ID 2023 - 422

Analysis original substance

	Testing	Unit	Requirement	Result
EOX	DIN 38414 S17	mg/kg TS	≤ 100	1.0
Phthalate (Sum 10 compounds)	DIN 18035-7: 2019-12	wt. %	-	< 0.002
Nonylphthalate Mixture	PA 413 / GC-MS	wt. %	-	neg.
Decylphthalate Mixture	PA 413 / GC-MS	wt. %	-	neg.
Chlorine Paraffins (SCCP)	Toluol Extraktion und Erfassung mittels GC- ECD	wt. %	0.15	< 0.008
Chlorine Paraffins (MCCP)	Toluol extraction data capturing using GC- ECD	wt. %	-	< 0.008

Analyse at 24h eluate according to DIN 18035-7: 2019-12

	Testing	Unit	Requirement	Results
DOC (KT) (dissolved organically bound carbon)	photometric according to lange	mg/l	50	16.0
Lead	DIN EN ISO 17294-2	mg/l	0.025	< 0.001
Cadmium	DIN EN ISO 17294-2	mg/l	0.005	< 0.0005
Chrome	DIN EN ISO 17294-2	mg/l	0.05	< 0.0005
Chrome (VI)	DIN 38405 D40	mg/l	0.008	< 0.008
Mercury	DIN EN ISO 12846	mg/l	0.001	< 0.001
Zinc	DIN EN ISO 17294-2	mg/l	0.50	< 0.02
Tin	DIN EN ISO 17294-2	mg/l	0.04	< 0.01

* Test have been performed by the accredited chemical test laboratory „Dr. Stegemann“. Test report No. 124010503.

5.2 Test result*

NF P90-112:2016-12-30 “Sport grounds – Unbound mineral surface for outdoor sport areas – Specifications for construction”.

Polytan LigaTurf Trion R - Sample ID 2023-422

	Testing	Unit	Requirement	Results
Lead	NF EN ISO 11885	mg/l	< 0.025	< 0.001
Cadmium	NF EN ISO 11885	mg/l	< 0.005	< 0.0005
Chrome	NF EN ISO 11885	mg/l	< 0.050	< 0.0005
Tin	NF EN ISO 11885	mg/l	< 0.04	< 0.01
Zinc	NF EN ISO 11885	mg/l	< 0.5	Eluate 24 h: < 0.02
DOC	NF EN 1484	mg/l	< 50	16.0
Chrom (VI)	DIN 38405-24	mg/l	< 0.008	< 0.008
Mercury	NF EN ISO 12846 NF EN ISO 17852	mg/l	< 0.001	< 0.001
EOX	DIN 38414-17	mg/l	< 100	< 1.0
Chlorine Paraffins	Extraktion Toluol + fichage GC-ECD	mg/l	-	conform
Phthalate	PA 413 / GC-MS-	mg/l	-	conform

* Test have been performed by the accredited chemical test laboratory „Dr. Stegemann“. Test report No. 124010503.

5.3 Test result*

EN 71-3:2019 + A1:2021-6 Safety of toys – Part 3: Migration of certain elements.

Polytan LigaTurf Trion R - Sample ID 2023 - 422

	Testing	Unit	Requirement	Results
Aluminium	DIN EN ISO 17294-2: 2017-01	mg/kg	70,000	74.0
Antimony		mg/kg	560	< 0.05
Arsenic		mg/kg	47	< 0.05
Barium		mg/kg	18.750	2.5
Boron	DIN 38405 D17	mg/kg	15.000	< 5
Cadmium	DIN EN ISO 17294-2: 2017-01	mg/kg	17	< 0.025
Chrome		mg/kg	460	0.09
Chrome (VI)	DIN 38405 D40	mg/kg	< 0.053	< 0.05
Cobalt	DIN EN ISO 17294-2: 2017-01	mg/kg	130	< 0.05
Copper		mg/kg	7.700	0.321
Lead		mg/kg	23	0.08
Manganese		mg/kg	15.000	1.4
Mercury	DIN EN ISO 12846 E-12: 2012-08	mg/kg	94	< 0.05
Nickel	DIN EN ISO 17294-2: 2017-01	mg/kg	930	0.11
Selenium		mg/kg	460	< 0.05
Strontium		mg/kg	56,000	1.7
Tin		mg/kg	180,000	< 0.5
Zinc		mg/kg	46,000	1.4
Sum organotin compounds (8)	GLS OC 600:2019-01 GC-MS	mg/kg	12	< 0.05

* Test have been performed by the accredited chemical test laboratory „Dr. Stegemann“ Test report 124010547.

5.4 Test result*

EU Regulation (EC) N° 2021/1199 - REACH Annex XVII entry 50 “Polycyclic aromatic hydrocarbons in articles supplied to the general public”(Tests According to AfPS GS 2015-05 GC-MS)

Polytan LigaTurf Trion R - Sample ID 2023 - 422

	Testing	Unit	Requirement	Results
Naphthalene	AfPS GS 2015-05 GC-MS	mg/kg	-	< 0.2
Phenanthrene		mg/kg	-	< 0.2
Anthracene		mg/kg	-	< 0.2
Fluoranthene		mg/kg	-	< 0.2
Pyrene		mg/kg	-	< 0.2
Benzo(a)anthracene		mg/kg	-	< 0.2
Chrysene		mg/kg	-	< 0.2
Benzo(b)fluoranthene		mg/kg	-	< 0.2
Benzo(k)fluoranthene		mg/kg	-	< 0.4
Benzo(j)fluoranthene		mg/kg	-	< 0.4
Benzo(e)pyrene		mg/kg	-	1.4
Benzo(a)pyrene		mg/kg	-	< 0.2
Indeno(1,2,3-cd)pyrene		mg/kg	-	< 0.2
Dibenzo(a,h)anthracene		mg/kg	-	< 0.2
Benzo(ghi)perylene		mg/kg	-	< 0.2
SUM PAH 15 (AfPS GS)		mg/kg	-	not definable

* the limit of quantification had to be increased in the laboratory.

** Test have been performed by the accredited chemical test laboratory Eurofins Umwelt Nord,
Test report No. AR-24-DY-002071-01.

6. Evaluation - Assessment

The test results of the tested artificial turf surface “Polytan LigaTurf Trion R” correspond with the applicable standard to DIN 18035-7:2019-12 „Sports ground - Part 7: Synthetic turf systems”, Annex B: Environmental protection recommendations and NF P90-112:2016-12-30 “Sport grounds – Unbound mineral surface for outdoor sport areas – Specifications for construction”.

The tested artificial turf surface “Polytan LigaTurf Trion R” fully fulfills the requirements of NF P90-112:2016-12-30 “Sport grounds – Unbound mineral surface for outdoor sport areas – Specifications for construction”.

The tested artificial turf surface “Polytan LigaTurf Trion R” fully fulfills the requirements of EN 71-3: 2019 + A1:2021-6 Safety of toys – Part 3: Migration of certain elements.

The test results of the tested artificial turf surface “Polytan LigaTurf Trion R” correspond with the EU Regulation (EC) N° 2021/1199 - REACH Annex XVII entry 50 (PAH) - test method AfPS GS 2019-05 GC-MS.

The test results exclusively relate to the test specimen.

Measurement uncertainties were not considered but can be provided on enquiry

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Osnabrück, March 1st, 2024



Deutsche
Akkreditierungsstelle
D-PL-18702-01-00

DIN EN ISO/IEC 17025 by DakkS accredited test laboratory. The accreditation covers the test methods displayed on the certificate.



Matthias Schucht M.A.

Managing Director



Eileen Wendeln B.A.

Creator of report

End of test report No. K5927.