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Owens-Corning Fiberglas Corporation.

To A. J. Pearson - Toledo  
From R. F. Shannon - Granville  
Subject MULTI-TEMP

Date May 9, 1969

R. C. Amos - Granville  
R. S. Grant - Toledo  
P. H. Scheuerle - Berlin  
J. A. Smith - Toledo  
C. A. Smucker - Granville

Art, I have attempted to prepare the brief summary report you requested on the product called Multi Temp. It is my understanding you wanted me to specifically cover three areas of interest to Manufacturing: (1) cost projections prepared several years ago on the entire Multi Temp product line, (2) a brief review of the product itself, including its advantages, disadvantages, problems in processing and the like, and (3) my own personal thoughts on the product especially as to how it relates to the total high temperature insulation market.

Multi Temp is completely free of asbestos. If we were selling Multi Temp today, we would have the only asbestos-free, rigid high temperature product on the market. As you know, it is our hope and plans to have an asbestos-free calcium silicate (Kaylo) product on the market in about a year. The activities of Selikoff, the adverse public reaction to the use of insulating products containing asbestos and the presence of asbestos-free Kaylo and Multi Temp in our product line would without doubt all contribute to OCF's regaining its rightful position of leadership in the high temperature insulation market. Once we regain this position of leadership we can expect it to have a positive effect on sales of related glass fiber products such as pipe, roofing, IS board, duct insulation and the like.

When MultiTemp was dropped several years ago, two reasons were given; one was the refusal on the part of our distributor to inventory and handle two lines of high temperature insulations for the same market; the second was the relatively low gross margins being achieved as well as projected for Multi Temp pipe insulation.

Recent discussions with Marketing indicate the real reason for dropping Multi Temp was low gross margins. A feasibility report prepared and issued by Justin Boeker's group back in 1965 projected a gross margin level of 24% for Multi Temp pipe. This same report projected a gross margin level of 33% for Multi Temp block. (It should be noted a projected gross margin of 33% for Multi Temp block is actually higher than the gross margins we expect to achieve on Kaylo block during the next several year period.)

(continued)

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I want to caution you in drawing too many conclusions from Boeker's 1965 cost projection. Conclusions reached in 1965 are no longer valid since many of the process and market parameters have also changed. When Boeker prepared the 1965 cost projection for Pfiefer, apparently everyone was thinking big. They were projecting a multimillion dollar market for Multi Temp and a similar size market for R-2 fire-rated acoustical products. They envisioned a multi saturator, multi oven, multi molding press (for Multi Temp pipe) operation requiring an investment of substantially more than a million dollars. As a further complication in interpreting data from this cost projection was the fact the facility was designed to process R-2 fire-rated tile, R-2 fire-rated ceiling board, Multi Temp pipe, Multi Temp Block, and Multi Temp fittings (if economical) all on the same facility.

It is my understanding you are considering resuming the production of Multi Temp block and wanted my thoughts on the subject. Although I do not have cost data to back up my position, I am convinced we could produce all of the Multi Temp block Marketing could sell during the next several years and we could do it in on a facility similar in size to the R-2 facility at Newark. Furthermore, I believe we can produce Multi Temp block with a gross margin level over 30% level, we will have to come up with a new one-step process (not yet invented).

The R-2 facility at Newark was torn down recently and most of the mixing, pumping, and suction equipment transferred to other areas for use in other operations. However, two of the more expensive process items, namely the R-2 oven and ware trucks, remain and could serve as the nucleus for rebuilding the operation at minimal cost.

At this point, I would like to get in my two cents worth. If the decision is made to again produce and market Multi Temp block and pipe, we have no choice but to locate the facility at Newark where the pipe molding presses are located. However, if production is to be limited to Multi Temp block, I would recommend the facility be moved out of Newark. There is nothing personal in this recommendation. I just believe we would have a more efficient and more profitable operation if located elsewhere. My choice for facility location would be Berlin. I have a number of reasons for this recommendation and would like to elaborate on these in greater detail in the following paragraphs.

The R-2/Multi Temp saturating facility was considered as one of the dirtiest operations by the Newark Plant hourly employees. It was dusty and the employees usually ended up covered with wet clay slurry on their clothes. Most of the newly hired help at the Newark Plant were assigned to this area. Our problem was they transferred out to cleaner jobs faster than we could train them. I am not kidding when I say you would see almost all new faces each week. The R-2 facility was operated not only with minimum supervision but also with unskilled, untrained and quite often undesirable help. All of these factors combined to lower product quality levels and job efficiencies. A further complication was our inability to control labor costs. This was due to our inability to transfer the workers to other jobs during the long drying cycles. A five-man crew could saturate in 2-3 hours sufficient material to fill up the drying oven. The operation was then shut down for 3-8-1/2 hours (depending on thickness of the ware being processed) while the ware was being dried. For Union reasons, these men could not be temporarily

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assigned to other jobs outside the R-2 area. Except when the walnut shell fissured tile and ceiling board line (also located in the R-2 area in 1965) was running, the R-2 crew had nothing to do for hours at a time. Because of this condition, labor costs were sky high. Throughputs per man hour and product gross margins were extremely low.

In the case of Multi Temp block production, the base wool was produced at Barrington, packaged and shipped to Newark, unpacked, processed through the saturator and drying oven, repacked and shipped to customers, many of whom were located on the East Coast. All of this handling tended to reduce product quality and job efficiencies. Also, the 1965 cost projection indicated the cost of shipping base wool from Barrington to Newark was projected at \$50,000 per year for a projected sales level of \$1,200,000 for Multi Temp block.

As mentioned above, I recommend we give serious consideration to moving the R-2 oven and setting up a Multi Temp manufacturing facility at Berlin, provided, of course, we limit production to block (and eventually to fittings). If we do, I am convinced we can produce a quality product yielding a 30% plus gross margin. At this point, I would like to enumerate several of the main reasons for such a recommendation. First, the Newark Plant never did want the R-2 facility. It was a thorn in their side—difficult to man and difficult to control. Second, based on the type of operation currently at Berlin, my guess is the hourly employees at the Berlin Plant would classify the Multi Temp facility as a clean operation. Third, transportation costs of basic wool from Barrington would be minimized. Fourth, and probably the most important reason for locating the facility at Berlin, is the greater flexibility and utilization of labor. For example, we are now operating the third pouring line on a two-shift basis. We could operate line 3 around the clock but shut it down at intervals so the crew could run the Multi Temp line long enough to saturate oven loads of ware. When the oven was reloaded with wet Multi Temp block, the third line pouring crew could again resume the pouring of Kaylo. The addition of five or six people would make it possible for Berlin to maintain current pouring levels on line 3 and still operate the Multi Temp facility around the clock. Labor costs charged to Multi Temp under such a plan would be exceedingly low and the dollar throughput of Multi Temp block high.

How many pieces of Multi Temp block could we process through the R-2 oven if located at Berlin and operated around the clock on a five-day week? It would all depend on the thickness of the block being processed and the mix of goods. Assuming we ran only one thickness of block for 24 hours per day, five-day week, we could produce the following quantities of Multi Temp Block:

| Block Thickness<br>(Inches) | Oven Load/<br>5-Day Wk. | Bd. Ft./<br>Oven Load | Production Capacity/5-Day Week |         |                          |
|-----------------------------|-------------------------|-----------------------|--------------------------------|---------|--------------------------|
|                             |                         |                       | Bd. Ft.                        | Sq. Ft. | Pieces of<br>2 x 4 Block |
| 1                           | 40                      | 4,900                 | 196,000                        | 196,000 | 24,500                   |
| 1-1/2                       | 22                      | 7,350                 | 161,700                        | 107,800 | 13,475                   |
| 2                           | 14                      | 9,800                 | 137,200                        | 68,600  | 8,575                    |

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What are the major advantages of Multi Temp block when compared with other types of temperature insulation?

1. Proprietary to OCF - Patents applied for
2. Completely free of asbestos
3. Water and rain repellent
4. Easy to cut, good fabrication characteristics
5. Breakage due to rough handling is nominal
6. Lightweight, easy to handle
7. Can be impaled over metal
8. Potential 30%+ gross margin product

Multi Temp block also has its disadvantages. They include:

1. Maximum temperature recommended for Multi Temp block is 1000°F. (Probability of increasing this to 1200°F is 75/25)
2. Dusty when cut, especially with power saw
3. Ends and edges are susceptible to in-transit and handling damage
4. Softer than calcium silicate and bonded aggregate products. (May not be a disadvantage to some customers for certain applications.)
5. Creates problem of double inventories for distributors.

To sum up this report and my feelings, I am of the opinion Multi Temp overall is a good product and should find a place in the marketplace (especially not with the push on asbestos), and if we limit production to Multi Temp block and locate the facility where the product is not penalized by poor workmanship and/or excessive labor costs, a good gross margin product will result.

Questions I feel must be resolved with Marketing before we take any positive action on a Multi Temp facility include the following: Do they really want Multi Temp? Do they want only block or the entire line including pipe fittings? At what price levels do they expect to sell Multi Temp? What is the projected sales value production for 1970 and beyond?

If Marketing says they want not only Multi Temp block but also pipe and pipe fittings, we must recognize the fact we have a problem in facility location and also have a need to do considerable experimental work before pipe gross margins can be raised to an acceptable level. We must also recognize the fact no work has been done to-date on Multi Temp pipe fittings. This program is still in the planning stage (on temporary hold so manpower could be shifted to the Replacement of Asbestos in Kaylo program). At the moment we have not even prepared a cost projection to determine whether this is a business we should get into.

*R. F. Shannon*  
R. F. Shannon

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