

MATERIALS SELECTION GUIDELINES

MARINE & UNDERWATER STRUCTURES

- Sealing underwater cracks & joints - **FLEXIBLE**
- Underwater soil stabilization and cavity filling: use stable, cement-based suspension grouts and microfine cement-based grouts where applicable; use **ULTRAFINE** or **UNIVERSAL** foam-producing resins when flowing water conditions are encountered.
- Restoration of historical structures: use cement-based grouts or light weight cellular grouts in combination with polyurethane resins as required.
- Call **MULTIURETHANES** for technical assistance regarding underwater grouting applications, equipment and techniques for use by divers.



Miners preparing for polyurethane injection to stop inflows of quicksand into a 24 foot diameter shaft collar excavation

MINING AND TUNNELLING

- Stopping water inflows: use stable, cement-based suspension grouts and microfine cement-based grouts where applicable; use **ULTRAFINE** resin in soil or **UNIVERSAL** resin in rock when large inflows of water are encountered.

GEOTECHNICAL

- Soil stabilization and cavity filling: use stable, cement-based suspension grouts and microfine cement grouts where applicable; use **ULTRAFINE** or **UNIVERSAL** polyurethane resins when flowing water conditions are encountered.
- Slab jacking and foundation compaction grouting: use stable, cement-based grout formulations.
- Stopping water leaks around ground anchors and wall tie-backs: use stable, cement-based suspension grouts with **UNIVERSAL** resin to provide a fast-setting grout to cut off water flows.
- Stopping water leaks and soil loss through caisson walls: use stable, cement-based suspension grouts in conjunction with **UNIVERSAL** polyurethane resin for fast-setting repairs.
- Preventing soil liquefaction when undertaking deep excavations below the water table in sandy soil: use microfine cement; use **ULTRAFINE** or **UNIVERSAL** polyurethane resins for flowing water conditions.

CONCRETE DAMS AND POWERHOUSES

- Concrete crack injection - see above
- Stopping flowing water leaks - **FLEXIBLE**
- Sealing underwater cracks & joints - **FLEXIBLE**
- Foundation grouting and cavity filling: use stable, cement-based suspension grouts in primary grout holes and microfine cement-based grouts in secondary grout holes to reduce residual permeability.

EARTH DAMS AND TAILINGS DAMS

- Foundation grouting and cavity filling: use stable, cement-based suspension grouts and microfine cement grouts.
- Stopping water leaks: use stable, cement-based suspension grout in conjunction with **UNIVERSAL** polyurethane resin to provide a fast-setting grout to cut off water flows through earth dams.

WATERPROOFING • CRACK INJECTION • CONCRETE RESTORATION • SEWER REHABILITATION • WATER CUT-OFF