INNOVATION

Let’s replace harmful with the harmony of circular business

We believe in making a difference, to use innovation and creativity to come up with better solutions. Allowing people and corporations to make wiser choices for a brighter future.

A GOOD CHOICE

Innovation

Microplastic free
A Good Choice infill is durable in use, but compostable biodegradable over time. Leakage of material outside the field will not lead to the spread of permanent microplastics.

Dust free
Many bio-infill materials creates breathing problems for players when giving off dust and particles. A Good Choice does not.

Recyclable
The material is recyclable many times. One investment and the material can be used repeatedly.

FIFA
The material fulfil FIFA requirements of playability

Hi-density
The density of A Good Choice infill ensures that the granules remain on the pitch during heavy rain and heavy wind. Contribute to excellent ball behavior.

Winter playability
At sub-zero temperatures during a Nordic winter our infill material remains flexible – for a great player experience.

UV resistant
A Good Choice infill is UV-resistant and therefore durable on the field. Perfect for TV broadcasting,

Long-lifetime (24 years)
A Good Choice infill is wear-resistant and durable and can therefore be reused as well as recycled – making it a great investment. Over 60 000 cycles in wear tests corresponds to 24 years of using every day and then the infill could be washed and be recycled.

Smooth & safe
The even surface of A Good Choice infill makes each granule smooth, protecting players from rashes or burns when falling and minimize knee injures.

Poison free
The material is harmless against animals and humans.

Sports Lab test & Field test
Fulfil requirements of FIFA QUALITY PRO

A GOOD CHOICE

Our Ref: 10888/9949

date: 22/01/2021

INITIAL TEST RESULTS

Product Name	40mm monofilament turf infilled with A Good Choice Infill			
Carpet Name	Standard 40mm monofilament turf			
Performance Infill	A Good Choice Infill	Application Rate: 8 kg/m² (approx. 17mm depth)		
Stabilising Infill	Silica Sand	Application Rate: 15 kg/m² (approx. 10mm depth)		
Shockpad	Prefabricated PE closed-cell foam shockpad, 50 kg/m³ density, 12mm thickness			
Initial Test	**Dry Test Condition**	**Wet Test Condition**	**FIFA Quality Pro Requirement**	**FIFA Quality Requirement**
AAA - Force Reduction	63.0 %	63.5 %	62 – 68 %	57 – 68 %
AAA - Deformation	9.7 mm	9.8 mm	6 – 10 mm	6 – 11 mm
AAA - Energy Restitution	46.1 %	43.9 %	-	-
Ball Rebound	0.66 m	0.64 m	0.6 – 0.85 m	0.6 – 1.0 m
Rotational Resistance (Studded)	33 Nm	32 Nm	32 – 43 Nm	27 – 48 Nm
Skin-Surface Friction	0.744 μ	N/a – Dry requirement only	≤ 0.75 μ	≤ 0.75 μ
Skin-Surface Abrasion	-23%		≤ 30 %	≤ 30 %

		Gränsvärden		Testplatser				
Interaktion Spelare/Underlag	Stötupptagning (%)	(FIFA Quality Pro) ≥60 - ≤70% (FIFA Quality) ≥55 - ≤70% (Nordic Standard) ≥55 - ≤70%		1	2	3	4	5
				56	58	58	58	58
	Vertikal Deformation (mm)	(FIFA Quality Pro - AAA) ≥4.0 - ≤10.0mm (FIFA Quality - AAA) ≥4.0 - ≤11.0mm (Nordic Standard ≈ FIFA Quality)		1	2	3	4	5
				7,2	7,7	7,6	7,9	7,4
	Rotationsmotstånd (Nm)	(FIFA Quality Pro) ≥30 - ≤45Nm (FIFA Quality) ≥25 - ≤50Nm (Nordic Standard) ≥25 - ≤50Nm		1	2	3	4	5
				26	26	32	31	30
Ball/Surface Interaction	Vertikal Bollstuds (%)	(FIFA Quality Pro) 0.60 - 0.85m (FIFA Quality) 0.60 - 1.00m (Nordic Standard) 0.60 - 1.00m		1	2	3	4	5
				0,79	0,69	0,75	0,82	0,78
	Bollrull (m)	(FIFA Quality Pro) Initial ≥4.0 - ≤8.0m Re-test ≥4.0 - ≤8.0m (FIFA Quality) Initial ≥4.0 - ≤10.0m Re-test ≥4.0 - ≤12.0m (Nordic) Initial ≥4.0 - ≤10.0m Re-test ≥4.0 - ≤12.0m		1	2	3	4	5
			Riktning A	6,3	6,6	7,1	6,7	7,7
			Riktning B	7,0	6,7	6,7	6,6	6,9
			Riktning C	8,8	7,4	8,5	6,5	7,6
			Riktning D	8,8	9,0	9,0	7,9	9,6
			Snitt	7,7	7,4	7,8	6,9	7,9

Värden i RÖTT indikerar värden utanför klientens specificerade gränser

Proposal legal requirements

Group 4. (Bio)degradation relative to a reference material

- Pass criteria: ultimate degradation of ≥ 90% relative to the degradation of the reference material within 6 months in aquatic test, or 24 months in soil or water/sediment interface tests.
- Result shall be reported as the maximum level of biodegradation determined from the plateau phase of the biodegradation curve (or the highest value if the plateau has not been reached).
- Potential reference materials; micro-crystalline cellulose powder, ashless cellulose filters or poly-β-hydroxybutyrate as positive controls and polyethylene (PE) or polystyrene (PS) as negative controls. The form, size and surface area of the reference material should be comparable to that of the test material.

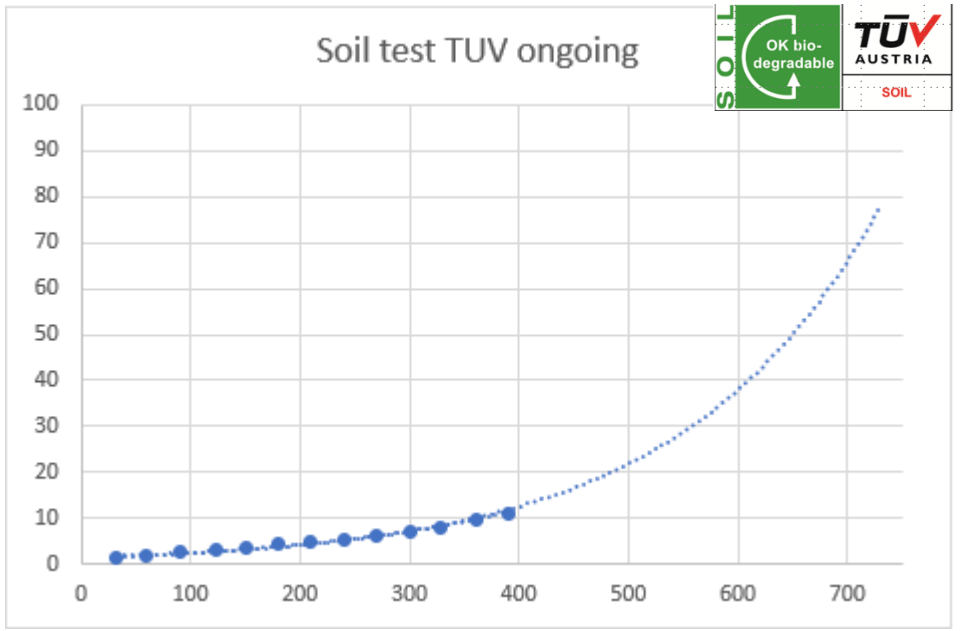
Permitted test methods:

i. Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium (EN ISO 14852:2018 or EN ISO 14851:2004), pre-adaption of the inoculum is not allowed.

ii. Plastics – Determination of aerobic biodegradation of non-floating plastic materials in seawater/sediment interface (EN ISO 19679:2016 or EN ISO 18830:2016) 69 , pre-adaption of the inoculum is not allowed.

iii. Ultimate aerobic biodegradability of plastic materials in soil (EN ISO 17556:2019), pre-adaption of the inoculum is not allowed.

iv. Plastics - Determination of the aerobic biodegradation of non-floating materials exposed to marine sediment (ISO 22404:2019), pre[1]adaption of the inoculum is not allowed.



Test field together with Gothenburg City – Kortedala IP

- Excellent playing properties
- Fulfil FIFA requirements
- Biodegradable
- Minimize knee injures
- Players (7-19 Youth) both girls and boys very satisfied with the surface.

Göteborgs Stad

A GOOD CHOICE

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Kvalité UV & slitage test

SPORTS LABS

UVA Report No 10888/490:

UVA (340 nm) 9600kJ ageing*			
Characteristic	**Units**	**Test Method**	**Result**
Colour change (Greyscale)	-	EN 20105-A02 *	5
Visual change in composition	-	-	No Change

Sample Pictures	
Pre-Exposure	UVA (340 nm) 9600 kJ Exposure*

- [x] **EXCELLENT**
- [ ] **GOOD**
- [ ] **AVERAGE**

LIMONTA SPORT

Conclusion:

We confirm that the small changing of the shape and also production of pollution after 60.000 cycles is almost the same to the standard TP.

Best Regards,

Andrea Marcassoli
(R&D)
LIMONTA SPORT SPA
Via Crema, 60
24056 COLOGNOLA SERIO (BG)
Partita IVA: 00364970139

VOLVO

Volvo Car Corporation

Test report No A3172R21009349
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Specified in Report application	Date 2021-01-21	No of appendices 0	Project n/a
Test registration 382	Test object registration	Confidentiality Confidential	Attribute
Ordered by 92760 Corrosion Protection			Assignment
Issued by 92760 Corrosion Protection			Test code
Approved by Technical Manager 92760 Corrosion Protection			Date tested 20w48d1 - 21w1d3

SOLD ID 382: Accelerated weathering test on biodegradable plastic granulate
Ordered by: Gunnar Ström, ControlArt AB

1. **Prerequisites**

The durability of biodegradable plastic pellets aimed for outdoor artificial grass court was tested in accelerated weathering equipment. Volvo Car Corporation regular test painted exterior parts for durability in accelerated weathering equipment.

2. **Test object**

Green-grey extruded granulates with a diameter of about 2,7 mm were received for testing.

3. **Equipment and test parameters**

Ci5000 Weather-Ometer from ATLAS. Volvo lab ID: UR-1340
Filter combination; Inner filter: Right Light™ Outer filter: Quarts
Test duration 1000 hours.
The test standard is based on SAE J1960 and described in the table below:

Segment	1	2	3	4
Time [min]	60	40	20	60
Light	off	on	on	on
Light intensity [W/m²]	-	0,55	0,55	0,55
Black standard temperature [°C] (Insulated thermometer)	38 ± 2	70 ± 2	(70 ± 2)*	70 ± 2
Chamber air temperature [°C]	38 ± 2	47 ± 2	47 ± 2	47 ± 2
Relative humidity [%]	95 ± 5	50 ± 5	not controlled	50 ± 5
Water spray	front + back	none	front	none

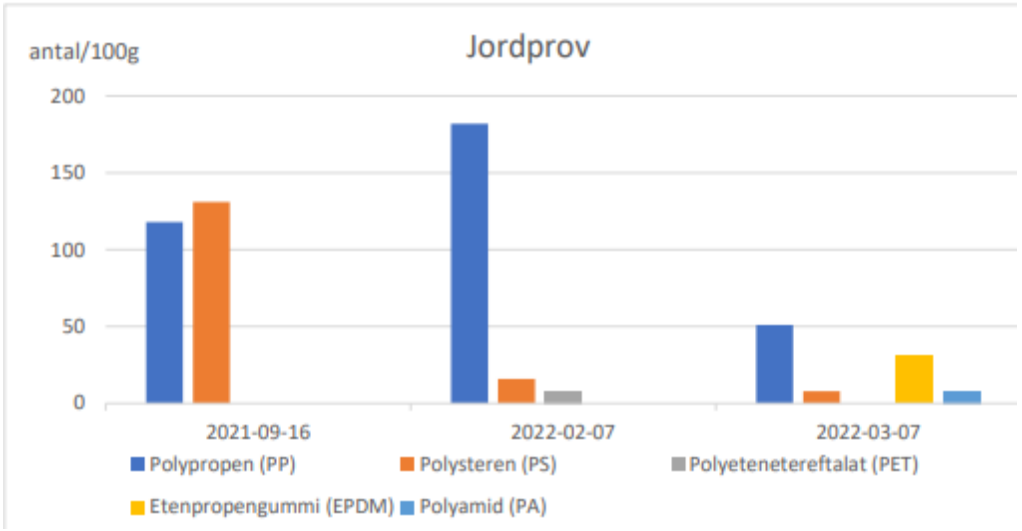
*The tolerances do not apply during the spray portion of the test cycle.

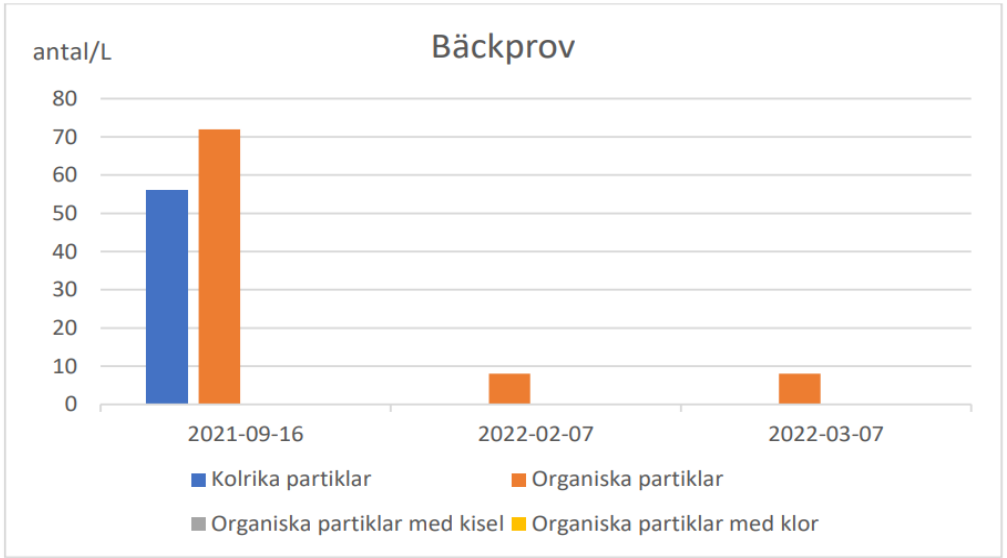
4. **Results**

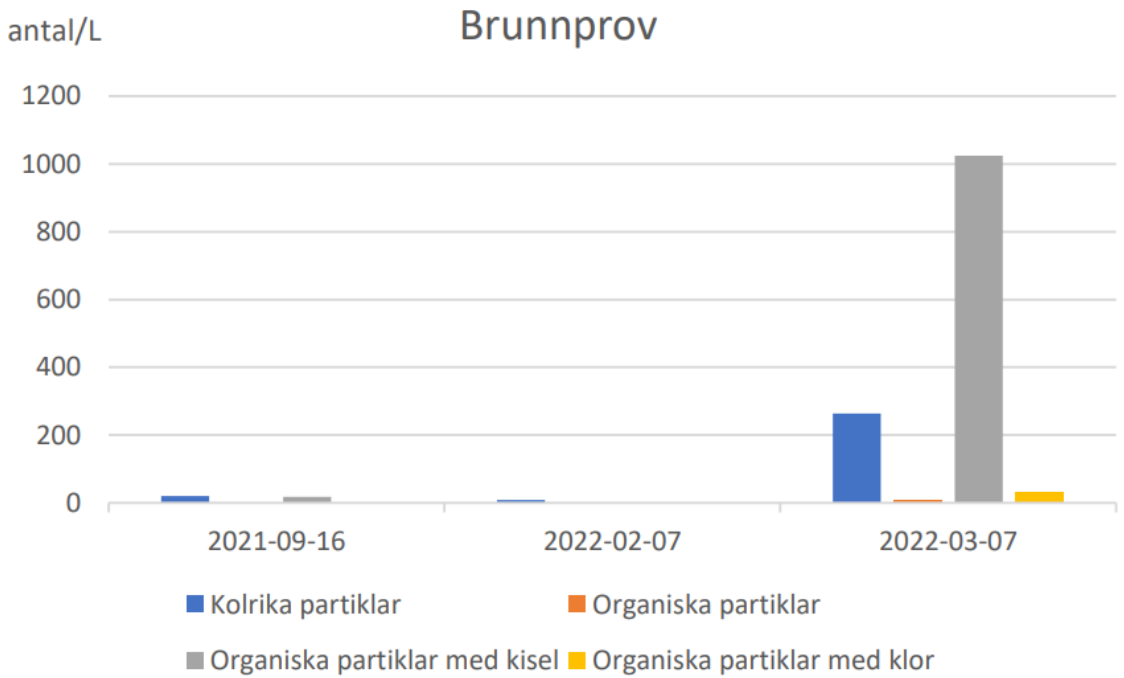
No visual erosion or colour change. Exposed material was sent back to customer.

- Livslängd 24 år med excellent funktionallitet
- Återvinningsbar med 100% egenskaper
- Tål salt

Miljötester jord

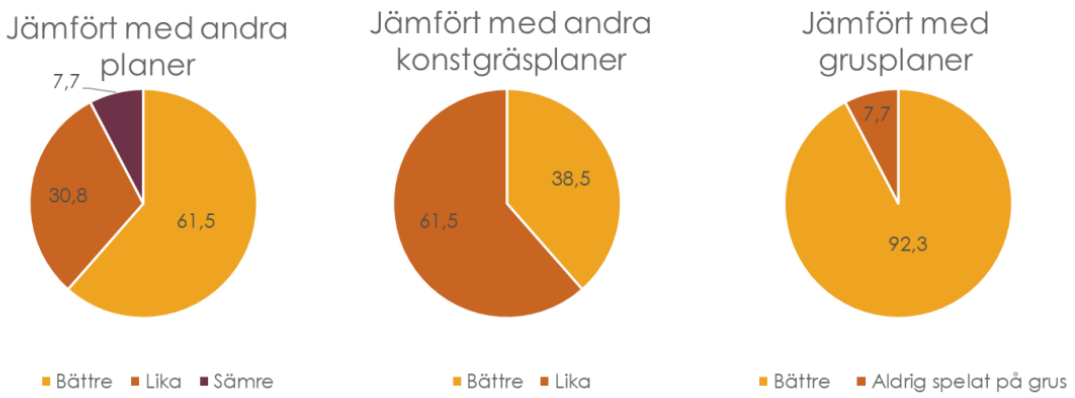






Resultat

Svar om planens spelupplevelse jämfört med andra planer från enkätinsamlingen i maj



- Båda enkätinsamlingarna visar på att spelarna tycker att spelupplevelsen samt bollens studs på planen är bra.

- **Enkätinsamlingarna tyder även på att underlaget har liknande eller bättre spelupplevelse än andra underlag**, inkluderat gräs, konventionellt konstgräs och grus. En annan slutsats som går att dra är att väderförhållanden och årstid påverkar spelupplevelsen på planen.

- **Spelupplevelsen** och bollstudsen upplevdes bättre av de spelare som fyllde i enkäten i maj jämfört med dem som fyllde i den i februari. En möjlig förklaring till detta kan vara att vädret i februari gjorde att spelarnas upplevelse av planen försämrades. En annan tänkbar förklaring är kompaktion av granulatet till följd av nederbörd och användning av planen.

- **Troligen skulle alla underlag upplevas sämre under kallare och blötare väder och det är därför inget unikt för detta underlag.**

- **Resultatet av mikroplastanalyserna visar att ingen av de plaster som hamnat i närliggande miljö återfinns i granulatet som utlagts.**

Changing plastic.
For good.

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