

DOCUMENTATION PACKAGE

# Compliance & Certification Documents

A consolidated record of quality, safety, environmental, and performance certifications for the CC Matting contamination control product range.



**13**  
CERTIFIED DOCUMENTS

**MY / SEA**  
REGION OF DISTRIBUTION

**2026**  
ISSUE YEAR

## DOCUMENT PACKAGE

# Contents

This package contains thirteen supporting documents covering quality, safety, regulatory, and performance certification for the CC Matting product range. Each item is presented on its own divider page within this package.

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ITEM 01 OF 13

ISO 9001

# Quality Management System Certification

Certification confirming the implementation of a quality management system that meets ISO 9001 international standards for consistent product and service quality.

SUPPORTING DOCUMENT

**C.O.M.S.**  
CERTIFICATED ONLINE MANAGEMENT SYSTEM



## Certificate of Registration

This document certifies that the Quality Management Systems of  
**CC Matting**

Have been independently assessed and accredited by Qualitas Veritas to the following Quality Management Systems, Standards and Guidelines:

### BS EN ISO 9001:2015

This approved Quality Management System is applicable to the following:

**The sale, supply and installation of contamination control matting to the Biopharma/ Life Science/Hospitals & Nursing Home industries in Ireland.**

Approval date 17<sup>th</sup> December 2025

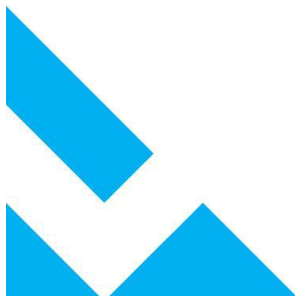
Certificate expiry 16<sup>th</sup> December 2026

Certificate number 005996

Validation email: [info@cdl-group.co.uk](mailto:info@cdl-group.co.uk)

  
On behalf of CDL Group Ltd

21a Mochdre Ind Est, Newtown, Powys, SY16 4LE, Wales, UK.



## ITEM 02 OF 13

## ISO 45001

# Occupational Health and Safety Management

Certification verifying compliance with ISO 45001 standards for occupational health and safety management systems.

## SUPPORTING DOCUMENT



**ISO-CERT ONLINE Ltd**  
Efficient Certification Solutions

## CERTIFICATE OF APPROVAL

This document certifies that the Occupational Health & Safety Management System of:

**CC Matting Ltd**  
Rockview, Farnhoe, Innishannon, Cork, T12 YF1C

has been assessed and approved by CV Global Ltd to the following Occupational Health & Safety Management System standard:

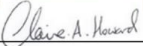
**BS EN ISO 45001:2023**

**Scope of Certification:**  
The design, manufacture, and installation of advanced high-tech polymer contamination control matting.

This certificate remains valid only in association with the certificate schedule bearing the same number on which the location(s) applicable to this approval are listed.

**Approval:**  
Certificate Number: **IE2024262-387C**  
Date of Approval: **4<sup>th</sup> September 2025**  
Certificate Expiry: **3<sup>rd</sup> September 2026**  
Certificate Type: **Full**

This approval is carried out in accordance with ISO-Cert Online Ltd assessment and certification procedures monitored by CV Global Ltd.

  
Issued by: CV Global Ltd  
For and behalf of: **ISO-Cert Online Ltd**



20-22 Wenlock Road, London, N1 7GU : Company Registration: 12202535  
T - +44 (0) 333 014 7720 : E - info@isocertonline.net

## ITEM 03 OF 13

## AMR

# Anti-Microbial Efficacy Report

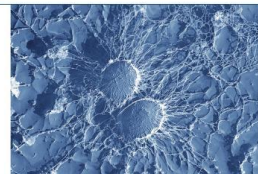
Independent technical data on Biomaster antimicrobial additive technology, detailing efficacy against a broad range of bacterial and fungal organisms.

## SUPPORTING DOCUMENT

## Efficacy of Biomaster



Biomaster has been successfully tested on over 50 different organisms in over 2,000 applications. The list below highlights the main strains tested and their properties.



**Aspergillus amstelodami:** Anamorphic state of Eurotium amstelodami: Yellow mould fungus found in soil and house dust. May be pathogenic. Has been found in cases of pulmonary infection.

**Aspergillus nidulans:** Yellow mould fungus. Pathogenic, causing chronic granulomatous disease.

**Aspergillus niger:** Black mould fungus. Irritant spores with mycotoxins. Pathogen, causing respiratory diseases and cutaneous and subcutaneous infections. Commonly found in bathrooms.

**Candida albicans:** Saprophytic yeast found in the nasopharynx and faeces. Causes thrush and skin infections.

**Clostridium difficile:** Gram positive anaerobic spore-forming bacteria. Pathogenic, causing colitis in the human gut. (Please see separate Addmaster information sheet)

**Corynebacterium minutissimum:** Gram positive non spore-forming bacillus. Pathogenic, associated with acne.

**Corynebacterium spp:** Gram positive, non spore-forming bacilli. Pathogenic, causing a variety of cutaneous and mucocutaneous human diseases such as diphtheria, mastitis, vaginitis etc.

**Enterobacter gergoviae:** Gram negative bacillus. Pathogenic, associated with hospital acquired urinary tract infections.

**Escherichia coli:** Facultative anaerobic gram negative bacillus serotype, found in animal intestines and faeces. Strain O157 H7 is particularly pathogenic, causing gastroenteritis, sometimes fatal.

**Klebsiella pneumoniae:** Aerobic Gram negative bacillus, part of the normal intestinal flora of animals and humans. Pathogenic, causing hospital and community acquired infections.

**Listeria monocytogenes:** Gram positive aerobic non spore-forming bacillus, found in the intestinal tract of humans. Pathogenic if it enters the bloodstream, causing Listeriosis.

**Methicillin Resistant Staphylococcus Aureus (MRSA):** Aerobic Gram positive coccus. Part of the normal flora of the skin, intestinal and genital tracts and mucous membranes of warm blooded animals. An opportunistic pathogen causing a wide variety of infections. At the moment there are 27 known pathogenic serotypes of MRSA, each particularly contagious, and resistant to most antibiotic treatments. Common in hospital acquired infections.

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T: +44 (0)1785 225656  
E: info@addmaster.co.uk

F: +44 (0)1785 225353  
W: www.addmaster.co.uk

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## Efficacy of Biomaster

...continued



**Mucor racemosus:** Spoilage mould fungus found in soil and house dust. Allergenic spores, causing hypersensitivity.

**Myceliophthora thermophila:** Fungus, tolerant to exposure to high temperatures, commonly found in garden compost heaps. Used for production of thermostable enzymes for industrial processes. Has been implicated in rare fungal infections in humans.

**Penicillium chrysogenum:** Commonly occurring blue mould fungus, used industrially for antibiotic production.

**Proteus mirabilis:** Aerobic Gram negative bacillus, part of the normal human intestinal flora. Pathogenic, causing urinary tract and intestinal infections.

**Proteus vulgaris:** Aerobic Gram negative bacillus, part of the normal human intestinal flora. Pathogenic, causing urinary tract and intestinal infections.

**Pseudomonas aeruginosa:** Aerobic Gram negative bacillus, colonies forming a characteristic blue green pigment with a urine like odour. Ubiquitous in nature. Pathogenic, being a major cause of hospital acquired infections.

**Pseudomonas cepacia:** Aerobic Gram negative bacillus. Pathogenic, associated with many hospital-acquired infections, and closely associated with cases of cystic fibrosis.

**Pseudomonas putida:** Aerobic Gram negative bacillus. Some strains occasionally isolated as opportunistic pathogens.

**Saccharomyces cerevisiae:** Yeast, capable of aerobic and anaerobic fermentation. Used in the food industry for brewing and baking.

**Salmonella enteritidis:** Gram negative bacillus, with over 1000 known pathogenic serotypes, causing enteric or typhoid fever in humans. Found in the gut of animals, birds, and human carriers. Infection is passed through poor hygiene.

**Trychophyton mentagrophytes:** Saprophytic fungus causing dermatophytosis, athlete's foot and other chronic skin infections.

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T: +44 (0)1785 225656  
E: info@addmaster.co.uk

F: +44 (0)1785 225353  
W: www.addmaster.co.uk

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## ITEM 04 OF 13

## ESD

# Static Dissipative Testing

Electrostatic discharge (ESD) performance and surface resistivity testing results for controlled-environment applications.

## SUPPORTING DOCUMENT



## CONFIDENTIAL TECHNICAL REPORT CHEMICAL ANALYSIS OF FILM MATERIAL SURFACE



**Client:** CC Matting Ltd. **Project Number:** 251065  
**Contact:** Mr. Brendan Neary **Purchase Order No:** IV-2025-0085  
**Report Date:** 26<sup>th</sup> January 2026

**Introduction:** Five (5) samples were submitted to the Contract Analytical Services section of the CISD for the comparison of the materials.

The samples were analysed by the following technique:

- Surface Resistivity Testing;

**Sample(s) I.D.:****Table 1.1 – Sample Identification**

| Sample ID | Description               |
|-----------|---------------------------|
| 251065 A  | Sample Mat CC – Matting A |
| 251065 B  | Sample Mat CC – Matting B |
| 251065 C  | Sample Mat CC – Matting C |
| 251065 D  | Sample Mat CC – Matting D |

**Date Received:** Sample was received on 08<sup>th</sup> December 2025.

**Sampling detail:** Samples were analysed directly as received.

**2.0 Test Method:** **Surface Resistivity (SR) Analysis**  
SR Testing was conducted using a MP005768 Surface Resistance Meter. Ten (10) readings were taken per sample and the average value is presented below in Table 3.0.

**3.0 Results:** **SR: Surface Resistivity (SR) Analysis:**  
SR Testing was conducted using a MP005768 Surface Resistance Meter. Ten (10) readings were taken per sample and the average value is presented below in Table 3.0.

**Table 3.0 – SR – Results for Surface Resistivity of Samples 251065A to 251065E**

| Sample ID | Surface Resistivity ( $\Omega/\text{sq}$ ) |
|-----------|--------------------------------------------|
| 251065 A  | $10^{10}$                                  |
| 251065 B  | $10^{10}$                                  |
| 251065 C  | $10^{10}$                                  |
| 251065 D  | $10^{10}$                                  |

**Summary:** By Surface Resistivity testing, there would seem to be no notable difference between the CC Matting samples. All samples are deemed to fall into the static dissipative range.

**4.0 Conclusion:** The value of  $10^{10}$  obtained for the CC Matting samples (251065A to 251065D) would indicate that the charge decay would last in the minutes to hours range.

**5.0 Signatures:** **APPROVED BY:**

Alan Murphy  
Analytical Services Manager

**Analytical Laboratory:** CAS – CISD, Research Hub – TUS-MMW: Athlone, Dublin Road, Athlone, Co. Westmeath

Report Ref: 251068

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## ITEM 05 OF 13

## PERFORMANCE

# Particle Removal Efficiency Report

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Independent laboratory testing data demonstrating particle and fibre removal efficiency of CC Matting Heavy Duty Polymeric Mat under simulated foot and trolley wheel traffic.

## SUPPORTING DOCUMENT



## TEST REPORT

Project 100825-1

Particle Removal Efficiency of CCM Heavy Duty Polymeric Mat

Prepared For:

Brendan Neary  
CC Matting

February 5, 2026

23312 Madero Road, Suite A Mission Viejo, CA 92691 Phone 949-582-3236 Fax 949-582-3249

**Request**

Determine particle removal efficiency of CCM Heavy Duty Polymeric Mat used in cleanroom environments.

**Sample Description**

Two pieces of matting measuring 21 cm x 30 cm were submitted for testing. Mat pieces are gray in color and labeled "CCM".

**Scope**

The test results apply only to the materials, environment and methodology used in this study and are not intended to reflect the product performance in all user applications. Three categories of particles were studied: Particles >5um, particles >100um and fibers >100um. Particles were collected from dirty warehouse floors onto shoe soles and trolley wheels.

**Materials**

Particles and fibers from Warehouse floor dirt  
Sampling tapes with 95 sq.mm circular windows  
Glass microscope slides  
Optical Microscope with calibrated eyepiece micrometer, 100x magnification  
Laminar Flow Hood  
Sneakers with rubber soles  
Trolley wheels (plastic)  
Cleanroom walk-off mats – 2 pieces (AM1)  
70% isopropyl alcohol  
Lint-free polyester cleanroom wipers

**Test Method****SHOE SOLE TEST**

The mat was cleaned with 70% isopropyl alcohol using cleanroom wipers.

The test subject donned the pair of sneakers and cleaned the soles with 70% isopropyl alcohol. When dry, the subject took 3 steps with each shoe onto a dirty area of the warehouse floor. The center of the heel of the left shoe was then tested using the sampling tape. The tape was mounted on a glass microscope slide and labeled. The test subject then stepped three times on the mat with the right shoe and the heel was sampled. The tape was mounted on a glass microscope slide and labeled. The procedure was repeated two additional times.

Particles and fibers on the tapes were counted microscopically at 100x magnification.



#### TROLLEY WHEELTEST

Three sets of plastic trolley wheels were cleaned with 70% isopropyl alcohol and allowed to dry, then rolled across a 1.0-meter length of dirty warehouse floor. The wheels were tested using sampling tapes, which were then mounted on glass microscope slides. The three wheels were cleaned again with 70% isopropyl alcohol, allowed to dry, then rolled across 1.0 meter of dusty flooring. The dirty wheels were then rolled across a 90 cm length of an AM1 walk-off mat. The wheels were tested using sampling tapes, which were mounted on glass microscope slides.

Particles and fibers on the tapes were counted microscopically at 100x magnification.

#### Test Results

Number of Particles/Fibers Counted: Foot Traffic

| Category         |           | Test 1 | Test 2 | Test 3 | Average Removal Efficiency |
|------------------|-----------|--------|--------|--------|----------------------------|
| Particles >5um   | Before    | 185    | 186    | 926    |                            |
|                  | After     | 19     | 9      | 89     |                            |
|                  | % Removal | 89.7%  | 95.2%  | 90.4%  | 91.8%                      |
| Particles >100um | Before    | 11     | 4      | 17     |                            |
|                  | After     | 0      | 0      | 0      |                            |
|                  | % Removal | 100.0% | 100.0% | 100.0% | 100%                       |
| Fibers >100um    | Before    | 7      | 12     | 27     |                            |
|                  | After     | 0      | 2      | 2      |                            |
|                  | % Removal | 100.0% | 83.3%  | 92.6%  | 92.0%                      |

Number of Particles/Fibers Counted: Trolley Wheels

| Category         |           | Test 1 | Test 2 | Test 3 | Average Removal Efficiency |
|------------------|-----------|--------|--------|--------|----------------------------|
| Particles >5um   | Before    | 100    | 328    | 96     |                            |
|                  | After     | 3      | 19     | 20     |                            |
|                  | % Removal | 97.0%  | 94.2%  | 79.2%  | 90.1%                      |
| Particles >100um | Before    | 2      | 7      | 5      |                            |
|                  | After     | 0      | 0      | 0      |                            |
|                  | % Removal | 100.0% | 100.0% | 100.0% | 100%                       |
| Fibers >100um    | Before    | 4      | 38     | 5      |                            |
|                  | After     | 0      | 0      | 0      |                            |
|                  | % Removal | 100.0% | 100.0% | 100.0% | 100%                       |

**Conclusion**

This study challenged the walk-off entry mat CCM with a variety of particles and fibers of different sizes collected from a dirty area of warehouse floor. The mat performed exceptionally well, with particle and fiber removal efficiencies exceeding 90% for all three categories.

**Reference**

Project 100825-1

Report Issued By/Date **Larry Ranta 2/5/26**

## ITEM 06 OF 13

## ADHESION

# Chemical / Tensile Adhesion Analysis

Confidential technical report comparing tensile (tack/adhesion) performance of CC Matting samples against a competitor product under varying preload conditions.

## SUPPORTING DOCUMENT



## CONFIDENTIAL TECHNICAL REPORT CHEMICAL ANALYSIS OF FILM MATERIAL SURFACE



**Client:** CC Matting Ltd. **Project Number:** 251065

**Contact:** Mr. Brendan Neary **Report Date:** 16<sup>th</sup> March 2026

**Introduction:** Three (3) samples were submitted to the Contract Analytical Services section of the CISD for the measurement of the Removal Strength (tack/adhesion) of the samples supplied.

The samples were analysed by the following technique:

- Tensile Testing – AFG (N);

**Sample(s) I.D.:****Table 1.1 – Sample Identification**

| Sample ID | Description              |
|-----------|--------------------------|
| 251065A   | CCM HD Polymeric Matting |
| 251065D   | CCM HD Trial Mat         |
| 251065E   | Competitor Mat           |

**Date Received:** Sample was received on 08<sup>th</sup> December 2025.

**Sampling detail:** Samples were analysed directly as received.

**2.0 Test Method:****Tensile Testing (AFG) Analysis:**

AFG Testing was conducted using a Lloyd Tensometer (LRX). The tensometer was set at 3 separate compressive load settings:

- 50N for 10 seconds;
- 500N for 30 seconds;
- 1000N for 30 seconds;

The instrument load cell was attached to a brass foot and the removal force was measured. Laboratory temperature was recorded as 22.9°C. The readings were taken and the average value is presented below in Table 3.0.

The mat samples were attached to the jig using the supplied market grip tape product and allowed to settle and wet-out before the test was performed.

**Analytical Laboratory:** CAS – CISD, Research Hub – TUS-MMW: Athlone, Dublin Road, Athlone, Co. Westmeath

Report Ref: 251065

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## CONFIDENTIAL TECHNICAL REPORT

### CHEMICAL ANALYSIS OF FILM MATERIAL SURFACE



#### 3.0 Results:

##### Tensile Testing (AFG) Analysis:

AFG Testing was conducted as above and the results for the three settings (50N, 500N or 1000N) are presented below in Table 3.0.

The AFG value is the force needed to remove the brass foot from the mat surface after the preload (50N, 500N or 1000N) was applied.

**Table 3.0 – AFG – Tensile Testing Results for Samples 251065A to 251065E**

| Sample ID           | 50N Preload - AFG (N) | 500N Preload - AFG (N) | 1000N Preload - AFG (N) |
|---------------------|-----------------------|------------------------|-------------------------|
| 251065A1            | 51.6                  | 169.5                  | 141.2                   |
| 251065A2            | 51.5                  | 109.6                  | 131.0                   |
| 251065A3            | 47.9                  | 108.5                  | 124.6                   |
| 251065A4            | 42.9                  | 56.7                   | 72.0                    |
| 251065A5            | 39.8                  | 52.6                   | 129.0                   |
| 251065A6            | 39.4                  | 47.9                   | 88.1                    |
| <b>MEAN AFG (N)</b> | <b>45.5</b>           | <b>90.8</b>            | <b>132.4</b>            |
| 251065D1            | 41.0                  | 131.9                  | 156.4                   |
| 251065D2            | 33.7                  | 130.9                  | 153.8                   |
| 251065D3            | 33.5                  | 90.0                   | 151.8                   |
| 251065D4            | 30.7                  | 58.5                   | 118.0                   |
| 251065D5            | 27.9                  | 45.0                   | 81.8                    |
| 251065D6            | 25.3                  | 43.4                   | 68.4                    |
| <b>MEAN AFG (N)</b> | <b>32.0</b>           | <b>83.3</b>            | <b>117.2</b>            |
| 251065E1            | 57.4                  | 33.3                   | 27.5                    |
| 251065E2            | 48.7                  | 33.3                   | 25.4                    |
| 251065E3            | 42.2                  | 30.9                   | 18.8                    |
| 251065E4            | 30.3                  | 30.1                   | 17.4                    |
| 251065E5            | 28.2                  | 29.5                   | 30.9                    |
| <b>MEAN AFG (N)</b> | <b>41.4</b>           | <b>31.4</b>            | <b>22.3</b>             |

**Summary:** The AFG testing has demonstrated that the 50N (~5kg) preload yielded results all within the same range. Sample 251065A performs the best at the 50N loading.

The AFG result for the 1000N (~100kg) preload has demonstrated that samples 251065A and 251065D (mean 132N and 117N respectively) perform significantly better, in terms of retention/adhesion, when compared to sample 251065E (22N) after 1000N preloading.

**Analytical Laboratory:** CAS – CISD, Research Hub – TUS-MMW: Athlone, Dublin Road, Athlone, Co. Westmeath

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## CONFIDENTIAL TECHNICAL REPORT

### CHEMICAL ANALYSIS OF FILM MATERIAL SURFACE



#### 4.0 Conclusion:

Three (3) samples were submitted to the Contract Analytical Services section of the CISD for the measurement of the Removal Strength (tack/adhesion) of the samples supplied.

The samples were analysed by the following technique:

- Tensile Testing – AFG (N);

**Tensile Testing:** The AFG testing has demonstrated that the 50N (~5kg) preload yielded results all within the same range. Sample 251065A performs the best at the 50N loading.

The AFG result for the 1000N (~100kg) preload has demonstrated that samples 251065A and 251065D (mean 132N and 117N respectively) perform significantly better, in terms of retention/adhesion, when compared to sample 251065E (22N) after 1000N preloading.

#### 5.0 Comments:

The difference in results here indicate that samples 251065A and 251065D can take a more significant loading under compression and the mat samples will still retain adhesive/tack properties whereas 251065E would seem to lose its' adhesive/tack properties at the same higher loading level.

Tensile testing was performed to determine the force required to detach a polished circular brass foot from the surface of three tacky mat materials under varying preload conditions (50 N, 500 N, and 1000 N). The results demonstrate clear differences in adhesion behaviour between the materials, indicating different surface compliance and tack mechanisms.

Samples **251065A** and **251065D** exhibit a strong pressure-dependent adhesion response. As the applied preload increases, the detachment force increases significantly. This behaviour is characteristic of pressure-sensitive adhesion, where increased load promotes greater surface wetting and contact area between the tacky PVC surface and the brass foot.

Under higher preload conditions, the viscoelastic surface layer deforms and flows into microscopic asperities on the brass surface, increasing the real contact area. This results in higher resistance to tensile removal.

Sample 251065A demonstrates the strongest effect, indicating a softer or more compliant surface layer capable of forming greater interfacial contact. Sample 251065D displays a similar mechanism but with lower overall adhesion forces, suggesting a slightly stiffer surface or reduced tack level compared with Sample A.

In contrast, Sample 251065E shows the opposite behaviour. The detachment force decreases as preload increases. This indicates that the material does not behave as a typical pressure-sensitive adhesive surface. Instead, the surface likely exhibits limited viscoelastic flow and may stiffen or collapse under higher loads, reducing the effective tack at the interface.

Under these conditions, the contact may become dominated by solid–solid friction rather than adhesive wetting, leading to reduced removal forces at higher preload.

Overall, the results indicate that Samples A and D function as pressure-activated tack surfaces, while Sample E behaves as a low-compliance surface where adhesion diminishes under higher compressive loading.

These differences are likely related to variations in surface compliance, plasticiser content, surface micro-texture, or filler concentration within the PVC tack layer.

Sample 251065A demonstrated the highest adhesion forces under medium and high preload conditions, indicating superior pressure-activated tack and the greatest potential for effective particle capture and retention under realistic loading conditions.

**Analytical Laboratory:** CAS – CISD, Research Hub – TUS-MMW: Athlone, Dublin Road, Athlone, Co. Westmeath

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**CONFIDENTIAL TECHNICAL REPORT**  
**CHEMICAL ANALYSIS OF FILM MATERIAL SURFACE**



**6.0 Signatures:**

**APPROVED BY:**

Alan Murphy  
*Analytical Services Manager*

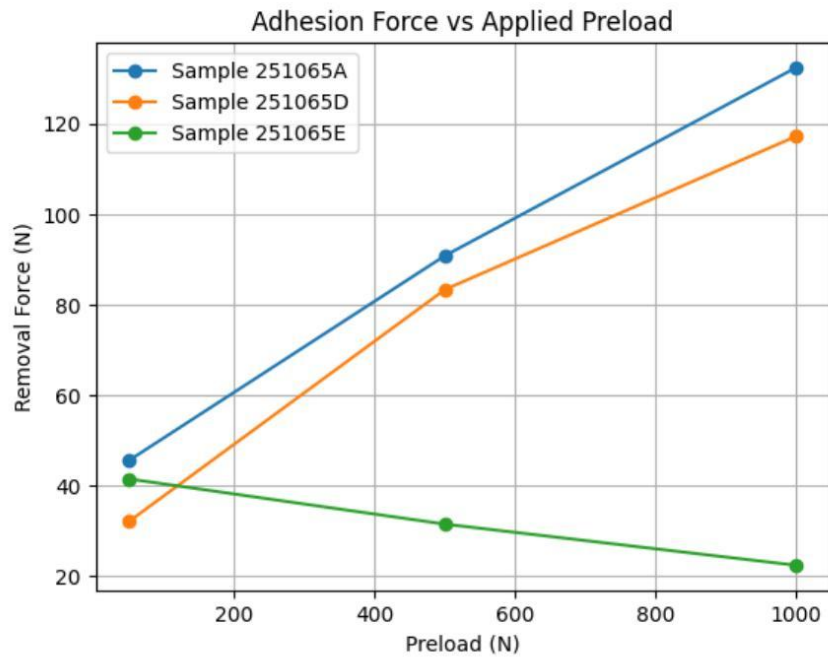
**Analytical Laboratory:** CAS – CISD, Research Hub – TUS-MMW: Athlone, Dublin Road, Athlone, Co. Westmeath

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**APPENDIX 1 – AFG Results**

| Sample ID | Description              |
|-----------|--------------------------|
| 251065A   | CCM HD Polymeric Matting |
| 251065D   | CCM HD Trial Mat         |
| 251065E   | Competitor Mat           |

**Analytical Laboratory:** CAS – CISD, Research Hub – TUS-MMW: Athlone, Dublin Road, Athlone, Co. Westmeath

Report Ref: 251065

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## ITEM 07 OF 13

## SLIP TEST

# Pendulum Slip Resistance Test Report

Pendulum slip test results carried out to BS EN 16165:2021, confirming a Low Slip Risk classification for CC Matting Heavy Duty Polymeric Matting in both wet and dry conditions.

## SUPPORTING DOCUMENT



Grip Doctors Limited  
Unit 5, Block 2  
Ballyboggan Business Centre  
Ballyboggan Road  
Dublin D11H0KF  
+353 1 9617962  
[info@gripdoctors.ie](mailto:info@gripdoctors.ie)

## Pendulum Slip Test Report

Test conducted by: **Gripdoctors Ltd.,**

Test conducted in-house: Unit 5 Block 2, Ballyboggan Business Centre, Ballyboggan Road, Dublin D11 H0KF

Test date: 27/01/2026

Test report date: 28/01/2026

Test carried out according to standard: **BS EN 16165:2021**

Reported results in no way imply that the flooring under test is approved or endorsed by Grip Doctors. Grip Doctors do not give or assume warranty or condition, express or implied, statutory or otherwise, as to condition, quality, performance, merchantability or fitness for the purpose of the test subject and all such warranties and conditions are hereby excluded save to the extent that such exclusion is absolutely prohibited by law. Grip Doctors shall not be liable for any subsequent loss or damage incurred by the client as a result of information contained within this report. Results given herein refer only to areas tested by Grip Doctors.

[www.gripdoctors.ie](http://www.gripdoctors.ie)

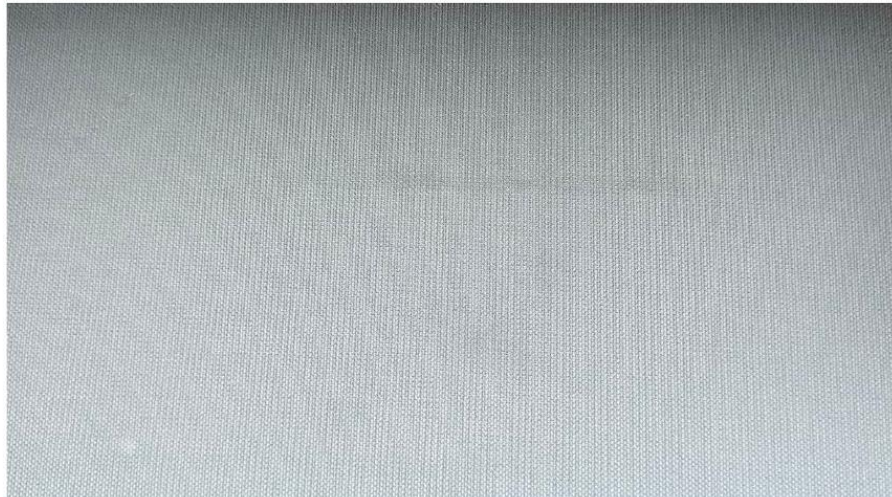
1



Grip Doctors Limited  
Unit 5, Block 2  
Ballyboggan Business Centre  
Ballyboggan Road  
Dublin D11H0KF  
+353 1 9617962  
[info@gripdoctors.ie](mailto:info@gripdoctors.ie)

**MEAN PENDULUM TEST RESULTS:**

CCM Heavy Duty Polymeric Matting:



Slider #96 DRY: 65 PTV; WET: 57 PTV



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Surface temperature: 20°C; Surface level: 0°

Sufficient water was applied to the tested surfaces to simulate a spill according to the manufacturer of the testing equipment, and the UK Slip Resistance Group Guidelines issue 6/2024 for wet testing.

Surface tested with slider **#96 4S** for shod pedestrian traffic.

A slip potential classification for pedestrians walking in straight line on a level surface can then be applied using the following table from the UKSRG Guidelines and the HSA:

**Pendulum Test Values interpretation on level surfaces**

24 PTV and below = HIGH SLIP RISK

25 PTV-35 PTV = MODERATE SLIP RISK

36 PTV and above = LOW SLIP RISK

**Probabilities of slip per PTV value:**

20 PTV = 1 in 2 probability of a slip;

24 PTV = 1 in 20 probability of a slip;

27 PTV = 1 in 200 probabilities of a slip;

36 PTV = 1 in 1 000 000 probabilities of a slip;



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### **FULL PENDULUM SLIP TEST RESULTS:**

CCM Heavy Duty Polymeric Matting:



| Condition | Direction of test | Pendulum Test Values               |    |    |    |    | Mean PTV | Slip Risk Classification |
|-----------|-------------------|------------------------------------|----|----|----|----|----------|--------------------------|
|           |                   | Slider #96 4S for shod pedestrians |    |    |    |    |          |                          |
| DRY       | principal         | 64                                 | 63 | 63 | 63 | 63 | 63       | Low                      |
|           | 90° to principal  | 68                                 | 67 | 68 | 68 | 67 | 68       | Low                      |
|           | 45° to principal  | 65                                 | 65 | 65 | 64 | 64 | 65       | Low                      |
| WET       | principal         | 54                                 | 54 | 53 | 53 | 53 | 53       | Low                      |
|           | 90° to principal  | 62                                 | 61 | 61 | 61 | 60 | 61       | Low                      |
|           | 45° to principal  | 58                                 | 57 | 57 | 57 | 57 | 57       | Low                      |



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### **Theory:**

Theory Research carried out by the Health & Safety Laboratory, in conjunction with the UK Slip Resistance Group (UKSRG) has shown that it is possible to assess the characteristics of floor surface materials needed for satisfactory slip resistance.

The Health and Safety Laboratory has developed a reliable and robust test method that forms the basis of **GripDoctors Limited** report procedure.

The Pendulum Dynamic Coefficient Of Friction test forms the basis of the measurement of a floor. A calibrated "foot" swings from a horizontal point of release, strikes the flooring surface for a known distance then reads the "pendulum test value" on its over swing.

The rubber slider that contacts the floor is constructed of "4S" #96 rubber (standard simulated shoe sole) and is designed to replicate the most common slipping motion experienced by shod pedestrians or TRRL rubber #55 for bare feet pedestrians. Pendulum testing is one of the few methods that model the formation of a hydrodynamic squeeze film between the floor and shoe sole, a major factor in a wet slip.

### **Method:**

#### **BS EN 16165:2021 - Pendulum Testers, Method of Operation**

##### **PTV Slip Potential**

Test carried out using slider #96 4S- for shod pedestrian traffic and/or #55 TRRL for barefoot traffic.

Coefficient of dynamic friction measurement is carried out in accordance with BS EN 16165:2021 standard and the UK Slip Resistance Group Guidelines issue 6/2024.

A prepared standard rubber slider attached to a weighted 'shoe' is allowed to swing from a horizontal point of release. The slider is mounted on a spring loaded bracket and makes contact with the floor for a known distance. The height to which the shoe travels after contacting the floor gives a reading of the Pendulum Test Value (PTV, formally known as SRV Slip Resistance Value).

The dynamic coefficient of friction of a test surface has a direct and measurable effect on the PTV reading obtained.

Test surfaces are subject to eight measurements of the PTV with the first three being discounted from calculations of the mean. Tests are carried out in the principal direction, at 45° to the principal direction and at 90° to the principal direction where allowed by space. Each direction is tested under both wet and dry conditions, totaling 48 measurements.

A mean value is generated for wet and dry tests based on the performance in different directions.

[www.gripdoctors.ie](http://www.gripdoctors.ie)



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#### **Testing equipment:**

##### **TRRL Skid Tester**

Serial No: ST 163  
 Calibrated by: Knightcott Surface Solution Ltd. 16/09/2025 cert: CN 1496  
 Calibration due: 15/09/2026

##### **4S Rubber Sliders (Slider #96)**

Batch No: Slider 96 #58  
 Calibrated by: Knightcott Surface Solutions  
 Calibration date: 28/04/2025  
 Disposal date: 27/04/2026

Calibration checks are carried out regularly by way of check testing on pavigres tiles previously tested by a UKAS accredited laboratory. Further to this, check testing is conducted using lapping film and float glass of a known value.

Sliders are prepared in line with guidance by the UKSRG. Check testing is conducted both on lapping film previously tested by a UKAS accredited laboratory and float glass and pavigres tile. This procedure is conducted prior to a site visit and is in addition to the site check testing.

| Daily Check Test Values |    |    |    |    |    | Mean      | Expected     | Accepted   |
|-------------------------|----|----|----|----|----|-----------|--------------|------------|
| Lapping film            | 64 | 63 | 63 | 63 | 63 | <b>63</b> | <b>59-64</b> | <b>YES</b> |
| Float glass             | 7  | 7  | 7  | 7  | 7  | <b>7</b>  | <b>5-9</b>   | <b>YES</b> |
| Pavigres Tile           | 37 | 37 | 37 | 37 | 36 | <b>37</b> | <b>36±2</b>  | <b>YES</b> |

#### **Yours Faithfully**

*Piotr Pietroszek*

Member of the UKSRG

Email: [piotr@gripdoctors.ie](mailto:piotr@gripdoctors.ie)

Telephone: +353 87 433 7181

[www.gripdoctors.ie](http://www.gripdoctors.ie)

## ITEM 08 OF 13

## SDS

# Safety Data Sheet

Safety data and material specifications for safe handling, storage, and use of CC Matting products.

## SUPPORTING DOCUMENT

**MATERIAL SAFETY DATA SHEET: CCM Heavy Duty Polymer Mat**

Effective Date: 3<sup>RD</sup> MARCH 2026

**Section 1 – Product and Company Identification**

CCM HEAVY DUTY POLYMERIC MATTING. SOLID GREY & SOLID BLUE

**Company Address:** Rockview, Farnahoe, Innishannon, Co. Cork. T12 YF1C

**Emergency Contact:** Brendan Neary 087-3884412

**Section 2 – Composition/Information on Ingredients:**

Thermoplastic nonex pvc polymer with non-migratory plasticizer on a 2ply impregnated fabric made of Ropanol,PUR.

**Section 3 – Hazards Identification**

Ingestion: No probable route of exposure

Skin: Molten material will cause thermal burns

Eye: Mechanical irritation only

Inhalation: Stock shapes are not respirable

**Section 4 – First Aid Measures**

If exposed to fumes from overheating, move to fresh air. Consult a physician if symptoms persist.

Skin: Not applicable

Eyes: Not applicable

Ingestion: Not applicable

**Section 5 – Fire Fighting Measures**

CCMatting Ltd,Rockview, Farnahoe, Innishannon, Cork. CO. Reg No: 621482.  
VAT NO#: 3527847FH. EORI#: IE3527847FH. Commodity Code#: 3918 10 10 90





Flash ignition temperature: 500° F

**Unusual fire, explosion hazards:** Polyester Polymer will not continue to burn after ignition without an external fire source.

**Hazardous combustion products:** Burning liberates HCL gas

**Special firefighting instructions:** Fire fighters and others exposed to products of combustion should wear full protective clothing including self-contained breathing apparatus. Firefighting equipment should be thoroughly decontaminated after use.

**Extinguishing media:** Water spray, CO2 or Foam extinguishing agent

#### **Section 6 – Accidental Release Measure**

**Spill or release:** Not applicable

#### **Section 7 – Handling and Storage**

Practice reasonable care and caution when handling

Store at room temperature

#### **Section 8 – Exposure Controls/Personal Protection:**

Eye: Not applicable

Skin: Not applicable

Ventilation: Not applicable

Respirator: Not applicable

#### **Section 9 – Physical and Chemical Properties**

Appearance: Coated fabric sheet

Odor: Odorless

Melting Point: This product does not exhibit a sharp melting point, but softens gradually over a wide temperature range.

Solubility in water: Insoluble

Volatile content %: 0

Specific gravity: 1.39

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VAT NO#: 3527847FH. EORI#: IE3527847FH. Commodity Code#: 3918 10 10 90



**Section 10 – Stability and Reactivity.**

**Stability at room temperature:** Stable

**Materials to avoid:** Acetones and abrasive agents

**Conditions to avoid:** Open flames

**Section 11 – Toxicological Information**

Not applicable

**Section 12 – Ecological Information**

No known hazards

**Section 13 – Disposal Considerations**

Recycling recommended whenever possible; landfill or incineration in compliance with local regulations

**Section 14 – Transport Information**

Hazard class: Not applicable

Shipping name: Not applicable

**Section 15 – Regulatory Information**

This product contains no known toxic chemicals

**Section 16 – Other Remarks**

None.

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VAT NO#: 3527847FH. EORI#: IE3527847FH. Commodity Code#: 3918 10 10 90



ITEM 09 OF 13

NPI 2026

## CCM NPI Brochure 2026

New Product Introduction brochure outlining the 2026 CC Matting product range, contamination control performance, and specifications.

### SUPPORTING DOCUMENT

The graphic is a vertical rectangular layout with a dark blue header and footer. The main body has a light blue background. At the top, the 'CC matting' logo is in a stylized blue font, with 'CONTAMINATION CONTROL' in white bold text below it. A white text box states: 'A 3M study, determined 80% of contaminants entering critical areas were carried in by wheeled and foot traffic'. Below this is a red banner with white text: 'Reduce your carbon footprint with implementation of a CC Polymer matting system.' The central part features large blue text: 'UP TO 99% CONTAMINATION CONTROL OVER 6 FALLS OF THE FEET'. To the left is a circular '2 YEARS WARRANTY' seal. In the center is an illustration of a worker on a blue mat with footprints. To the right of the mat, three data points are shown with red dashed lines pointing to footprints: 'After 6 footfalls or 3 wheel rotation 99% EFFECTIVE', 'After 4 footfalls or 2 wheel rotation 66.6% EFFECTIVE', and 'After 2 footfalls or 1 wheel rotation 33.3% EFFECTIVE'. The footer contains three red boxes: 'CE MARKED' with a CE symbol, 'REACH COMPLIANT' with a checkmark, and 'VOC TESTED' with a crossed-out VOC symbol. Below these are the email 'sales@ccmatting.ie' and the website 'www.ccmatting.ie'.

**CC matting**  
**CONTAMINATION CONTROL**

A 3M study, determined 80% of contaminants entering critical areas were carried in by wheeled and foot traffic

Reduce your carbon footprint with implementation of a CC Polymer matting system.

**UP TO 99% CONTAMINATION CONTROL OVER 6 FALLS OF THE FEET**

**2 YEARS WARRANTY**

After 6 footfalls or 3 wheel rotation  
**99% EFFECTIVE**

After 4 footfalls or 2 wheel rotation  
**66.6% EFFECTIVE**

After 2 footfalls or 1 wheel rotation  
**33.3% EFFECTIVE**

**CE MARKED** **REACH COMPLIANT** **VOC TESTED**

**sales@ccmatting.ie** **www.ccmatting.ie**

## HOW THE CC POLYMER MAT WORKS



**ISO**  
**45001:2018**  
CERTIFIED

**ISO**  
**9001:2015**  
CERTIFIED

Due to the smooth soft supple surface and high level of short range electromagnetic forces called Van der Waals forces. It's the combination of these properties which enable the mat to attract and retain particles from over 100 microns down to a few nanometres.

A contamination control mat is a high energy contamination control flooring system made from high tack polymer. The particle retention of

the CC floor mat is based on its liquid smooth surface, which allows greater contact with each layer of contamination from feet or wheels. The high tack surface is slightly conforming, which allows a concentrated loading of particles / overstrikes in the same traffic area. The mat works so well due to the very smooth and slight soft surface which allows for a greater packing of particles on the surface.

## EFFECTIVE ANTIBACTERIAL TECHNOLOGY

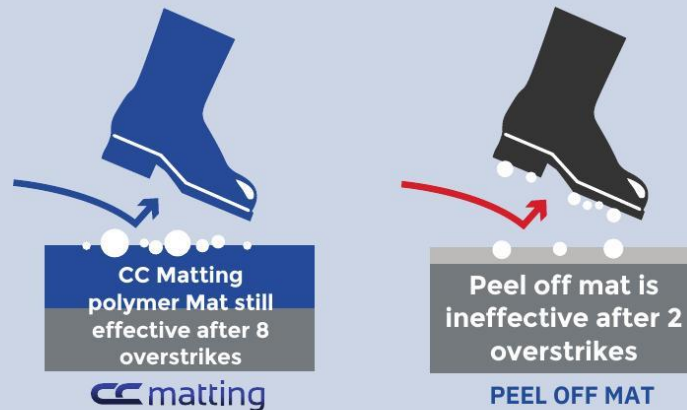


**Biomaster**  
Antimicrobial Technology

Silver is inorganic and non-leaching which means, unlike organic antimicrobial technologies it stays within the item it is added to and provides effective and lasting antimicrobial protection without allowing bacteria to develop resistance. Silver-ion technology has been independently tested in over 2000 applications and has been proven to reduce the growth of over 50 harmful

organisms by up to 99.9%. CCMatting products incorporate "Biomaster™ Antimicrobial Technology" from Addmaster as an integral part of their polymer composition. This advanced antimicrobial solution inhibits the growth of bacteria, fungi, mould, and other microorganisms, supporting cleaner products, safer processes, and more controlled environments.

## When Peel Off Mats Fail, CC Polymeric Mats Outperform

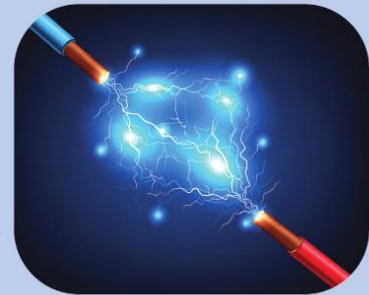


If your facility is using Peel off mats STOP! A CC Matting HD polymeric mat system will drastically improve your levels of contamination control, reduce your carbon footprint, increase your ESG score and over the life of a polymer mat you will see a minimum of a 60% cost saving if you are following manufacturers recommendations regarding peels per shift. There will also be a drastic aesthetic improvement.

|                            | CC Matting<br>Polymer Mats                                   | Adhesive Peel off<br>Mats                                              |
|----------------------------|--------------------------------------------------------------|------------------------------------------------------------------------|
| Size                       | Unlimited<br>width & length available                        | 1.17m x 0.92,<br>1.15m x 0.46                                          |
| CC<br>Effectiveness        | 99%                                                          | 27%                                                                    |
| Particle<br>Shedding       | 0-15k<br>(at the end of the cycle)                           | 300K<br>(at end of 8hr shift )                                         |
| Environmental<br>Footprint | 100% RECYCLABLE<br>4-5 yr lifecycle                          | NON RECYCLABLE<br>increased landfill usage<br>short lifespan-8hr shift |
| Volatility                 | VERY LOW - Safe for<br>use in most demanding<br>environments | VERY HIGH -<br>Static & particle<br>shredding                          |

## Is Electro Static Discharge An Issue?

If your facility is at risk from electrostatic discharge - CC Matting has the solution for you. Surface resistivity ( $\Omega/\text{sq}$ ) governs how easily electrical charge can move across a material's surface. The CC matting polymer mat is proven to dissipate anti static at  $10^{10}$  Ohms and reduce the damage ESD can cause. With dissipation at these levels this also lends the mat to attract and retain particles at a higher level and also attract up to 75% of airborne particulate.



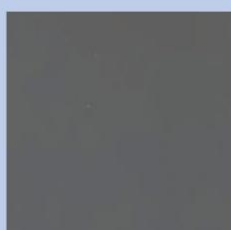
## CC Matting Compliance / Efficacy

- |                                                                                                                                                   |                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
|  <b>CE Marked</b>                                              |  <b>Antimicrobial Properties</b> |
|  <b>REACH Compliant</b>                                        |  <b>ISO 9001</b>                 |
|  <b>VOC Tested</b>                                             |  <b>ISO 45001</b>                |
|  <b>Forklift Traffic Suitable</b>                              |  <b>Static Dissipative</b>       |
|  <b>Annual Performance Test / Contamination Control Report</b> |  <b>2 Yr Warranty</b>            |

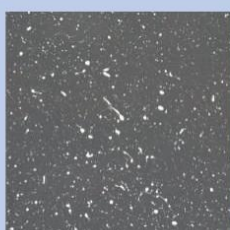
## CC Matting Polymer Mats Typical Applications:

- Biomedical
- Pharmaceutical
- Medical device
- Life science
- Microelectronics
- Optics
- Solar
- Semiconductor
- Data Storage
- Animal Lab
- Automotive OEM
- Food Processing
- Hospitals
- Aerospace
- Data Centres & Other Critical Industrial Applications

### Colours



Solid Grey / Grey Speckled



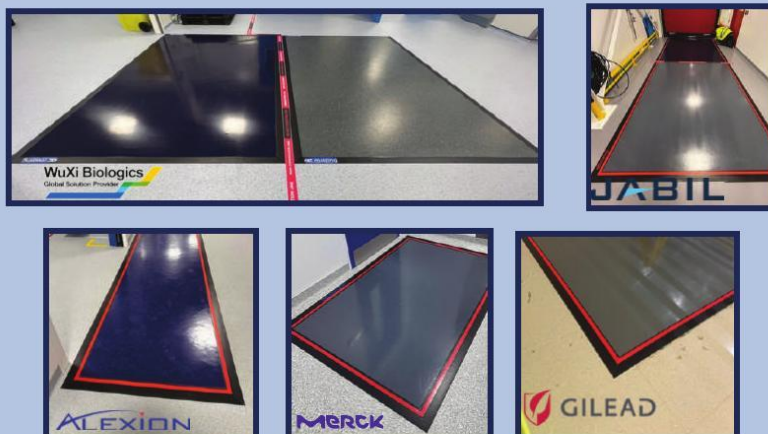
Blue



Blue Speckled

## CC Matting Heavy Duty Polymeric Matting

From our almost 10 years of experience in the contamination control industry we have developed a polymeric mat that is the strongest most durable contamination control mat on the market. Not only is it the most durable, but it's also scientifically proven to have the highest pull-off force (N) from the mat with a smooth polished brass foot, compared to any other product on the market\*(Note 1).



It is made from a polyester polymer with a non-migratory plasticizer and a double layer of polyester fabric backing giving it a load resistance of 130 kg/cm<sup>2</sup> (there is no other product available on the market rated to this load resistance). This makes the mat far more suitable for high traffic areas and where motorized pallet trucks and forklifts are in use. CC Matting supply and install our mats world-wide with our own team of qualified / trained installers and distributors. If a CC mat needs to be removed, due to its semi-permanent installation no remedial work is required to the existing subfloor. Simply peel off, dispose, degrease and clean the floor and ready for a new mat to be installed.

## Some Of Our Customers



\*Note 1: This pull of force is used to verify the effectiveness of our mats on an annual basis part of the Annual Performance Test / Contamination Control Report.

ITEM 10 OF 13

ISO CLASS 5

# Cleanroom Material Qualification Certificate

Fraunhofer IPA Qualification Certificate confirming CC Matting Heavy Duty Polymeric Matting is suitable for ISO Class 5 cleanroom environments.

## SUPPORTING DOCUMENT



CCMatting Ltd  
Report No. CC 2603-1736  
Cleanroom (atmospheric)

# Cleanroom<sup>®</sup> Suitable Materials

CCM HD Polymeric Matting S.G.  
vs. reel PA6: ISO 5  
Particle Emission (flooring)

## FLOORING & COATING

Single product  
Particle Emission  
in Cleanroom  
(atmospheric)

## Qualification Certificate

We hereby certify that the material stated above, provided by

CCMatting Ltd  
Cork, Ireland

has been awarded the Fraunhofer IPA CSM Certificate of Qualification with the report number CC 2603-1736.

The level of particulate contamination emitted during application of tribological stress on the material pairing in cleanroom (room temperature:  $22^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ ; relative humidity:  $45\% \pm 5\%$ ) specified lies within the permissible values of the corresponding Air Cleanliness Class in accordance with ISO 14644-1:

| Material pairing and test procedure                 |         | Suitable for Air Cleanliness Class |
|-----------------------------------------------------|---------|------------------------------------|
| CCM HD Polymeric Matting<br>SOLID GREY (solid gray) | vs. PA6 | ISO Class: 5                       |
| Reel-on-disc test<br>Normal force: 300 N            |         |                                    |

This document only applies to the named product in its original state and is valid for a period of 5 years from the date the first document was issued. The document can be verified under [www.tested-device.com](http://www.tested-device.com).

Detailed information and parameters of the test environment can be found in the Fraunhofer IPA test report.

The norms stated generally refer to the version valid at the time of the tests.

CC 2603-1736  
Report No. first document  
---  
Report No. current document

Stuttgart, June 17, 2026  
Place, date of first document issued  
---  
Place, current date  
on behalf of   
Dr.-Ing. Frank Bürger, head of business unit Testing and Certification

 **Fraunhofer**  
IPA

ITEM 11 OF 13

ISO CLASS 5

# Cleanroom Particle Emission Test Report

Detailed Fraunhofer IPA test report supporting ISO Class 5 cleanroom material qualification, covering particle emission methodology, results, and classification.

## SUPPORTING DOCUMENT



Fraunhofer Institute for Manufacturing  
Engineering and Automation IPA

Director  
Prof. Dr.-Ing. Thomas Bauernhansl  
Prof. Dr.-Ing. Alexander Sauer

Nobelstrasse 12  
70569 Stuttgart

Phone + 49 711 970-00 | Fax -1399  
[www.ipa.fraunhofer.de](http://www.ipa.fraunhofer.de)

Test report

## Particle Emission in Cleanroom (atmospheric)

Customer: CCMatting Ltd  
Rockview  
Farnahoe, Innishannon  
T12 YF1C Co. Cork  
Ireland

Project Assistants: CTA Andrew Schönhaar

Report No. CC 2603-1736-2

Stuttgart, Germany, June 17, 2026



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## 1 Overview of the measurements

Tests were conducted on:

| Test Piece | Description of test piece |
|------------|---------------------------|
| TP02       | CCM HD Polymeric Matting  |

Figure 1

Assessed test piece

The detailed test piece information can be found in the overview report **CC 2603-1736**.

The norms stated generally refer to the version valid at the time of the tests.



## 2 Airborne particle emission tests on application with tribological stress according to CSM classification and VDI 2083 Part 17

### 2.1 Procedure for particle emission tests

#### 2.1.1 Cleanroom-suitable material test bench

A special, cleanroom-suitable material test bench developed by Fraunhofer IPA and called "Material Inspec" is used for the tests. The test bench enables material pairings to be subjected to controlled tribological stress and permits the resulting particulate emissions to be measured without the influence of any cross-contamination.



Figure 2 Cleanroom-suitable material test bench "Material Inspec" developed by Fraunhofer IPA with module for ball-on-disk test. The module can be replaced if necessary with the module for reel-on-disc test.

### Tribological stress

The cleanroom-suitable material test bench "Material Inspec" enables tests to be carried out using the tribological methods known as **reel-on-disk** and **ball-on-disk** tests.

With the **reel-on-disk test**, a reel with a **normal force  $F$**  is pressed onto the surface of a disk rotating with the **frequency  $f$** . The reel is not fixed, enabling it to roll across the surface of the disk. The width of the reel causes a line-shaped contact point to be formed; the single **test distance  $s$**  (= circumference with known **radius  $r$** ) and **relative velocity  $v$**  vary over the course of this line.

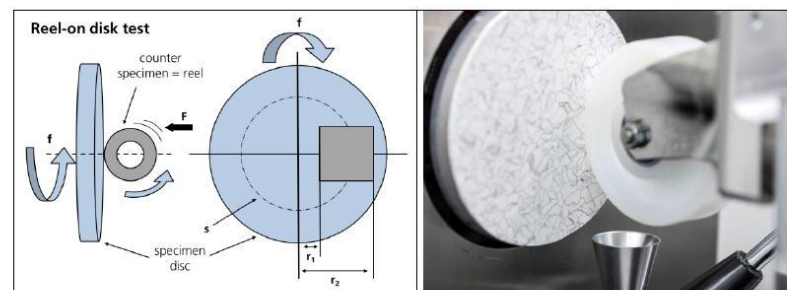


Figure 3

Tribological stress on material pairing – principle of reel-on-disk test

The reel-on-disk test is especially suitable for simulating **stress on floor coverings due to movable devices** (e.g. trolleys). Test conditions are very similar to those experienced by the test piece in reality.

All of the tests which are carried out are model tests. This means that the forces mentioned or applied are similar to but may not be exactly the same as those encountered in reality. This fact requires special consideration when interpreting the results and transferring them to real components.

#### 2.1.1.1 Force transmission and measurement recordings

The normal force is applied using a force transmission unit. For the reel-on-disk test, steel springs are utilized because of the increased forces. The **normal force** applied is recorded continuously during the test using a load cell based on the principle of the strain gauge.

#### Particle measurement

Particulate emissions are measured directly beneath the point of contact of the material test specimen. In the case of the reel-on-disk test, because of the broader line-shaped contact, a cylindrical particle probe with an aperture of 35 mm in diameter is used.

The area of contact has been specially designed from an airflow point of view to ensure that the majority of particles emitted are detected.

Particle emissions are measured continuously during the tests with a measuring interval of 6 seconds (determined by the device used).



### 2.1.1.2 Test parameters

For the reel-on-disk tests, the essential test parameters affecting particulate emission include the **single measuring track  $s$** , the **relative velocity  $v$** , the **normal force  $F$**  and the **number of revolutions  $N$** . Standardized sets of stress parameters are formed using these values to facilitate the comparison of results obtained from the various tests.

Note that with the reel-on-disk test the values stated for the single test distance and relative velocity refer to the center of the line-shaped contact area between the reel and the disk.

| Set of parameters | $s$<br>[mm] | $v$<br>[mm/s] | $F$<br>[N] | $N$  |
|-------------------|-------------|---------------|------------|------|
| B01               | 250         | 150           | 15         | 1500 |
| B02               | 250         | 150           | 45         | 1500 |
| B03               | 250         | 150           | 75         | 1500 |
| B04               | 250         | 150           | 90         | 1500 |
| B05               | 250         | 150           | 120        | 1500 |
| B06               | 250         | 150           | 150        | 1500 |
| B07               | 250         | 150           | 165        | 1500 |
| B08               | 250         | 150           | 195        | 1500 |
| B09               | 250         | 150           | 225        | 1500 |
| B10               | 250         | 150           | 240        | 1500 |
| B11               | 250         | 150           | 270        | 1500 |
| B12               | 250         | 150           | 300        | 1500 |

Figure 4

Defined set of stress parameters; reel-on-disk test

The amount of stress to be applied to each material pairing is decided upon individually by Fraunhofer IPA on taking into account the quantity of particles generated and the measuring range of the device used in the test.



The following table shows the degree of accuracy achieved when setting the test parameters as well as fluctuations in these parameters which are experienced during the tests.

|                          | Accuracy;<br>maximum variation during test |
|--------------------------|--------------------------------------------|
|                          | Reel-on-disc test                          |
| Normal force F           | 0.01 N; +/- 3 %                            |
| Single measuring track s | 0.1 mm; n.a.                               |
| Relative velocity v      | 0.5 mm/s; +/- 3 %                          |
| Number of revolutions N  | +/- 1 %                                    |

Figure 5

Degree of accuracy achieved when setting the test parameters and fluctuations thereof during the test

### 2.1.2 Cleanroom environment

All tests are carried out at the Fraunhofer IPA Competence Center for Ultraclean Technology and Micromanufacturing. Measurements are taken in a cleanroom fulfilling Class 1 specifications (in accordance with ISO 14644-1). A vertical, unidirectional airflow prevails in the cleanroom with a first air flow velocity of 0.45 m/s. Environmental conditions are kept constant with a room temperature of  $22\text{ °C} \pm 0.5\text{ °C}$  and a relative humidity of  $45\% \pm 5\%$ .

In compliance with ISO 14644-1, Cleanroom "Class 1" means that only two particles the size of  $0.2\text{ }\mu\text{m}$  may be found in a reference volume of one cubic meter in the first air (filtered air introduced into the cleanroom). In practical operation, even fewer particles are found in this class.

### 2.1.3 Particle measuring technique

Optical particle counters are utilized to determine particle emission during the tests.

Optical particle counters function according to the theory of scattered light. Using a sampling probe, a defined volume of air of 1 cubic foot ( $1\text{ cft} = 28.3\text{ liters}$ ) is sucked in per minute and guided into a measuring chamber via a tube connected to it. The air sucked in is illuminated by a laser beam. As soon as a particle carried by the airflow is hit by a light ray, the light is scattered and recorded by photo-detectors.

The amount of impulses registered equates to the number of particles found in the volume of air; the height of the impulse gives an indication of particle size.



Depending upon the size and amount of particles generated, the following measuring device is used.

| Model         | Company           | Particle sizes detected              |
|---------------|-------------------|--------------------------------------|
| LasAir II 110 | PMT AG, Heimsheim | 0.1 / 0.2 / 0.3 / 0.5 / 1.0 / 5.0 µm |

Figure 6

Optical particle counters used to record particle emissions

The volume of air sucked in by the device is 1 cft/min = 28.3 l/min.

In order to obtain a chronological progression of the particles emitted, particle measurements are recorded every 6 seconds.

#### 2.1.4 Test procedure

The test specimens are **introduced** into the cleanroom before the tests are commenced. In the process, the surfaces of the test pieces and a new reel (for each test series) are cleaned to remove any sedimented particles or filmy contamination which may be present.

Before the actual test is performed, the reel is first run in using an initial sample in order to remove any contamination from the reel resulting from the manufacturing process. Of course, the results of this pre-test are rejected and not included in the assessment.

Where possible, the **tribological test** is carried out using **one set of stress parameter**, taking into account the quantity of particles generated. To ensure reliability of the results, **10 repeated tests** are carried out for each set of stress parameter.



2.2 Material samples for particle emission tests

| Tested materials |                          |                   |                  |           |      |
|------------------|--------------------------|-------------------|------------------|-----------|------|
| ID <sup>1</sup>  | Specimen                 | Typ of load       | Counter specimen | Lubricant | Load |
| IP CCMATTING 01  | CCM HD Polymeric Matting | Reel-on-disk test | PA6 Nylon        | (none)    | B12  |

Figure 7

Materials for the particle emission tests

For the material pairing IP CCMatting 01, a floor covering founded on a 15 mm thick disk with and a diameter of 140 mm are used as specimens. A reel with a width of 60 mm and a diameter of 100 mm, made of PA6 Nylon, is used as counter specimen.

Photographs of the materials tested:

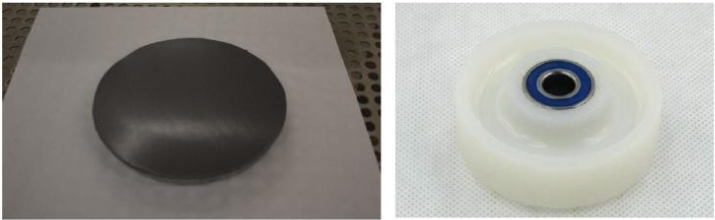


Figure 8

Materials tested – left: CCM HD Polymeric Matting; – right: PA6 Nylon

<sup>1</sup> Material identifier used within this report.

## 2.3 Particle emission results

### 2.3.1 Differential progression of particle emission

#### 2.3.1.1 Method

Particle emission is measured every 6 seconds during the application of tribological stress. Depending upon the particle counter used, particle emission is classified into various **particle size channels**. The values measured are expressed **cumulatively**, i.e. the result for one size always includes all particles equal to or larger than the reference size for that channel. For example, the information obtained for the particle size 0.1  $\mu\text{m}$  includes all particles with a diameter of 0.1  $\mu\text{m}$  or larger.

Each diagram shows the progression of particle emission measured in the smallest particle size channel for the ten repeated tests on application of one set of stress parameters. Where appropriate, the **scale of the y-axis** is adjusted, please note that the scale may vary from one graph to another!

#### 2.3.1.2 IP CCMATTING 01: CCM HD Polymeric Matting versus PA6 Nylon

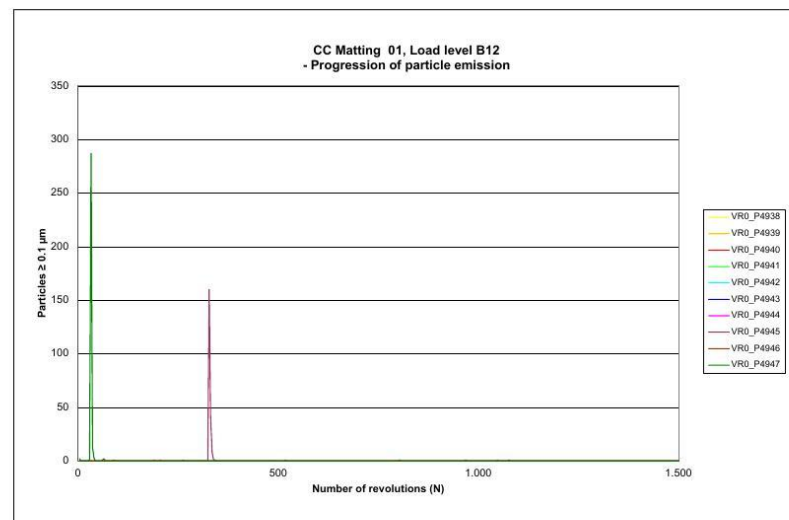


Figure 9

IP CCMATTING 01 – progression of particle emission, particle size 0.1  $\mu\text{m}$ , set of stress parameters B12



### 2.3.2 Size distribution of the emitted particles

#### 2.3.2.1 Measurement Method

From the particle emission progression data, the percentage of each particle size in relation to the total count of emitted particles is calculated. If, for example, the particle sizes 0.1  $\mu\text{m}$ , 0.2  $\mu\text{m}$ , 0.3  $\mu\text{m}$ , 0.5  $\mu\text{m}$ , 1.0  $\mu\text{m}$  and 5.0  $\mu\text{m}$  are recorded by the optical particle counter, the percentage of the

- Particles in the size channel 0.1  $\mu\text{m}$  relates to particles with a diameter of 0.1  $\mu\text{m}$  to 0.2  $\mu\text{m}$ ,
- Particles in the size channel 0.2  $\mu\text{m}$  relates to particles with a diameter of 0.2  $\mu\text{m}$  to 0.3  $\mu\text{m}$ ,
- Particles in the size channel 0.3  $\mu\text{m}$  relates to particles with a diameter of 0.3  $\mu\text{m}$  to 0.5  $\mu\text{m}$ ,
- Particles in the size channel 0.5  $\mu\text{m}$  relates to particles with a diameter of 0.5  $\mu\text{m}$  to 1.0  $\mu\text{m}$ ,
- Particles in the size channel 1.0  $\mu\text{m}$  relates to particles with a diameter of 1.0  $\mu\text{m}$  to 5.0  $\mu\text{m}$ ,
- Particles in the size channel 5.0  $\mu\text{m}$  relates to particles with a diameter equal to or greater than 5.0  $\mu\text{m}$ .

Values are obtained from all ten repeated tests. The size channel stated is dependent upon the optical particle counter used in the tests.

In order to ensure reliability of the data, only those percentages of particles are calculated where a minimum of 100 particles was observed in the smallest size channel in the course of the entire test.

The following diagrams show the particle size distribution for the material pairings and the corresponding sets of stress parameters. If data is absent in the diagram, this means that the required minimum count of 100 particles was not recorded in the smallest size channel.

### 2.3.2.2 IP CCMATTING 01: CCM HD Polymeric Matting versus PA6 Nylon

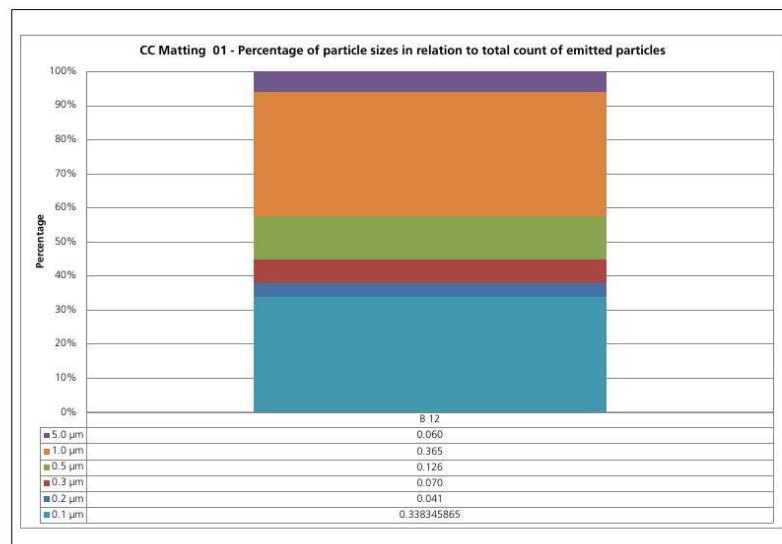


Figure 10

IP CCMATTING 01 – CCM HD Polymeric Matting versus PA6 Nylon

## 2.3.3 Classification according to CSM classification and VDI 2083 Part 17

### 2.3.3.1 Method

In general, airborne particulate contamination is the main issue considered when assessing cleanroom suitability. The most important aspects of this are the size and concentration of airborne particles. Relevant standards state limiting values for the concentration of airborne particles in dependence upon particle size, as found in ISO 14644-1. This norm describes the quality of cleanrooms using Air Cleanliness Classes ranging from 1 to 9. The lowest class, Class 1, fulfills the highest requirements with regard to air cleanliness; the limiting value of particles permitted increases with each successive cleanroom class. Calculations can be made for limiting values of any particle size between 0.1 µm and 5.0 µm for all classes using the method for calculating permitted limiting values as described in ISO 14644-1. The norm states the maximum permitted number of particles of each size for the reference volume (in this case: 1 m<sup>3</sup>).

The tests performed record particle emissions generated when tribological stress is applied to material pairings. The amounts of particles measured are dependent upon the material pairing concerned and the set of stress parameters applied. In order to better appreciate the differences, Fraunhofer IPA has developed a method which enables classifications to be made based on the measurement results obtained using the procedure stated in ISO 14644-1.



In accordance with the procedure laid down in ISO 14644-1 for determining the permitted particle concentration of different Air Cleanliness Classes, limiting values are ascertained for the given particle size classes taking the test conditions into consideration. The limiting value is obtained from the test volume of air (sampling time multiplied by the particle counter's constant volume flow of 28.3 l/min) and the permitted particle concentrations (particles/m<sup>3</sup>) for the corresponding Air Cleanliness Class and particle size. A comparison of these limiting values with the total counts of emitted particles gives the classification figure for the test. The calculation method has been extended to include particles sized between 0.1 µm and 25.0 µm.

Care is to be taken when comparing the classification figures; consideration of the particle size in relation to the values and also of the set of parameters applied in the respective test.

Then repeat measurements are carried out on each material pairing. This figure is used in the corresponding tables and diagrams.

The following tables show the classification figures obtained for the material pairing. The availability of classification figures for the various particle sizes depends upon the resolution of the optical particle counter used.

### 2.3.3.2 Overview of classification results

| CCM HD Polymeric Matting              |              |                        |        |        |        |        |        |
|---------------------------------------|--------------|------------------------|--------|--------|--------|--------|--------|
| Load level                            | Normal force | Detected particle size |        |        |        |        |        |
|                                       |              | 0.1 µm                 | 0.2 µm | 0.3 µm | 0.5 µm | 1.0 µm | 5.0 µm |
| B12                                   | 300 N        | 2.1                    | 2.6    | 2.9    | 3.3    | 3.9    | 4.5    |
| Classification relevant to documents: |              |                        |        |        |        |        | 5      |

Figure 11

IP CCMATTING 01: CCM HD Polymeric Matting versus PA6 Nylon  
Overview of classification value attained in accordance with ISO 14644-1

The level of particulate contamination emitted during application of tribological stress on the material pairing **CCM HD Polymeric Matting versus PA6 Nylon** lies within the permissible values of the corresponding Air Cleanliness Class **ISO Class 5** in accordance with ISO 14644-1.

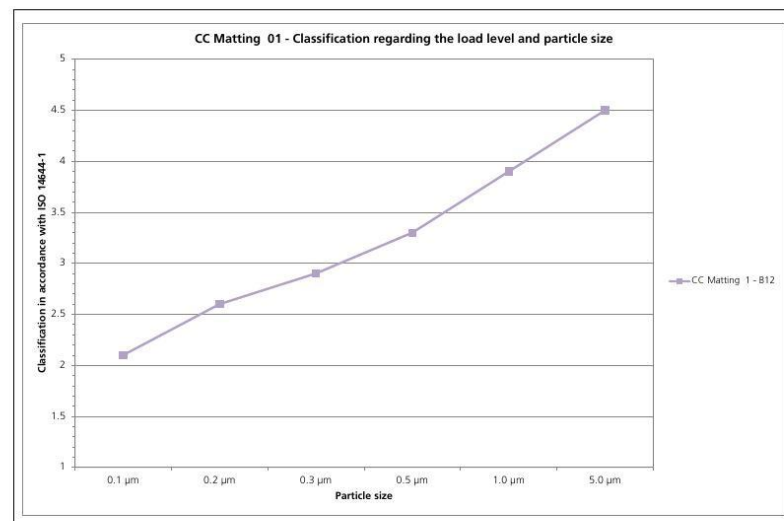


Figure 12

IP CCMATTING 01: CCM HD Polymeric Matting versus PA6 Nylon  
Classification in accordance with ISO 14644-1 in dependence upon the particle size

## ITEM 12 OF 13

## OUTGASSING

# Vacuum Outgassing Certificate (ASTM E595)

Certificate confirming CC Matting Heavy Duty Polymeric Matting meets historical screening levels referenced in ASTM E595 for total mass loss and collected volatile condensable materials.

## SUPPORTING DOCUMENT



Element Materials Technology Baltimore  
AKA: NTS Labs, LLC  
5 North Park Drive  
Hunt Valley, MD 21030

Certificate #: PUS58003100

Page 1 of 1

EAR-CONTROLLED DATA

410-584-9099  
info.baltimore@element.com  
www.element.com

## Certificate

Date In: April 17, 2026

**Customer:**

CC Matting Ltd  
Rockview, Famaohoe  
Innishannon Co. Cork  
T12 YF1C  
Ireland

**Purchase Order Number:** EMT01

Element Materials Technology Baltimore certifies that the below referenced test item has been subjected to the specified tests set forth in the Purchase Order referenced above.

The submitted CCM Heavy Duty Polymeric Matting material meets the historical screening levels referenced in ASTM E595 when tested at 50°C.

Refer to the table below for a list of testing details.

| Qty. | Test Item Description            | P/N                   | Test Method                  | Test Dates      | Results                                    |
|------|----------------------------------|-----------------------|------------------------------|-----------------|--------------------------------------------|
| 1    | CCM Heavy Duty Polymeric Matting | CCHD-SPBL-DIST-2M-003 | ASTM E595 (Modified to 50°C) | May 12-14, 2026 | TML = 0.29%<br>CVCM = 0.08%<br>WVR = 0.10% |

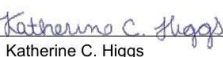
**References**

- CC Matting Purchase Order Number EMT01 dated 16 April 2026
- Element Quotation Number QUO-000805304-1 dated 20 February 2026
- ASTM E595-15, Standard Test Method for Total Mass Loss and Collected Volatile Condensable Materials from Outgassing in a Vacuum Environment (Modified)
- ISO/IEC 17025:2017, General Requirements for the Competence of Testing and Calibration Laboratories

TESTING PERFORMED BY:

  
Joshua Zommick  
Materials Engineer II

TECHNICAL/QUALITY APPROVALS:

  
Katherine C. Higgs  
Dept. Manager, Special Projects

This report and the information contained herein represents the results of testing of only those articles/products identified in this document and selected by the client. The tests were performed to specifications and/or procedures approved by the client. Estimated uncertainty values, or other machine correction factors shall not be used in assessing compliance to specification requirements, unless specifically requested by the customer. This report should not be relied upon as an endorsement or certification by Element of the item tested, nor does it present any statement whatsoever as to the merchantability or fitness of the test article or similar products for a particular purpose. This report shall not be reproduced, except in full, without prior permission of Element Materials Technology-Baltimore.

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ITEM 13 OF 13

CE / DoP

# CE Declaration of Performance

Declaration of Performance issued under the Construction Products Regulation, confirming declared essential characteristics for CC Matting Heavy Duty Polymeric Matting as a floor covering.

SUPPORTING DOCUMENT



Declaration of Performance

Construction Products Regulations

|                                    |                                                                                    |
|------------------------------------|------------------------------------------------------------------------------------|
| Product Type                       | CCM Heavy Duty Polymeric Matting                                                   |
| Batch Number                       | CCHDPM 01                                                                          |
| Intended Use                       | Internal and external use as floor covering.                                       |
| Manufacturer                       | CC Matting Ltd,<br>Rockview,<br>Farnahoe,<br>Innishannon,<br>Co. Cork,<br>Ireland. |
| AVCP System                        | System 4                                                                           |
| Harmonised Technical Specification | IS EN 14041 2004 + AC 2006                                                         |
| Laboratory                         | SGS CSTC Standards Technical Service<br>73 Fucheng Rd., Haidian, Beijing, China    |

| Declared Performance Essential Characteristics | Performance     | Harmonised Technical Specification |
|------------------------------------------------|-----------------|------------------------------------|
| Reaction to Fire                               | E <sub>fl</sub> | EN 13501-1:2018                    |
| Emission of formaldehyde                       | E1              | EN 14041:2994 + AC 2006            |
| Water-Tightness                                | NPD             | EN 14041:2994 + AC 2006            |
| Slipperiness                                   | DS              | EN 14041:2994 + AC 2006            |
| Electrical behaviour                           | NPD             | EN 14041:2994 + AC 2006            |
| Thermal Conductivity                           | NPD             | EN 14041:2994 + AC 2006            |
| Durability of reaction to fire                 | NPD             | EN 14041:2994 + AC 2006            |

The performance of the product type identified by product type and batch number is in conformity the declared values in the above table. This declaration of performance is issued in accordance with the Regulation EU No 2024/3110, under the sole responsibility of the manufacturer identified above.

Signed on behalf of the manufacturer:

Brendan Neary  
Managing Director

23<sup>rd</sup> JAN 2026

Date

Place of issue:Ireland