Produced in camera under seal by order Judges Paul Riley and Gordon Maag, October 16, 1989, in Jamison v. A. P. G et al. 87-L1230

ALL-STATE LEGAL® PLAINTIFF'S EXHIBIT DD538.00

OWENS-CORNING FIBERGLAS CORPORATION
PRODUCT DEVELOPMENT LABORATORY
GRANVILLE, OHIO

November 7, 1966

To: Memorandum for Record

cc: See Distribution List Attached

From: R. E. Davis - Granville
W. G. Pansius - Granville

ALL-STATE LEGAL® PLAINTIFF'S EXHIBIT WV-000228

Subject: MINUTES, I&C, R&D REVIEW
GRANVILLE, OHIO
NOVEMBER 4, 1966

GENERAL

The following is a summary of the significant facts, decisions, and assignments resulting from the Industrial and Commercial Division's Research and Development Review conducted at the Owens-Corning Fiberglas Technical Center, Building #1 Conference Room, Granville, Ohio on Friday, November 4, 1966.

PARTICIPANTS

- Management - O-CF Toledo
  - Mr. W. W. Boeschenstein, V.P. Marketing
  - Mr. W. E. Sedgeman, Quality Standards and Control
- Marketing (I & C Division) - O-CF New York
  - Mr. D. W. Ladd, Vice-President I&C Marketing Division
  - Mr. W. Johnson, Comptroller, I&C Marketing Division
- Technical Center - O-CF Granville
  - Mr. J. E. Thomas, Vice-President Research and Development
  - Mr. R. J. McEvoy, Director Research
  - Mr. A. J. Pearson, Manager General Products Development Laboratory
  - Mr. J. R. Booker, Cost Analyst
  - Mr. R. E. Davis, Supervisor E&I Development
  - Mr. W. G. Pansius, Supervisor Architectural and Roofing Development
  - Mr. F. C. Wilson, Manager Product Testing Laboratory
  - Mr. D. O. Richards, Supervisor, Process Development
  - Project Managers
- Manufacturing - O-CF Toledo
  - Mr. E. V. Smith - General Products Process and Quality Control Manager
- Others
  - Mr. W. E. Deardurff, Supervisor Resale Purchases

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NEPAL

Mr. Ladd reported on the status of sales for 1966 and projected sales activity for 1967. Current sales are running approximately 10%, in total, ahead of 1965 with the exception of Sound Control and Distributor Sales which are somewhat behind last year. In spite of a downward trend of overall construction activity forecast for 1967, I&C Div. projects sales of $114,000,000 as compared to estimated 1966 sales of $105,000,000.

It was also reported that approximately 92% of current sales is derived from products developed prior to 1961 and the balance from products developed in the past five years. Those products developed since 1961 include: Hi-Temperature Insulation; Multi-Temp; Cold Storage Stud; Self Sealing Lap; I.S. Board; Rated Tile ($250,000 loss in 1966); Fissured Tile and Board; Gravel Stop; Duct Systems; and Aeroflex.

Failure to make a significant penetration in the duct market was attributed to the lack of having a suitable flexible and rigid round duct. The lack of a 4 mil vinyl prevented a greater participation in the metal building insulation market.

Responsibility	Item No.	Action Date	Action
General			
Pansius	1	-	Pansius reported overall roofing and sound control expenditures to be within budgeted funds by year end.
Non-Moisture Sensitive Tape			
F. D. Meyers	2	11-15-66	901 for 4th bushing for 625 mat machine to be submitted for approval.
J. H. Boynton	3	11-21-66	Detailed Test Marketing Program to be prepared.
F. C. Wilson	4	-	Mr. Wilson agreed that a six-month test marketing program for 625 tape was adequate for evaluation purposes.
Non-Moisture Sensitive Cover			
J. H. Boynton	5	11-30-66	A P.O.R. is to be prepared to resolve wind blow-off problems. (This is not necessarily related to 625 cover).
F. C. Wilson	6	12-30-66	Test methods and equipment designs are required to determine adequacy of insulation to satisfy wind blow-off requirements. (On-the-job and agency requirements).
Manufacturing (B. E. Boyd)	7	10-25-66	Report due covering plan and cost of putting 625 facility at Santa Clara and Anderson.

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Responsibility	Item No.	Action Date	Action
H. V. Smith	8	12-30-66	Dust problem on batt-split AF for 1/2"- insulation to be resolved.
W. H. Sedgeman	9	12-30-66	The 625 type product needed for Perma Ply 6 is to be defined.
J. H. Boynton & W. A. Leek	10	12-15-66	Marketing is to define their requirements of an hourly rated ceiling/roof system, i.e. types of constructions they wish to pursue. (Type of fill, type of form board, type of ceiling board, with or without lights, etc.) A new P.O.R. is required.
Acoustical Systems			
Dimensionire			
H. V. Smith	11	11-18-66	A meeting is to be set up between Marketing, Manufacturing, Quality Control, Production Planning and Product Development to review ordering procedures, shipping, Branch responsibilities, Com. Center responsibilities, etc.
W. A. Leek	12	11-18-66	A detailed forecast of projected requirements by item, of all purchased materials must be given to Purchasing.
Dimensional Grid			
W. G. Pansius	13	11-25-66	D. W. Ladd is to have confirmation of date "framing jig" is available for demonstration. Ladd to arrange meeting. H. V. Smith to send objective team to evaluate fabrication. Acceptance or rejection to be specifically detailed.
W. A. Leek	14	12-1-66	Anticipated sales volume is to be determined along with test marketing plans.
Acoustical Product Improvement			
W. G. Pansius	15	12-15-66	Results of modifications to pin perf. rolls evaluated - by 12/15. Unless significant improvement apparent, present pin perf. pattern to be used nationally. No further work to be done.

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Responsibility	Item No.	Action Date	Action
W. G. Pansius	16	12-31-66	Product Development to evaluate effect of removing large fissures from fissuring roll. This is a manufacturing responsibility and is being undertaken as a possible solution to reduce flaking, chipping, and edge damage of fissure tile and board.
W. G. Pansius F. C. Wilson	17	12-31-66	Temporary policy re TL backing is that all acoustical products sold with Dimensionaire for use in return air plenums are to be TL backed. Soiling tests are to be run with and without TL backing at variable negative pressures. Results will form basis of firm policy on TL backing.
F. C. Wilson	18	12-1-66	Product Testing to evaluate abuse resistance of Frescor board and advise.
F. C. Wilson	19	11-30-66	Product Testing to select a given density for all PF and one for all AF acoustical products. All plants are to comply with density selected.
W. G. Pansius	20	-	The 1967 acoustical product line was presented as stated in D. W. Ladd's memo of October 13, 1966 with following exceptions:(1) Vinyl finish ceiling board reinstated as optional finish, and (2) textured glass cloth deleted from the line.
Budget (E&I)			
Davis	21	At Once	Mr. Davis reported the E&I Product Development budget could be balanced by transferring remaining I.B.O. and Exploratory funds to Air-Handling Systems. This action was authorized.
High Temperature Insulations			
McEvoy Johnson	22	11-15-66	The Basic and Applied Research budget for Kaylo is $17,212 over and projected to be $30,000 over by the end of the year. Mr. Johnson is to discuss this with Fred Swank and resolve the source of these additional funds by 11-15-66.

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Responsibility	Item No.	Action Date	Action
All	23	-	Wayne Johnson explained the current situation regarding the health hazard aspects of asbestos reinforcement in Kaylo. He recommended that O-CF move, without delay, to conduct a feasibility study for developing a different type of reinforcement in order that we can adjust the product in an orderly manner.
Vyverberg Shannon	24	11/30/66	Mr. Ladd formally requested that the feasibility study recommended in Item #23 be included in the 1967 Basic and Applied Research Kaylo Program. Vyverberg to initiate a P.O.R. to cover this work by 11/30/66.
Vyverberg	25	11/30/66	Vyverberg to meet with the Legal Department and recommend to Ladd by 11/30/66 an appropriate caution statement to be printed on Kaylo cartons alluding to the asbestos content.
Shannon	26	11/30/66	Shannon to lay out a program including timing and costs to replace the asbestos reinforcement in Kaylo with cotton or some other appropriate material, submit to Vyverberg with copy to Davis by 11/30/66. Marketing strongly stated their desire is to completely eliminate asbestos from Kaylo.
Shannon Wong	27	11/30/66	Marketing emphasized that a high temperature glass & binder system is a major requirement. Shannon to work with Wong to establish feasibility, courses of action available and an estimate of the cost and timing to do. Submit to McEvoy and Vyverberg by 11/30/66.
Shannon	28	At Once	Mr. Ladd emphasized that the key 1967 activities relating to Kaylo should be stress corrosion and feasibility of eliminating asbestos reinforcement.
Shannon Vyverberg	29	-	Mr. Ladd stated that the stress corrosion Kaylo Project should be continued to the point of securing DuPont approval, but without work on property improvement. A decision will then be made on the desirability of moving ahead with the process 901.

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Responsibility	Item No.	Action Date	Action
Vyverberg	30	11/30/66	Prepare plan to sell DuPont at a price level to compensate for increased costs of the stress corrosion product. Consider the dual stockage problem and the time lag necessary to meet production schedules following submission of the 901. Submit to Ladd by 11/30/66.
Pre-Engineered Buildings			
Hammond	31	At Once	Mr. Fargo reported no candidate 4 mil vinyl product had passed U.L. to date. Next candidates will be submitted to UL by mid-December. On this basis, Mr. Ladd stated marketing would continue negotiating with Cleveland Fabricating for a labeled product.
Wong	32	11/30/66	Dr. Wong stated that a complete analysis of the 4 mil Vinyl components will be complete by the end of November. This data will provide a basis for the design of product components in conjunction with outside vendors.
Davis	33	At Once	Mr. Ladd accepted the proposed program for Pre-Engineered buildings for 1967 contained in Section IX. He authorized redistribution of funds to meet this plan by eliminating I.B.O. & Exploratory Projects for 1967. Davis to adjust plans by 11/9/66 reflecting this decision.
Incombustible Commercial System			
Grant Smith	34	11/14/66	Mr. Ladd expressed complete dissatisfaction with the response of manufacturing to their assignment to correct the concentricity problem noted in Item #5 of the April 28, 1966 R&D Review Minutes. SSL and Incombustible Commercial Systems now in jeopardy. Smith directed to seek means of resolving this problem at once. Advise Ladd and Davis of plans by 11/15/66.
Smith	35	At Once	Davis stated the present 901 to improve the Semi-Automatic Process was not satisfactory as it did not include all sizes required. Smith to investigate and insure completeness.

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Responsibility	Item No.	Action Date	Action
Vyverberg Grant	36	-	Davis reported that Vyverberg did not intend to move with the Incombustible Commercial System until the pipe process problem is solved.
Air-Handling Systems			
Hammond	37	At Once	Hammond to review with Ladd the economics provided by Booker concerning the proposed purchase of JK Rigid Round Duct.
Wilson	38	3/1/67	Complete all Air Erosion tests on O-CF and affiliated member duct products and have report issued by Kettering to substantiate results.
Richards Langlois	39	1/1/67	Resolve with Manufacturing and Marketing 901 for composite facing machine by 1/1/67.
Farr	40	11/18/66	Insure that an adequate Instruction and Data sheet for Flexible Duct to be included in the Test Marketing Package by 11/18/66.
Farr Ranzenberger	41	1/1/67	UL Class I Label on Flexible Duct.
Harzanc	42	At Once	Investigate new means of packaging Flexible Duct. Need smaller, less expensive method.
Hammond	43	11/30/66	Investigate manufacturing the Flexible Duct at S&C Units. Recommend an action plan to Ladd including costs and timing 11/30/66.
Richards	44	11/30/66	Letter to Ladd outlining cost and timing to reach the production phase with New Rigid Round Duct by 11/30/66. Include estimated capital investment.

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Responsibility	Item No.	Action Date	Action
1967 Plans			
Davis	45	11/9/66	Mr. Ladd agreed that the Exploratory and Immediate Business Opportunity (I.B.O.) Programs be eliminated from the 1967 plans. Davis to adjust plans to reflect this directive by 11/9/66.
Davis Shannon	46	-	The I&C Development Program for 1967 is to include the following major projects: Incombustible Commercial Systems, Air Handling Systems, Pre-Engineered Buildings (including Cold Storage) and Kaylo Improvement.
Pearson	47	11/16/66	Mr. Ladd requested a single Manager System be established in the Product Laboratory on Pre-Engineered Building Programs. This organization to parallel the marketing organization now in effect. John Minteer heads up the I&C Division Marketing Team. Pearson, Pansius and Davis to resolve and advise Ladd by 11/16/66.

The meeting was adjourned at 12:20 PM November 4, 1966 subject to the call of the Chairman (Mr. Ladd) on a Quarterly Basis.

W. E. Pansius,
Product Development Laboratory
General Products

RED:WGP
vmh

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I & C MARKETING PROGRAMS -- KAYLO

1. Stress Corrosion Prevention
2. Improved Breakage
3. 1600° F Max. Temperature
4. Water Repellency
5. Large Size Sectional Pipe (14-24")
6. Dimensional Uniformity
7. Improved "K" Factor
8. Improved Appearance
9. Fittings

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POSSIBLE APPROACHES FOR ELIMINATING ASBESTOS FROM HIGH TEMP INSULATIONS

KAYLO

Replace Asbestos in Kaylo with Glass and/or Rockwool Fibers

FIBROUS GLASS

Develop a One Step Process for Manufacture of High Temp Glass Fiber Insulation

BONDED AGGREGATE

1. Develop a Proprietary, Non-Autoclaved, Bonded Aggregate Insulation Product Reinforced withGlass Fibers
2. License Carey-Temp Process

FOAM

Develop a Structural, Inorganic High Temp Foamed Insulation

WET PROCESS

Develop a Rockwool and/or Glass Reinforced, Non-Autoclaved Insulation by the Wet Process Method

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KAYLO RESEARCH & DEVELOPMENT

Marketing Div. - 61 Sponsor - J. F. Vyverberg

STATUS

1. Developed Stress Corrosion K-10 Kaylo Batch Formulation
   A. Lab Prepared Samples Passed duPont 6 Day Survival Test
2. Cost Projection on Stress Corrosion Batch
   A. Gross Margins Will Be Reduced 0.7% If Product Marketed as "SPecial" and 0.1% If Extended to All K-10 Production
3. Plant Trial
   A. Identify Process Problems Related to Scale Up of Batch from Laboratory to Plant

PLANS

1. Optimize Stress Corrosion Batch to Eliminate Problems Encountered in Scale Up from Lab to Plant
2. Full Scale Plant Runs on Both Pipe and Block for duPont Sampling and for Test Marketing
3. Obtain duPont Approval of Plant Poured Stress Corrosion Batch Formulation
4. Coordinate with Marketing Test Market Program on Stress Corrosion Inhibited Kaylo

PROCESS EQUIPMENT REQUIREMENTS

Melting, Grinding, Conveying and Storage Equipment for Manufacture of Silicated Glass, '901' Being Prepared by Manufacturing

NEW PRODUCTS FOR "67"

1. K10 Pipe and Block for Stainless Steel Applications
2. Ceramic Drying Pallets (U.S. Patent 3,276,094)

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HISTORY-REDUCTION OR ELIMINATION OF ASBESTOS IN HIGH TEMP INSULATION

1943-47 OI/OCF Coop Program to Develop Glass Wool Fiber for Kaylo Reinforcement

1959 MARKETING Requested Research to Develop Bonded Aggregate Product Like Careytemp

1960-61 RESEARCH Develop a Bonded Aggregate High Temp Insulation

1961-62 RESEARCH-PROCESS ENG. Develop a Glass Reinforcement for Kaylo

1962 RESEARCH-UCM Develop Bonded Aggregate Product Based on UCM Binder System

1962-63 PROCESS ENG.-R & R Develop Bonded Aggregate Product Based on R & R Binder System

1962-66 RESEARCH-PRODUCT DEV. Develop High Temp Glass Fiber Insulation (Multitemp)

1965 RESEARCH Proposed Program to Develop a Proprietary Bonded Aggregate High Temp Insulation - Program Not Approved

1965 RESEARCH Program to Replace Amosite Asbestos With Cotton Reinforcement

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