

Sand Brick Technologies, LLC

Test Program Results

Physical Abuse Tests

Individual Sand Brick Drop Test

A full bag (25 pounds) was repeatedly dropped from a height of five feet (as measured from the bottom of the bag to the ground).

Test 1

Eleven drops onto hard packed sand. No damage, no stretching.

Test 2

Fifty drops onto concrete. No damage, no stretching.

Tied and Thrown Tests

Three Sand bricks were filled with 25 pounds of sand. The top of the bag was tied with string. The bags were then thrown a distance of sixteen feet onto asphalt.

Conventional Sand Bag Drop Test

A full bag (50 lbs) was repeatedly dropped from a height of five feet (as measured from the bottom of the bag to the ground).

Test 1: Six drops onto hard packed sand. Stretching was seen on the first drop. A small hole appearing on drop six.

Test 2: Five drops on to concrete. A seam split occurred on drop five.

Exposure Tests

Four bags were exposed to the sun in May 2009 for thirty days. Two bags were exposed blue side up and two were exposed with the yellow side up.

After the thirty days exposure the sand bricks were dropped with 25 pounds of sand from a height of five feet. After 50 drops onto concrete the bags showed no damage.

The bag material appeared less flexible after the 30 day exposure however no diminishment in performance was observed.

Contamination Tests

Sand Bricks

The test consisted of a small wall placed in a test pool. The wall consisted of two rows of bags, four bags in length. The was repeated to making a wall four bags in height. The height of the water full submerged the bottom two rows of bags. These sixteen bags were the one subject to the test.

Submerged time: 72 hours.

Individual bag weight at start:	25 pounds
Average weight after 72 submersion:	26.9 pounds
Average water contamination:	1.9 pounds
Percentage of contamination by weight:	7.6%

Total weight of contaminated Sand in a 100 foot wall: 4054.6 pounds

Conventional Bags

The test consisted of a small wall placed in a test pool. The wall consisted of two rows of bags, four bags in length. The was repeated to making a wall three bags in height. The height of the water full submerged the lowest row of bags. These eight bags were the one subject to the test.

Submerged time: 72 hours.

Individual bag weight at start:	40 pounds
Average weight after 72 submersion:	47.9 pounds
Average water contamination:	7.9 pounds
Percentage of contamination by weight:	19.75%

Total weight of contaminated Sand in a 100 foot wall: 35,550 pounds

Load Test

The top two row of bags on a five foot high wall was load tested to 240 pounds per square foot with no displacement of the bags or distortion of the wall.

Sand Brick Description

Each bag consists of two sheets of textured polyethylene film cut to shape and welded together.

Thickness:	3 mil each half, 6 mil total
Weight:	1.0 oz.
Maximum width:	26 inches
Maximum Height:	18 inches

Number of bags required to make a three foot high, one hundred foot wall:

Sand Bricks:	2134
Conventional bags:	4500*

*per Army Corp of Engineers

Amount of sand required for a three foot high, one hundred foot wall:

Sand Bricks:	53,350 pounds
Conventional bags:	180,000 pounds