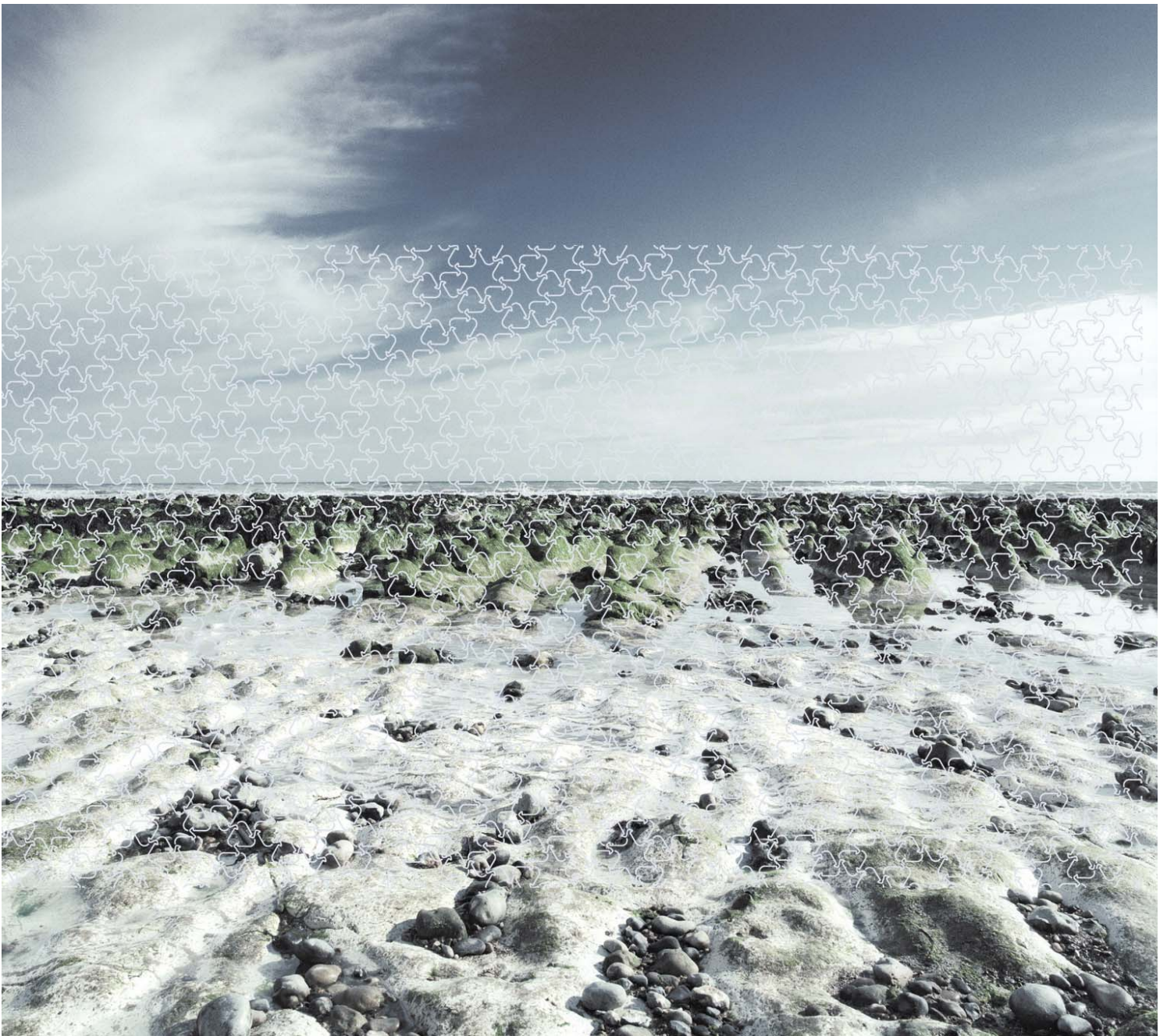




# Processing & Handling Guidelines



WALK OFF® MATS

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## **1. THE MILLIKEN WALK OFF® MATS TECHNICAL DEPARTMENT**

The Milliken Walk Off® Mats Technical department offers a wide selection of services based on the pooled experience of Europe's two major mat manufacturers over the last 30 years with back up from Milliken® and company's vast research resources.

Among the services available are:

Close liaison with detergent & machinery suppliers to optimise washing & tumble drying processes for particular product & soiling types.

Advice on optimisation of energy saving practices & procedures.

Assessment & auditing of energy usage during processing.

Liaison with chemical suppliers & laundry engineers to keep abreast of the latest technological developments, which could benefit the business.

Mat repair advice, training & guidance on safety procedures.

Laundry design advice.

RF chip implementation advice & help.

General problem solving.

Technical guidance on mat placement & the optimum products for specific locations.



## **2. THE MILLIKEN WALK OFF® MATS PRODUCT RANGE.**

NON-LAUNDERABLE:	PRIOR™ (OUTDOOR MATTING) FORMA™ 16 (INDOOR MATTING) FORMA™ 11 (INDOOR MATTING)
SCRAPER:	HEAVY DUTY™ (OUTDOOR MATTING)
COTTON PLUS:	COTTON PLUS ORIGINAL™ COTTON PLUS STYLE™
MILLITRON® DYED PRODUCTS:	PRESTIGE™ ORIGINAL PRESTIGE™ DESIGN LOGO – COLOUR SYMPHONY™
SOLUTION DYED PRODUCTS:	WOM® ORIGINAL WOM® PLUS WOM® STYLE
ABSORBA®:	
RUBBER MATS:	ANTI-FATIGUE ULTRASAN™

### **3. MILLIKEN WALK OFF® MATS PROCESSING INTRODUCTION.**

#### **WASH PROCESSES.**

All new mats should be processed once before placement at the end users premises.

Every laundry has its own unique situations with varying machinery, detergents, water and most importantly, types of customer soiling to remove from their mats.

There is no “perfect process” which will cost effectively suit every laundry, but the following gives a good starting point, from which Milliken Walk Off® Mats will be glad to work with the laundry personnel, machine manufacturers and detergent suppliers, to find the optimum process for the laundry in question.

#### **MACHINERY.**

Milliken Walk Off® Mats have no preference for any particular machinery manufacturers but do not approve the use of “Flat Bed Washers” or “Wet & Dry Vacuum Systems” for cleaning loose laid dust control mats.

#### **PRE-SHAKING / BEATING MACHINES.**

It is normally found to be advantageous to shake the incoming mats prior to washing to remove a large proportion of the particulate soiling that can be disposed of as solid waste.

A variety of such machines are available & whilst they are most commonly used in conjunction with tunnel washers, they are also very effectively being used prior to processing in conventional washer extractors.

#### **DETERGENTS.**

Milliken Walk Off® Mats have no preference for any particular detergent manufacturers or product types but do not approve the use of products containing Optical Brightening Agents or those giving a pH above pH10 in the wash bath.

#### **RE-CYCLED WATER.**

An increasing number of laundries are using re-cycled water for mat processing.

Great care must be taken when this re-cycled water comes from other parts of the laundry such as from white work processing because the chemicals being carried over from white work processing often have a long term detrimental effect on the mats.

When the re-cycled water comes from the mat processing itself there is a risk of particulate carry over & a great temptation to re-cycle more water than one should to keep the mats in their optimum condition after processing.

Such recycling must be monitored throughout the year to account for seasonal changes.

### **3.1 MILLIKEN WALK OFF® MATS MAT PROCESSING MATRIX 1.**

#### **STANDARD SOILING WASH PROCESS, PRODUCT COMPATIBILITY.**

	NON-LAUNDERABLE	SCRAPER	COTTON PLUS	MILLITRON® DYED NYLON	SOLUTION DYED NYLON	ABSORBA®	RUBBER MATS
NON-LAUNDERABLE	N/A						
SCRAPER		Y					
COTTON PLUS			Y				
MILLITRON® DYED NYLON				Y	Y	Y	
SOLUTION DYED NYLON				Y	Y	Y	
ABSORBA®				Y	Y	Y	
RUBBER MATS							Y

For ease of handling in the laundry, the vast majority of the Milliken Walk Off® Mats product range can be processed together if the process for “Standard soiling” of mats is used as shown above.

- NOTE 1.** The non-laundryable products & details of their cleaning are covered in the section “speciality product processing”.
- NOTE 2.** 100% Cotton mats should not be processed with any other product even though the recommended wash process might be the same.
- NOTE 3.** Cotton Plus™ mats will take longer to dry than nylon mats so should be processed separately to prevent over drying of the nylon mats.
- NOTE 4.** Cotton Plus™ mats will dry quicker than 100% cotton mats so should be processed separately to prevent the Cotton Plus™ mats from being over dried.

### **3.2 STANDARD SOILING WASH PROCESS FOR WASHER EXTRACTORS.**

<b>PROCESS</b>	<b>DIP LEVEL</b>	<b>TEMP. °C</b>	<b>TIME (mins)</b>	<b>ADDITIONS</b>	<b>MAX pH</b>
PRE -WASH	MEDIUM	COLD	3 to 5	-	-
DRAIN	-	-	1	-	-
MAIN WASH	LOW / MED.	40°C to 50°C	8 to 10	YES	10
DRAIN	-	-	1	-	-
RINSE 1	HIGH	COLD	2	-	-
DRAIN	-	-	1	-	-
RINSE 2	HIGH	COLD	2	-	-
DRAIN	-	-	1	-	-
EXTRACT	-	-	8 to 15	-	Ambient

**LOADING.**

This will vary from machine to machine but it is recommended that the machines be filled to their rated capacity.

**DIP LEVELS.**

These vary from machine to machine but a slightly lower level for the main wash will ensure full mechanical action is achieved & a higher level for rinsing will help dilute any residual detergent & soiling.

**TEMPERATURE.**

None of the Milliken Walk Off® Mats products should be detrimentally affected by temperatures up to 50°C if processed in conjunction with approved wash chemicals.

**MAXIMUM pH.**

A maximum pH of 10 should not be exceeded to ensure that the long-term optimum condition is maintained of the Milliken Walk Off® Mats products.

The final pH of the processing effluent should be as close to that of the ambient water pH as possible, which should be about pH 7.

**ADDITIONS.**

Basic detergents will be sufficient for the majority of soiling types but the addition of emulsifiers may be required for more heavily soiled mats.

Be aware of the products listed under section 3.10 GENERAL PROCESSING WARNINGS. This highlights the most commonly found products known to have a detrimental effect to mats.

**EXTRACTION.**

This will vary considerably from machine to machine but further advice is given under section 3.11 EXTRACTION TIME ADVICE.

**GENERAL.**

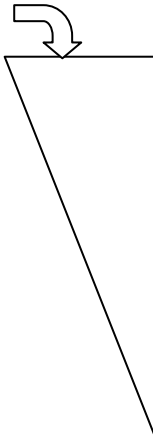
Never wash 100% cotton mats with any other mat type.

Wash Cotton Plus mats separately from nylon mats.

Washing heavily soiled or oily mats with this process may lead to a re-deposition of soiling onto all the mats in the wash bath.

### 3.3 STANDARD SOILING WASH PROCESS FOR TUNNEL WASHERS.

POCKET NUMBER	1	2	3	4	WATER EXTRACTION SYSTEM
TEMP. °C	COLD	40 to 50	< 40	COLD	
MINIMUM TIME	TO SUIT	TO SUIT	TO SUIT	TO SUIT	
ADDITIONS TO WASH	-	YES	-	-	
MAXIMUM pH	-	10	-	-	AMBIENT



Tunnel washers come in a variety of capacities & compartment lengths but the shortest tunnel found to process mats successfully is a four-pocket tunnel using a split final pocket to give an extra rinse & a cycle time of 4 minutes per pocket.

Bearing this in mind, the above guidelines can be extended to accommodate the number of compartments on any given tunnel washer.

**LOADING.**

This will vary from machine to machine but it is recommended that the machines be filled to their rated capacity.

**TEMPERATURE.**

None of the Milliken Walk Off® Mats products should be detrimentally affected by temperatures up to 50°C if processed in conjunction with approved wash chemicals.

**MAXIMUM pH.**

A maximum pH of 10 should not be exceeded to ensure that the long-term optimum condition is maintained of the Milliken Walk Off® Mats products.

The final pH of the processing effluent should be as close to that of the ambient water pH as possible, which should be about pH 7.

**ADDITIONS.**

Basic detergents will be sufficient for the majority of soiling types but the addition of emulsifiers may be required for heavily soiled mats.

Be aware of the products listed under section 3.10 GENERAL PROCESSING WARNINGS. This highlights the most commonly found products to have a detrimental effect to mats.

**EXTRACTION.**

This will vary considerably from machine to machine but further advice is given under section 3.11 EXTRACTION TIME ADVICE.

**GENERAL.**

Never wash 100% cotton mats with any other mat type.

Wash Cotton Plus mats separately from nylon mats.

Washing heavily soiled or oily mats with this process may lead to a re-deposition of soiling onto all the mats in the wash bath.

### **3.4 MILLIKEN WALK OFF® MATS MAT PROCESSING MATRIX 2.**

#### **HEAVY SOILING WASH PROCESS, PRODUCT COMPATIBILITY.**

	NON-LAUNDERABLE	SCRAPER	COTTON PLUS	MILLITRON® DYED NYLON	SOLUTION DYED NYLON	ABSORBA®	RUBBER MATS
NON-LAUNDERABLE	N/A						
SCRAPER		Y					
COTTON PLUS			Y				
MILLITRON® DYED NYLON				N			
SOLUTION DYED NYLON					Y	Y	
ABSORBA®					Y	Y	
RUBBER MATS							N

Milliken Walk Off® Mats have a considerable range of solution dyed product options for use in locations where mats are going to receive high levels of heavy or oily soiling.

The above matrix shows which products can be washed together with which others from the Milliken Walk Off® Mats range using the “Heavy soiling” wash process.

**NOTE 1.** The non-laundryable products & details of their cleaning are covered in the section “speciality product processing”.

**NOTE 2.** 100% cotton mats should not be processed with any other product even though the recommended wash process might be the same.

**NOTE 3.** Cotton Plus™ mats will take longer to dry than nylon mats so should be processed separately to prevent over drying of the nylon mats.

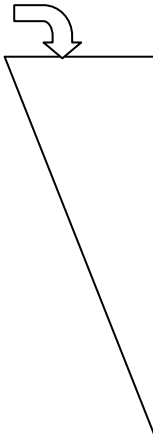
**NOTE 4.** The MILLITRON® DYED & RUBBER MAT products are not suitable for processing using the “Heavy soiling” wash process.

### **3.5 HEAVY SOILING WASH PROCESS FOR WASHER EXTRACTORS.**

<b>PROCESS</b>	<b>DIP LEVEL</b>	<b>TEMP. °C</b>	<b>TIME (mins)</b>	<b>ADDITIONS</b>	<b>MAX pH</b>
PRE-WASH	MEDIUM	40°C	3 to 5	YES	10
DRAIN	-	-	1	-	-
MAIN WASH	LOW / MED.	60°C	8 to 10	YES	10
DRAIN	-	-	1	-	-
RINSE 1	HIGH	COLD	2	-	-
DRAIN	-	-	1	-	-
RINSE 2	HIGH	COLD	2	-	-
DRAIN	-	-	1	-	-
RINSE 3	HIGH	COLD	2	-	-
DRAIN	-	-	1	-	-
EXTRACT	-	-	8 to 15	-	Ambient

- LOADING.** This will vary from machine to machine but it is recommended that the machines be filled to their rated capacity.
- DIP LEVELS.** These vary from machine to machine but a slightly lower level for the main wash will ensure full mechanical action is achieved & a higher level for rinsing will help dilute any residue detergent & soiling.
- TEMPERATURE.** None of the Milliken Walk Off® Mats solution dyed or cotton products should be detrimentally affected by these temperatures if processed in conjunction with approved wash chemicals.
- MAXIMUM pH.** A maximum pH of 10 should not be exceeded to ensure the long-term optimum condition is maintained of the Milliken Walk Off® Mats products.  
The final pH of the processing effluent should be as close to that of the ambient water pH as possible, which should be about pH 7.
- ADDITIONS.** Basic detergents will be sufficient for the majority of soiling types but the addition of emulsifiers may be required for more heavily soiled mats.  
Be aware of the products listed under section 3.10 GENERAL PROCESSING WARNINGS. This highlights the most commonly found products to have a detrimental effect to mats.
- EXTRACTION.** This will vary considerably from machine to machine but further advice is given under section 3.11 EXTRACTION TIME ADVICE.
- GENERAL.** Never wash 100% cotton mats with any other mat type.  
Wash Cotton Plus™ mats separately from nylon mats.  
It is not recommended to wash anything other than solution dyed, 100% cotton or Cotton Plus™ mats using the above process.

### **3.6 HEAVY SOILING WASH PROCESS FOR TUNNEL WASHERS.**



POCKET NUMBER	1	2	3	4	WATER EXTRACTION SYSTEM
TEMP. °C	COLD	60	< 45	COLD	
MINIMUM TIME	TO SUIT	TO SUIT	TO SUIT	TO SUIT	
ADDITIONS TO WASH	-	YES	-	-	
MAXIMUM pH	-	10	-	-	AMBIENT

Tunnel washers come in a variety of capacities & compartment lengths but the shortest tunnel found to process mats successfully is a four-pocket tunnel using a split final pocket to give an extra rinse & a cycle time of 4 minutes per pocket.

Bearing this in mind, the above guidelines can be extended to accommodate the number of compartments on any given tunnel washer.

**LOADING.**

This will vary from machine to machine but it is recommended that the machines be filled to their rated capacity.

**TEMPERATURE.**

None of the Milliken Walk Off® Mats solution dyed or cotton products should be detrimentally affected by these temperatures if processed in conjunction with approved wash chemicals.

**MAXIMUM pH.**

A maximum pH of 10 should not be exceeded to ensure the long-term optimum condition is maintained of the Milliken Walk Off® Mats products.

The final pH of the processing effluent should be as close to that of the ambient water pH as possible, which should be about pH 7.

**ADDITIONS.**

Basic detergents will be sufficient for the majority of soiling types but the addition of emulsifiers may be required for heavily soiled mats.

Be aware of the products listed under section 3.10 GENERAL PROCESSING WARNINGS. This highlights the most commonly found products to have a detrimental effect to mats.

**EXTRACTION.**

This will vary considerably from machine to machine but further advice is given under section 3.11 EXTRACTION TIME ADVICE.

**GENERAL.**

Never wash 100% cotton mats with any other mat type.

Wash Cotton Plus™ mats separately from nylon mats.

It is not recommended to wash anything other than solution dyed, 100% cotton or Cotton Plus™ mats using the above process.

### **3.7 MILLIKEN WALK OFF® MATS MAT PROCESSING MATRIX 3.**

#### **FIRST WASH & RUBBER MAT PROCESS, PRODUCT COMPATABILITY.**

	NON-LAUNDERABLE	SCRAPER	COTTON PLUS	MILLITRON® DYED NYLON	SOLUTION DYED NYLON	ABSORBA®	RUBBER MATS
NON-LAUNDERABLE	N/A						
SCRAPER		Y					
COTTON PLUS			Y				
MILLITRON® DYED NYLON				Y	Y	Y	
SOLUTION DYED NYLON				Y	Y	Y	
ABSORBA®				Y	Y	Y	
RUBBER MATS							Y

To optimise a new dust control mat’s effectiveness, it should be given a quick processing cycle prior to being put out on the customer’s floor.

The above matrix shows which products can be washed together with which others from the Milliken Walk Off® Mats range using this process.

**NOTE 1.** The non-laundryable products & details of their cleaning are covered in the section “speciality product processing”.

**NOTE 2.** 100% cotton mats should not be processed with any other product even though the recommended wash process might be the same.

**NOTE 3.** Cotton Plus™ mats will take longer to dry than nylon mats so should be processed separately to prevent over drying of the nylon mats.

**NOTE 4.** Rubber mats do not normally require as long a process as normal mats during their normal working life so this process will optimise their processing profitability.

### **3.8 FIRST WASH PROCESS FOR WASHER EXTRACTORS.**

To optimise a **new dust control mats** effectiveness it should be given a quick processing cycle prior to being put out on the customer's floor.

<b>PROCESS</b>	<b>DIP LEVEL</b>	<b>TEMP. °C</b>	<b>TIME (mins)</b>	<b>MAX pH</b>	<b>ADDITIONS</b>
WASH	MEDIUM	40°C	4	10	YES
DRAIN	-	-	1	-	-
RINSE	MEDIUM	COLD	2	-	-
DRAIN	-	-	1	-	-
EXTRACT	-	-	8 to 15	Ambient	-

**LOADING.**

This will vary from machine to machine but it is recommended that the machines be filled to their rated capacity.

**DIP LEVELS.**

These vary from machine to machine but enough water to fully wet out & properly rinse is all that is required here.

**TEMPERATURE.**

A minimal temperature is all that is required here.

**MAXIMUM pH.**

A maximum pH of 10 is required to ensure that the long-term optimum condition is maintained of the Milliken Walk Off® Mats products.

The final pH of the processing effluent should be as close to that of the ambient water pH as possible, which should be about pH 7.

**ADDITIONS.**

A very small amount of basic detergent or emulsifier can be added if required.

**EXTRACTION.**

This will vary considerably from machine to machine but further advice is given under section 3.11 EXTRACTION TIME ADVICE.

**GENERAL.**

Never wash 100% cotton mats with any other mat type.

Wash Cotton Plus™ mats separately from nylon mats.

Cotton Plus™ mats will take longer to dry than nylon mats so should be processed separately to prevent over drying of the nylon mats.

### **3.9 RUBBER MAT PROCESS FOR WASHER EXTRACTORS.**

**Rubber mats** do not normally require as long a process as normal mats during their normal working life so this process below will optimise their processing profitability.

<b>PROCESS</b>	<b>DIP LEVEL</b>	<b>TEMP. °C</b>	<b>TIME (mins)</b>	<b>MAX pH</b>	<b>ADDITIONS</b>
WASH	MEDIUM	40°C	4	10	YES
DRAIN	-	-	1	-	-
RINSE	MEDIUM	COLD	2	-	-
DRAIN	-	-	1	-	-
EXTRACT	-	-	2 to 4	Ambient	-

**LOADING.** This will vary from machine to machine but it is recommended that the machines be filled to their rated capacity.

**DIP LEVELS.** These vary from machine to machine but enough water to fully wash & properly rinse is all that is required here.

**TEMPERATURE.** A minimal temperature is all that is required here.

**MAXIMUM pH.** A maximum pH of 10 is required to ensure that the long-term optimum condition is maintained of the Milliken Walk Off® Mats products.

The final pH of the processing effluent should be as close to that of the ambient water pH as possible, which should be about pH 7.

**ADDITIONS.** A very small amount of basic detergent or emulsifier can be added if required.

**EXTRACTION.** The extraction cycle, at intermediate speed, for these products is considerably shorter than for normal mats because these products do not have a fabric surface to dry.



### **3.10 GENERAL PROCESSING WARNINGS.**

NEVER dry-clean dust control mats.

Nylons are very resistant to many substances including aliphatic & aromatic solvents, engine fuels, lubricants, animal & vegetable oils.

Some vegetable & biodegradable treatment oils may affect the mat rubber, causing dimensional instability.

Solvents may not affect the nylon but may affect the mat rubber.

Nylons are resistant to many substances including aqueous solutions of many inorganic chemicals & exhibit satisfactory resistance to mild or moderate base solutions.

Nylons have a limited resistance to acids, certain oxidising agents & particularly at elevated temperatures, a few chlorinated hydrocarbons.

Some of the products found to attack nylon, reducing its life expectancy are, ACETIC ACID, FORMIC ACID & PHENOL.

Oxygen & chlorine bleaches must not be used on mats.

Two of the more common chemicals in which nylon is soluble or decomposes in a short time are HYDROGEN PEROXIDE & SULPHURIC ACID.

With the ever-developing range of products being developed for use in laundries it is impossible to list all the products that must not be used on mats due to their effects on the fabric and the substrate of the mat.

Milliken Walk Off® Mats will be glad to assess a proposed mat processing product prior to use to confirm that it will not have a detrimental effect on the mats it will be used on.

When tunnel washers are used for processing, different product categories, whether it be white work & mats or just heavily soiled mats & lightly soiled mats, it is important for at least one pocket to be left empty between these different wash categories.

If this is not done there is a high risk that:

- detrimental wash chemicals come into contact with the mats
- too high a wash temperature is given to certain types of mats
- there is a re-deposition of soiling between the heavily soiled products & the lightly soiled products.

Over-dyed mats should not be processed with any other type of mat.

### **3.11 EXTRACTION ADVICE.**

Water extraction from dust control mats after processing can be achieved in many different ways.

1. Putting the mats in a conventional horizontal hydro extractor.
2. Processing the mats in a washer / extractor.
3. Putting the mats in an in-line tilting hydro extractor.
4. Putting the mats in a membrane press.

The most commonly used methods are the last three, but with ever developing technology, the extraction effectiveness & the physical effects on the mats can be quite varied.

Unless specifically requested or the mats are made outside normal manufacturing specifications, all the textile mats in the Milliken Walk Off® Mats product range will be perforated.

These minute perforations or micro valves as they are sometimes called, will let water pass through them when the pressure applied is high enough, so enabling a more even & effective extraction efficiency over the whole surface of the mat.

Optimum extraction figures may vary slightly depending on the product being extracted & any number of other variables

Each & every processing system needs to be assessed on its own to find the optimum extraction method, whether it is through machine loading or heated final rinses.

It is not recommended to extract mats at G-forces above 1000 G.

$$\text{G-force} = (0.56 \times \text{rpm}^2 \times \text{drum } \varnothing \text{ (in metres)}) \div 1000$$

If a membrane press is to be used for extraction, it is important NOT to overload the pockets & to use a “tamping” action during pressing.

### **3.12 DRYING ADVICE.**

Milliken Walk Off® Mats recommend the tumble-drying of mats as part of the full processing cycle but this stage of the process can be omitted from the cycle in some cases if so required.

Triple E™ backed mats must be tumble-dried as part of the processing cycle to help ensure their optimum long-term performance & appearance retention.

Tumble-drying has three great benefits:

1. It removes small particles of grit, which are not removed during washing & are trapped within the fibres & are held on the fibres by the surface tension of the water still on the mat pile.
2. It helps to re-set the natural twist of the pile which has been taken out under heavy use & washing.
3. It greatly reduces the risk of smells building up in the mat pile, which can occur in certain circumstances when mats are not dried properly.

**LOADING.** This will vary from machine to machine but it is recommended that the machines be filled to their rated capacity.

**LINT SCREENS.** Lint screens & filters should be cleaned regularly for optimum efficiency & the inner cage holes should be kept free from materials adhering to the cage which will impede air flow.

**TEMPERATURE.** An air outlet temperature setting of 80°C will help ensure that the risk of over-drying or pile melting is minimised.

**DRYING TIMES.** Times vary considerably depending on extraction efficiency, drier efficiency, steam pressure & relative humidity at different times of the year.

**MOISTURE.** The amount of residual moisture after tumble-drying that is deemed acceptable is a matter of personal preference guided by what the customer will accept.

A general guideline moisture weight is 10 to 15% of the fabric weight.

**COOL DOWN.** A cool down cycle to at least 30°C is imperative to minimise any creasing memory that might be put into the rubber while still warm & to minimise the risk of mat “sweating”.

All mats should be laid flat until cool. If space is a premium, lying over special wheeled trolleys is recommended.

## **4 STORAGE & HANDLING ADVICE.**

It is recommended that mats should be stored flat at all times.

### **MATS SHOULD NEVER BE STORED FOLDED.**

Storing mats folded can lead to ozone cracking of the rubber & prevent the mat from lying flat when first laid on the end user's floor, so making it a trip hazard.

If space is a premium, the second choice method of mat storage is to roll the mats up.

If mats are rolled for storage it is recommended that they are not stacked too high where the lower mats become crushed & distorted.

It is recommended that if mats are to be rolled for storage, they be rolled "fabric side out" to enable the ends of the mat to lie flat when the mat is first laid on the end users floor.

We do not recommend that mats be rolled "fabric side in" for storage, as the ends of the mats are more likely to curl up when the mat is first laid on the end users floor.

We do not recommend that mats be rolled with a folded start as this can lead to ozone cracking of the rubber & prevent the mat from lying flat when first laid on the end users floor, so making it a trip hazard.

It is usual for the incoming soiled mats to be rolled "fabric side in" to keep the loose dust & dirt inside the mat until it reaches the processing department.

For "customer specific" mats such as logo mats, it is recommended that they be stored in individual tubes.

The optimum depth of a mat storage shelf is 1.5 metres as this is the maximum width of a standard mat. Larger mats will need special attention and separate storage systems.

The ideal temperature for storage of rubber products ranges from 10°C to 21°C with a maximum limit of 38°C. If stored below 0°C, some rubber products become stiff & would require warming before being placed in service.

Rubber products should not be stored near sources of heat, such as radiators, base heaters, boilers etc., nor should they be stored under conditions of high or low humidity. (Keep the relative humidity below 75% to avoid condensation.)

To avoid the adverse effects of high ozone concentration, mats should not be stored near electrical equipment, which may generate ozone, such as electrical motors & switchgear, or be stored for any lengthy period in geographical areas of known high ozone concentration.

Exposure to direct or reflected sunlight – even through windows – should also be avoided.

Mats should be stored on a first in first out basis, to facilitate full stock rotation.



## **5 MAT REPAIRS.**

Dust mats endure a tough life where they can be damaged in the washing machine, the tumble drier, by the handling or storage equipment or at the end user's premises.

There are a couple of repair presses on the market specifically designed for repairing damaged mats.

The Milliken Walk Off<sup>®</sup> Mats repair press is designed to operate at 220 to 240 volts mains electricity with an air supply of 5.5 bar (80 p.s.i.) at 170°C.

This press can be used to make edge repairs, repairs of centre cuts, to re-label mats, to attach R.F.I.D. transponders & to re-attach Velcro patches that have come away.

The operation of this press is fully covered in the Milliken Walk Off<sup>®</sup> Mats repair press handbook which details safe working practices, how to carry out specific repairs & how to maintain the press in prime working order.

Milliken Walk Off<sup>®</sup> Mats manufacture a special rubber compound specifically for mat repairs & also supply a full "start up kit" of the tools to carry out repairs effectively.

**At no time should Milliken Walk Off<sup>®</sup> Mats products be exposed to temperatures above 175°C.**

## **6 SPECIALITY PRODUCT PROCESSING.**

### **NON LAUNDERABLE OUTDOOR MATS: PRIOR™.**

Prior™ mats should periodically be removed from the mat well and be thoroughly cleaned by removing all the grit, soil, dust etc.

It is most easily cleaned by placing in a suitable outside area to be hosed down with a water jet & given a firm brushing with a stiff brush.

The frequency of cleaning will depend upon the volume of traffic over the mat & the general levels of soiling at each particular site.

### **NON-LAUNDERABLE INDOOR MATS: FORMA™.**

Forma™ should be cleaned on a daily basis using a conventional vacuum cleaner.

The vacuum cleaner will remove loose dirt through the rotary brush action, which also helps to “groom” the pile, so minimising any pile flattening, which might occur.

Milliken Walk Off® Mats do not recommend the use of suction only machines such as “tub vacuum cleaners” as they cannot successfully remove the dirt from the textile strips due to the Forma™’s impervious backing & they do not have the desired brushing effect to optimise the mats pile.

A “Bonnet Buffing” type machine should not be used.

Periodically, Forma™ should be removed from the mat well, so that the well area can be thoroughly cleaned to remove all grit, dust, dirt etc.

The Forma™ mat can then be cleaned using a hot water extraction machine but keeping the water temperature below 60°C.

The frequency of cleaning will depend upon the volume of traffic over the mat & the general levels of soiling at each particular site.



## **7 ANCILLARY PRODUCTS.**

### **VELCRO™ JOINING SYSTEM.**

A system to link multi-placement mats where strips of male Velcro™ can be used to link female Velcro™ squares positioned on the back of mats.

### **REPAIR PRESS CONSUMABLES.**

PTFE release sheets & special white silicone pad.

### **ULTRASAN™ JOINING PLATE.**

A rubber link plate to link multi-placement Ultrasan™ mats.



## **Appendix 1. PRODUCT WARRANTIES.**

We are introducing one common warranty for all our Milliken Walk Off® Mat rental products that will give added benefits and increased confidence.

All of our industrial, rental quality mats will now include as standard, a five-year guarantee against all manufacturing defects including colour loss on solution-dyed products.

This new warranty will provide for full unconditional refund for any manufacturing defect within the first two years; in the third year any defect will warrant the customer receiving a 50% refund from the purchase price.

The sliding scale of refunds will continue with a 30% refund for defects occurring in year 4 and 10% in year 5.

## **Appendix 2. LIABILITY DISCLAIMER.**

This “Dust Control Mat Processing & Handling Guidelines” booklet is provided free of charge and does not constitute any contractual engagement, nothing in it shall constitute any warranty.

Milliken Walk Off® Mats shall not be liable for any direct or in-direct damages arising from utilisation of these Guidelines.

Whilst every effort is made to ensure that the contents of these Guidelines are accurate and up to date, the technical details in the Guidelines are not intended to be absolute and are subject to change from time to time.

Current technical details of individual products must be specifically confirmed by Milliken Walk Off® Mats at the time of contract.

### **Staining of floor coverings.**

Whilst Milliken Walk Off® Mats products are designed to keep the possibility of staining of the floor covering to a minimum, circumstances may arise which can lead to staining of the floor covering which are beyond Milliken Walk Off® Mats' control. These will include but not be limited to; processing of the mat, positioning of the mat, any local products used on and around the mat &, the condition of the floor covering on which the mat is placed.

### **Trip Hazard.**

Milliken Walk Off® Mats' products are designed to stay flat and not cause a trip hazard. A properly placed mat should enhance safety. However, the positioning of the mat and its surroundings are major factors in the overall performance of the mat, including its contributory factor towards safety. Care needs to be taken when positioning a mat so that it cannot become a hazard by itself or because of its surroundings.

### **General.**

There is a responsibility of the rental company to ensure that the mat placed is properly, cleaned in accordance with guidelines, stored in accordance with guidelines, delivered in accordance with guidelines and free of contaminants. There is also a responsibility on the end user to ensure local cleaning and maintenance does not contribute to staining of the floor covering & that the mat is not moved, or treated in such a way where it can reduce safety and become a hazard.