

Two burns were conducted on each test sample. Approximately 2 to 3 gallons of fuel were poured over 35-50 percent of the sample surface. The tests were conducted outdoors, in full wind conditions.

The results were similar in all classes. Even with a 16-knot wind, the flame did not spread to the fibers that were not in contact with the fuel. The fibers melted away from the flame, thus limiting the spread of the flame.

4.2 LOAD-BEARING TESTS.

At BOS, heavy airport vehicles were tested in various ways to see how the artificial turf reacted. A static test using an ARFF vehicle weighing 66,000 lbs was parked on the turf and allowed to rest for 10-20 minutes. Once the vehicle was removed from the area, the turf was inspected for any rutting or problematic areas. After an extensive inspection, no ruts or other problems were reported.

To determine if the artificial turf would shift or be dislodged by a turning vehicle, an ARFF vehicle, shown in figure 4-1, was slowly driven on the turf surface while constantly turning. No damage was noted, and the same ARFF vehicle, shown in figure 4-2, was directed to gain speed on an adjacent taxiway then veer onto the turf surface and veer off. No movement of the turf or displacement of the anchoring system was noted. No problems with traction or maneuverability were noted by the vehicle operator.



FIGURE 4-1. AN ARFF VEHICLE CONSTANTLY TURNING WHEELS ON ARTIFICIAL TURF SURFACE (BOS)



FIGURE 4-2. AN ARFF VEHICLE PERFORMING A HIGH-SPEED PASS (BOS)

A similar test was performed at HNL, with an ARFF vehicle traversing the artificial turf. The difference from the tests performed at BOS was that the ARFF vehicle came to a complete stop on the turf. No movement or dislodging of the artificial turf was observed.

Another load test that was performed by airport operations staff at MDW was to use the right main gear of a B-757 with full fuel tanks (see figure 4-3) to taxi across the edge of the artificial turf installation. The aircraft was able to taxi across the entire surface without incident. Minimal rutting occurred, but this was easily repaired by using a heavy roller to smooth out the surface.



FIGURE 4-3. FULLY FUELED B-757 TAXIING ACROSS ARTIFICIAL TURF SURFACE (BOS)