



# 9500 Series Static Control Anti-Fatigue Mats/Runners

Practical Ergonomics and Cumulative  
Standing Trauma Reduction

## Technical Information

BT 0807-1101  
Nov 2001



## Standing Fatigue

Standing for long periods of time on hard floor surfaces is one of the most common causes of physical fatigue. Physical fatigue occurs when muscles are constricted, causing reduced blood flow. The result is pain and discomfort. The heart is forced to work harder, and the body begins to run out of energy. Muscles ache and joints hurt.

Fatigue caused by long term standing is easily and too often overlooked. Workers, however, are suffering the consequences on a daily basis. Companies are losing literally billions of dollars per year in reduced productivity, increased health care and workers compensation costs, higher insurance rates and absenteeism.

## 3M™ 9500 Series Static Control Anti-Fatigue Mats/Runners

3M 9500 Series Anti-Fatigue matting may be the simplest and most effective way to reduce standing worker fatigue while providing ideal protection against static electricity problems. Physical fatigue is prevented by encouraging subtle movement of leg and calf muscles, which in turn promotes blood flow back to the heart. The use of 3M 9500 Series Anti-Fatigue Mats/Runners results in more comfortable, more productive workers.

The new 3M 9500 Series Static Control Anti-Fatigue Mats/Runners have excellent static control properties. They are carbon loaded rubber with the carbon being mixed evenly throughout the material to ensure the edges are as conductive as the center. Resistance from the surface of the mat to the grounding point – the truest measure of the mat's static draining capability – is typically in the range of  $2.5 \times 10^4 \Omega$  to  $1 \times 10^7 \Omega$  (measured according to ESD standard 7.1).

The rubber surface is bonded to a highly resilient anti-skid insulative sponge base. This construction provides outstanding cushioning and reduces stress on the spine and lower back muscles, which prevents worker fatigue.

## Health, Productivity and Quality

In a formal study at the Center of Ergonomics, University of Michigan, Ergonomist Mark Redfern concluded that different floor surfaces can have dramatically different effects on physical fatigue. The study involved 14 subjects at the Ford Chesterfield Trim Plant who were required to stand throughout their entire shift. A variety of floor conditions were tested, from concrete to a rubber antifatigue mat. The conclusive results proved that workers who were forced to stand on hard concrete floors for long periods of time suffered significant levels of fatigue and discomfort in the legs, back and throughout the body while workers who stood on anti-fatigue mats were able to reduce their level of fatigue and discomfort by as much as 50%.

To increase productivity and decrease dollars spent on down time and health care, many companies are implementing quality programs. Quality, safety and ergonomics are so interdependent that one process cannot exist without the other. Successful quality programs require the support from all employees. The best way to get that support is to ensure the maximum level of performance and cooperation through ergonomic and safety programs. Healthier, happier employees are also more productive, efficient and safer employees. One of the most popular quality goals is zero defects. That same goal can easily be applied to ergonomics and safety – zero discomfort and fatigue, zero injuries, zero down-time.

3M™ 9500 Series Anti-Fatigue Mats/Runners are designed with this concept in mind.

## Available Sizes

3M 9500: 0.9m x 1.5m (includes one installed groundsnap and one 4.5m ground cord)

3M 9510: 0.9m up to 22.8m (includes one ground snap installed every 4.5m with appropriate number of ground cords)

## Cleaning Instructions

3M 9500 Series Static Control Anti-Fatigue Mats/Runners can be cleaned by all common commercial detergents (3M™ 8001 Cleaner for Static Control Mats) and may be either scrubbed with a brush or damp mopped. Let dry before returning to service.

Be sure to read all Health Hazard, Precautionary, and First Aid statements found in the Material Safety Data Sheet and/or label of all cleaning solutions prior to handling or use.

Property	Test Method	Typical Value	
Electrical	ESD-S7.1	2.5x10 <sup>4</sup> to 1x10 <sup>7</sup> Ω (surface to ground point)	
Thickness	Caliper	12.7 mm	
Flammability	ASTM D 2859	Non-burning	
Tensile Strength	3M	630 psi	
Durometer	Shore A	82	
Temperature	3M	5 to 40 Degrees C	
Compression Strength (Resiliency)	ASTM 1667	Recovery after 30 minutes = 80% Recovery after 24 hours = 69%	
Chemical Deflection	ASTM 1056	3.0 - 5.0 psi	
Compression Set	ASTM 1056	Recovery after 24 hours = 77%	
Coefficient of Friction	ASTM 2047	Surpasses ADA and OSHA recommendations	
Chemical	ASTM D 543	Acetone	No visual effect
		Detergent	No visual effect
		Heptane	No visual effect
		Gasoline	No visual effect
		Isopropanol	No visual effect
		Mineral Oil	No visual effect
		Mineral Spirits	No visual effect
		Potassium Hydroxide	No visual effect
		Sodium Hydroxide	No visual effect
		Trichloroethylene	No visual effect
		Xylene	No visual effect

*Table: 9500 Series Anti-Fatigue Mats/Runners Specifications*



**3M France  
Electronic Handling &  
Protection**

Boulevard de l'Oise  
95006 Cergy Pontoise Cedex

Tél. : + 33 (0) 1 30 31 68 09

Fax : + 33 (0) 1 30 31 61 81

SAS au capital de 8 400 000 euros -  
542 078 555 RCS Pontoise APE 246C -  
n° Identification TVA : FR 25 542 078 555 -  
CCP n° 30041 00001 0143470B020 03 Paris

Distributed by:  
**SJM Eurostat UK Ltd.**

Countess Avenue  
Stanley Green Trading Estate  
Cheadle Hulme,  
Cheshire SK8 6QS  
United Kingdom

Tel : + 44 (0) 161 485 5002

Fax : + 44 (0) 161 485 4678

**SJM Eurostat**

45 route d'Orgelet  
39130 Pont de Poitte  
France

Tel : + 33 (0) 3 84 87 02 39

Fax : + 33 (0) 3 84 48 30 00

**Magnab Eurostat**

Skvasta Industriby 16BN  
61192 Nyköping  
Sweden

Tel : + 46 (0) 155 20 26 80

Fax : + 46 (0) 155 26 98 34