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CPD Article

Published on 08 July 2021 13:27

Entrance Matting Design and Specification for Schools, Colleges and Universities

With medium to heavy traffic levels and frequent intense periods of footfall across multiple entrances, schools, colleges, and universities have some of the busiest entrances of any sector.

With most educational projects centrally funded, budget is often limited or very tightly managed. This makes specifying entrance matting for educational establishments some of the most difficult specifications to get right.
In this article we look at the key considerations for educational buildings and provide guidance for specifying commercial entrance matting in an educational setting

Key Learning outcomes

- Understand the nuances of specifying entrance matting in an education setting
- 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

1.0 About Commercial Entrance Matting

To avoid unnecessary wear and tear to interiors and minimise slip hazards, a robust entrance matting system is key.

With an estimated 0.58g of soil brought into a building on the footwear and wheels of each visitor, correctly specified entrance matting can provide an effective barrier against the ingress of dirt and moisture.

Therefore, with hundreds - or even thousands - of students and staff making multiple crossings of the entrance matting several times a day, a correctly specified commercial entrance matting system is essential for educational buildings to:

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

Regular cleaning and maintenance are essential to ensure optimal performance and maximise the lifespan of matting. As entrance matting is designed to catch and hold dirt particles, allowing build-up for long periods of time will reduce effectiveness.
By correctly specifying a suitable entrance matting system for the building and undertaking regular cleaning and maintenance, you will ensure the matting performs throughout its typical lifespan of 5-10 years.
An inadequate specification however will result in a shorter lifespan and more frequent replacement. Thus, putting more strain on already overstretched budgets - or creating a requirement for the entrance matting to be supplemented with unsightly throw down mats in the interim.

Correctly specified entrance matting will ensure performance throughout its typical lifespan of 5-10 years

2.0 Zones & Inserts

Taking a zonal approach to entrance matting design will optimise performance and minimise the ingress of soil and moisture.

Zone 1. External matting to remove coarse dirt and grit particles

Zone 2. Heavy-duty internal matting for further dirt and moisture removal

Zone 3. Close fitted fibre products to thoroughly remove remaining moisture
For example, the concept of Zone 1 matting can be realized with the use of rubber or brush inserts within a revolving door.

Or a combination of different inserts can be used within Zone 2 primary matting to achieve similar performance, whether this is within a draft lobby or immediately inside the building.
The most common approach is to create a zonal system using a variety of inserts within a single aluminum system. Usually an initial section of rubber / brush inserts will be followed by a section of fibre inserts.

The key thing is to ensure that the matting provides adequate scrapping, absorption and retention, and that matting sections are flush with the surrounding flooring.

Brush inserts
- Use internally or externally
- Ideal for entrances where you need to remove a lot of dirt or mud from footwear or wheels, such as entrances from sports grounds or cycle entrances

Rubber inserts
- Use internally or externally
- Provide scrapping action to remove dirt and grit and can act like a squeegee to remove excess moisture
- Available in ribbed and multi-directional varieties
- Ideal for exposed entryways or where doorways are open for extended periods

Fibre inserts
- For use internally
- Remove and retain excess moisture
- Generally manufactured from Polypropylene or Polyamide with either a tufted or looped pile

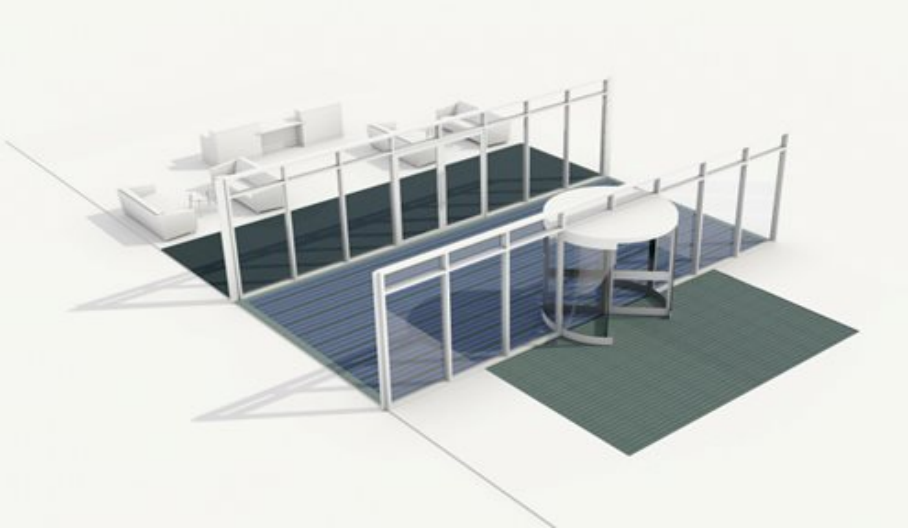
There are a lot of variables to consider when it comes to fibre inserts.

Firstly, the higher the number of tufts, the better the absorption and retention. While a looped pile will naturally flatten with use and become less effective over time. Therefore, a tufted fibre is a superior option.

For additional performance, you might consider a fibre that combines monofilament scrapers within the pile to provide additional scraper action.

For an environmentally conscious option, you should seek to specify Polyamide 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 on ‘Sizing and Performance Ratings’ for further details).



Taking a zonal approach to entrance matting design will provide optimum performance and minimise the ingress of soil and moisture into your building.

3.0 Understanding Your Building

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

However, the one commonality is the presence of multiple entrance points. Each of which should be considered individually, as well as in the context of the overall entrance matting specification.
For example:

- Universities battling to attract new students could use their primary entrance matting as a vital space to make a bold design statement with creative use of colour and pattern.
- Centres for professional training may want a sleek premium finish throughout, combining stainless steel scraper bars with a muted colour fibre.
- Cycle entrances or doors from muddy school sports fields will benefit from a larger walk-off area using a combination of fibre and rubber inserts or a more aggressive bristle brush insert.
- Less used, secondary entrances might be adequately covered with a simple entrance matting fibre.
- PVC matting might be a preferred option for primary schools or nurseries as it provides a softer landing for accidental tumbles.

Ultimately, a robust entrance matting specification considers the unique needs of the building 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 – without overspending or over-engineering.

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4.0 Sizing & Performance Ratings

Unfortunately, there is not a simple, straightforward answer to the question ‘What size should my entrance mat be?’ There are, however, some guiding principles and measurements to help you work out what is right for your particular building:

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 main auditorium or corridor to classrooms is positioned to one side of the entrance.

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

As a guide, B7953:1999 recommends a minimum of 2100mm front-to-back which is based on a single revolution of a wheelchair wheel. Do exercise some caution though, as obviously this will be woefully inadequate for high traffic locations such as the main entrances to large colleges or universities.

Alternatively, the WELL standard recommends a minimum of 3000mm in low traffic areas. It is, however, generally accepted that an effective length for high traffic environments is a minimum of 6000mm and up to 10000mm for optimum performance.

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

Wear Rating

For heavily trafficked entrances such as within educational buildings, seek to specify fibre inserts with at least a Class 32: General Commercial Use wear rating or, ideally, Class 33: Heavy Commercial Use.

These are the highest classifications under the European Standard EN 1307:2014+A3:2018 which specifies the requirements for classification of all textile floor coverings and carpet tiles,.

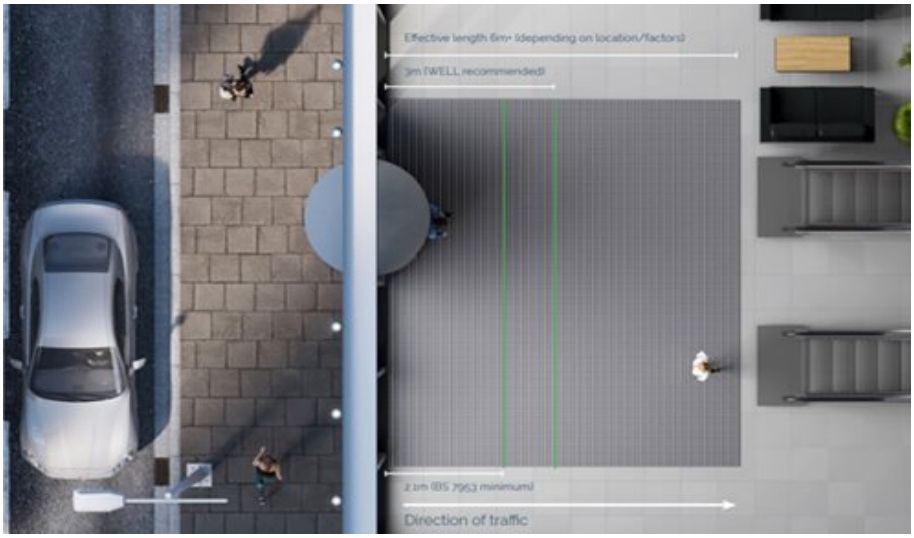
Slip Resistance

Overall, your matting should have a slip resistance rating (PTV score) of 36 or above. This means it is ‘Very Low Risk’, even when wet. This also ensures compliance with the requirements of section 3.6 of Approved Document M Vol 2.

Fire Rating

Fibre inserts should be rated Cfl-s1 or ideally the higher, Bfl-s1 rating under the European Standard EN 13501-1:2018.

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



Matting should extend 1m either side of the doors. The recommended ‘Front to Back’ dimension, however, is dependant 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 choosing entrance matting for schools, colleges, and universities:
1. Durability is key, so a commercial entrance matting system is essential – An aluminum recessed mat is the ideal choice for its strength and durability.

2. To ensure you specify the appropriate size mat, begin by understanding your building and how each entrance will be used. 2100mm is the very minimum recommended front-to-back measurement according to BS 7953 but 6,000-10,000mm is advised for high 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. If space is limited, inserts can be combined within a single mat to provide a similar effect.

5. By using a combination of inserts you can create a range of complimentary matting solutions for each entrance to your building using a single product.

By following these 5 points to correctly specify an entrance matting system for your educational building you will maximise the product's lifespan, ensuring interiors, occupants - and budgets - are protected.

A high-performance commercial entrance matting system is essential for educational buildings to minimise slip hazards, reduce cleaning costs and extend the life of internal finishes.