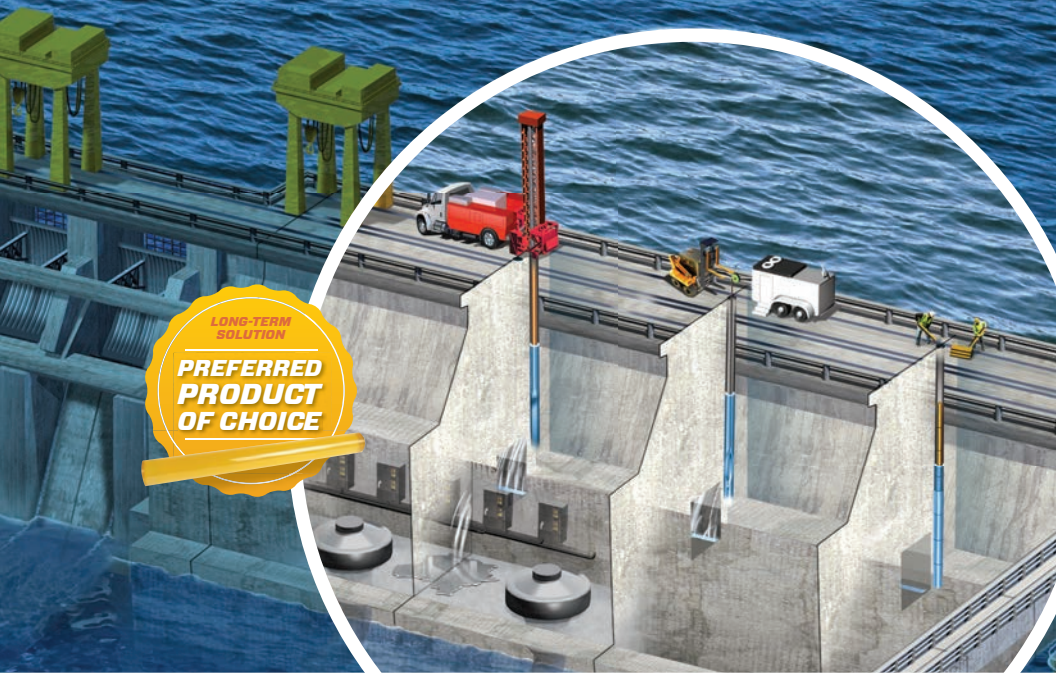


CYLUTIONS™

REVOLUTIONARY WATERSTOP SYSTEM FOR NEW & EXISTING MONOLITH JOINTS

The long-term solution for leaking joints in concrete gravity dams, powerhouses and navigation locks.

LONG-TERM
SOLUTION
PREFERRED
PRODUCT
OF CHOICE



**Leader in innovative
engineering and solutions.**



We specialize in water control issues,
particularly to cure leaks in monolith joints in concrete gravity dams
using our revolutionary and proprietary **CYLutions™** System.



The long-term repair for leaking joints in concrete gravity dams, powerhouses & navigation locks.

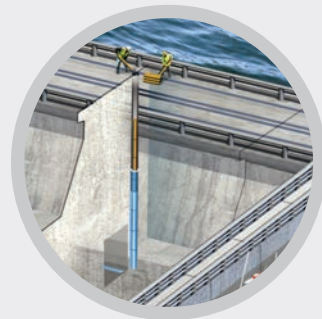


Step 1 : Drill

The receptor hole is drilled with a rig set-up on the deck located over the construction joint. Care is taken to align the new hole to existing waterstops, depending on the existing waterstops, gallery(s) and other geometric factors. The foundation rock is drilled at least 5 feet.

Step 2 : Inspect

Down hole video inspection of the receptor hole interior verifies the alignment of the borehole with the construction joint. It assesses the condition of the concrete, construction joint and the down-hole water level and flows.



Step 3 : Seal

CYLutions™ cylinders are inserted into the borehole. The installed cylinders then react with the water in the borehole and expand to seal the leakage in the construction joint.



If the original monolith joint waterstops fail, *CYLutions™* System eliminates the leakage.

FEATURES

- Flexible - does not restrict movement in the joint
- Seal is internal—leaves no external cosmetic blemishes
- Installed from the deck of the dam—**DIVING NOT REQUIRED**
- Non-invasive—**CYLutions™** is installed through a 6-inch receptor hole
- Cylinders easily conform to rock pockets, voids and anomalies of the receptor socket
- Process is quick and affordable with long term results
- Sawn joints in RCC structures as well as new dam construction

BENEFITS

- Stops downstream face icing
- Restores pump capacity
- Improves workspace and gallery safety
- Reduces structure loadings
- No on-site mixing of any chemicals or grouts
- Extends life of dam
- Enhances public relations
- No spillage: environmentally safe
- Extremely durable and long lasting
- Diving not required



Stops monolithic joint leaks in high-head dams and navigation locks

Proven History of Results

Our **CYLutions™ System** stops leaks in monolith joints.

A Robust Fix

- No return maintenance visits to 'patch' leaks
- Withstands wet/dry cycles
- Withstands hot/cold cycles; will not freeze and remains flexible
- Installs summer or winter
- Can be installed in active leaks
- Environmentally safe—no on-site mixing or pumping of chemicals
- Provides positive leak protection even if future joint movement
- Capable of pressure sealing in dams with hydrostatic head heights exceeding 800 feet
- Delivered as solid; installed as solid; expands as solid and seals as solid



Dam monolith joint before repair.



Same joint after **CYLutions™** installation



Contact us today for further information
1 541 504 0416 | www.emagineered.com