

Cofferdams

BUILDING A TEMPORARY RESTRAINING WALL TO EFFECT A BIN RESCUE

Most dictionaries will define “cofferdam” as a “temporary dam” built in a river or other body of water, which encloses an underwater area, so that it can be pumped dry for construction or repair work.

In the case of a grain entrapment, these cofferdams or caissons allow the rescuers to work while keeping the surrounding grain away from the victim.

The primary purpose of a cofferdam is to create a restraining wall around the victim and stabilize the situation. You need to ensure that the victim will not

BIN ENTRY Wayne Bauer



be engulfed or entrapped any further than he or she already is.

The restraining wall material or cofferdam around the victim will isolate that person from the pressures caused by the mass of grain surrounding him or her, while rescuers remove enough grain from between the victim and the cofferdam to extricate that person.

People have attempted to use garbage cans, sections of culvert tubes, doors, and other items as a substitute for a cofferdam in the past. Currently, most cofferdams are

constructed out of plastic, wood, or aluminum. Weight, strength, cost, and size are issues to consider. You need to determine how you will deal with these tradeoffs at your site.

Assuming that you can locate the victim, you then need to make sure that your rescue equipment, cofferdam, and/or patient packaging device will fit through the opening into the bin or confined space involved. Check the size openings you are limited to in your facility. What are your limiting factors? Be sure that your equipment actually will pass through the openings you have.

Cofferdam Materials

Hopefully, you have access to some

SAMPLERS
Truck Probes and Bulk Samplers

- Engineering
- System Support
- Accessories

RAIL LOADING APPLICATIONS

GAMET 6800L

Gamet

GAMET MANUFACTURING
698 Prior Ave. N • St. Paul, MN USA 55104
Phone: (651) 647-5410 • Fax: (651) 647-5412
Toll Free 888-647-5475
gametmfg.com

The Closer You Look... The Better We Look!

Response No. 601



VIGEN CONSTRUCTION

DESIGNERS • BUILDERS • ENGINEERS

From design concept to service after the sales, Vigen Construction is 100% committed to your satisfaction.

Vigen Construction offers you complete consultation/planning, design/engineering and construction services for industrial ag-related building, renovation and expansion projects. Whatever your requirements, we assure you top quality and total satisfaction.

Services include:

- ◆ Complete Turnkey Design & Construction Services
- ◆ Grain Elevators
- ◆ Terminals
- ◆ Flour Mill Facilities
- ◆ Feed Mill Facilities
- ◆ Industrial & Agricultural Silos
- ◆ Millwright & Machinery Installation

Call us for all your construction needs.

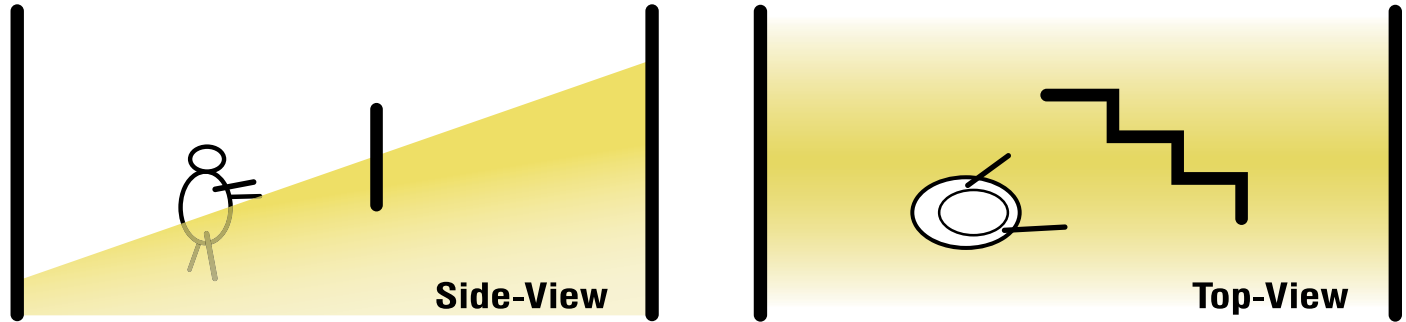
Office Location
42247 180th St SW
East Grand Forks, MN 56721
www.vigenconstruction.com



P.O. Box 6109
Grand Forks, ND 58201
218.773.1159 (Office)
218.773.3454 (Fax)

Response No. 602

Temporary Breakwall Setup for Bin Rescue



Two views depict how simple sheets of plywood can be used to build a breakwall above the victim of a grain entrapment to prevent more grain from cascading down onto the victim.

type of cofferdam or restraining wall material that can be used for such a potential grain entrapment or engulfment incident.

You can construct a cofferdam or purchase one made of hard plywood, extruded plastic, aluminum, or other materials.

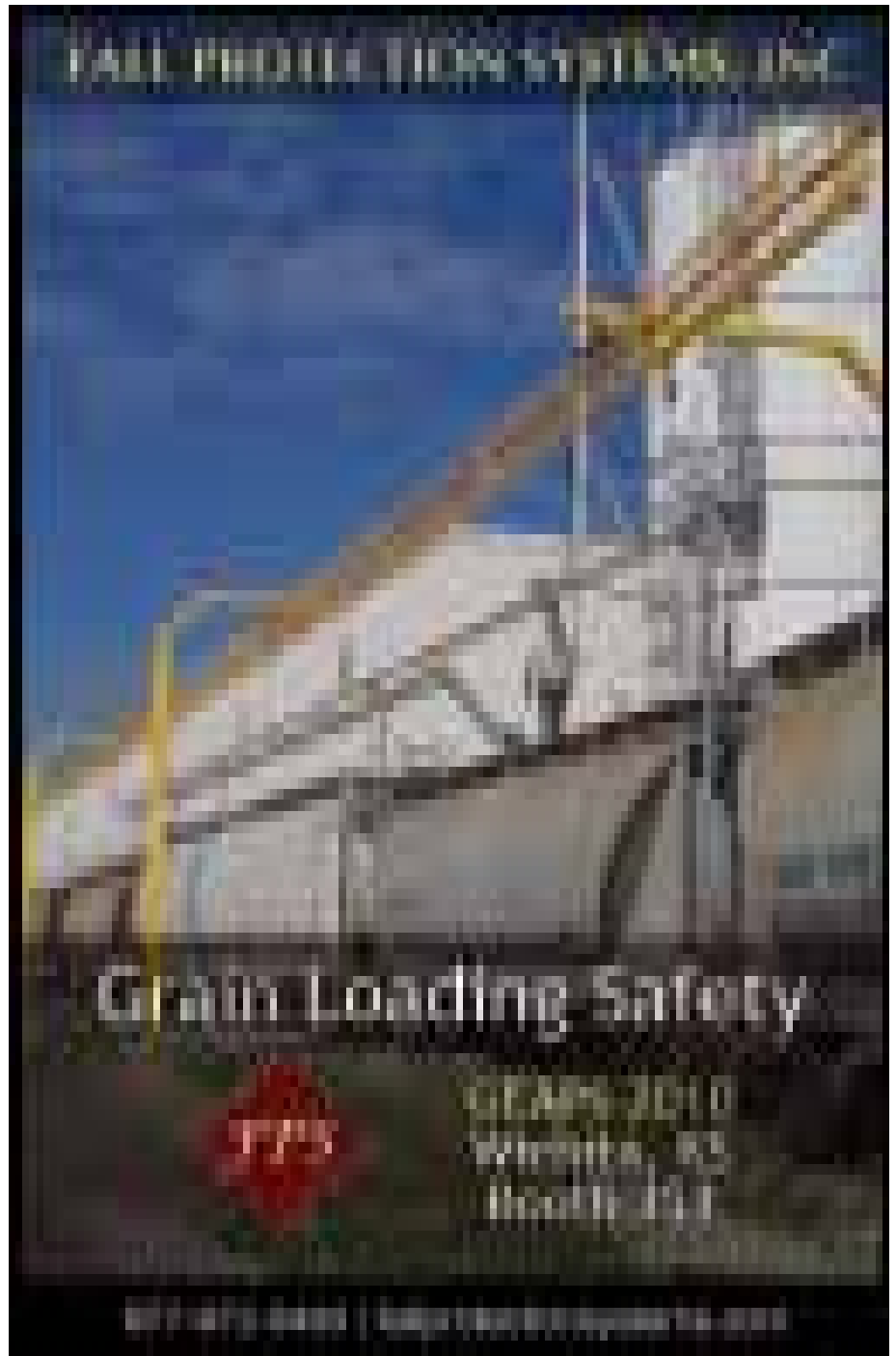
Plywood: Various groups from Michigan, Iowa, Oklahoma, and other areas have developed a variety of hard plywood cofferdams. The designs vary a great deal, in terms of how the panels are locked or linked together.

Most are using four 2-foot-x-4-foot or 2-foot-x-5-foot panels of 3/4-inch plywood assembled into a square shape. Some are rounding the bottom edges for ease of insertion into the grain.

The Professional Rescue Innovations group from Iowa ([PRI/www.privrescue.com](http://www.privrescue.com)) has been using only three panels to form a triangle shape for added strength.

Plastic: The Liberty Rescue Tube concept originated as a result of research conducted at Purdue University. RBH Mill & Elevator Supply Co., Kansas City, MO (800-821-5578) introduced it to the grain industry in 2006.

The Liberty Rescue Tube is manufactured out of UHMW and comes in four panels of 59-1/2 inches tall and 24-1/2 inches wide. When fully assembled, the unit is 59-1/2 inches tall and 31 inches in diameter. Total weight of the unit is 56 lbs., and the unit can fit through a 12-inch opening. The individual panels can flex allowing them to pass through such a small opening.



Three Types of Cofferdams



**RBH Mill & Elevator
Liberty Rescue Tube**



**The Andersons
cofferdam**



KC Supply Extricator

This flexibility, along with its relatively light weight and smooth outer surface are considered positive characteristics by the tube's distributor.

Aluminum: Aluminum cofferdams have been around for many years. The Andersons developed the original Rinker tube back in 1960s. Star of the West Milling Co. and Regulatory Consultants Inc. (RCI) developed later designs from aluminum, among oth-

ers, between 2002 and 2007. The GSI Group developed the Res-Q-Tube in 2009, and KC Supply Co., Kansas City, MO (800-527-8775) currently is marketing the "Extricator."

The Extricator comes in four sections, with each section weighing 28 lbs. The unit weighs 112 lbs. when fully assembled inside the bin. It includes internal handles, external handles, and foot pegs.

Each section measures approximately

60 inches in height and 23 inches at its widest part. This allows the tube to enter a 24-inch round entrance or 20-x-20-inch square opening.

A five-section tube also is available.

Distributors of aluminum cofferdams stress the durability of these units for multiple uses.

Wayne Bauer is safety and security director of Star of the West Milling Co., Frankenmuth, MI; 989-652-7026.

EXPLOSIONS are EXPENSIVE



Injuries, downtime, equipment replacement. Who can afford it? Fortunately, Fenwal has the right explosion protection system for every industrial process. Venting, isolation, suppression, or a combination. Plus the Fenwal factory team of technicians for fast installation and responsive service. And the world-class Fenwal Combustion Research Center for expert testing of all types of explosive materials. No wonder more plants trust their explosion protection to Fenwal.

For our free
Guide to Explosion Protection cd...
call Fenwal Protection Systems today.
1-508-881-2000, ext. 2111.

Or visit our website at
www.fenwalprotection.com.



FENWAL®
Protection Systems

How important is your process?

Response No. 621