



JAMAR HEALTH PRODUCTS, INC.

November 2020

PATRAN[®] Slide Sheet Performance for Decedent Handling

By Jamar Health Products

INTRODUCTION

For decades, Jamar Health Products has protected caregivers from workplace injury with its PATRAN[®] slide sheets. Like caregivers who move live patients, morgue employees, funeral home directors and other workers whose jobs require moving decedent patients are at risk for patient handling injuries if they do not use proper equipment.

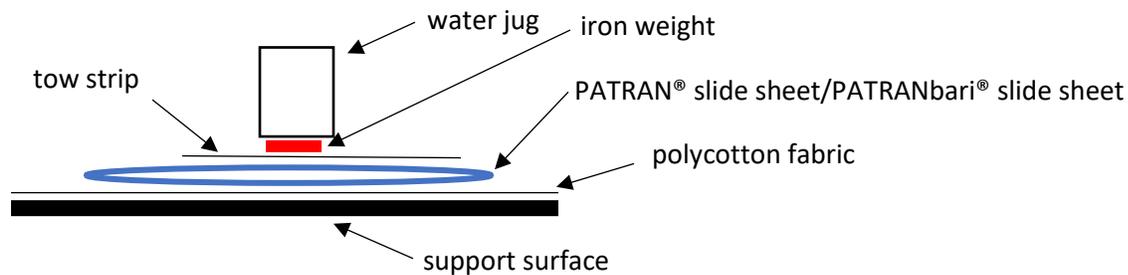
One of the differences between moving deceased and live patients is the colder temperatures common in body storage coolers. Effective at moving live patients at room temperature, we sought to test how PATRAN[®] slide sheets perform at cold temperatures for safe handling of decedent patients. We hypothesized that PATRAN[®] slide sheets would retain the same slipperiness (coefficient of friction [COF]) they have at room temperature as at cool and freezing temperatures.

METHODS

To conduct the tests, we used the same standard blue PATRAN[®] slide sheet (#8377) and a slightly thicker PATRANbari[®] slide sheet (#1845). We tested the slide sheets for COF at room temperature (20C/68F), a cool temperature (1C/34F) and a freezing temperature (-12C/10F).

Static and kinetic COFs were measured by placing a gallon jug of water and an iron weight on a linear, low-density plastic tow strip. These were placed on a slide sheet, which was on top of a polycotton fabric, representing bed linen. All items were supported on a level, hard, rubber-coated surface.

Water was used because it retains temperature well. The iron weight was used to help the slide sheets and tow strip retain their temperatures. Figure 1 depicts the arrangement.

Figure 1: Testing Setup

Before testing at the room and cool temperatures, the water, iron weight, tow strip and slide sheet were conditioned to 20C/68F and 1C/34F, respectively, for at least 48 hours.

For the freezing temperature tests, the iron weight, tow strip and slide sheet were conditioned to -12C/10F and the water conditioned to 1C/34F for at least 48 hours. The duration of the test was short enough that the iron weight remained frozen throughout testing.

RESULTS

Static and kinetic COFs were within the margin of error of being the same at room and cool temperatures for both styles of PATRAN® slide sheets tested. At the freezing temperature, the COFs increased 20%, meaning they were less slippery. Once the frozen PATRAN® slide sheet temperature rose to 1C/34F, the COF returned to room temperature measurement.

LIMITATIONS

Our tests were not performed by an independent laboratory nor did we use ASTM International standard D1894, which requires a temperature of 23C/73F to determine COF.

CONCLUSIONS

PATRAN® slide sheet performance remains consistent whether at room or cool temperature. When left under a refrigerated but not frozen body, PATRAN® slide sheets will perform the same as at room temperature.

However, if a PATRAN® slide sheet remains beneath a frozen body and freezes itself, the COF will increase 20% meaning it is less slippery. For example, a room temperature PATRAN® slide sheet with a kinetic COF of 0.14 would have a frozen COF of 0.17. While this is slipperier than a polycotton fabric, waiting until the slide sheet thaws will allow the PATRAN® slide sheet work at peak performance again. Freezing and then thawing doesn't affect performance.