ALLIED FOAM TECH

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Allied Foam Tech Corp.

ALLIED FOAM TECH

BRIEF BACKGROUND

- **Allied Foam Tech Corp. was established in 1994**
- **Founded to develop innovative foam technologies for lightweight building products.**
- **Allied has provided the highest performance Aqueous foam solutions to the industry as evidenced by the building products from its clients and the numerous awards including the Edison Awards in 2014 (silver medal, Applied Technology) and 2016 (gold medal, Material Science).**

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ROCK DUSTING

PROBLEMS

- Dry rock dusting requires personnel working downwind to be removed.
- Wet dusting trials have shown “cake” formation and ineffective explosion prevention from un-dispersible dust agglomerates.
- Wet rock dust required dry dust be applied over the wet dusted area. (Essentially defeating the intent of the process).
- Large-scale explosion testing showed rock dust scoured from floor during explosion had an average thickness of only 0.07” not 1”.
- Dry dusting on roof and rib is difficult, but the dust on them disperses more readily by explosion than the dust on the floor.

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IDEAL ROCK DUST FOAM

- Foam dust application with no measurable downwind respirable dust.
- Sticks to roof and rib surfaces with good thickness and minimum run off.
- Maintains re-dispersity into fine powder after exposure to underground temperatures and humidity over months to years.
- Foam dusting using existing limestone & marble dusts with uniform % IC from batch to batch.

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ELEVATED SURFACE ADHESION & RE-DISPERSITY
(LAB)

Adhesion to elevated surfaces

Fine dust redispersion after drying

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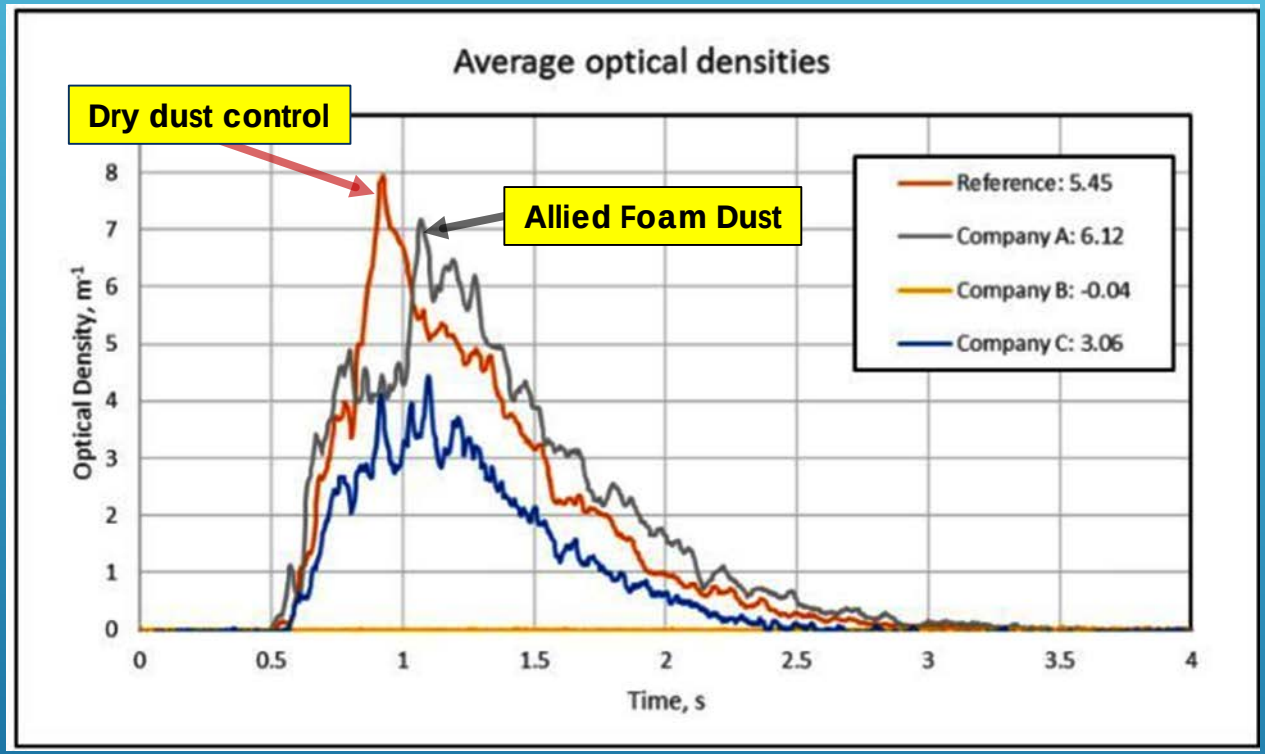
RE-DISPERSITY OF FOAM ROCK DUST
(OPTICAL DENSITY VS TIME)



(Graph from Mr. Connor Brown, NIOSH/PMRD, 2017)

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2015 BEM FOAM ROCK DUST TRIAL (BY ALLIED & NIOSH/PMRD)

Treated foam dust with uniform batch to batch preparations

Allied foam dust (treated) sticks well to roof & ribs

No measurable dust From downwind during spraying

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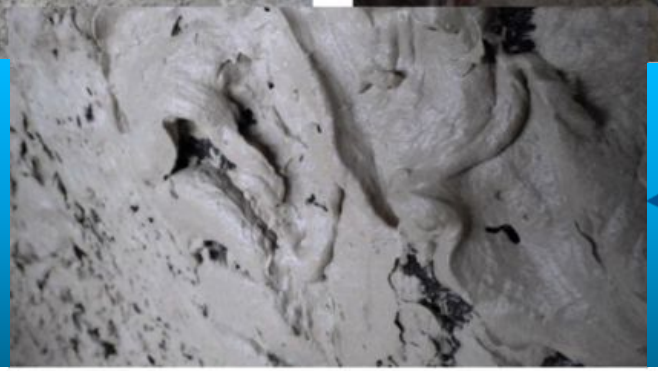
2017 BEM FOAM TRIAL

(BY ALLIED & NIOSH/PMRD)

Untreated Foam Dust



Zero downwind dust (through monitor)

Sticky foam dust adhered to rib & cup

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DUST RE-DISPERSITY AFTER 1 TO 3 YEARS EXPOSURE IN BEM

(2018)

	Age in BEM	Re-dispersity*
Foamed rock dust (treated)	3 years	fine powder
Foamed rock dust (untreated)	1 year	fine powder

* Through air spray can

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STABILITY & WATER RETENTION OF AQUEOUS FOAMS

Sulfonate Foam **Allied Foam** **Protein Foam**

Water Drainage of Allied Foam vs Others

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POSSIBLE LONGWALL & RETURN AIRWAY APPLICATIONS FOR COAL DUST ARREST

(AN ALTERNATIVE TO WATER SPRAY)

Allied High Water Retention Foam

Lightweight & high foam stability

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