December 15, 1958

PROGRESS REPORT D12-8 New Type Block Insulation

On November 12, 1958 we made Vermiculite Block in the block machine using a modification of EasySeal. We dry-mixed this in the blender and then addde water to it in a small cement mixer. This wet mix was dumped into emortar box and shoveled into the intermediate mixer of the block machine. The first mix was made quite stiff(About two parts water per one part dry material) and fed by hand into the forming unit of the block machine.

As we didn't know how much to feed we filled the forming unit so full that we broke one of the drive sprockets before we could cut the machine off. We then raised the front roller and the material formed nicely into a 3" block. We could not take any of this block from the machine in the usual manner as it was very fragile when wet. As little as 1/16" lateral movement cracked the cake to pieces. We eventually got a few small chunks(12x18" or so) off by sliding a piece of stiff sheet metal under them and lifting them off without bending them.

We next used a much wetter mix(approx 6 parts water per one part dry) and fed it into the machine inthe same fashion. This formed much better but exhibited the same poor handling characteristics as before. We removed this in the same way.

After drying these two samples we tested the resulting cake and got the following results:

		Density	Flexure	Breaking Load
1st Trial	Dry Mix	1.18#/bd. ft.	15.7psi	10.0#/in.
2nd Trial	Wet Mix	1.38#/bd ft.	24.3psi	14.6#/in.

Obviously this isthe wrong grade Vermiculite so we will try and get some graded from fines and powder to 1" or so. We will also try using fiber in this mix, either wool or asbestos to try and get enough wet flexing strength to remove the material from the machine.

Very truly yours,

M.E. Detrick Co.
LABORATORY

R. B. Abell

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PLAINTIFF'S EXHIBIT
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