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CPD Article

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Entrance Matting Specification and Design Innovation

Entrance Matting is a functional necessity but there are a number of features to consider to ensure you specify the right matting for your building.

This article covers the factors that affect Entrance Matting specification, including sizing and legislation, performance ratings, WELL, BREEAM and LEED guidance and how Entrance Matting can be used to enhance your design.

At the end of this article we aim to provide you with the knowledge to specify the right system to meet your requirements without compromising on design.

Key Learning outcomes

- Entrance Matting functions and benefits.
- Sizing and the Zonal System.
- Legislation and Sustainability factors.
- Entrance Matting design possibilities.
- Performance ratings and lifecycle.

1.0 Why Use Entrance Matting?

Entrance Matting plays a crucial role in ensuring dirt and moisture are left at the door and not tracked into your building via pedestrian and wheeled traffic where it can cause unnecessary wear and tear to interiors, or worse- slip and trip hazards.

An effective Entrance Matting system will:

1. Reduce cleaning costs
2. Maintain safety by minimising slip hazards
3. Extend the life of internal floor coverings
4. Ensure a clean and welcoming entrance for every visitor

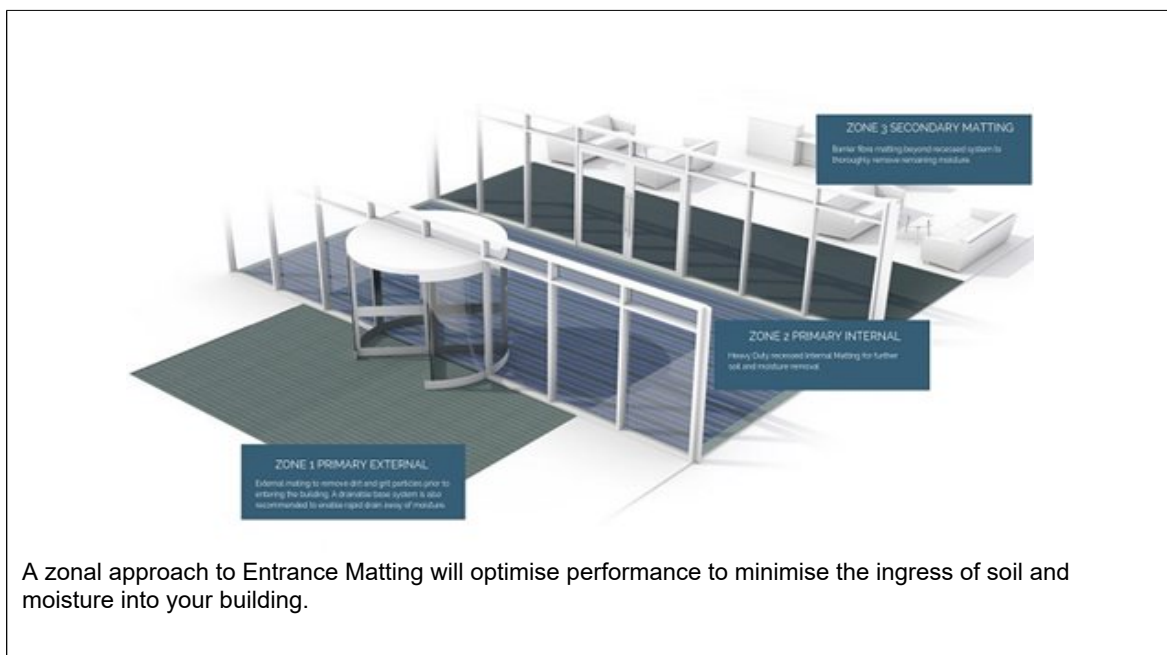
A zonal approach to Entrance Matting will provide optimum performance and minimise the ingress of soil and moisture into your building. This can be achieved through using either a combination of different products, or by using a consistent product with varying inserts.

The Zonal System

Zone 1. External Matting to remove coarse dirt and grit particles prior to entering

Zone 2. Heavy Duty Internal Matting for further dirt and moisture removal

Zone 3. Close fitted fibre products to thoroughly remove remaining moisture



2.0 What Size Should Entrance Matting Be?

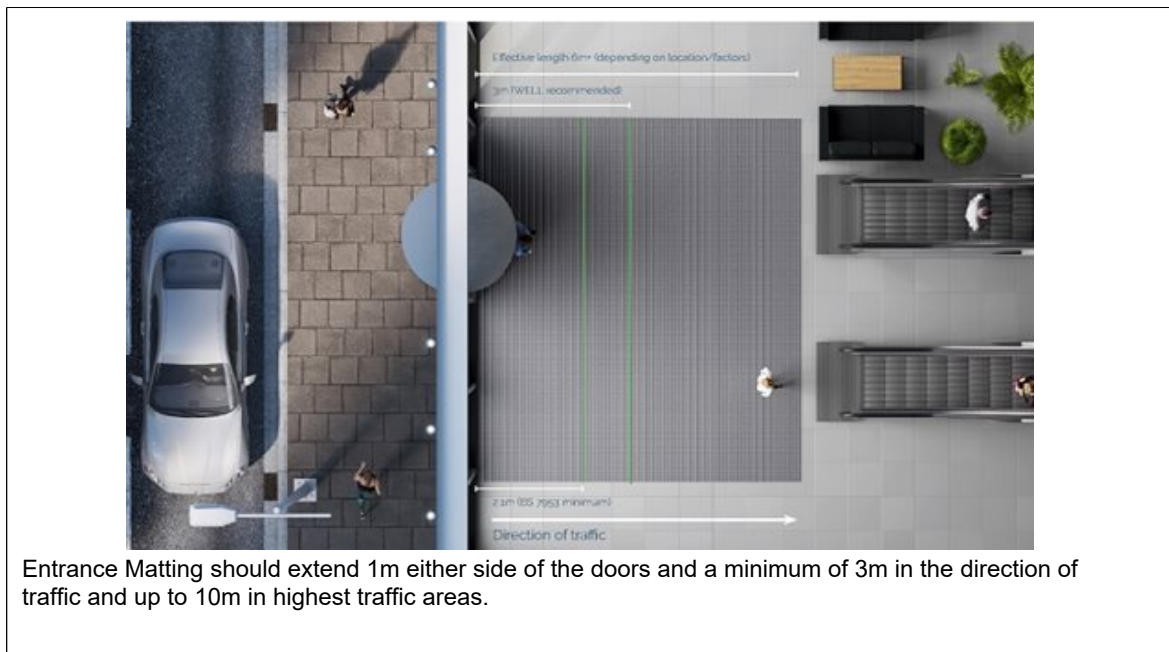
As visitors rarely stop to wipe their feet in a commercial environment, sizing is critical – every extra step on the Entrance Matting will further reduce the ingress of soil and moisture.

Every entrance is different, and therefore the combination of size, shape and recommended products will vary dependent on several factors including location, volume and type of traffic.

It is recommended that Entrance Matting should cover the full width of the entrance, and typically extend a minimum of 1m beyond the doors either side, or a greater distance if traffic is likely to naturally flow across the typical traffic direction e.g. if the reception desk or lift lobby is positioned to one side of the entrance.

The 'Front to Back' (traffic direction) dimension of a mat, however, needs a little more consideration and will be heavily influenced by the location and the volume and type of traffic.

As a guide, a minimum of 3m is recommended in low traffic areas, and up to 10m for optimum performance in the highest traffic areas such as major stations, stadiums and airports.



3.0 Legislation & Sustainability

The standard outlines why Entrance Matting should be specified along with the physical qualities matting must comply with. For instance, it should:

- Reduce the ingress of soil and moisture into the building
- Reduce slips and trips by reducing the amount of soil and moisture that is tracked onto hard surfaces
- Increase the life of internal flooring by preventing abrasive dirt from entering
- Reduce cleaning requirements as less dirt enters the building

BS 8300-2:2018
Design of an accessible and inclusive built environment

This standard, combined with BS 8300-1:2018 (external), explains 'how buildings, their approaches and immediate surroundings can be designed, built and managed to achieve an inclusive environment'.

It includes some important considerations for Entrance Matting:

The threshold needs to allow for a safe and step-free access. Doors should be easy to open and have sufficient provision for drainage.

An appropriate Entrance Flooring System to be installed to remove water and debris by foot and wheeled traffic in commercial buildings and buildings used by general public.
This needs to account for the volume of traffic flow and the distance required to accommodate the circumference of a large wheelchair wheel (a minimum of 2000mm).
Matting should either have its surface level with the adjacent floor finish or, if surface laid, be of a type that has a rubber backing and chamfered edges. This should be securely fixed to the floor to avoid the risk of slips and trips.
Deep pile carpets and coir matting should not be used on the surface of the floor or within a mat well.

WELL Building Standards

The AIR concept states that, 'All regularly used entrances to the building that have pedestrian traffic to the exterior should use an entryway system composed of grilles, grates, slots or rollout mats that are at least the width of the entrance and extend 3m [10 ft] in the primary direction of travel.'

It also provides guidance on cleaning protocol for Entrance Mats.

BREEAM /LEED

Entrance Matting is not directly eligible for BREEAM points or LEED credits, however, by selecting the right combination of products it can support and contribute to green building practices by utilising sustainably produced and recycled materials e.g. aluminium and Econyl® carpet fibres.



An appropriate Entrance Flooring System should be installed in commercial buildings and buildings used by general public to remove water and debris from foot and wheeled traffic.

4.0 Ratings and Performance

Entrance Matting will typically have a 5-10-year life cycle, with some very heavy-duty Entrance Mats offering a 15-year warranty.

Entrance Matting is designed to catch and hold dirt particles but allowing build-up for long periods of time can reduce effectiveness, so regular cleaning and maintenance are essential to ensure optimal performance and to maximise the lifespan.

When it comes to official ratings, not every product will be rated, but here are some of the key ratings that apply to Entrance Matting:

Wear Rating

European Standard EN 1307:2014 specifies the requirements for classification of all textile floor coverings and carpet tiles, based on practical requirements. Entrance Matting should use Class 32: General Commercial Use or Class 33: Heavy Commercial Use rated fibre for durability.

Slip Rating

Entrance Matting should have a slip resistance rating (PTV score) of 36 or above meaning it is 'Very Low risk', even when wet.

Fire Rating

European Standard EN 13501-1:2007 classifies construction and building materials according to their reaction to fire, with ratings from A to F. An 'A' rating means material is non-combustible and an F rating is given to easily flammable materials.

The standard also rates materials from s1 to s3 dependant on smoke generation. s1 means little to no smoke is generated, while s3 means heavy smoke generation.

High fire risk locations such as underground stations also require materials that are compliant with Section 12 Regulations covering fire resistance and toxic emissions.

Load Bearing

When selecting an entrance matting system, you also need be mindful of the Load Bearing capacity, which is measured by static load (stationary weight stored on the matting) and rolling load (the movement of substantial weight across the floor).

Tufts

The number of tufts per square metre will affect soil and moisture absorption, so the higher number, the better the performance.



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5.0 Get Creative with Entrance Matting

Entrance Matting is a highly functional product, with a number of guiding principles, legislation and standards as outlined above, but it doesn't have to be boring!

Specialist fire resistant and low toxic emission inserts are required for environments such as Underground Stations and Maritime applications. However, in spaces such as corporate offices, public and residential spaces and educational buildings there are a vast array of options that will allow you to unleash your creativity.

Using a combination of multi-coloured fibre, rubber and brush inserts with straight, curved or circular profiles or tessellating polygon-shaped tiles, you can create a truly unique entrance to enhance your space.

Alternating coloured inserts, bespoke anodisation, inserts cut into stone flooring, graduating colours, chevron patterns and 3d effects are just some of the creative applications you could consider.

Entrance Matting is a highly functional product, but it doesn't have to be boring. It helps form the very first impression and last connection that every visitor makes with the location, so don't waste it.

