

## STEMGEL™

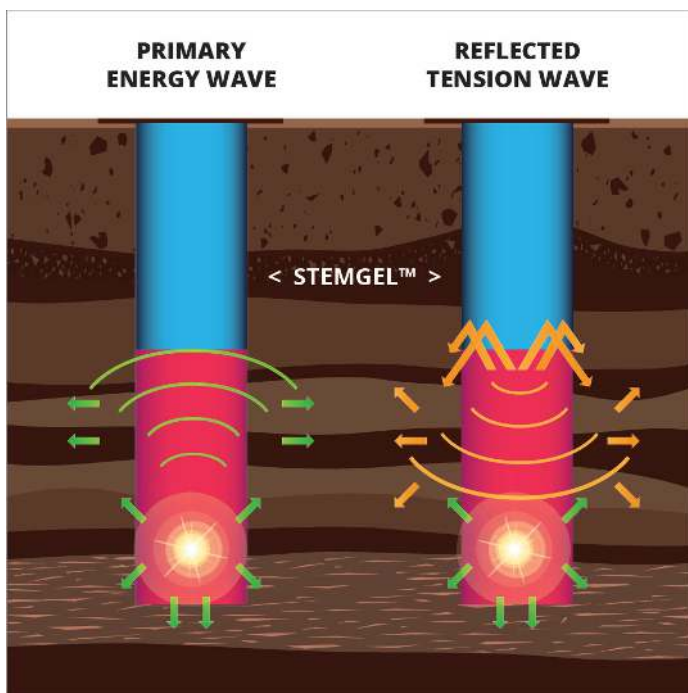
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*A STEP-CHANGE IN BLAST  
STEMMING TECHNOLOGY*

## WHAT IS STEMGEL™?

STEMGEL™ is a patented stemming gel consistently producing more effective and controlled blasting results in the mining, quarrying and civil engineering industries.

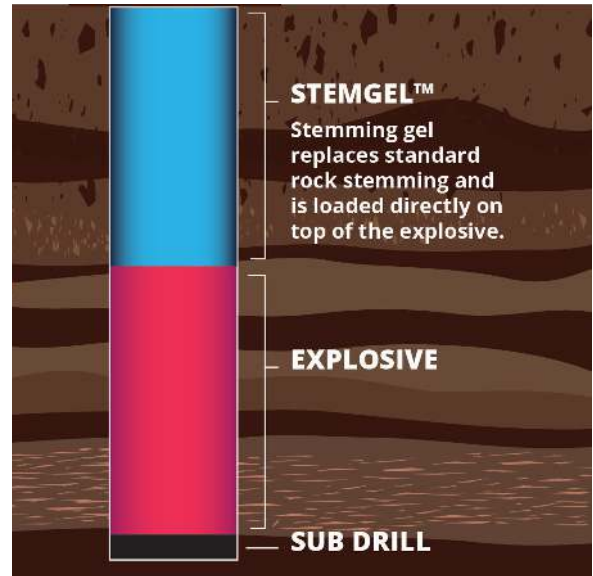
STEMGEL'S™ unique formula comprises a liquid reagent and specialty polymer blend which, when added to water, inverts to form a solid hydrogel with a large attenuation coefficient.



STEMGEL'S™ powerful attenuating properties make it effective for Strata Decking.

A layer of STEMGEL™ between explosive layers, provides a 'constant' material that successfully attenuates pressure waves.

The result is greater control and accuracy at each layer of the formation.

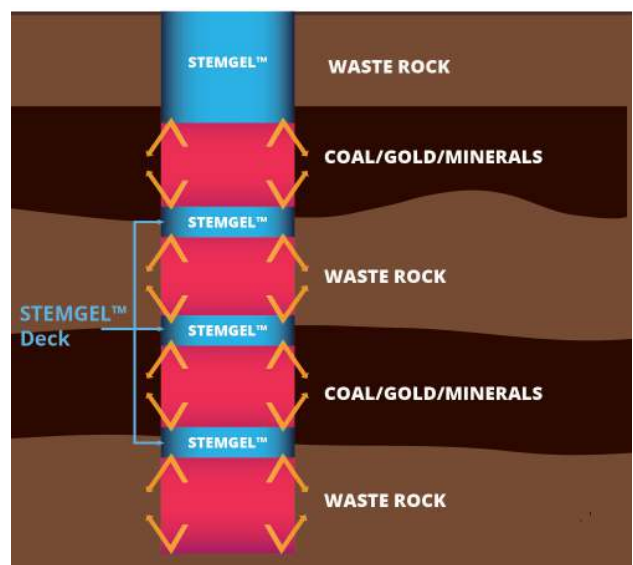


## HOW DOES IT WORK?

STEMGEL™ works by attenuating up to 98% of the pressure shockwave within the STEMGEL™.

The compressive shock waves are reflected by the STEMGEL™ and become a tension wave with almost equal force as the initial compressive wave, pushing back into the formation and causing increased rock fragmentation.

The result is an increase in the effectiveness of the blast through retention of energy within the blast hole to substantially increase microfracturing and breakage.



Less time. Lower costs. Superior result.

STEMGEL™ BRINGS  
NOTICEABLE OPERATIONAL BENEFITS  
AND COST SAVINGS.

LESS  
TIME

LOWER  
COSTS

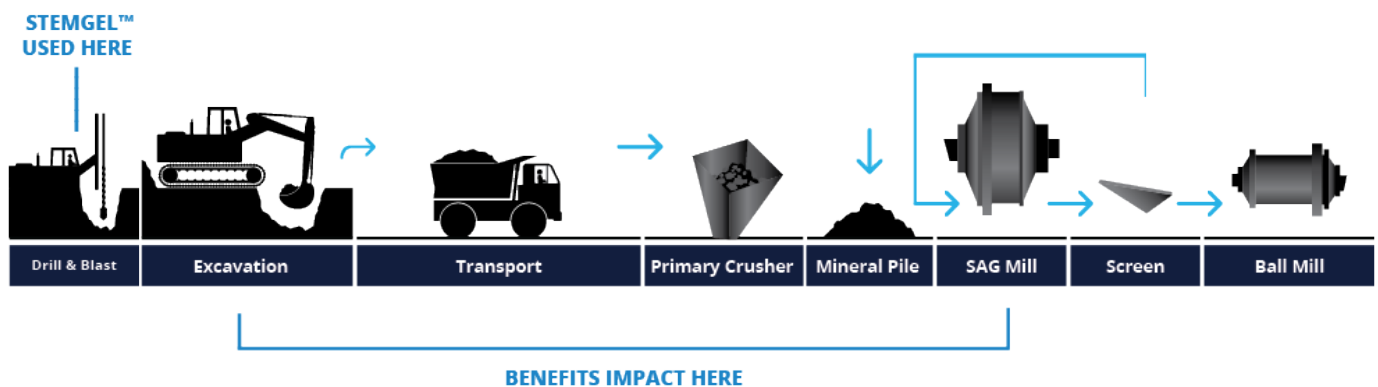
SUPERIOR  
RESULT

## REDUCED DRILLING COSTS

The increased effectiveness of each blast brings efficiencies to drilling through increased hole spacing and decreased hole diameter.

## REDUCED EXPLOSIVE COSTS

The increased effectiveness of each blast and reduced Power Factor enable use of fewer explosives and/or successful use of lower cost explosives.



## KEY BENEFITS

- Improved safety on the blast bench.
- Substantially more effective rock breakage and microfracturing.
- Reduction in oversize material.
- Fast and easy to load.
- Reduced dust, noise and fume.
- Protects detonation cord and makes misfires easy to fix.
- Compatible with all explosives.
- Effective in both open cut and underground drilling situations.
- Counteracts hole water issues.
- Non toxic and environmentally safe.

## SIMPLE AND EASY TO USE

Loading STEMGEL™ is fast and easy. The process and equipment requirements are very similar to that of Emulsion.

Shockwave Gel Technologies have custom designed Multipurpose Stemming Trucks geared to load STEMGEL™, run water to drill rigs and to water down shots, plus rock stemming if required. These are available for dry or wet hire.

Skid mounted Gel Drive application units are also available for trials and smaller applications

PLEASE CONTACT SHOCKWAVE GEL TECHNOLOGIES FOR ALL INQUIRIES AND TO VIEW THE STEMGEL™ TECHNICAL DATA AND RELATED TEST REPORTS CONDUCTED BY CURTIN UNIVERSITY AND QMR BLASTING ANALYSIS.

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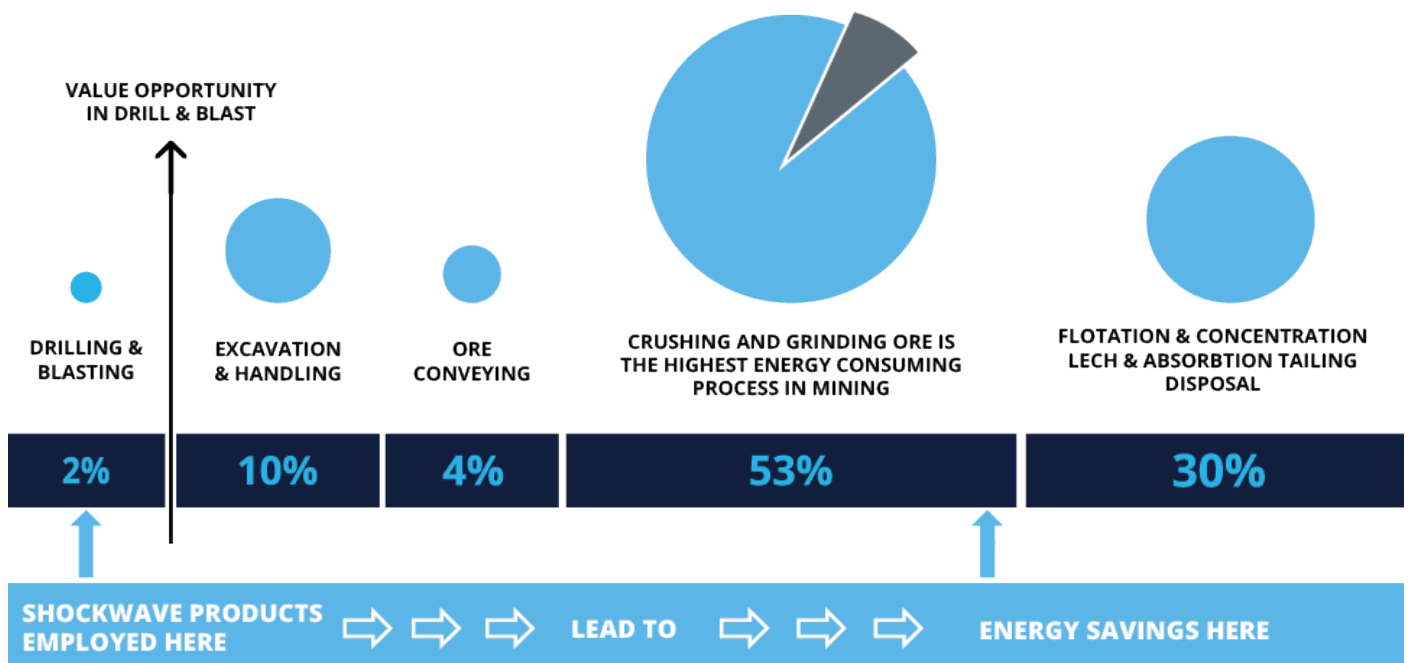
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## OVERALL INCREASE IN PRODUCTIVITY

Compared to traditional stemming methods, a lot of time is saved during the drilling and load & haul stages when using STEMGEL™. The gel material also provides for easy retrieval of misfires. Overall, this enables Operations to reach KPIs in a shorter timeframe and general Productivity to rise.

## REDUCED CRUSHING ENERGY

Significant savings are made at the Crushing Circuit due to increased fragmentation and reduced oversize. Savings also come from zero crushing in the production of STEMGEL™.



## PERFORMANCE ADVANTAGES

- Replacing rock stemming with gel stemming leads to up to 50% reduction in noise.
- By removing the need for rock in the stem, dust is also significantly reduced. Water vapour is ejected instead.
- Reflection of the blast pressure wave enables use of a reduced stem height.

**STEMGEL™ INCREASES BLAST HOLE PRESSURE UPON DETONATION FOR GREATLY IMPROVED FRACTURE PROPAGATION AND FRAGMENTATION.**

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