



# Pumps & Supplies

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

## Background

The U.S. Army Corps of Engineers, Rock Island District, is the national supplier of Innovative Flood Fight Products for the Corps of Engineers and the Regional Flood Fight Product Distribution Center for local and state governments during natural disaster response.

In the event of a severe storm or hurricane, the District also maintains a Task Force specially trained to dewater the Greater New Orleans Metro Area and set conditions for traditional recovery operations to begin. The Task Force has responded to Hurricanes Katrina and Rita (2005), Gustav (2008), Isaac and Sandy (2012) and has also provided technical assistance following the Missouri River and Thailand floods in 2011.



## Pumps & Supplies

Under the authority of Public Law 84-99, the U.S. Army Corps of Engineers can provide technical assistance and flood-fighting supplies to local organizations, cities, counties and states actively engaged in flood fighting. Additionally, through mission assignment by the Department of Homeland Security, Federal Emergency Management Agency, the Corps can provide this support following a storm or natural disaster.

Along with its arsenal of personnel to assist in emergency response and recovery, as the Corps' national supplier of Innovative Flood Fight Products and the Regional Flood Fight Product Distribution Center in the Midwest, the Rock Island District maintains a supply of conventional and large sandbags, plastic sheeting, pumps, and flood-fight systems such as HESCO Bastion barriers, Portadam and Rapidly Deployable Flood Wall.

**Sandbags.** A conventional sandbag is a sack made of hessian/burlap, polypropylene or other materials that is filled with sand or soil. Advantages are that burlap and sand are inexpensive and bags can be brought in empty and filled locally. Sandbags are not always effective in flood-fighting as water will eventually seep through the bags and finer materials, like clay, may leak through the seam. After use, dry sandbags can be stored for future use; wet bags are usually disposed in a landfill as they become contaminated from flood waters.

The most common size for sandbags is 14 inches by 26 inches. Large sandbags, Flexible Intermediate Bulk Containers (FIBC), also known as big or bulk bags are most often made of thick woven polyethylene or polypropylene, either coated or uncoated, and normally measure around 45-48 inches in diameter and vary in height from 35 to 80 inches. Their capacity is normally around 2,000 lbs, but the larger units can store even more.





**Crisafulli Trailer Pumps.** Power-take-off (PTO) Powered Crisafulli Trailer Pumps are driven from the PTO fitting on any tractor, and are offered as 540 revolutions per minute (rpm) models or 1,000 rpm models. Crisafulli Self-Powered Trailer Pumps are powered by electric motors, or gas, diesel, or propane fueled engines mounted on the pump frame, or by a Crisafulli Power Unit. Crisafulli offers PTO powered trailer pumps in three models - Humpback™, Short Hitch, and Three Point Hitch, with a wide range of pump sizes, flows, and head capacities (ranging up to 18,000 gallons per minute and more than 50 feet of head) for each model. The District stocks HB08RI (8"), HB12RI (12"), and HB16RI (16") models.

**Godwin Pumps.** Godwin Dri-Prime pumps with vacuum priming compressors are mounted to diesel engines on highway trailers. These automatic priming centrifugal pumps are maneuverable portable trash pumps featuring a venturi air evacuation system that allows priming from dry with suction lifts up to 28 feet (8.5 meters). They can run dry indefinitely without damage due to a high-pressure oil bath mechanical seal design. The District stocks 4", 6", and 8" Godwin models CD103M, CD150M and CD225M, with flow capability up to 3,200 gallons per minute, total dynamic head to 180 feet and solids handling to 3-1/8" in diameter.



**HESCO Bastion.** The barrier is made of a collapsible wire mesh container and heavy duty fabric liner, and is used as a temporary to semi-permanent dike or barrier for flood control and military fortification. Originally designed for use on beaches and marshes for erosion and flood control, the HESCO Bastion quickly became a popular security device in the 1990s. Hesco barriers continue to be used for their original purpose, and were most notably used in 2005 to reinforce levees around New Orleans in Hurricanes Katrina and Rita; during the June 2008 Midwest floods; and in Fargo, North Dakota to fight floods.

**Portadam.** Portadam is a temporary, portable cofferdam comprising a unique free-standing steel support system and impervious fabric membrane, and eliminates the need for excavation or fill, costly pile driving equipment, or time-consuming sandbag dikes. The Portadam system consists of two main components; a welded tubular steel framework support and a flexible waterproof membrane permitting easy installation in any configuration and over uneven bed contours.



**Rapid Deployment Flood Wall (RDFW).** RDFW is a modular plastic grid that serves as a direct replacement for sandbags. Filled with the same sand as the bags it replaces, an RDFW wall can be constructed in one twentieth the time, using one fifth the labor, of comparable sandbag structures. With RDFW, a 7-person crew can construct a wall 100 feet long, 4 feet wide, and 4 feet high in approximately 1 hour. The modular nature of RDFW allows walls and levees of any length to be constructed in heights varying from eight inches to six feet.

For more about the Rock Island Districts' Emergency Management mission, visit us on the Web @ <http://www.mvr.usace.army.mil/About/Offices/EmergencyManagement.aspx>

**U.S. ARMY CORPS OF ENGINEERS – ROCK ISLAND DISTRICT**

P.O. Box 2004, Clock Tower Building, Rock Island, IL 61204-2004

[www.mvr.usace.army.mil](http://www.mvr.usace.army.mil)