

Mining Industry Products

DETERIORATION AND FAILURE OF UNDERGROUND MINE STOPPINGS CAN BE AN EXPENSIVE PROBLEM FOR MINING COMPANIES. BY EFFECTIVELY EXTENDING THEIR LIFE EXPECTANCY RELATIVE TO THE DAMAGING EFFECTS OF ROOF LOADING OR HEAVING BOTTOMS, MINE STOPPINGS THAT ARE PROPERLY ENGINEERED CAN GREATLY REDUCE LONG TERM EXPENSES IN THIS TROUBLESOME AREA.

TO COUNTER THIS PROBLEM, OPCO HAS DEVELOPED EXPANDED POLYSTYRENE (EPS) SQUEEZE BLOCKS AND MINE BEAMS THAT ARE USED AS A PERIMETER SEAL AND/OR LOAD-ABSORBING MEDIUM ON UNDERGROUND MINE STOPPINGS.



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MS BLOX EPS Squeeze Blocks

Reduce air leakage in overcast support walls and ventilation wall stoppings.

- Lengthens the life expectancy of stoppings and walls
- Lightweight and easy to handle
- A cost-effective solution to a problem that can be quite expensive
- Available in #1 nominal density (Type I) EPS standard and other densities

Note: Mine sealants must cover exposed squeeze blocks

MS BLOX Squeeze Blocks →

Concrete Blocks →

MS BLOX Squeeze Blocks →

Earth →



MS BLOX EPS Mine Beams

Reduce convergence pressure on concrete footers, overcast support walls and ventilation wall stoppings.

- Reduces convergence pressure under footers and walls
- Takes 3" - 6" - 8" of bottom movement before affecting concrete footer
- Lightweight and easy to install
- Available in various densities to meet specific mine conditions

Concrete Blocks →

Concrete Footer →

MS BLOX Mine Beams →

Earth →



Typical Physical Properties of EPS

PROPERTY	UNITS	DENSITY				ASTM TEST	
		1.0	1.25	1.5	2.0		
Thermal Conductivity	at 25°F	BTU/(hr)	0.23	0.220	0.21	0.20	C-177 or C158
K Factor	at 40°F	(sq. ft.) (F/in.)	0.24	0.235	0.22	0.21	
	at 75°F		0.26	0.255	0.24	0.23	
Thermal Resistance	at 25°F	per inch	4.35	4.54	4.76	5.00	
R. Value	at 40°F	thickness	4.17	4.25	4.55	4.76	
	at 75°F		3.85	3.92	4.17	4.35	
Strength Properties Comprehensive (10% Deformation)		psi	10-14	13-18	15-21	25-33	D1621
Flexural		psi	25-30	32-38	40-50	55-75	C203
Tensile		psi*	16-20	17-21	18-22	23-27	D1623
Shear		psi	18-22	23-25	26-32	33-37	D732
Shear Modules		psi	280-320	370-410	460-500	600-640	-
Modules of Elasticity		psi	180-220	250-310	320-360	460-500	-
Coefficient of Thermal Expansion		in./in.)(F)	0.000035	0.000035	0.000035	0.000035	D696
Moisture Resistance							
Water Vapor Transmission		Perm. In.	1.2-3.0	1.1-2.8	0.9-2.5	0.6-1.5	C355
Absorption (Vol.)		%	Less than 2.5	Less than 2.5	Less than 2.0	Less than 1.5	C272
Capillarity		-	None	None	None	None	-
Maximum Service Temperature		Long Term Intermittent °F	167 180	167 180	167 180	167 180	- -