Digitally signed by Cucoș Raisa
Date: 2026.02.25 13:17:52 EET
Reason: MoldSign Signature
Location: Moldova
MOLDOVA EUROPEANA

# 50 MM Football

## PROLineGRASS

- High Resilience
- Natural Experience
- Best Tuft Bind
- Eco Friendly
- Texturing Process
- Certifiable
- Equal Ball Roll
- Bi Colour
- Reduced Glare

SOCCER FOAM SHOCK PAD SPORTS AND SAFETY SURFACES

# Technical Specification

## Soccerfoam 8/30 Non-FIFA & Multi Use

Shock absorbing underlay for artificial turf pitches. The product consists mainly of cross linked polythene foam board.

### TECHNICAL SPECIFICATIONS

| PROPERTIES | VALUE | UNIT | TEST METHOD |
|---|---|---|---|
| THICKNESS | 8 | MM | |
| DENSITY | 30 | KG / M3 | ISO 845 |
| TENSILE STRENGTH | 0,19 | mPa | ISO 1798 |
| BREAKING STRAIN | 80 | % | ASTM D 3575 / 412 |
| PERMANENT CRUSH (at 110kg/m2 pressure) | < 2,29 | % | TS 2013 EN ISO 1856 |
| THERMAL CONDUCTIVITY (λ) | 0,035-0,040 | W(MK) | TS 388 ISO 140/6-98 |
| VERTICAL WATER PERMEABILITY | 2195 | mm/h | ISO 1663 |
| WATER ABSORPTION | 0,1761 | (kg/m2) | ASTM D3375-9,Suffix L |
| FIREPROOF GRADE | B2<br>B1 | HARD FLAMMABLE<br>NONFLAMMABLE | DIN 4102 |
| APPLICATION TEMPERATURE | -80°C and +115°C | | |
| SHOCK ABSORPTION | 31 | +/-45% | |
| COMBINED WITH SYNTHETIC TURF AND INFILL | 64 | % | |
| ENERGY RESTITUTION | 49 | % | |
| VERTICAL DEFPRMATION | 5 | % | |

Optimum OS TIME OF SPORT

- Easy to install
- Excellent shock absorption and ball rebound.
- Good dimensional stability, dimensions are not influenced by temperture changes
- Ageing resistant
- The functional properties are stable in function of time.
- The foam does not rot nor pulverise.
- Good water permeability.
- Widths of > 2m are possible.

# CERTIFICATE

This is to certify that

[illegible]
Çorlu Factory
[illegible] Or[illegible] yi l [illegible] Mah. [illegible] u Ç[illegible] [illegible]d. No
Ergene / Tekirdağ
Turkey

with the organizational units/sites as listed in the annex

has implemented and maintains a **Quality Management System**.

Scope:
Production and design, customs clearance, foreign trade, logistic management and administrative organization activities of machine tufted, wall to wall carpets and artificial grass.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

## ISO 9001 : 2015

| | |
|---|---|
| Certificate registration no. | 31300200 QM15 |
| Valid from | 2022-04-16 |
| Valid until | 2025-03-30 |
| Date of certification | 2022-04-16 |

DAkkS
Deutsche Akkreditierungsstelle
D-ZM-16074-01-00

**DQS GmbH**

Markus Bleher
Managing Director

# CERTIFICATE

This is to certify that

I [redacted] S I [redacted] AY. [redacted] CA [redacted] Ş.
Çorlu Factory
Vel [redacted] ani[redacted]
Ergen [redacted] irdağ [redacted] Cad. N[redacted]
Türkiye

with the organizational units/sites as listed in the annex

has implemented and maintains an **Occupational Health and Safety Management System**.

Scope:
Production and design, customs clearance, foreign trade, logistic management and administrative organization activities of machine tufted, wall to wall carpets and artificial grass.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

## ISO 45001 : 2018

| | |
|---|---|
| Certificate registration no. | 31300200 OHS18 |
| Valid from | 2023-08-29 |
| Valid until | 2026-08-23 |
| Date of certification | 2023-08-29 |

DAkkS
Deutsche Akkreditierungsstelle
D-ZM-16074-01-00

**DQS GmbH**

Christian Gerling
Managing Director

DQS IS A MEMBER OF
IQNET

# CERTIFICATE

This is to certify that

[redacted]

Çorlu Factory

V[redacted] Organ[redacted]gesi [redacted]köy Yo[redacted]
E[redacted]ne / [redacted]ğ
Türkiye

with the organizational units/sites as listed in the annex

has implemented and maintains an **Environmental Management System**.

Scope:
Production and design, customs clearance, foreign trade, logistic management and administrative organization activities of machine tufted, wall to wall carpets and artificial grass.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

## ISO 14001 : 2015

| | |
|---|---|
| Certificate registration no. | 31300200 UM15 |
| Valid from | 2023-08-29 |
| Valid until | 2026-07-07 |
| Date of certification | 2023-08-29 |

DAkkS
Deutsche Akkreditierungsstelle
D-ZM-16074-01-00

**DQS GmbH**

Christian Gerling
Managing Director

DQS IS A MEMBER OF
IQNET

# TÜRK STANDARDLARI ENSTİTÜSÜ

## TÜRK STANDARDLARINA UYGUNLUK BELGESİ

# TURKISH STANDARDS INSTITUTION

## CERTIFICATE OF CONFORMITY TO TURKISH STANDARDS

Markanın Tanımı — Description of the Mark

TSE veya/or TSE veya/or TSE

**BELGE NUMARASI**
*REFERENCE NUMBER OF LICENCE*
011141-TSE-02/02

**BELGENİN İLK VERİLİŞ TARİHİ**
*DATE OF FIRST ISSUE OF LICENCE*
19.02.2017

**BELGENİN SON GEÇERLİLİK TARİHİ**
*LICENCE VALID UNTIL*
19.02.20[illegible]

Digitally signed by Rotari Radu
Date: 2026.02.24 18:47:35 EET
Reason: MoldSign Signature
Location: Moldova
MOLDOVA EUROPEANĂ

**BELGE SAHİBİ KURULUŞUN ADI**
*NAME OF THE LICENCE HOLDER*
[illegible]

**BELGE SAHİBİ KURULUŞUN ADRESİ**
*ADRESS OF THE LICENCE HOLDER*
YE[illegible] / M[illegible]IT AT[illegible] C[illegible] [illegible]:1 [illegible] BAKI[illegible]
İSTANBUL/TÜRKIYE

**ÜRETİM YERİ ADI**
*NAME OF THE MANUFACTURING PLACE*
N[illegible] S H[illegible] [illegible]AR[illegible] ÇO[illegible] ŞU[illegible]

**ÜRETİM YERİ ADRESİ**
*ADRESS OF THE MANUFACTURING PLACE*
[illegible] C[illegible] [illegible]OR[illegible] ER[illegible] [illegible]ÖY[illegible] [illegible]ÜZER[illegible] [illegible]1
TEKİRDAĞ / TURKIYE

**İPTAL EDİLEN BELGE NUMARASI (Varsa)**
*İNDICATION OF SUPERSEDED LICENCE (if any)*
011141-TSE-02/01

**TESCİLLİ TİCARİ MARKASI**
*REGISTERED TRADE MARK*
[illegible]

**İLGİLİ TÜRK STANDARDI**
*RELATED TURKISH STANDARD*
TS EN 15330-1 / 03.11.2014

**BELGE KAPSAMI**
*SCOPE OF LICENCE*

SPOR ALANI YÜZEYLERİ - ÖZELLİKLE AÇIK HAVADA KULLANIM İÇİN TASARIMLANAN SENTETİK ÇİMEN VE ÇOK KÜÇÜK GÖZENEKLİ YÜZEYLER, SENTETİK ÇİMEN FUTBOL İÇİN TASARLANMIŞ YÜZEYLER – HP 6, DARBE EMİCİ KATMAN İÇERMEYEN

*e-imzalı/e-signed*

16.02.2024

Belgelendirme Merkezi Başkanı Adına
AKDOĞAN BULUT

İSTANBUL BELGELENDİRME MÜDÜRÜ V.

*Bu belge, belgelendirilen ürünün, üretim yerinin Enstitümüzün belirlediği şartları karşıladığını da gösterir.
*Bu belge, hiç bir suretle tahrif edilemez, kısmen veya okunmasını zorlaştıracak şekilde çoğaltılamaz, kazıntı ve silinti yapılamaz.
*TSE İSTANBUL BELGELENDİRME MÜDÜRLÜĞÜ * Adres: Çayırova Tren İstasyonu Yanı ÇAYIROVA/GEBZE * Telefon: 2627231273* Faks: 2627231606
*TSE BELGELENDİRME MERKEZ BAŞKANLIĞI; Adres: Necatibey Cad. No:112 06100 Bakanlıklar/ANKARA – Telefon: 0 312 416 64 81 / 416 64 27, Faks:0 312 416 66 17 E-posta :bmb@tse.org.tr , web : www.tse.org.tr

https://evrakkontrol.tse.org.tr/BelgeDogrulama.aspx?p=7nm7h5lf adresinden belgenin doğruluğunu ve geçerliliğini sorgulayınız.

[redacted] ark
[redacted]
İstanbul/Türkiye

02.09.2024

# AUTHORIZATION LETTER

This certificate is presented to Radu Rotari, Director of "Optimum SLine" SRL, and confirms that in August 2024 he completed training in the technology of installation of all types of artificial turf, including FIFA and ITF certified sports artificial turf, at [redacted].S., in Istanbul.

Данный сертификат предоставляется Radu Rotari, директору компании "Optimum SLine" SRL и подтверждает что в августе 2024 он прошел обучение по технологии монтажа всех типов искуственного газона, включая спортивный искуственный газон FIFA и ITF сертифицированный , в компании [redacted], в Истамбуле.

For your information,

Kind Regards,

[redacted]

[redacted]

# FIFA LABORATORY TEST REPORT

TM Football Turf I 2015
01.01.2015

| | |
|---|---|
| Product | IRON GRASS |
| FIFA Licensee | [redacted] |
| Test Institute | Labosport Italia S.r.l. |

| | |
|---|---|
| Test Number | 113894 |
| External Test Number | 21-0385IT |
| Date of Test | 25.06.2021 |
| Test Result | Passed |
| Quality Level | FIFA Quality & Quality PRO |
| Test Type | Initial |

## Licensee

Main Address

| | |
|---|---|
| Name | [redacted] |
| Address | [redacted] |
| ZIP / City | [redacted] ISTANBUL |
| Website | |
| Contact Email | sa[redacted]m.tr |
| Contact Phone | |

Digitally signed by Rotari Radu
Date: 2024.11.01 19:28:46 EET
Reason: MoldSign Signature
Location: Moldova

## Test institute

Main Address

| | |
|---|---|
| Name | Labosport Italia S.r.l. |
| Address | Via Monza, 80 |
| ZIP / City | 23870 / CERNUSCO LOMBARDONE |
| Website | www.labosport.com |
| Contact Email | labosport@labosport.it |
| Contact Phone | +39/ 039 896 26 84 |

## Approval

| Test Institute Director | Roberto Armeni |
|---|---|
| Signature | |
| Date | 09.07.2021 |

| Test Institute Engineer | Gabriele Greco |
|---|---|
| Signature | |
| Date | 09.07.2021 |

# 1 – Test Results

| Name | Comment | Result |
|---|---|---|
| **1 - Summary** | | |
| Vertical ball rebound FIFA Quality | | Passed |
| Vertical ball rebound FIFA Quality Pro | | Passed |
| Angle ball rebound FIFA Quality | | Passed |
| Angle ball rebound FIFA Quality Pro | | Passed |
| Reduced ball roll FIFA Quality | | Passed |
| Reduced ball roll FIFA Quality Pro | | Passed |
| Shock absorption FIFA Quality | | Passed |
| Shock absorption FIFA Quality Pro | | Passed |
| Deformation FIFA Quality | | Passed |
| Deformation FIFA Quality Pro | | Passed |
| Rotational resistance FIFA Quality | | Passed |
| Rotational resistance FIFA Quality Pro | | Passed |
| Skin / surface friction | | Passed |
| Skin abrasion | | Passed |
| **1 - Test Details \| Object** | | |
| Product Name | | Splash Grass |
| Product ID | | - |
| Synthetic Turf System | | - |
| Performance infill | | EPDM |
| Stabilising infill | | SILICA |
| Shock-pad or elastic layer | | - |
| Sub-base composition | | Concrete |
| **2 - Test Details \| Test Institute** | | |
| Date(s) of test | | 25.06.2021 |
| Report created by | | Gabriele Greco |
| Laboratory Test report number | | 21-0385IT |

| Name | Comment | Result |
|---|---|---|
| Test Institute Project number | | 21-0385IT |
| **3 – Product Declaration (Manufacturer)** | | |
| Manufacturer | | [redacted] |
| Tuft pattern | | Straight |
| Yarn manufacturer \| yarn 1 | | TEN CATE GRASS MIDDLE EAST |
| Detailed tuft decitex (Dtex) [g/10000m] | | 6000 |
| Product name, code \| yarn 1 | | Splash 2000 XQ Field Green |
| Pile yarn profile \| yarn 1 | | - |
| Pile thickness (µ m) \| yarn 1 | | 330.0 |
| Pile colour (RAL) \| value 1 \| yarn 1 | | 6013 |
| Pile colour (RAL) \| value 2 \| yarn 1 | | - |
| Pile colour (RAL) \| value 3 \| yarn 1 | | - |
| Pile width (mm) \| yarn 1 | | 1.20 |
| Number of tufts/m2 \| yarn 1 | ISO1773 | 9000.00 |
| Pile length (mm) \| yarn 1 | ISO 2549 | 57.50 |
| Pile weight (g/m2) \| yarn 1 | ISO 8543 | 662.50 |
| Pile yarn characterization \| yarn 1 | | PE |
| Pile yarn dtex \| yarn 1 | | 6000 |
| Yarn manufacturer \| yarn 2 | | TEN CATE GRASS MIDDLE EAST |
| Product name, code \| yarn 2 | | Splash 2000 XQ Lime Green |
| Pile yarn profile \| yarn 2 | | - |
| Pile thickness (µ m) \| yarn 2 | | 330.0 |
| Pile colour (RAL) \| value 1 \| yarn 2 | | 1020 |
| Pile colour (RAL) \| value 2 \| yarn 2 | | - |
| Pile colour (RAL) \| value 3 \| yarn 2 | | - |
| Pile width (mm) \| yarn 2 | | 1.20 |

| Name | Comment | Result |
|---|---|---|
| Number of tufts/m2 \| yarn 2 | ISO1773 | 9000.00 |
| Pile length (mm) \| yarn 2 | ISO 2549 | 57.50 |
| Pile weight (g/m2) \| yarn 2 | ISO 8543 | 662.50 |
| Pile yarn characterization \| yarn 2 | | PE |
| Pile yarn dtex \| yarn 2 | | 6000.0 |
| Yarn manufacturer \| yarn 3 | | - |
| Product name, code \| yarn 3 | | - |
| Pile yarn profile \| yarn 3 | | - |
| Pile thickness (µ m) \| yarn 3 | | 0.0 |
| Pile colour (RAL) \| value 1 \| yarn 3 | | - |
| Pile colour (RAL) \| value 2 \| yarn 3 | | - |
| Pile colour (RAL) \| value 3 \| yarn 3 | | - |
| Pile width (mm) \| yarn 3 | | 0.00 |
| Number of tufts/m2 \| yarn 3 | ISO1773 | 0.00 |
| Pile length (mm) \| yarn 3 | ISO 2549 | 0.00 |
| Pile weight (g/m2) \| yarn 3 | ISO 8543 | 0.00 |
| Pile yarn characterization \| yarn 3 | | - |
| Pile yarn dtex \| yarn 3 | | 0.0 |
| Primary backing \| Product name, code | | H18 |
| Primary backing \| Manufacturer | | Tencate |
| Re-enforcement scrim \| Product name, code | | - |
| Re-enforcement scrim \| Manufacturer | | - |
| Secondary backing \| Product name, code | | SBR Latex |

| Name | Comment | Result |
|---|---|---|
| Secondary backing \| Manufacturer | | Styron |
| Secondary backing \| Dry application rate (g/m2) | | 1100.0 |
| Carpet \| Minimum tuft withdrawal force (N) | | 40 |
| Carpet \| Carpet mass per unit area [g/m2] | | 2600.0 |
| Method of jointing | | Bonded |
| Bonded joints \| Adhesive brand name | | Ayka Floor |
| Bonded joints \| Adhesive manufacturer | | Ayka Floor |
| Bonded joints \| Application rate (g/m) | | 200 |
| Bonded joints \| Jointing film brand name | | Helmetin |
| Bonded joints \| Jointing film manufacturer | | Serta Teksil |
| Stitched seams \| Tread brand name/product code | | - |
| Stitched seams \| Tread manufacturer | | - |
| Stitched seams \| Stitch rate (stitch per lm) | | 0.000 |
| Performance Infill \| Product name, code | | EPDM RUBBER |
| Performance Infill \| Manufacturer | | [illegible] |
| Performance Infill \| Material type | | BLACK EPDM |
| Performance Infill \| Material grading | | 1.6 - 3.15 |
| Performance Infill \| Particle shape | prEN 14955 | A2-B3 |
| Performance Infill \| Particle size range | EN 933-Part 1 | 1.6 - 3.15 |

| Name | Comment | Result |
|---|---|---|
| Performance Infill \| Bulk density (g/cm3) | EN 1097-3 | 0.450 |
| Performance Infill \| Application rate (kg/m2) | | 19.0 |
| Stabilising Infill \| Product name, code | | Silica Sand |
| Stabilising Infill \| Manufacturer | | Emek, Fares Kum |
| Stabilising Infill \| Material type | | Silica |
| Stabilising Infill \| Material grading | | 0.315 - 0.8 |
| Stabilising Infill \| Particle shape | prEN 14955 | Round high sphericity-C1 |
| Stabilising Infill \| Particle size range | EN 933-Part 1 | 0.315 - 0.8 |
| Stabilising Infill \| Bulk density (g/cm3) | EN 1097-3 | 1.50 |
| Stabilising Infill \| Application rate (kg/m2) | | 15.0 |
| Shockpad, E-layer \| Product name, code | | - |
| Shockpad, E-layer \| Manufacturer | | - |
| Shockpad, E-layer \| Type | | - |
| Shockpad, E-layer \| Composition | | - |
| Shockpad, E-layer \| Bulk density (g/cm3) | | 0.00 |
| Shockpad, E-layer\| Thickness | EN 1969 | 0.0 |
| Shockpad, E-layer \| Shock absorption (%) | FIFA 4a | 0.0 |
| Shockpad, E-layer \| Deformation | FIFA 5a | 0.0 |
| Shockpad, E-layer \| Tensile strength (MPa) | | 0.00 |
| Shockpad, E-layer \| Mass per unit area (kg/m2) | | 0.0 |
| Other, detail | | Due to different DSC devices and potential difference in the test method used, the shape |

| Name | Comment | Result |
|---|---|---|
| | | and peak temperatures of the DSC analysis may differ from the FIFA requirement. |
| **3 – Test Results \| Player / Surface Interaction** | | |
| Rotational Resistance \| Initial \| Dry (Quality) | 27 - 48 Nm | 39 |
| Rotational Resistance \| Initial \| Dry (Pro) | 32 - 43 Nm | 39 |
| Rotational Resistance \| Initial \| Wet (Quality) | 27 - 48 Nm | 37 |
| Rotational Resistance \| Initial \| Wet (Pro) | 32 - 43 Nm | 37 |
| Rotational Resistance \| after simulated wear \| 3'000 cycles (5*) | 32 - 43 Nm | 39 |
| Rotational Resistance \| after simulated wear \| 3'000 cycles (20*) | 32 - 43 Nm | 0 |
| Rotational Resistance \| after simulated wear \| 6'000 cycles (5*) | 27 - 48 Nm | 41 |
| Rotational Resistance \| after simulated wear \| 6'000 cycles (20*) | 27 - 48 Nm | 0 |
| **3 – Test Results \| Product identification field product** | | |
| Performance infill \| Theremographic analysis \| Organic [%] - Product Declaration | | 0.0 |
| Performance infill \| Theremographic analysis \| Elastomer [%] - Product Declaration | | 0.0 |
| Performance infill \| Theremographic analysis \| Inorganic [%] - Product Declaration | | 0.0 |
| **4 – Product Identification** | | |

| Name | Comment | Result |
|---|---|---|
| Artificial Turf \| Carpet mass per unit area [g/m2] | | 2772 |
| Artificial Turf \| Tufts per unit area [m2] | | 9450 |
| Artificial Turf \| Pile lenght above backing [mm] | | 58.0 |
| Artificial Turf \| Pile weight [g/m2] | | 1346 |
| Detailed tuft decitex (Dtex) [g/10000m] | | 11710 |
| Artificial Turf \| Water permeability of carpet [mm/h] | | 2734 |
| Artificial Turf \| Free pile height | | 13 |
| Performance infill \| Particle size range [mm] | | 1.25 - 3.15 |
| Performance infill \| Particle shape | | A2 |
| Performance infill \| Bulk density [g/cm3] | | 0.470 |
| Performance infill \| Infill depth [mm] | | 46 |
| Performance infill \| Thermographic analysis \| organic [%] | | 48 |
| Performance infill \| Theremographic analysis \| inorganic [%] | | 52 |
| Stabilising infill \| Particle size range [mm] | | 0.315 - 1.0 |
| Stabilising infill \| Particle shape | | C1 |
| Stabilising infill \| Bulk density [g/cm3] | | 1.36 |
| Shock pad / E-layer \| Shock absorption [%] | if part of supplied system | 0.0 |
| Shock pad / E-layer \| Deformation | if part of supplied system | 0.0 |

| Name | Comment | Result |
|---|---|---|
| Shock pad / E-layer \| Thickness | if part of supplied system | 0.0 |
| Other, detail | | Pile yarn dtex yarn 1 declaration 6000 dtex; pile yarn 1 identification 5819 dtex -3.0%.<br>Pile yarn dtex yarn 2 declaration 6000 dtex; pile yarn 2 identification 5891 dtex -1.8%. |
| **5 – Test Results \| Ball / Surface interaction** | | |
| Vertical Ball Rebound \| Initial \| Dry (Quality) | 0.6 - 1m | 0.84 |
| Vertical Ball Rebound \| Initial \| Dry (Pro) | 0.6 - 0.85m | 0.84 |
| Vertical Ball Rebound \| Initial \| Wet (Quality) | 0.6 - 1m | 0.79 |
| Vertical Ball Rebound \| Initial \| Wet (Pro) | 0.6 - 0.85m | 0.79 |
| Vertical Ball Rebound \| after simulated wear \| 3'000 cycles (5*) | 0.6 - 0.85m | 0.84 |
| Vertical Ball Rebound \| after simulated wear \| 6'000 cycles (5*) | 0.6 - 1m | 1.00 |
| Vertical Ball Rebound \| after simulated wear \| 3'000 cycles (20*) | 0.6 - 0.85m | 0.00 |
| Vertical Ball Rebound \| after simulated wear \| 6'000 cycles (20*) | 0.6 - 1m | 0.00 |
| Angle Ball Rebound \| Dry | 45 - 80 % | 56 |
| Angle Ball Rebound \| Wet | 45 - 80 % | 67 |
| Reduced Ball Roll \| Initial \| Dry (Quality) | 4 - 10 m | 6.6 |
| Reduced Ball Roll \| Initial \| Dry (Pro) | 4 - 8 m | 6.6 |
| Reduced Ball Roll \| after simulated wear \| 3'000 cycles (5*) \| Dry | 4 - 8 m | 7.3 |

| Name | Comment | Result |
|---|---|---|
| Reduced Ball Roll \| after simulated wear \| 3'000 cycles (5*) \| Wet | 4 - 8 m | 7.8 |
| Reduced Ball Roll \| after simulated wear \| 3'000 cycles (20*) \| Dry | 4 - 8 m | 0.0 |
| Reduced Ball Roll \| after simulated wear \| 3'000 cycles (20*) \| Wet | 4 - 8 m | 0.0 |
| Reduced Ball Roll \| after simulated wear \| 6'000 cycles (5*) \| Dry | 4 - 12 m | 8.4 |
| Reduced Ball Roll \| after simulated wear \| 6'000 cycles (5*) \| Wet | 4 - 12 m | 9.1 |
| Reduced Ball Roll \| after simulated wear \| 6'000 cycles (20*)\| Dry | 4 - 12 m | 0.0 |
| Reduced Ball Roll \| after simulated wear \| 6'000 cycles (20*)\| Wet | 4 - 12 m | 0.0 |
| Shock absorption \| Initial \| Dry (Quality) | 57 - 68 % | 66.8 |
| Shock absorption \| Initial \| Dry (Pro) | 62 - 68 % | 66.8 |
| Shock absorption \| Initial \| Wet (Quality) | 57 - 68 % | 64.7 |
| Shock absorption \| Initial \| Wet (Pro) | 62 - 68 % | 64.7 |
| Shock absorption \| after simulated wear \| 3'000 cycles (5*) | 62 - 68 % | 62.4 |
| Shock absorption \| after simulated wear \| 3'000 cycles (20*) | 62 - 68 % | 0.0 |
| Shock absorption \| after simulated wear \| 6'000 cycles (5*) | 57 - 68 % | 59.1 |
| Shock absorption \| after simulated wear \| 6'000 cycles (20*) | 57 - 68 % | 0.0 |

| Name | Comment | Result |
|---|---|---|
| Shock absorption \| 50°C | 57 - 68 % | 66.70 |
| Shock absorption \| -5°C | 57 - 68 % | 62.20 |
| Other, detail | | - |
| **5 – Test Results \| Player / Surface interaction** | | |
| Deformation \| Initial \| Dry (Quality) | 4 - 11 mm | 10.0 |
| Deformation \| Initial \| Dry (Pro) | 4 - 10 mm | 10.0 |
| Deformation \| Initial \| Wet (Quality) | 4 - 11 mm | 9.5 |
| Deformation \| Initial \| Wet (Pro) | 4 - 10 mm | 9.5 |
| Deformation \| after simulated wear \| 3'000 cycles (5*) | 4 - 10 mm | 8.5 |
| Deformation \| after simulated wear \| 3'000 cycles (20*) | 4 - 10 mm | 0.0 |
| Deformation \| after simulated wear \| 6'000 cycles (5*) | 4 - 11 mm | 8.5 |
| Deformation \| after simulated wear \| 6'000 cycles (20*) | 4 - 11 mm | 0.0 |
| Skin / surface friction \| Dry | 0.35 - 0.75 μ | 0.51 |
| Skin / surface friction \| Dry \| 3'000 cycles | 0.35 - 0.75 μ | 0.57 |
| Skin / surface friction \| Dry \| 6'000 cycles | 0.35 - 0.75 μ | 0.63 |
| Skin abrasion \| Dry | ± 30 % | 17 |
| Skin abrasion \| Dry \| 3'000 cycles | ± 30 % | 20 |
| Skin abrasion \| Dry \| 6'000 cycles | ± 30 % | 23 |
| **6 – Environmental impact (arficial, light, water)** | | |
| Pile yarn 1 \| Colour change \| after artificial weathering | ≥ Grey scale 3 | 4-5 |
| Pile yarn 2 \| Colour change \| after artificial weathering | ≥ Grey scale 3 | 4 |

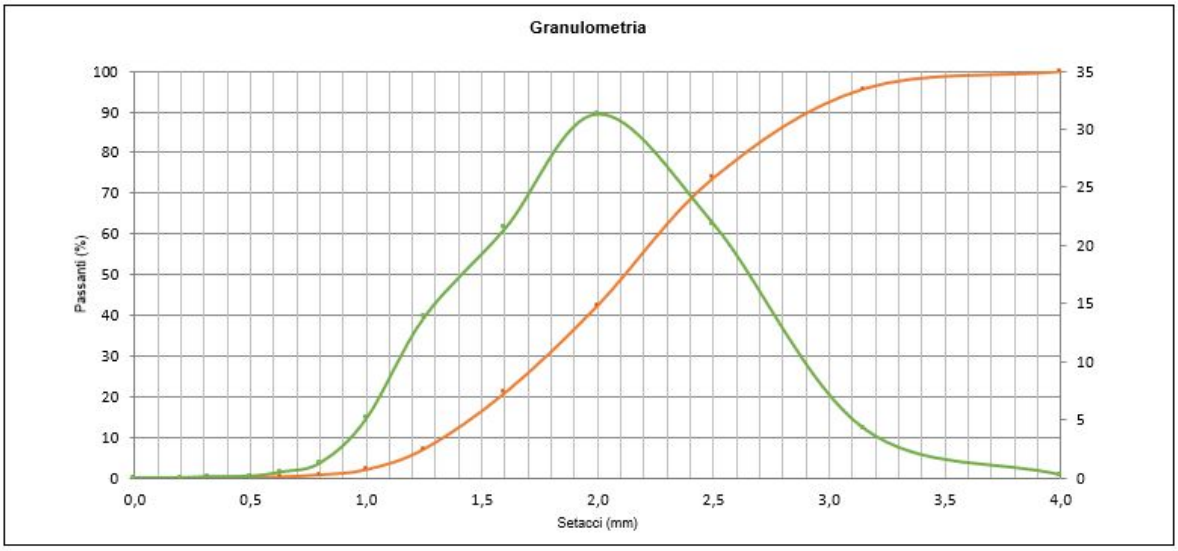
| Name | Comment | Result |
|---|---|---|
| Pile yarn 3 \| Colour change \| after artificial weathering | ≥ Grey scale 3 | - |
| Pile yarn 1 \| Peak Breakage Force \| before artificial weathering | | 13.50 |
| Pile yarn 1 \| Peak Breakage Force \| after artificial weathering | | 12.8 |
| Pile yarn 1 \| Peak Breakage Force \| Green Reference value before artificial weathering | | 13.50 |
| Pile yarn 1 \| Peak Breakage Force \| Variation after weathering from Green Reference value | Change ≤ 25 % | 5.00 |
| Pile yarn 2 \| Peak Breakage Force \| before artificial weathering | | 14.60 |
| Pile yarn 2 \| Peak Breakage Force \| after artificial weathering | | 14.50 |
| Pile yarn 2\| Peak Breakage Force \| Green Reference value before artificial weathering | | 14.60 |
| Pile yarn 2 \| Peak Breakage Force \| Variation after weathering from Green Reference value | Change ≤ 25 % | 1.00 |
| Pile yarn 3 \| Peak Breakage Force \| before artificial weathering | | 0.00 |
| Pile yarn 3 \| Peak Breakage Force \| after artificial weathering | | - |
| Pile yarn 3\| Peak Breakage Force \| | | 0.00 |

| Name | Comment | Result |
|---|---|---|
| Green Reference value before artificial weathering | | |
| Pile yarn 3 \| Peak Breakage Force \| Variation after weathering from Green Reference value | Change ≤ 25 % | 0.00 |
| Polymeric infill \| Colour change \| after artificial weathering | ≥ Grey scale 3 | 5 |
| Polymeric infill \| Visual change in composition \| after artificial weathering | No change | No change |
| Complete system \| Water permeability | > 180 mm/h | 1924 |
| Stitched joints \| Strength \| un-aged | ≥ 1000N/100mm | 0 |
| Stitched joints \| Strength \| water aged | ≥ 1000N/100mm | 0 |
| Bonded joints \| Strength \| un-aged | ≥ 75/100mm | 100 |
| Bonded joints \| Strength \| water aged | ≥ 75/100mm | 93 |
| Carpet tuft \| Withdrawal force \| un-aged | ≥ 40N | 55 |
| Carpet tuft \| Withdrawal force \| water aged | ≥ 40N | 54 |
| Heat \| Category | for information | 3 |
| Splash \| Characteristics | for information | >1.5% |
| **7 - Miscellaneous (shock pad, sub-base - if part of the system)** | | |
| Shock Pad / E-layer \| tensile strength \| un-aged | ≥ 0.15 MPa | 0.00 |
| Sub-base \| Composition | | - |
| Sub-base \| Particle size range | | - |
| Sub-base \| Particle shape | | - |

| Name | Comment | Result |
|---|---|---|
| Sub-base \| Thickness | | - |
| Sub-base \| Compaction & test method | | - |
| Other, detail | | - |
| **Turf \| Product Report Details** | | |
| Shockpad, E-layer \| Type Category | | No Shockpad |
| Performance Infill \| Material type Category | | |
| Splash \| Characteristics Category | | ≥ 1.5% |

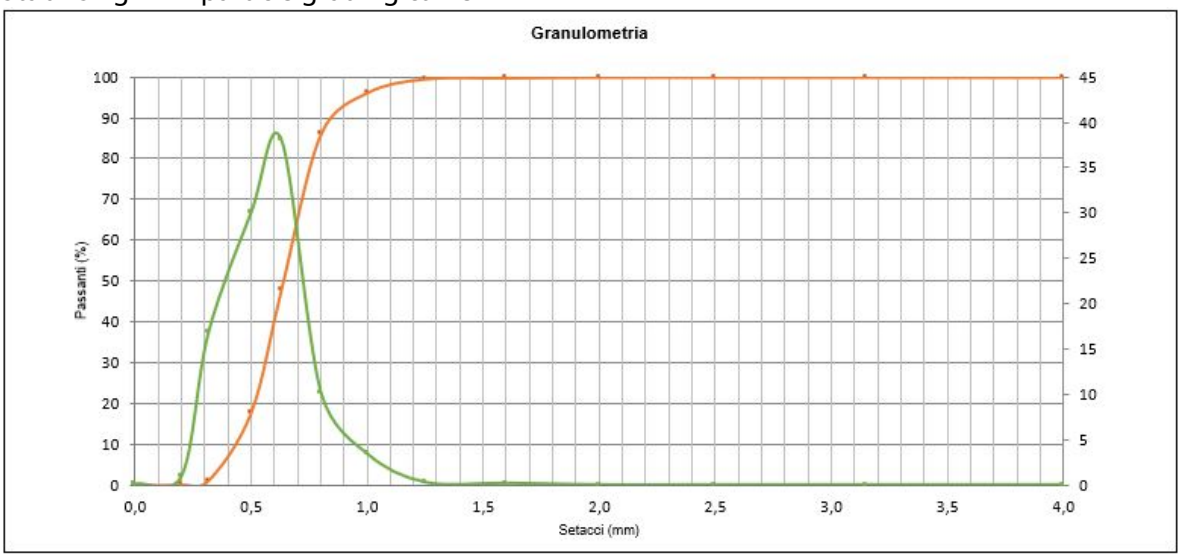
# 2 – Test Images

Performance infill particle grading curve




| Setacci (mm) | 0 | 0,2 | 0,315 | 0,5 | 0,63 | 0,8 | 1,0 | 1,25 | 1,6 | 2,0 | 2,5 | 3,15 | 4,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rifiutati (%) | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 14 | 21 | 31 | 22 | 4 | 0 |
| Passanti (%) | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 7 | 21 | 42 | 74 | 96 | 100 |

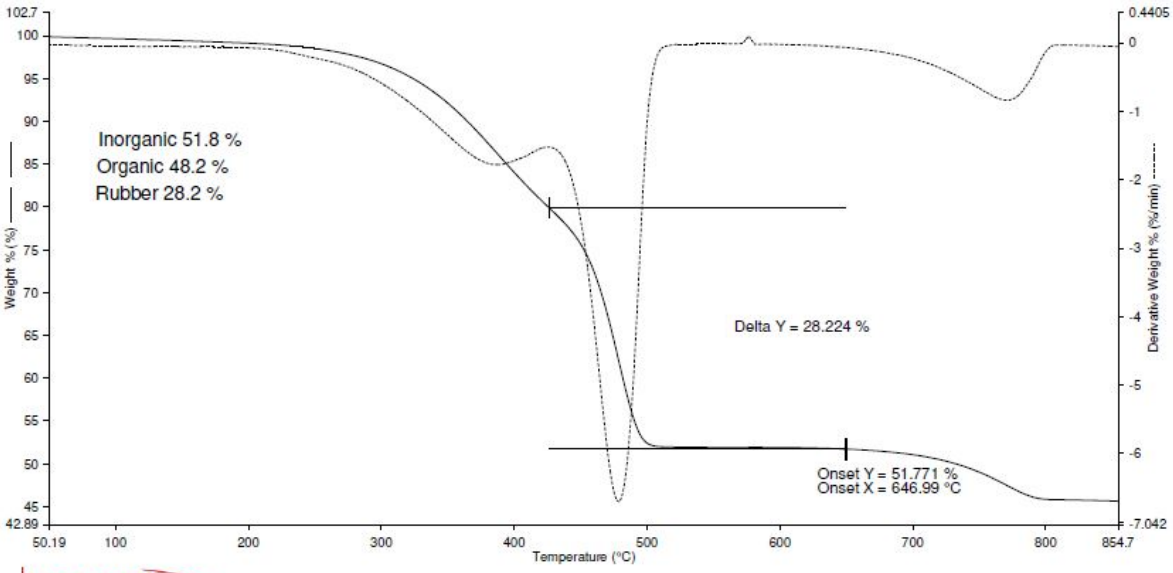
Stabilising infill particle grading curve




| Setacci (mm) | 0 | 0,2 | 0,315 | 0,5 | 0,63 | 0,8 | 1,0 | 1,25 | 1,6 | 2,0 | 2,5 | 3,15 | 4,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rifiutati (%) | 0 | 1 | 17 | 30 | 38 | 10 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Passanti (%) | 0 | 0 | 1 | 18 | 48 | 86 | 96 | 100 | 100 | 100 | 100 | 100 | 100 |

TGA of performance infill

| | | | |
|---|---|---|---|
| Data Collected: | 22/06/2021 12:15:03 | ——— | OI210335: 21-0385 IT Black (2885-01).t6d Weight % (%) : Steps: 1-3 |
| Operator ID: | AKI | - - - - | OI210335: 21-0385 IT Black (2885-01).t6d Derivative Weight % (%/min) (Smoothed) : Steps: 1-3 |
| Sample ID: | OI210335 | | |
| Sample Weight: | 57.985 mg | | |
| Initial Purge Gas: | Argon | | |
| Comment: | PerkinElmer TGA4000 - Serial number 522A2092805 - calibration : alumel / perkalloy / iron | | |




02/07/2021 15:35:33

1) Hold for 1.0 min at 50.00°C
2) Heat from 50.00°C to 850.00°C at 10.00°C/min
3) Hold for 1.0 min at 850.00°C

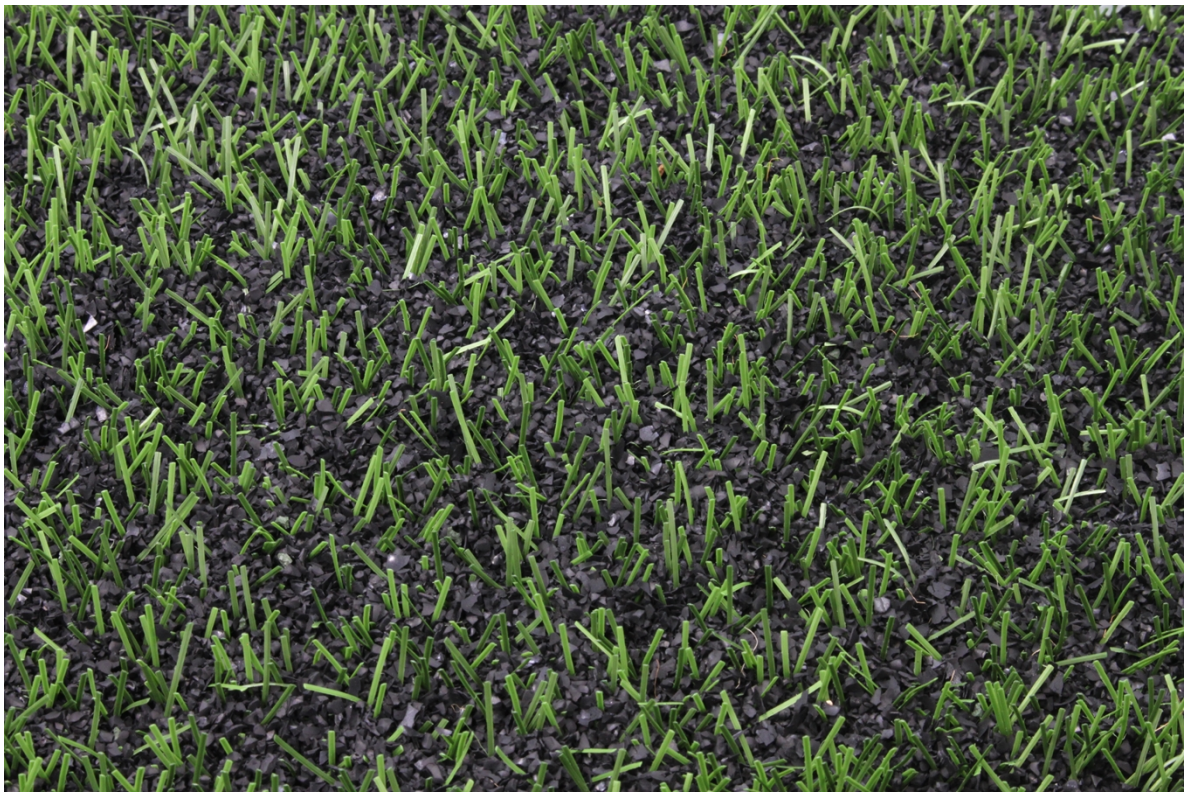
Simulated wear - Before 1

Simulated wear - Before 2

Simulated wear - After 1

Simulated wear - After 2

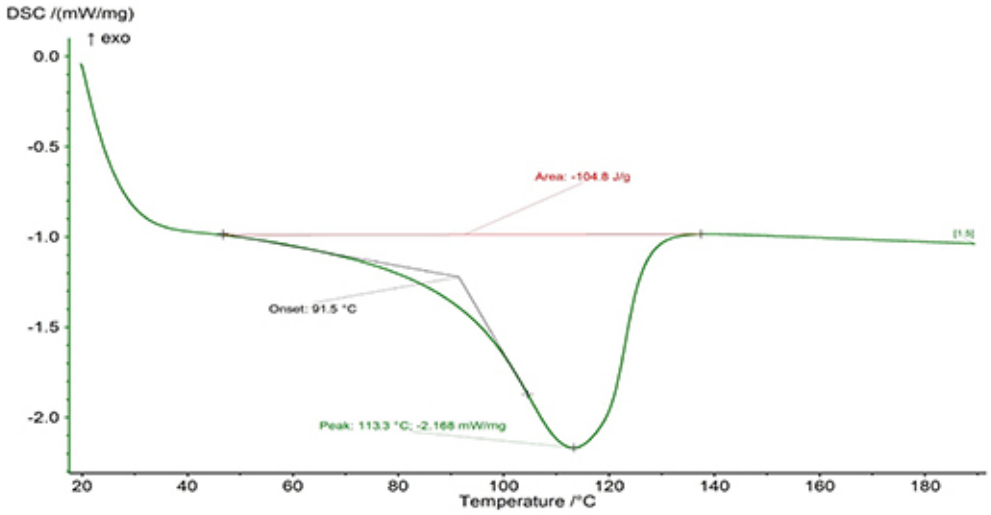
Simulated wear - After 3



Simulated wear - After 4

Yarn Characteristics DSC

| | | | |
|---|---|---|---|
| Laboratory: | Labosport Italia Srl | Identity: | 21-0385/T |
| Project: | 21-0385/T | Sample: | DARK GREEN |
| Operator: | Matteo | Sample mass: | 7.88 mg |
| Date/Time: | 08/06/2021 12:09:36 | Serial number | DSC3500A-1254-L |

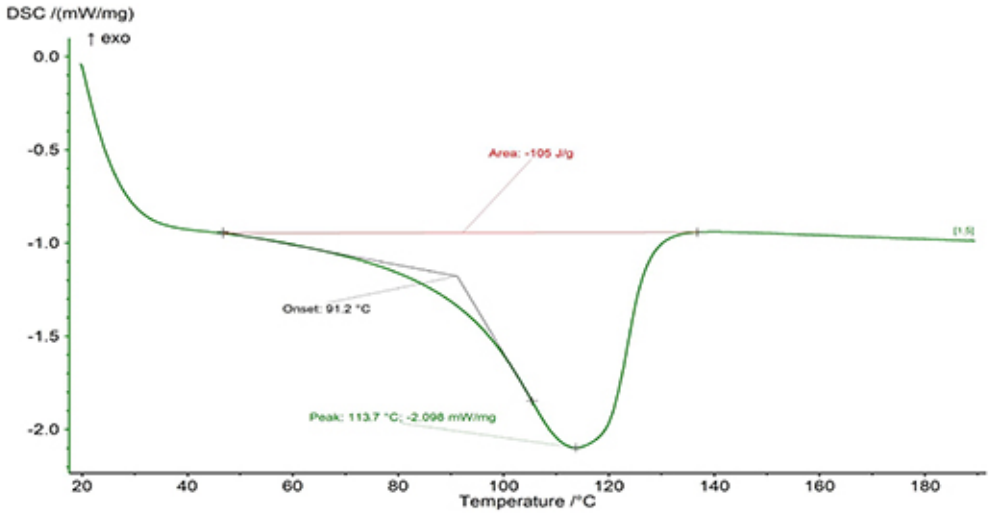



**TEST CYCLES:**
1) Heat from 20,0 °C to 190,0 °C at 20,0 °C/min
2) Hold for 5,0 min at 190,0 °C
3) Cool from 190 °C to 20,0 °C at 20,0 °C/min
4) Hold for 5,0 min at 20,0 °
5) Heat from 20,0 °C to 190,0 °C at 20,0 °C/min

NETZSCH DSC 3500 SERIES

Yarn Characteristics DSC - 2

| | | | |
|---|---|---|---|
| **Laboratory:** | Labosport Italia Srl | **Identity:** | 21-0385/T |
| **Project:** | 21-0385/T | **Sample:** | LIGHT GREEN |
| **Operator:** | Matteo | **Sample mass:** | 7.93 mg |
| **Date/Time:** | 08/06/2021 12:56:27 | **Serial number** | DSC3500A-1254-L |



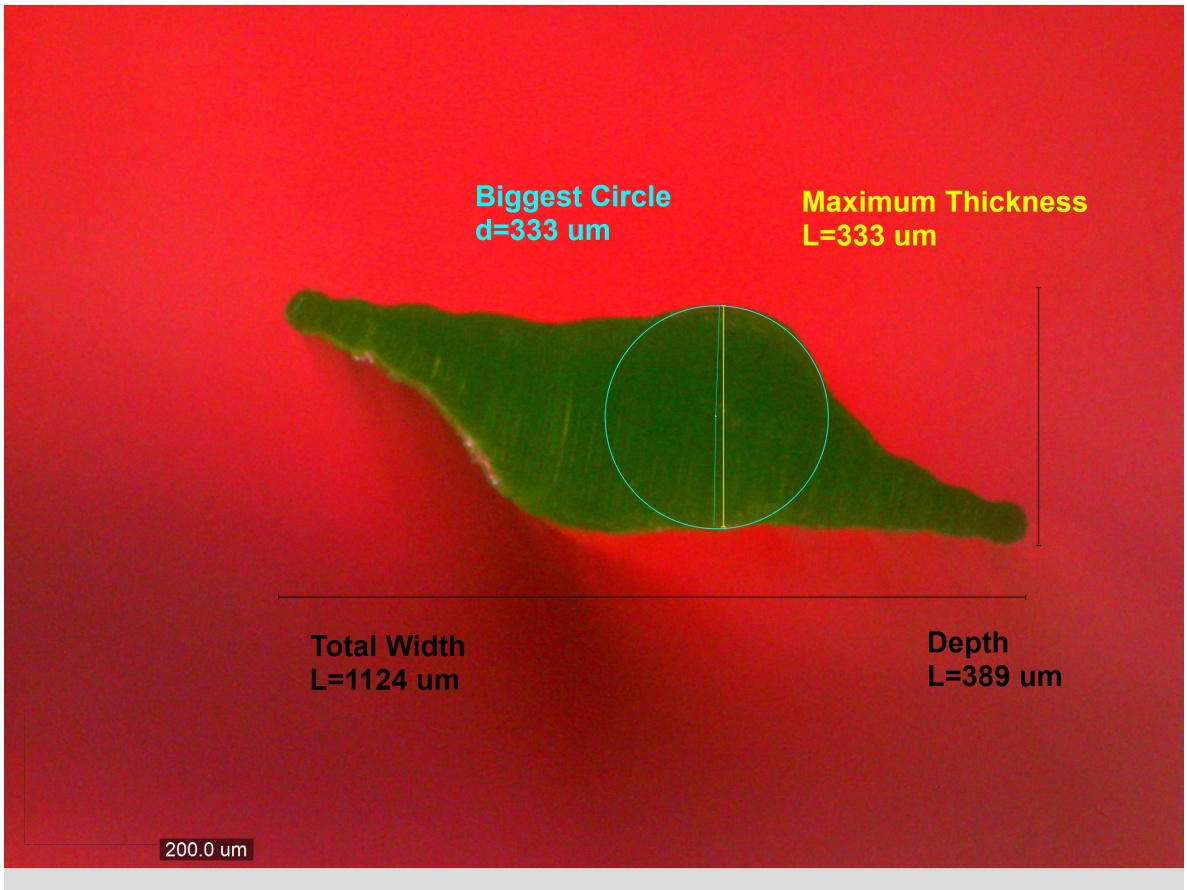
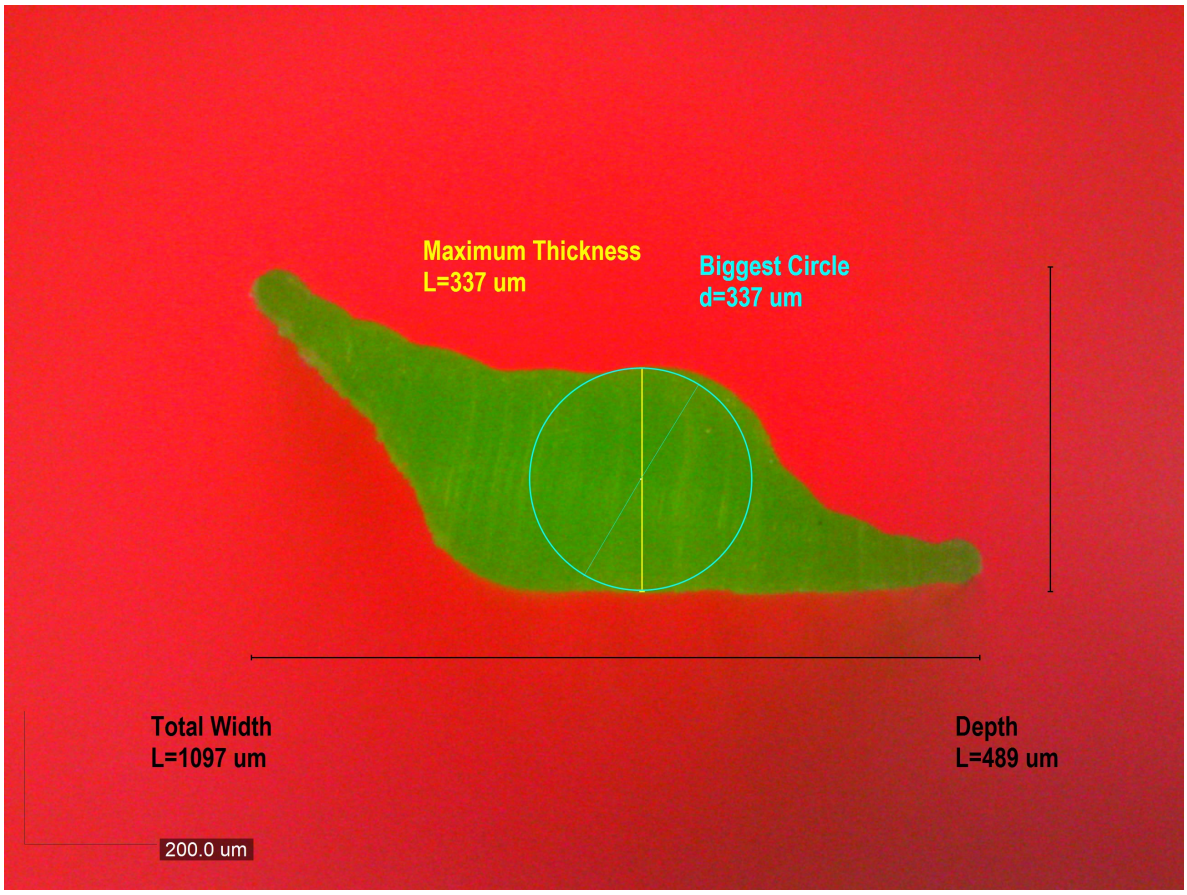

**TEST CYCLES:**
1) Heat from 20,0 °C to 190,0 °C at 20,0 °C/min
2) Hold for 5,0 min at 190,0 °C
3) Cool from 190 °C to 20,0 °C at 20,0 °C/min
4) Hold for 5,0 min at 20,0 °
5) Heat from 20,0 °C to 190,0 °C at 20,0 °C/min

NETZSCH DSC 3500 SERIES

Stabilising Infill - picture

Performance Infill - picture

Cross-section Yarn 1



Cross-section Yarn 2