

# Performance Data Sheet

## DURA-BASE®

ADVANCED-COMPOSITE MAT SYSTEM

In an effort to establish performance standards and to explore feasibility for new applications, Newpark Mats & Integrated Services (NMIS) has designed and conducted numerous tests with the DURA-BASE® Composite Mat System. The results viewed by NMIS as most significant are presented in abbreviated form in this document. Anyone having questions regarding the data presented, or issues not addressed here, may contact NMIS at (281) 362-6800.

### General Specifications

Overall Dimensions (Large Mat): 8' x 14' x 4.1" (2.44m x 4.27m x 10.5cm)  
Surface Dimensions (Large Mat): 7' x 13' (2.13m x 3.96m)  
Weight (Large Mat): 1000 lbs. (454kg)

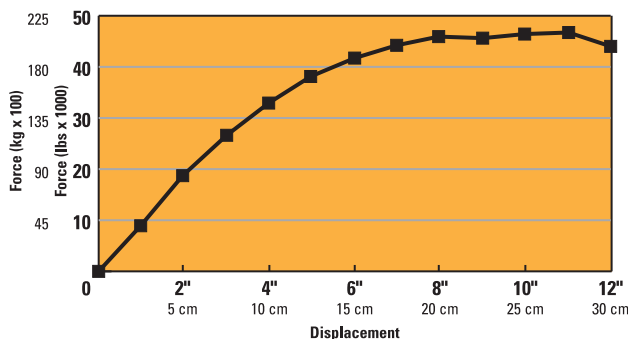
Overall Dimensions (Small Mat): 8' x 7'6" x 4.1" (2.44m x 2.29m x 10.5cm)  
Surface Dimensions (Small Mat): 7' x 6'6" (2.13m x 1.98m)  
Weight (Small Mat): 550 lbs. (249kg)

Material (primary): High Density Polyethylene  
Coefficient of Friction (neoprene on wet mat): 0.6

\*All measurements and weights are nominal.

### Strength

Testing has demonstrated mat tolerance to extreme deflection while maintaining high load bearing capacity in pure bending [span = 4 feet (1.2m)]. Pure compressive load capacity is approximately 600 psi (40 kg/cm<sup>2</sup>). Compressive loads in excess of 1000 psi (70 kg/cm<sup>2</sup>) have been observed in laboratory tests.



**NMIS routinely utilizes the mats for unpermitted loads over subgrades of 2 CBR and above.**

### Traffic

Traffic tests on differing soil conditions have shown the mats to be suitable for an average expected life in excess of 15 years. Fatigue tests have shown no appreciable damage at 60,000 cycles [6 inch (15cm) deflection of 8 foot (2.5m) span].

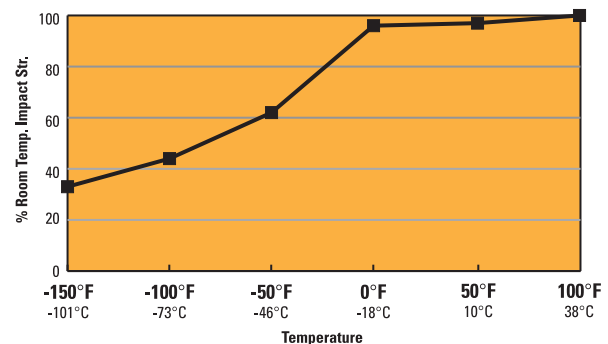
### Static Dissipation

Plastics, left untreated, exhibit poor electrical conductivity. This condition, when present in mat material, can lead to a buildup of static charge on the plastic or personnel and result in arcing (mild shock). The DURA-BASE® Composite Mats contain an additive that combines with the plastic and increases the conductivity so a charge may rapidly dissipate, virtually eliminating the potential for static buildup.

Tests have shown the mat surface conductivity to be approximately 10e8 Ohms. The upper limit for a dissipative material is 10e10 Ohms. Field tests have shown the dissipative properties of the composite mat to be equivalent to those of wooden mats.

### Temperature Effects

Izod impact tests were conducted to determine the effect of low temperature on material toughness. The results show a transition between -40°F and -4°F (-40°C and -20°C) where the material toughness begins to drop off. All specimens tested above -99°F (-72°C) exhibited signs of ductile failure. The graph presented here shows the impact results relative to room temperature. The impact strength at room temperature of 72°F (22°C) is 2,509 ft-lb/in (134 J/m). DURA-BASE® mats have been successfully employed in environments where -30°F (-34.4°C) temperatures were observed for an extended period of time.



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