

ELECTRO HYDRO WORLD



LEADING GROUT SPECIALISTS IN SOUTHERN AFRICA

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Company Overview



- ▶ Our combined expertise of over 150 years backed by our 16 years of successful operation assists you in your safety record and mining efficiency standards.
- ▶ Grout pack Support, Wet Crete and Construction (Roadways, Box Fronts, etc) are the core service offerings of Electro Hydro World and the Multi-Purpose Grout Plant is central to the quality and reliability of our client's experience.
- ▶ Our grout plants are the heartbeat of our operations and are key to the efficient, cost saving advantage of the supporting grout packs.
- ▶ Mining safety is a critical concern of all our clients and our grout pack supplier services reduce the risk on your behalf enabling you to focus on your core mining activities. To this end, outsourcing just makes sense.
- ▶ Upon consultation careful calculation with your rock and mining engineers, our systems are designed and engineered to deliver a predetermined cementitious mix via pumps and steel ranges to all areas underground where construction, ventilation and support are needed.
- ▶ Our grout plants have been designed and developed to scale production outputs to your requirements. Added to grout support, we are able to offer a variety of grout products simultaneously covering all needed grouting solutions.
- ▶ Our unmatched expertise allows for ongoing skills development through our training programmes, further enhancing productivity and safety standards. This is to ensure that our service is of the highest standards and that your trust and reliance on us is beyond expectation.
- ▶ The dynamic nature of our plants enable high volume grout outputs allowing the replacement of pillars containing high grade minerals which helps extend the life and profitability of the mine.

Company Overview



▶ Grout Plant Support

- ▶ When grout is being used as a support medium, the Grouting System can be installed in place of Timber Packs

▶ Mine Construction

- ▶ Construction of roadways, workshops up to 45Mpa and winch beds can be done from the grout plant

▶ Consolidation & Set Installation

- ▶ EHW have industry experts in providing the mine viable solutions to safely and effectively mine through bad ground conditions like Dykes and Faults. Our techniques have been proven safe, efficient and cost effective taking into consideration the downtime the mine has to try and mine through these structures in an underground environment.

▶ Water Sealing

- ▶ We can do water sealing by means of Cementious or by chemical resin

▶ Void Filling

- ▶ We offer void filling directly from the grout plants and additionally void filling by bag supply.

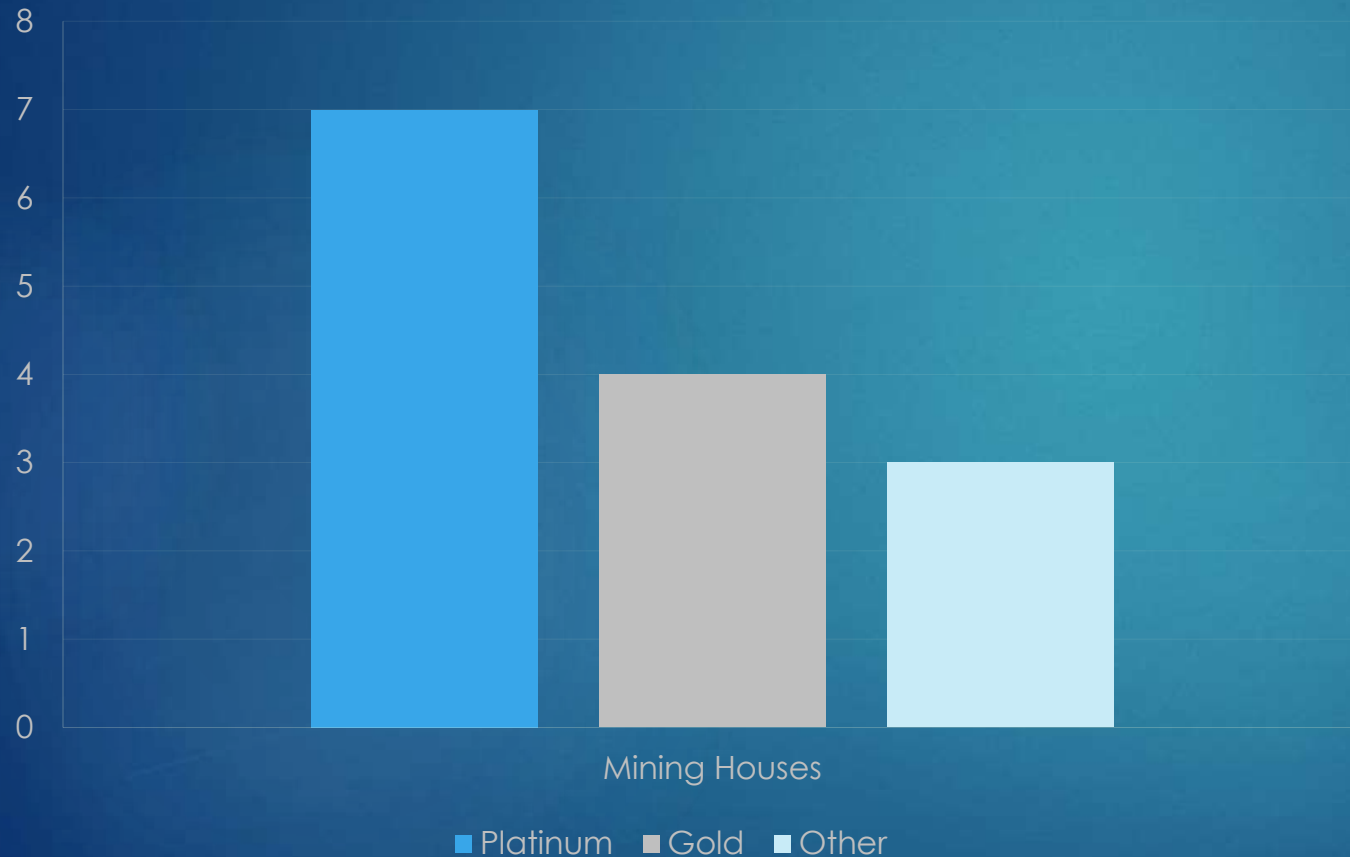
▶ Spray on Support

- ▶ We offer a wide range of spray support directly from the grout plant, ensuring less material transported down the shaft thus improving efficiency and reducing logistic problems. We can also offer the spray of bag materials wet or dry systems.

▶ Ventilation Control

- ▶ Paddockging is used to seal off all back areas in order to improve ventilation in working areas

Mining Houses we Serve



EHW Key Concepts



Multi-Purpose Grout Plants

The EHW Multi-Purpose Grout Plant is the most efficient method of mixing and pumping grout to where it is needed throughout the mine.

Grout Packs Structural Support

The EHW grout packs are designed to cater for enhanced support around the needs of each specific mining requirement.

Reduced Support Logistics

EHW is able to pump grout over vast distances reducing the logistical burden and increasing turnaround times.

Safety

Safety is enhanced by our adherence to your safety standards and protocols, and reduced staff on-site means less room for human error.

Cost Reduction

Utilising the EHW Multi-purpose Grout plant and range of pipes has shown significant cost reduction for all our clients.

Mining Efficiency

Utilising the Multi-Purpose Grout Plant system reduces the cost of materials and logistics needed for mining support.

Grout Plants



Grout Pack Support being used in Pillar Extraction, as well as normal support on production panels (follow on) for packs to be installed and pumped.

Grout packs can be installed as per Client/Rock Engineer's specification, with grout that is pumped from the grout plant on surface to the works areas underground. Our hydraulic pumps can deliver up to 7,5m³ of grout per hour with RD of up to 2,04. Grout is pumped from surface directly to any underground working place minimizing human error.



Grout Plants Methodology

The highly sophisticated Multi-Purpose plants are enhanced with programmable batch controllers which produce an overall accuracy of 1, 5%. The EHW plants are equipped with specialised electro-hydraulically driven pumps that deliver a significant cost advantage over compressed air pumps. Compressed air pumps however, are also installed so that grout pumping may continue during power outages.

Step 1

Water is fed into the high shear mixer to the predetermined mass calculated to the specific needs of your support structure requirements.

Step 2

Ordinary Portland Cement (OPC) and Pulverised Fuel Ash (PFA) is then placed by means of a helical screw feed conveyor to the predetermined mass, again calculated to the specific needs of your support structure requirements.

Step 3

In an effort to reduce environmental impact, Dry Tailings from your mine are placed by means of a 600mm wide conveyor belt to the predetermined mass.

Step 4

A mixing period is observed and the mixed grout is then transferred to a 6cu.m agitator storage tank.

Step 5

The grout is then distributed to the operational pumps from the 6cu.m storage tank.



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Grout Plant Support

Grout mixes can be altered to suite customers requirements from 0,5mpa to 45mpa.

We are a company dedicated to developing, designing and manufacturing machinery and equipment for mixing technology.

Convention support such as timber needs to be transported occupying cage/winder time as well as in trackless operations tramming time which is vital to any operations with high output requirements.



Grout Pack Support Pillars



Grout Pack Support Pillars increase mine longevity

The core team at EHW and all staff are passionate about mining, this shows within the communities surrounding each mining operation. Our Grout Pack Support Pillars increase mine longevity, and therefore extend the lifespan of the villages surrounding each mining operation. Since 2015 the team at Electro Hydro World has helped many clients achieve success within the mining sector and this success is based on extending the operational life of each mine. This is achieved by building support Grout Pack Support Pillars in mine tunnels transferring the weight from adjacent panels, enabling mining of the previously unreachable seams to be extracted and processed. This is a huge undertaking and the results produced have far-reaching effects.

- The previously unreachable seams are now able to be extracted,
- Employment needs are extended as further mining is necessary, and as a result, the communities surrounding the mine for longer have an extended cash flow forecast due to the longer-term earnings of the miners.

Not to mention the value transfer to the shareholders and all stakeholders involved in the mining operation. We often underestimate the impact our passion for mining has on our teams, mines and mining management, shareholders and the surrounding communities.



Set Installation / Consolidation

Set installation, Consolidation and Shotcrete done at Rowland Shaft through Hossy Dyke on 25 Level.

Below:

Photos of 25 Level Hossy Dyke intersection on face before Shotcrete, Consolidation and Set Installation started.



Set Installation / Consolidation

Set installation, Consolidation and Shotcrete done at Rowland Shaft through Hossy Dyke on 25 Level.

Below:

Photos of 25 Level 5 Meters in Dyke, tunnel shotcreted, Consolidated and first 2 Meters of Sets installed.



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Set installation, Consolidation and Shotcrete done at Rowland Shaft through Hossy Dyke on 25 Level.

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Consolidation & Water Sealing

Consolidation through Hossy Dyke and Water Sealing

Consolidation done with a 2 part resin binding dyke to allow our clients fast and effective development through “Bad Ground” areas

Below image on 20 Level Elandsfontein were 25000L per hour was intersected and successfully sealed (in just 1 Shift) to allow efficient and quick movement through these problem area's for our clients.



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