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CPD Article

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Entrance Matting for Hospitals and Healthcare

Key Learning outcomes

- Understand the nuances of specifying entrance matting in a healthcare setting
- Understand the factors and features that affect performance
- Discover how to create a zonal system
- Learn how to write an entrance matting specification that meets both aesthetic and performance requirements
- Gain essential insights into sizing, performance ratings and standards
- 5 takeaways to guide your future specifications

Introduction

With hygiene and wellness the highest priority in hospitals and healthcare, entrance matting is your building's first line of defence against dirt and contaminants.
In this article we look at the key considerations for entrance matting specification and provide guidance for specifying commercial entrance matting in a hospital or healthcare setting

1.0 About Commercial Entrance Matting

On average, every person that enters your building deposits approximately 0.58g of soil from their footwear, wheels and walking sticks. This dirt contains germs and other contaminants that can affect the health and wellbeing of occupants. It can also create slip hazards and damage your internal floor surfaces, dramatically lessening their useful life.

With a consistent flow of foot and wheeled traffic, and strict hygiene considerations, hospitals and healthcare settings need a heavy-duty entrance matting system to tackle this influx.

Within healthcare settings, entrances can often be in use 24 hours a day and subject to heavy footfall, including wheelchairs, trolleys, and electric buggies. Building users are more likely to have mobility or vision issues that need to be considered. With entrances in frequent use, the matting can also be quite exposed to the elements.

These are all key factors that will inform your choice of entrance matting system and insert.

With hundreds - or even thousands - of patients, staff and wheeled vehicles making multiple crossings of the entrance matting each day, a correctly specified commercial entrance matting system is essential for hospitals and healthcare settings to:

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

By correctly specifying a suitable entrance matting system for the building, you will also ensure the matting performs throughout its typical lifespan of 5-15 years.

A poor or inadequate specification however will not only put vulnerable users at increased risk, but it will also result in a shorter lifespan and more frequent replacement. Or create a requirement for unsightly supplementary throw down mats in the interim which can pose a further hazard to visitors.

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2.0 Construction, Zones & Inserts

Matting should ideally be recessed in a mat well. For safety and accessibility, the surface must be level with the adjoining floor finish. This ensures your matting conforms to BS 8300-2:2018 Design of an accessible and inclusive built environment and the Disabled Discrimination Act 2004.

Surface-mounted options can be installed with a ramped edge trim, but this should only be considered in exceptional circumstances.

Open or Closed?

With rigorous cleaning schedules and the highest hygiene standards to maintain, a closed construction mat is likely the most desirable for the end-user.

This ensures debris stays on the surface where it is easily removed with any rotary vacuum; Avoiding the need to regularly lift the matting and ensuring vital entryways remain accessible.

Zonal Design

For highly trafficked entrances a three-stage zonal system is recommended to minimise the ingress of soil and moisture into your building.

Zone 1. External matting to remove coarse dirt and grit particles
Zone 2. Heavy-duty internal matting immediately inside the building for further dirt and moisture removal
Zone 3. Close fitted fibre products to thoroughly remove remaining moisture

Where a full three-stage system is impractical such as within a smaller care home or dentist practice, a similar effect can be achieved using two stages or even a combination of inserts within the primary mat; Most commonly, an initial section of rubber, followed by a section of fibre.

Brush inserts

- Internal or external use
- Ideal for removing heavy soiling, such as entrances from garden areas

Rubber inserts

- Internal or external use
- Provide scraping action to remove dirt and squeegee action to remove excess moisture
- Ribbed and multi-directional varieties
- Ideal for exposed or frequently opened entryways

Fibre inserts

- Internal use
- Remove and retain moisture
- Generally Polypropylene or Polyamide with tufted or looped pile

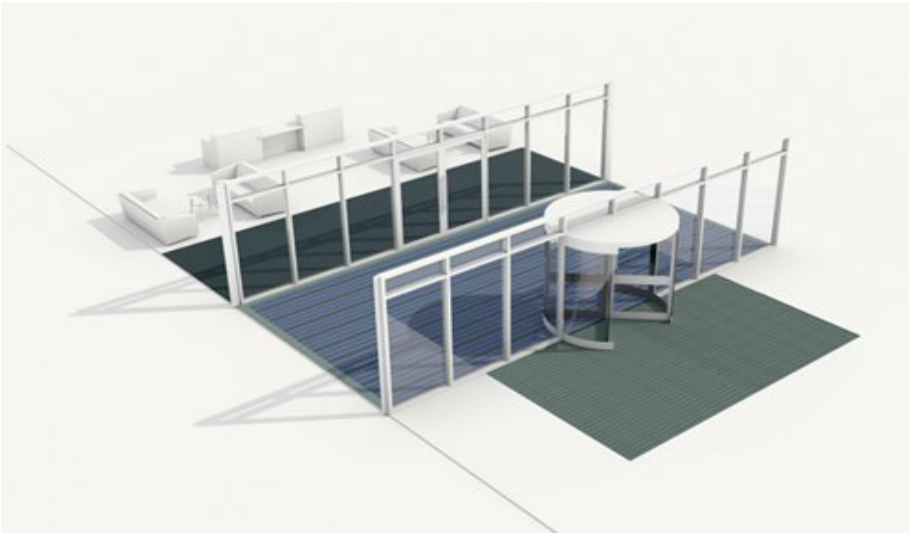
Looped pile will naturally flatten with use. This will be hastened by the wheeled loads common to healthcare settings. Also, Polyamide fibres are more absorbent than Polypropylene and more tufts equal better absorption and retention.

Therefore, a high tuft count Polyamide fibre is recommended.

For additional performance, there are also fibres with monofilament scrapers within the tufts to provide additional scraping action.

For sustainability, seek to specify inserts made from 100% Econyl regenerated nylon.

Performance ratings also vary greatly across different fibres so check with the manufacturer that the fibre you are specifying has the appropriate fire classification and wear rating for your application (see section 4).



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3.0 Understanding Your Building

Obviously, there are many different types of hospitals and healthcare buildings, all with very different needs. Understanding the type and volume of traffic, and how the entrances will be used are some of the very first considerations for your specification.

For example:

- Frequently used A&E or main reception entrances will be most exposed to the elements, so a heavy-duty aluminium system capable of maximum moisture absorption and retention is key.
- Facilities for children might be made more welcoming with the use of coloured fibre inserts.
- Private hospitals and healthcare buildings may want a sleek high-end finish reflective of their offering, so a premium stainless steel entrance matting system with muted colour fibre might be preferable.
- Less used, secondary entrances might be adequately covered with a simple entrance matting fibre.

LRVs and Strobing

As part of the specification process, it is also important to understand Light Reflective Values (LRVs) and their potential for creating a strobing effect.

Strobing can not only cause visual discomfort for the building user, but it can also cause more extreme physical effects such as nausea, disorientation or even seizures.

Materials with high LRVs such as naturally reflective aluminium and the combination of materials with highly contrasting values within a matting system can be especially problematic particularly for the visually impaired, and individuals with epilepsy or dementia.

This can be further exacerbated in buildings with large areas of glazing and an abundance of natural light.

To counteract this, most entrance matting manufacturers will clear anodise aluminium profiles as standard to reduce reflectivity. You might also consider colour anodising the aluminium profiles, selecting a system with wider ‘wiper’ strips, and avoiding greatly contrasting LRVs between profiles and inserts.

Ultimately, a robust entrance matting specification considers the unique needs of the building, the users and how the various entrance points will be used.

In this way you will ensure your specification meets your building’s needs for the long term- both functionally and aesthetically.

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4.0 Sizing & Performance Ratings

Unfortunately, there is no simple, straightforward answer to the question, ‘What size should my entrance mat be?’. However, there are some guiding principles and measurements to help you determine what is right for each individual building:

Matting should extend the full width of the entrance and a minimum of 1m either side, or greater if traffic is likely to flow across the typical traffic direction e.g., if the reception desk or waiting area is positioned to the side.

The ‘Front to Back’ (traffic direction) dimension, will be heavily influenced by the location and the volume and type of traffic.

B5953:1999 recommends a minimum of 2100mm front-to-back, based on a single revolution of a wheelchair wheel. Do exercise caution though as obviously this will be woefully inadequate for high traffic locations such as the main entrance to a general hospital.

Conversely, the WELL standard recommends a minimum of 3000mm in low traffic areas.

It is generally accepted, however, that a minimum of 6000mm and up to 10000mm is an effective length for high traffic environments.

Ultimately, specifying a suitable recessed entrance matting system covering a generous area will ensure effectiveness throughout peak traffic flow, even in inclement weather.

Remember, performance can also be maximised over smaller areas through a considered selection and combination of systems and inserts.

Wear Rating

Seek to specify fibre inserts with at least a Class 32: General Commercial use, or ideally Class 33: Heavy Commercial Use wear rating.

These are the highest classifications under the European Standard EN 1307:2014 which specifies the requirements for classification of all textile floor coverings and carpet tiles, based on practical requirements.

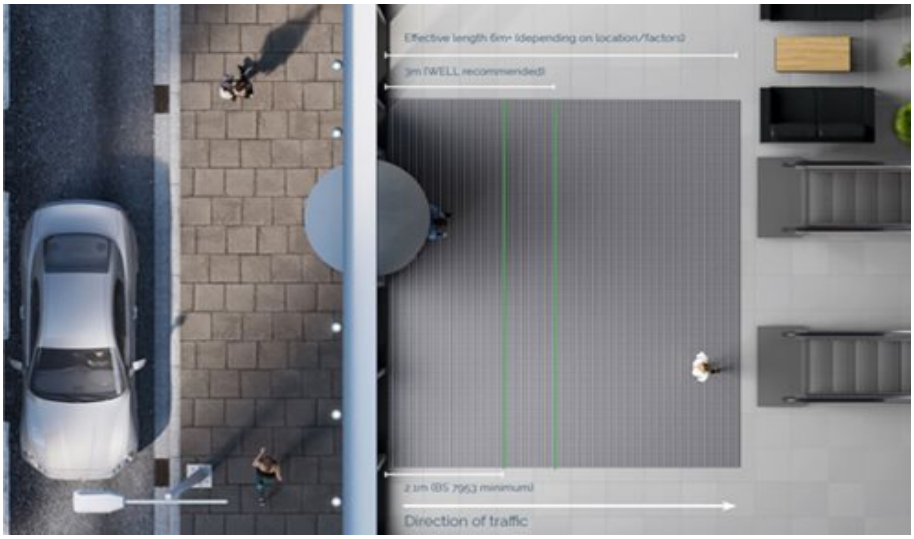
Slip Resistance

Overall, your matting should have a slip resistance rating (PTV score) of 36 or above meaning it is ‘Very Low risk’, even when wet.

Fire Rating

Fibre inserts should be rated Cfl-s1 or ideally the higher, Bfl-s1 rating under the European Standard EN 13501-1:2007.

This standard classifies construction and building materials according to their reaction to fire, with ratings from A (non-combustible) to F (easily flammable).



Matting should extend 1m either side of the doors. The recommended ‘Front to Back’ dimension, however, is dependent on the location and the volume and type of traffic

5.0 5 Key Things to Remember

Ultimately, there are 5 key things to remember when specifying entrance matting for hospitals and healthcare:

1. Durability is key, so a commercial entrance matting system is essential – A recessed, closed construction aluminium system is the ideal choice for its strength, durability and ease of maintenance.
2. To ensure you specify the appropriate size mat, begin by understanding your building and how each entrance will be used - 2100mm is the minimum recommended front-to-back measurement but 6-10,000mm is required for the highest traffic areas.
3. 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.
4. Specifying a zonal system will provide optimum performance. However, if space is limited, performance can be maximised over a smaller area using a combination of inserts
5. Be particularly mindful of the mental and physical vulnerabilities of users; ensure matting is level with surrounding flooring and that you minimise the potential for strobing for the comfort and accessibility of all visitors.

With hygiene and wellness the highest priority in hospitals and healthcare, entrance matting is your building's first line of defence against dirt and contaminants.