

THE RUFFENOLD CO.

Mr. C. R. Eckert, Bound Brook

Aug. 29, 1947

PLAINTIFF'S
EXHIBIT
GF-2360

CALCILITE RESEARCH

In our research work on Calcilite our first aim has been to produce a material that will be strong enough to resist breaking under the whipping test and the dropping test, at least to the extent that 85% Magnesia resists these same tests, better if possible. At the same time it must have good workability.

To meet these tests Mr. Eckert has set up tentatively the following specifications:

- A. Density 14 to 14.5
- B. Modulus of Rupture 60 to 70

Mr. High has suggested that in approaching the problem from the point of workability the following specifications or characteristics should be worked toward:

- a. Approximately 14 lbs. density
- b. Modulus a little better than three times density providing strength is sufficient to avoid abnormal breakage.
- c. Hardness should be between 8 and 14.
- d. Hinging should equal that of 85% Magnesia.
- e. When disintegrated, the powdered material and fibre should be capable of being compressed between the fingers into small pyramids.
- f. A knife drawn three to four times across a 1" block should cut it at least half way through.
- g. Pipe covering should be soft enough to permit cutting out a notch and groove for a bracket without breaking the piece in two.
- h. Material should not break into pieces when beaten around a curved surface or over a rivet head.
- i. Material should compress under pressure in a similar manner to 85% Magnesia (viz. 2" thick piece should compress 1/8" with 83 lbs. per square inch at 90°F and with 80 lbs. p.s.i. at 550°F).

The thought has been expressed that if the present degree of hinging had been attained when using the 23 formula, Calcilite would have been a thoroughly satisfactory commercial product.

It is felt by the writer that the 23 formula was and would be too brittle even with longer fibre. The fibre is gripped so tightly by the binder that it breaks rather than slips or slides when the material is broken, therefore, hinging is poor.

Hinging is dependant not only on the fibre length but also on the manner in which the fibre is bonded and to the degree it is lubricated by some or all of the material in the formula.

Our first goal of 14.0 to 14.5 density with 60 to 70 modulus has been reached with the 116 type formula.

The 116 formulae also meet Mr. High's suggestions under:

01-0221-006

MICH08032