



**GENERAL GUIDELINES**

1. The most commonly used bags are treated burlap or woven polypropylene about 24 inches by 14 inches. Unused empty bags can be stockpiled for emergency use and will be serviceable for years, if kept dry and properly stored out of the sun and weather. Filled bags of earth material will deteriorate quickly. In an emergency any kind of bags can be used.
2. Untied sandbags are recommended for most situations. Tied sandbags should be used only for special situations or for specific purposes such as filling holes, holding visquine or straw bales in place or to form barriers backed by supportive planks or aluminum sheet piles.
3. Untied bags should be filled approximately 2/3rds full. Tied bags can be filled more, but leave enough neck so that it can be tied properly.
4. A sandy soil is most desirable for filling sandbags but any other available material such as silt, clay, gravels or a mixture of

these may be used. Sand is a pervious material and additional weight is obtained when the soil in the sack gets saturated, and sand filled sacks shape really well. Clay materials are difficult to fill bags with and are difficult to shape. Gravels are too pervious and are very difficult to shape. In emergencies, when vehicle access is cut off, use the back side of the levee or adjacent dry field to obtain the sandbag material. Sandbag levees can be constructed by two people. Teams are better. A filled sandbag weighs 40-50 pounds.

5. Sandbag filling operations can be accomplished at or near the placement site, or at centrally located filling sites such as fire stations, or other public works, or at sand borrow pits. If the bags are to be prefilled at a distant location, due consideration must be given to transportation vehicles and placement site access. In many cases, access may be only by boat, tractor or helicopter.

**Sandbag Measurements**

- 1 Pallet = 1 Ton (approx) = 75 Full Bags
- 1 Pallet = 75 Bags
- 1 Semi-Truck = 1,500 Bags = 20 Pallets
- 1 Tandem Truck of Sand = 10 Cubic Yards
- 10 Cubic Yards of Sand @ 30# Bag = 1,200 Bags
- 12 Cubic Yards of Sand @ 30# Bag = 1,450 Bags
- 1 Bag = 30# (approx)
- 1 Bag = 1 1/2 Cubic Feet (approx)
- Bags 55-60 percent filled provide best engineering properties

**Estimating Bag Requirements**

**PLAN OF BOTTOM LAYER**

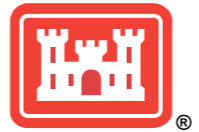
BAGS REQUIRED PER 100 LINEAR FEET OF LEVEE	
Height Above Levee	Bags Required
1 foot	600*
2 feet	2100
3 feet	4500
4 feet	7800

\*Single width course requires 300 bags per 100 linear feet, on foot high

**Rule of Thumb  
Width 3X (times) height.**

*For complete information please reference the U.S. Army Corps of Engineers, St. Paul District Flood Flight Handbook at*

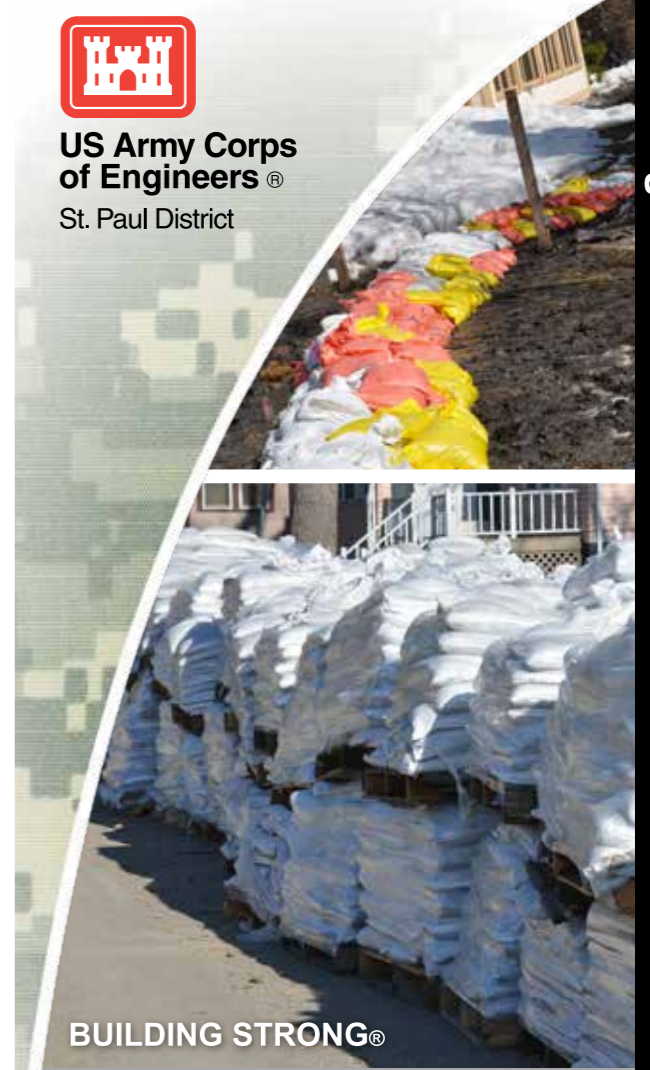
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of Engineers®**  
St. Paul District



**BUILDING STRONG®**

The use of sandbags is a simple, but effective, way to prevent or reduce flood damage. Properly filled and placed, sandbags can act as a barrier to divert moving water around, instead of through, buildings. Sandbag construction does not guarantee a watertight seal but is satisfactory for use in most situations. Sandbags can also be used to prevent overtopping of leveed streams; to divert current flow to a specific area; to contain seepage behind levees; and to provide weight on back slopes of levees, poly sheeting, and other barriers.

