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REPORT
UNITED STATES GYPSUM
RESEARCH CENTER

Wallboard Finishes LABORATORY

PROGRESS REPORT

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PLAINTIFF'S
EXHIBIT
USG-509

TITLE: Asbestos Free Dry Powder Joint Compounds

SUMMARY:

During this report period work was continued on the project to eliminate asbestos from dry powder joint compounds. The major concern was still the application of the compounds made without asbestos. Asbestos performs three functions in a joint compound. The first, and easiest to duplicate, is its water requirement. Second, asbestos provides slip for trowel applications. The third, and hardest property to duplicate, is the alteration of the compounds rheology. A compound without asbestos flows on the tools. Conversely, when asbestos is added this flow is eliminated, but without gelling the compound so that it is free applying with little internal resistance. Thus the materials evaluated as asbestos replacements were judged on their ability to provide one or more of these properties.

To date, none of the raw materials evaluated imparted all of the properties to a joint compound that asbestos does. Several provide one or two of the desired effects, most notable CMC-2 and Bentone LT. For example, the CMC-2 increases the water requirement considerably and gives it good body with light troweling properties. However, it lacks slip so that the compound has a dry feel when applied. The Bentone LT provides a great deal of slip for the compound and increases the water requirement. The major fault of Bentone LT is that when used alone it causes a strong gel in the compound. Good applying compounds were made using a combination of CMC-2 and Bentone LT. Tests showed that Gelvatol 20-60BP polyvinyl alcohol and Vinac RP-251 polyvinyl acetate improved the slip of the test compounds. Further evaluations will be made with these materials as well as new ones.

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