

STUDY INTO THE EFFECTIVENESS OF CORAL ENTRANCE MATTING

Introduction

A trial has been conducted at Leeds General Infirmary to examine the effect of installing 3 metres of Coral entrance matting in a busy entrance to the hospital. Particular emphasis has been placed on measuring the reduction in soil levels inside the building and the consequent benefit of reduced cleaning costs.

Figure 1, Leeds General Infirmary



Site Details

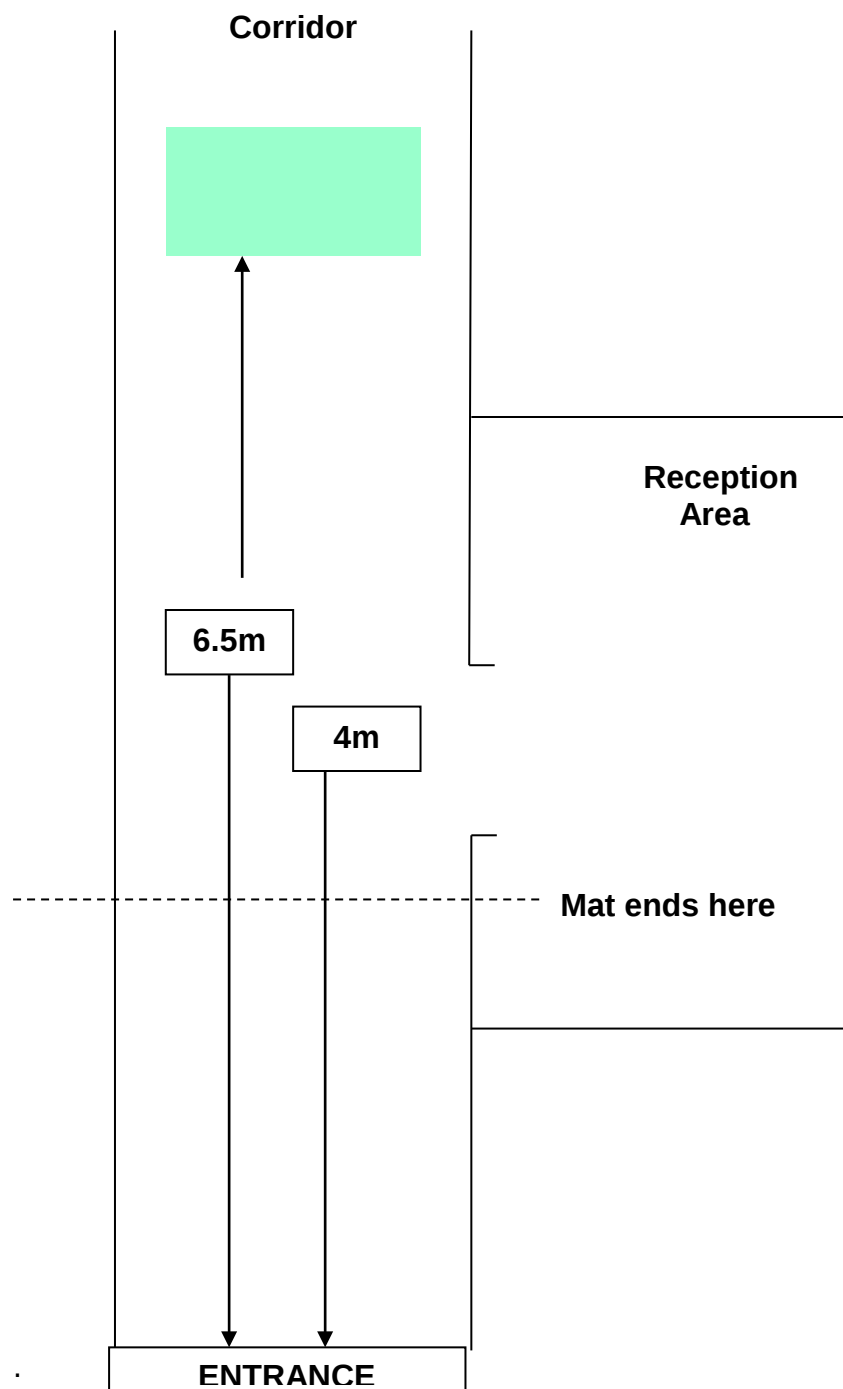
The entrance to Accident and Emergency was chosen for the installation, this being selected by the hospital as being a very busy site with some 800 – 1000 footsteps every 24 hours representing some 7000 footsteps per week.

Figure 2. Accident and Emergency Entrance



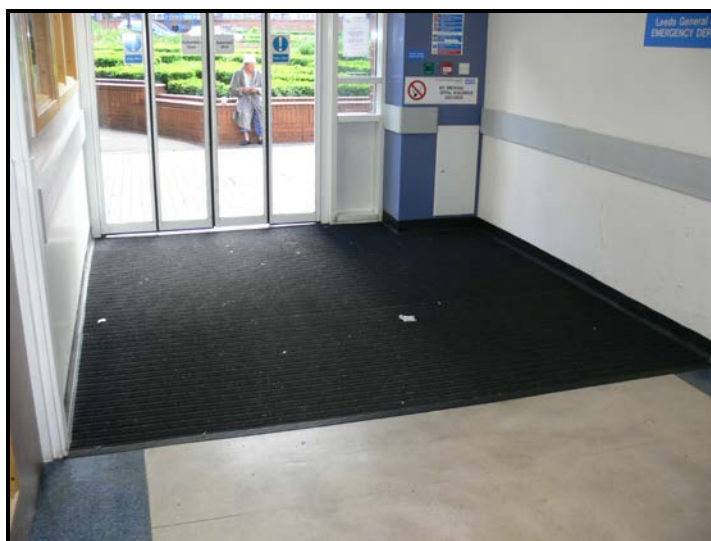
Figure 3 shows the layout of the site

Figure 3. Site Layout



The area was approached through double doors leading to a long, straight corridor with a reception area off to the right hand side some 4 metres from the door

Figure 4. Installation



Hospital cleaners carried out routine maintenance at least once daily, although more frequent visits were often necessary in wet weather in order to prevent a slip hazard resulting from water tracked into the area.

Test Procedure

The first series of trials were carried out without any protective mat in place. Tests were carried out at a distance of 6.5 metres from the door – coloured green in the site diagram

Levels of soil present on the floor were obtained using the Camraso Soil Monitor. This is an instrument which transfers soil from the floor onto a pre-weighed GF/C filter paper. The paper is subsequently dried to constant weight, and the increase in weight represents the weight of soil picked up from the floor. Six replicate samples were obtained from the area under test

Figure 5. Camraso Soil Monitor Device



Figure 6. Sampling using the Camraso Soil Monitor



The average amount of soil present in the corridor before the mat was installed was **252.9 g per sq. m**

Three metres of Coral entrance matting was then installed and measurements of soil levels were then determined on four successive weekly visits. The level of soil now present on the floor was very significantly reduced as can be seen in Table 1.

Table 1. Soil determinations 6m from entrance

	g/sq.m	% reduction
Unprotected	252.9	
Week One	12.5	95.1
Week Two	12.4	95.1
Week Three	12.7	95.0
Week Four	12.1	95.2
MEAN		95.1

Potential savings in cleaning costs

Given the reduction in soil levels it is clear that obvious savings in cleaning costs can be made. Theoretically it could be claimed that the frequency of cleaning could be reduced by around 95% but clearly in practice this would be an unreasonable option. In Table 2 therefore we have looked at some possible alternative scenarios which we consider to be realistic and calculated the potential savings in effort to clean 100 square metres over one year.. We have considered six possibilities. One where the present regime involves damp mopping daily for either 260 or 365 days per annum; one where it is

spray cleaned for either 260 or 365 days per annum; and one where it is scrubber dried for 260 or 365 days per annum. In each case, using typical productivity rates, we have calculated the hours required. We have then looked at the benefit of installing the entrance matting on reduced cleaning frequencies.

For this exercise Table 2 shows some typical alternatives that are possible. In column two the productivity rates are given for the different task options. Column 3 shows the time required to clean 100 square metres per annum if there is no Coral installed and presumes, because of the absence of the matting, the primary task has to be carried out daily. It also shows the time required to clean 100 square metres per annum if spot mopping replaces the primary task four times per week in the case of the 260 days service sites, and twice per week in the 365 days service sites.

Table 2. Potential Time Savings

	Std time per 100 m sq	Time spent per annum	% reduction per 100 sq m. p.a
	hours		
Spot Mopping	0.03		
Damp Mopping	0.23		
Damp mop daily 260 times p.a		59.80	
Damp mop daily 365 times p.a		83.95	
Spot mop 4 times per week, damp mop once		18.20	69.6
Spot mop 5 times per week, damp mop twice		31.72	62.2
Spray Cleaning	0.35		
Spray clean daily x 260		91.00	
Spray clean daily x 365		127.75	
Spot mop 4 times per week, spray clean once		24.44	73.2
Spot mop 5 times per week, spray clean twice		44.20	65.4
Scrubber Drying	0.90		
Scrubber dry x 260		234.00	
Scrubber dry x 365		328.50	
Spot mop 4 times per week, scrubber dry once		53.04	77.3
Spot mop 5 times per week, scrubber dry twice		101.40	69.1

The reduction in effort and consequent cost benefit is clear.

Conclusions

A remarkable reduction of 95% of the soil entering the building has been achieved by the installation of the Coral matting.

This clearly represents an opportunity both to significantly reduce cleaning frequencies in the entrance to buildings and hence cost, (whether it be an entrance that is damp mopped, scrubber dried or spray cleaned) but also to reduce ambient levels of soil throughout the entire site if soil coming through the door is all but eliminated. It does presume however that the entrance matting will be maintained to a high standard in order to retain its effectiveness.

An added benefit, recognised by the hospital is that on days when the weather was wet there was a significantly reduced need to regularly visit the entrance in order to mop up water thereby reducing slip hazard.

The benefits that have been demonstrated using Coral in this trial can be applied to many other locations where there is a large pedestrian flow. Schools, universities, supermarkets and airports are typical examples of sites where significant savings can be made