

BESTWALL GYPSUM COMPANY
SEMI-ANNUAL RESEARCH AND DEVELOPMENT REPORT
JULY 1, 1963 TO DECEMBER 31, 1963

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FOREWORD

This report covers the activities and accomplishments of our research program for the last six months in 1963. Our personnel was changed somewhat when Mr. E. A. Smith left the Company in August to attend medical school. Mr. N. F. Morrone was transferred from the Quality Department, bringing the Research Division back to six men including the writer. We believe that Mr. Morrone's talents can be put to broader use in the Research Division.

On the basis of the record of last year's R&D expenditures, projects presently underway and future projects being contemplated, a budget for 1964 was prepared and submitted to Management. The purpose of the budget is to have a record of the expenses, and to see that our money is wisely spent. Our total 1964 Research expenditure is expected to approximate \$150,000.

Included in this report is the market performance of products which have been developed through research. The fire ratings and other technical information developed for Sales and certain product improvements cannot be clearly assessed. However, we trust that these accomplishments have made us more competitive and therefore have favorably affected our Sales.

The major portion of the report is devoted to the progress of the various projects. For clarification, it is separated into three sections:

- (1) Projects Completed
- (2) Projects Nearing Completion
- (3) Projects Underway

MARKET PERFORMANCE OF NEW PRODUCTS

JULY THRU DECEMBER 1963

<u>PRODUCT</u>	<u>SALES VOLUME</u>	<u>MILL BASE SALES</u>	<u>ESTIMATED GROSS PROFIT</u>
1. Fireston 120 Tile	95,000 sq.ft.	\$ 13,572	\$ 4,372
2. Grabit Adhesive	37 tons	6,899	3,977
3. One Day Joint Compound	388 tons	64,501	18,293
4. Ready Mix Joint Compound	482 pails	2,136	61
5. Dens-Cote Plaster	67 tons	3,894	1,220
6. Dens-Cote Tape	1452 rolls	1,452	591
7. Dens-Cote Base (T.C.Lath)*	240,000 sq.ft.	9,720	3,620
8. 1½" #8 Drywall Screws	372 boxes	<u>1,098</u>	<u>284</u>
		\$103,272	\$32,418

*Amount of Dens-Cote Base which normally would be sold with 67 ton of Dens-Cote Plaster. Actually, increase in volume of Dens-Cote Base over the first half of 1963 was 220,000 sq. ft.

PATENT INFORMATION

Patents Issued - None

Patent Applications Submitted (Method of Processing Synthetic Gypsum)
(One Day Joint Compound)
(Grabit Adhesive)

Patent Applications Being Prepared: Synthetic Gypsum (Canadian)
Continuous Calcination (2)

CONFIDENTIAL REPORT OF A RESEARCH

1. JOINT SYSTEM SPRAY TEXTURES - R & D 261

Objective: To develop pre-aggregated textures for addition to our line of Joint System products. Another objective is to eliminate the necessity for a primer over surfaces where One Day Joint Compound is used prior to texture applications. Three new products and one improved product are our goal. The new products are:

1. Simulated Acoustic Texture
2. Sand Finish Texture
3. Masonry Spray Texture

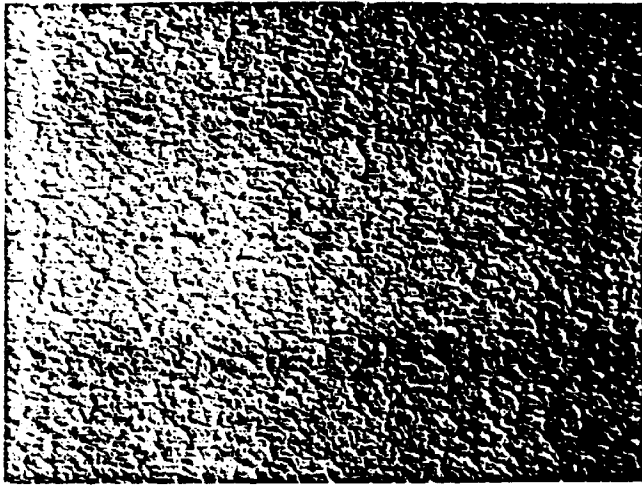
Our standard texture is to be improved so that it will hide One Day Joint Compound and Topping Compound and can be hand or spray applied.

Investigation: All four products have been formulated and appear to give the desired finish. In addition, Laboratory tests show that all of these products will hide applications of One Day where a final coat of topping compound is used in conformance with specifications. In addition, all of these textures will be whiter than competitive products and have excellent application properties. The plain texture, in particular, has been tremendously improved to the extent that it hides as well as paint and has versatility in making a variety of textures possible from the one product.

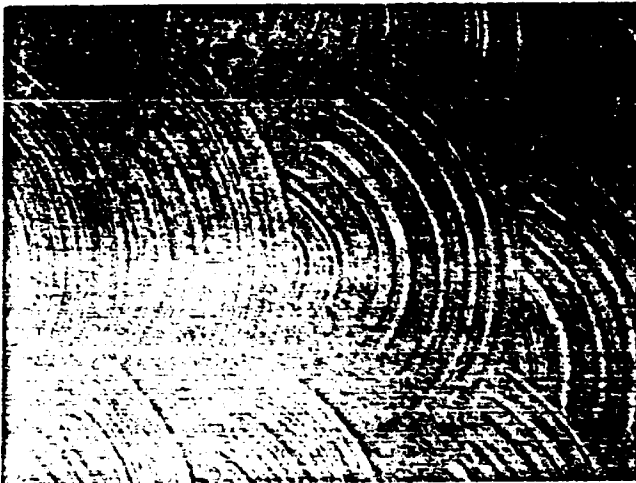
The type of surfaces possible with this texture, as well as those from the simulated acoustic and sand finish products, are shown in the attached photographs. The masonry spray texture also requires that it have rust inhibitive properties. There is no similar competitive product, so this will be a first for Bestwall, if this texture is successful in actual use.

Thus far, very few trials have been made. A number of trials which were scheduled were either postponed or cancelled during the reorganization of the Sales Department. A limited release for the plain, sand finish, and simulated acoustic textures is being considered, in order to expedite the field performance evaluation. Texture products represent only 4% of our Joint System sales, and it is felt that this figure should be as high as 10%. We believe these new textures will help bolster our Joint System sales.

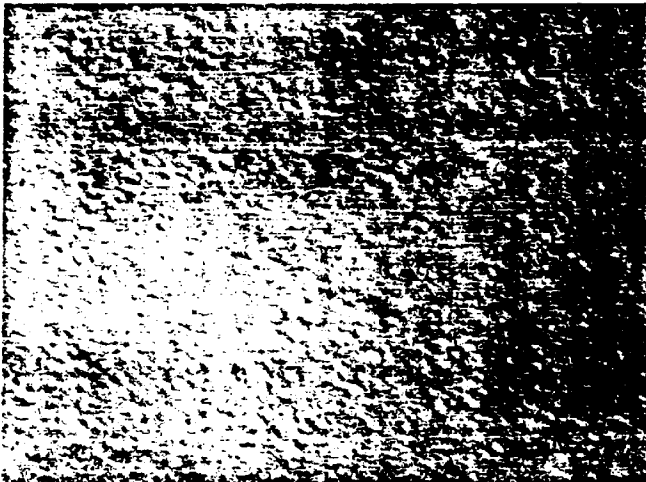
PLAIN TEXTURE (No Aggregate)



Roller Stipple Finish

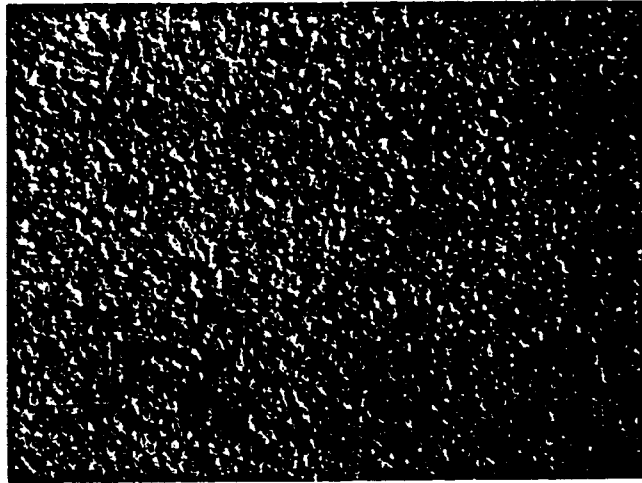


Brush Swirl Finish

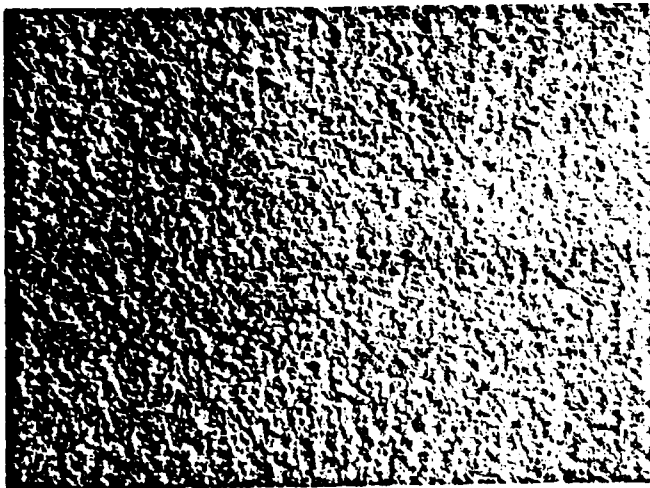


Spray Orange Peel Finish

AGGREGATED TEXTURES



Spray Application
Sand Finish



Spray Application
Simulated Acoustic

PROJECTS NEARING COMPLETION

2. Ready Mix Joint Compound - R & D 211

Objective: To develop a ready mix or paste type joint compound to be competitive with other similar products on the market.

Investigation: A formula utilizing a dry binder was developed and field tested. The field reports were favorable. Even though the economics were not completely favorable, a small facility in Akron was approved to furnish the requirements of a large Detroit job. Unfortunately the contractor ultimately decided to use dry joint system on this job. As a result, only about 500 pails of ready mix were sold from Akron, whereas preparations had been made to furnish 3000 pails. We did not gain much from this limited experience, but it did tell us that there is very little potential for ready mix in the area served by the Akron plant.

The purpose of the dry binder as opposed to an emulsion binder was to eliminate the necessity for purchasing tanks, pumps, etc., to handle the emulsion. Other means have been found to purchase and handle emulsion which do not require the large investment for equipment formerly required. The emulsion formula offers a possible saving of 30¢ per pail. Costs using this formula have been worked out, and the economic picture is improved but still is not too favorable. Some of the poorest areas economically (Atlanta, Chicago, and West Coast) have the best potential market-wise, according to field surveys. On the other hand, the best areas economically (Akron and Acme) are the poorest market-wise. However, every year ready mix makes more impact on the joint system market and becomes more of a competitive factor. This competition is important insofar as joint system sales are concerned, but even more important is its influence on board sales. The future course of this project is undecided at present, but it is felt that it will be only a question of time before we are forced to meet this competition.

3. Cooperative Tests on Hof-Kor Honeycomb Panels - R & D 257

Objective: To test a partition of Hof-Kor prefab panels consisting of a paper honeycomb core faced with 5/8" Fireston Eternawall to achieve one hour rating. Union Bag-Camp Corporation, the manufacturer of the honeycomb, is sharing in the cost of this test.

Investigation: On the second try, the fire endurance test was passed. However, two hose stream tests have failed due to inability of the fasteners to hold the board in place. The probable causes are: the small heads of the Kolopin fasteners, and the trapping of moisture in the board core by the vinyl facing, and the limited number of fasteners. Larger headed Kolopin fasteners have been located, but it has not yet been determined whether there is sufficient interest to make another try to pass the hose stream test. The Sales Department is to advise us of their further interest.