

### VARIOUS USES INCLUDING:

- a) **Hotholes:** Definition of “hot holes” means **shot holes** in a coal mine which after being drilled has an **in hole ambient** temperature of **40° degrees Celsius or above** or an increase of 3° degrees Celsius.
- b) **Sealing** of blasting holes drilled into underground mining activities where the drilling of a blasting hole goes into previous underground activities and that hole needs to be sealed off at a specified depth to be able to fill it with emulsion.
- c) **Stemming** to create a barrier between any materials that needs to be separated in a blasting hole.
- d) **Drop Raise** as a plug and stemming material to seal the hole at the bottom so emulsion can be charged and to stem the hole.

### WHY USE FOAM EXPANDER PLUG

**Foam Expander Plug** is used to cool down a hot hole so that it can be charged.

**Foam Expander Plug** is used to create a barrier between the emulsion and the stemming material.

**Foam Expander Plug** will expand in drill hole to 20 plus times its size; it will adhere to the perimeters.

**Foam Expander Plug** is packaged in different sizes for different diameter holes up to 250mm; bigger sizes are available to clients' specifications.

**Foam Expander Plug** expands to a minimum of 300mm thickness in the hole.

**200mm Foam Expander Plug can also be used for stemming.**

It will take about 30 seconds to mix and less time to place it in the hole to the desired depth.

In about 15 minutes it will be able to support significant weight.

It can be placed on standing water and this will allow you to load dry product for stemming.

**Foam Expander Plug** also has no influence on emulsion and will not react with emulsion.

### BENEFITS:

- ✓ Cures quickly
- ✓ Available in all sizes
- ✓ Easy to carry
- ✓ Does not require pumps, water, compressors or supplied air
- ✓ Any depth
- ✓ Fire resistance
- ✓ No offensive odor during use or after cured.
- ✓ Heat resistant up to 500-600°C

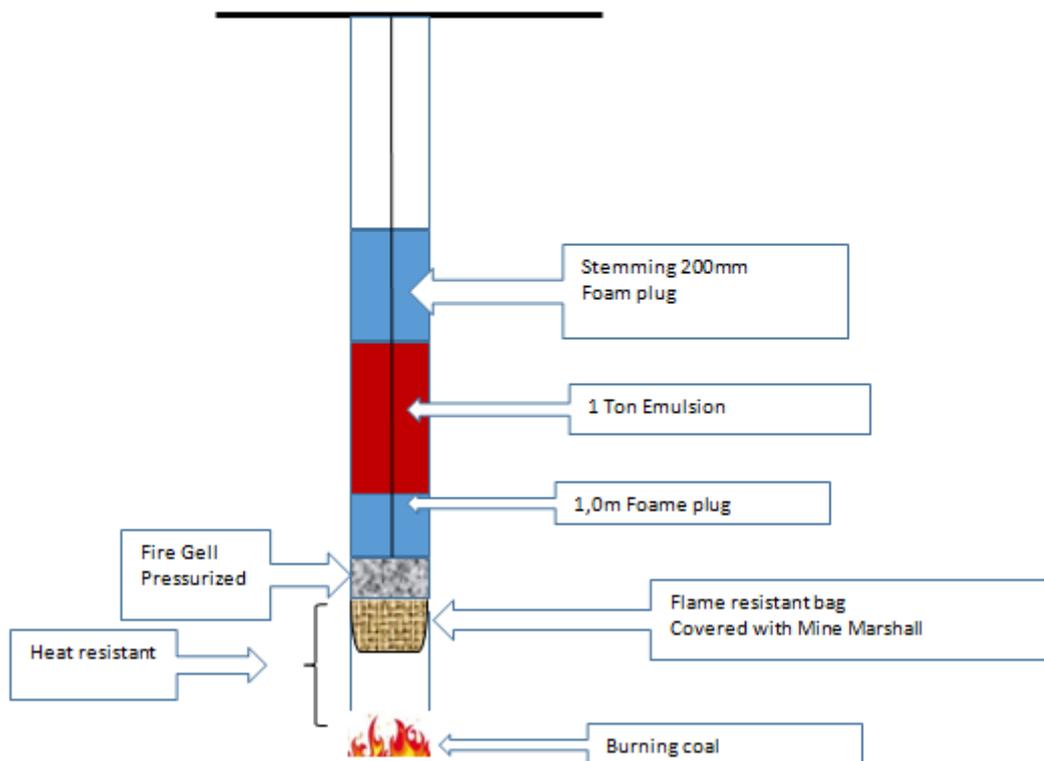
### OTHER USES:

- Plug breakout holes
- Plug core holes
- Pack overhand holes
- Seal pre-drilled holes
- Prevent surface water infiltration
- Air ducting
- Vertical overhead horizontal stemming prevents debris infiltration.
- Drop Raising Underground

One of the key design parameters for good blasting is stemming, which confines the energy.

**1m Foam Plug = 1 Ton Emulsion**  
**1.5m Foam Plug = 1.5 Ton Emulsion**

### New Foam Expander Plug and Stemming Coal Mines



Stemming with **Foam Expander Plug** is cost effective and can help reduce: 200mm

- 1– Poor fragmentation
- 2– Air blast and fly rock issues
- 3– Increased down-stream processing bottlenecks and costs



## FOAM EXPANDER PLUG

Always wear your PPE as required by employer

Recommended - Safety glasses, gloves and protective clothing

### PREFERRED METHOD OF PLUGGING WITH FOAM EXPANDER PLUG BAGS

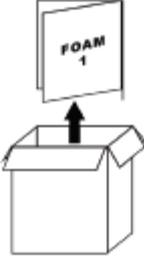
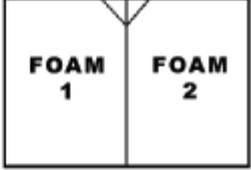
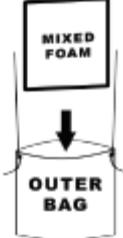
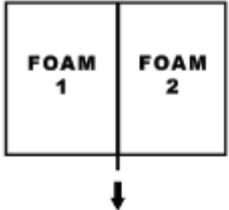
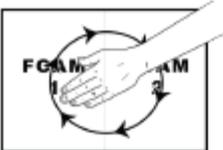
Determine the depth of hole and depth where FOAM EXPANDER PLUG needs to be placed.

1. Carefully remove the bag out of the box.
2. Attach a rope or cable to the supplied outer bag so that the bottom of the bag is at the required depth.
3. Remove the inner bag from the outer bag.
4. Remove the separator clip from the inner bag.
5. Start mixing the two ingredients of the inner bag in a rolling motion (like washing clothes with your hand)  
Mix for minimum of 30 seconds till mixture becomes yellow.
6. After mixing, make a small incision at the middle top of the inner bag ( $\pm 5\text{cm}$ ), so that the foam can expand.
7. Place the inner bag back into outer bag.
8. Lower the bag carefully into hole to desired depth.
9. Wait  $\pm 30\text{min}$  for product to reach setting and full strength.

» **Should the temperature of the hole be more than  $50^{\circ}\text{C}$ , an additional fire protected foam bag should be used.**

Place the outer bag into the fire protection foam bag and repeat step 8-9

**FOAM EXPANDER PLUG  
USAGE INSTRUCTIONS**

<p><b>Step 1:</b> Carefully remove the bag out of the box.</p> 	<p><b>Step 5:</b> After mixing, make a small tear at the middle top of the bag (+/- 5cm), so that the foam can expand.</p> 
<p><b>Step 2:</b> Attach rope or cable to the supplied outer bag so that the bottom of the bag is at the required depth.</p> 	<p><b>Step 6:</b> Place the inner bag into the outer bag.</p> 
<p><b>Step 3:</b> Remove the separation clip from the inner bag.</p> 	<p><b>Step 7:</b> Lower the bag carefully into hole to desired depth.</p> 
<p><b>Step 4:</b> Start mixing the two ingredients of the inner bag in a rolling motion (like washing clothes with your hands). Mix for minimum of 30 seconds till mixture becomes yellow.</p> 	<p><b>Step 8:</b> Wait +/-30min for product to reach setting and full strength.</p> 

### TWO PART FOAM

Volume in accordance to hole size

