Matting Properties

Slip Resistance Properties

All testing information and properties are from PEM Surface Creations

The following test for slip resistance was performed by Jay W. Preston, CSP. PE, CMIOSH, CXLT, of Safetybiz, Inc., of Los Angeles, CA. The test was performed using the NBS Brungraber (Mark I) Number 76 for ASTM F-462 & ASTM F-1678 Standard.

According to Jay Preston, slip resistant testing has been found to show radical differences in shoe performance, based on shoe brand, sole design, and sole wear. This is why he relies on a standard test medium. The one that is generally accepted is the synthetic leather known as Neolite. A barefoot test was also performed, as PEM® is routinely utilized in the aquatic and marine environments.

PEM® Matting was tested on both a wet and dry surface.

PEM® High Friction Matting was tested on both a wet and dry surface.

The generally accepted non-slip or “safe” value for slip resistance is .50. Above .50, the higher the value, the greater the slip resistance and the “safer” it is, until about .85, where the surface has so much friction that it may be a tripping hazard.

The test results are shown below:

PEM® Matting

Test Medium	Dry Surface	Wet Surface
Neolite:	0.60	0.52
Barefoot:	0.68	0.63

PEM® High Friction Matting - (An aluminum oxide "grit material" is applied to PEM® for the toughest applications.)

Test Medium	Dry Surface	Wet Surface
Neolite:	0.65	0.56

The following are tested properties of the PEM poly vinyl loop mesh matting:

ORIGINAL PHYSICAL PROPERTIES, ASTM D 412, D 2240
Die C dumbbells tested at 20in/min.

	Results
Durometer A, points	85
Tensile Strength, psi	2089
Ultimate Elongation, %	370
100% Modulus, psi	1117
300% Modulus, psi	1848

TEAR RESISTANCE, ASTM D 624, DIE C
Specimens tested at 20 in/min.

	Results
Tear Strength, ppi	
As Received	284
After QUV Aging	244

Water Absorption, ASTM D 570
Specimens immersed 24 hrs. @ 23° C in distilled water
Average of three specimens reported

	Results
Absorption, %	
As Received	-0.019
After QUV Aging	1.78

EFFECT OF ALKALIES, CRD-C-572 SECTION 7.2^
Specimens immersed 7 days @ 23° C in the fluid mixture listed in Para. 7.2, then removed, rinsed and allowed to dry for 1 hr. @ 23° C

	Results
Durometer, point change	
As Received	-7
After QUV Aging	-5
Weight Change, %	
As Received	+0.13
After QUV Aging	+2.25

QUV WEATHERING, ASTM G 154

Procedure: Specimens exposed 2,000 hrs. per cycle #1 of table X2. 1.
UV Lamp: UVA-340
Chamber Temperature: 60°C light / 50°C Condensation
Program Cycle: 8hrs. UV Light / 4 hrs. Condensation

	Results
Type A Durometer, points	86
Tensile Strength, psi	1347
Ultimate Elongation, %	210
100% Modulus, psi	1145

LOW TEMPERATURE BRITTLENESS, ASTM D 746

Ten 1 ¼" x ¼" specimens conditioned 3 min. in methanol.

	Results
Brittlepoint, °C	
As Received	-38.2
After QUV Aging	0

APPARENT BENDING MODULUS, ASTM D 747^

Five specimens, approximately 0.5 inches x 2 inches were tested.
Apparatus: Tinius Olsen Stiffness tester
Cantilever Beam procedure conditions:
Readings were performed at 3°, 6°, 9°, 12°, and 15°.
0.1 In-lb moment weight
2 in. span
Span to depth ratio was approximately 29:1
Average of five specimens reported
Testing was outsourced to an accredited lab.

	Results
Apparent Bending Modulus, psi	
As Received	1893
After QUV Aging	3010

PEM cannot guarantee that slips, falls or injuries will not occur where our products are used. Further, PEM cannot guarantee the effectiveness of our products if they are not properly installed. Caution should always be used when accessing wet floors or surfaces. <We recommend that you use general safety measures such as “Wet Floor” signs and other appropriate caution signs and promptly clean up all spills and wet surfaces.>

It is the exclusive responsibility of each purchaser to determine the fit and compatibility of our products with the purchaser’s intended application and use, and to evaluate any safety concerns related to use of our products. It shall also be the exclusive responsibility of the purchaser, to determine when the product needs replacement. Please see our Limited Warranty for further details regarding our limited warranty to purchasers of our products.