

~~MESSRS. T. B. BONNEY/R. P. CARTER~~ - PITTSBURGH OFFICE

FROM J. A. DUNBAR
INGOT & POWDER DIVISION
PITTSBURGH OFFICE

MEMORANDUM

October 23, 1975

PLAINTIFF'S
EXHIBIT
AL-1748

RE: OSHA ASBESTOS STANDARD - PILOT CERAMIC HEADER PROGRAM

Ref: Letter R. P. Carter to Industrial Hygienists, 7/22/75
captioned "OSHA Asbestos Standard - Regulation
1910.1001 (Formerly 1910.93a)

The purpose of this memorandum is to restate the policy of the Ingot Division regarding the use of asbestos-containing materials in our Ingot Plants, and to update the status of the ceramic header program. Mr. R. P. Carter's referenced letter, which you should have already received from other sources, asked that each location review their use of asbestos-bearing materials. Our position is that acceptable non-asbestos substitutes are currently available to the plants for all but a few ingot plant applications of Marinite, and these are:

1. FDC headers and back-up rings
2. HDC headers and back-up boards
3. HDC mold basin liners

The following programs are going on with respect to replacement of Marinite in these remaining applications:

FDC and HDC Headers

The R-680 cast-to-size ceramic header program is proceeding per my letter of June 10, 1975. Attachment I to this letter provides additional details on the status of this program, along with some instructions for the participating plants. Another possible future substitute for Marinite in these applications is calcium aluminate board which is still in the development stage at Johns-Manville.

FDC Back-Up Rings

Some plants have had success with vacuum formed ceramic rings available commercially (Lafayette and Vernon, I believe). Calcium aluminate board is also a future possibility pending successful development by Johns-Manville.

HDC Back-Up Boards

Calcium aluminate board is the only current candidate for the



ALCOA

ARD 007183

large back-up boards, although vacuum formed ceramics would have application in the small HDC units (6 X 6 and rounds).

HDC Basin Lining

The most promising material at present is LDS Moldable. An experimental HDC basin at ATC is still looking good and a plant trial will be forthcoming. Substitute board materials have not shown sufficient strength to withstand bolt-up pressures in the unsupported areas.

It is essential that each plant keep up-to-date with these developments through contacts with Dr. R. G. LaBar's group at ATC. In addition, each plant must have programs going to eliminate the use of asbestos materials in those areas where satisfactory substitutes are already available. Subsequent to Mr. R. P. Carter's referenced letter, OSHA has proposed an asbestos fiber standard much tighter than anticipated. The Industrial Hygiene people will eventually be in touch with the plants; but, if this proposed standard were to be adopted at some future date, it would nearly preclude even having asbestos materials in the plant.

J. A. DUNBAR

JAD:skm

SAME LETTER TO: J. N. Rumble - Badin
R. C. Ashurst - Cressona
H. McLaughlin, III - Davenport
W. K. Dalton - Lafayette
J. H. Mudge - Massena
T. J. Randall - Rockdale
R. E. Aungst, Jr. - Tennessee
D. W. Freeman - Tennessee
H. F. Godges - Vancouver
W. C. Harvey - Vernon
C. F. Nowak - Warrick
G. L. Paolino - Wenatchee

Information Copies:

R. G. LaBar - Alcoa Technical Center
D. L. Schaffer - Pittsburgh
A. J. Sartschev/R. E. Albrecht - Wm. Penn Hotel
T. B. Bonney/R. P. Carter - Pittsburgh
V. W. Rieke - Pittsburgh
M. J. Caprio - Pittsburgh

ATTACHMENT I

PILOT CERAMIC HEADER PROGRAM

In review, the pilot program at ATC has three major objectives:

1. To gain production experience using ceramic headers in a variety of sizes and configurations at various plants prior to commitment to wholesale changeover.
2. To gain experience in the manufacture of R680 parts regarding practices, equipment and cost in order to make the proper decision in setting up permanent supplies i.e. outside manufacture, single facility, multiple facilities, etc.
3. To provide total supply of Vancouver's header needs in order to prevent imminent expenditure of capital funds to collect Marinite dust.

The attached letter by Mr. R. E. Albrecht covers the status of the program with respect to current headers available for production or in production, headers for which design has been completed, and a schedule for completion of design for the balance of the headers covered in the pilot program. In order to cover header production, each plant should enter a blanket order with ATC Ceramic Section for each size involved with an item to cover the cost of ceramic mold tooling. Schedules and releases against these orders would then be established by monthly contact between the plant and ATC. Also attached is a letter by Dr. R. G. LaBar which lists the estimated mold and production costs. Header production is already proceeding on several items so purchase orders should be entered as soon as possible.

Further questions should be referred to Dr. R. G. LaBar or G. D. Schnittgrund at ATC or myself.

J. A. DUNBAR

Attachments

ARD 007185

MR. J. A. DUNBAR 23-H.B.

FROM R. E. ALBRECHT
MECHANICAL ENGINEERING DIVISION
PITTSBURGH OFFICE - 3 WPH

TO MR. A. J. SARTSCHEV
MECHANICAL ENGINEERING DIVISION
PITTSBURGH OFFICE - 3 WPH

October 14, 1975

RE: CERAMIC HEADER PROGRAM PROGRESS

The following is a summary of the ceramic header program progress to date and projected completion dates.

- (1) Header mold sizes completed at ATC
(For 45° clamping)

9" Dia. FDC	Vancouver
15" Dia. FDC	Massena
16-3/4" Dia. FDC	Vernon
22" Dia. FDC	Lafayette
6" Dia. HDC	Badin, Wenatchee
7" Dia. HDC	Badin, Wenatchee

- (2) Header designs completed and forwarded to plants for approval.

8" Dia. FDC	Massena
8" Dia. FDC	Vernon
9" Dia. FDC	Lafayette
11" Dia. FDC	Lafayette
11" Dia. FDC	Vancouver
12" Dia. FDC	Badin
16" Dia. FDC	Badin
16" Dia. FDC	Cressona

- (3) Header designs to be completed and forwarded to plants for approval by 31 October.

6-1/8", 7", 8" & 10" Dia. FDC	Vancouver
18" Dia. FDC	Lafayette
6" x 6" HDC	Vancouver, Massena
30# Barlok I HDC	Wenatchee

- (4) Massena has redesigned their 18-5/8" Dia. FDC Mold package. The redesign includes 45° clamping for ceramic headers. Drawings are completed and will be submitted for review.



ARD 007186

87-4968 (REV 11-88)

Mr. A. J. Sartschev
October 14, 1975
Sheet No. 2

- (5) Dr. LaBar has ordered a larger capacity mixer and de-airing pump and submitted an R/A for a larger firing furnace. Dr. LaBar estimates delivery and installation of the furnace in February 1976. After the furnace is installed ATC will be ready to start manufacturing full complements of the above size headers. Until February 1976 ATC will have only limited manufacturing capacity.

R. E. ALBRECHT

REA/G

CC: J. Z. Nelson - Pittsburgh - 3 WPH
~~J. A. Dunbar - Pittsburgh - A.B. 23 /~~
R. G. LaBar - Alcoa Technical Center

ARD 007187

FROM R. G. LABAR
CERAMIC SECTION
ALCOA TECHNICAL CENTER - B

10 MR. J. A. DUNBAR
PITTSBURGH OFFICE

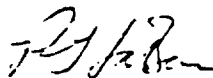
October 6, 1975

RE: CERAMIC HEADER PILOT PROJECT

The attached is an estimate of costs per piece for selected headers and impellers. While we believe these to be fairly accurate, I envision reductions for high volume items such as the Vancouver 9 in., Wenatchee Barlok and 6-in. and 7-in. HDC for Badin and Wenatchee with multiple tooling. The tooling labor costs available to date have been somewhat erratic, ranging from \$333 for the Badin 12-in. diameter FDC to \$1099 for the Massena 15-in. diameter FDC. However, the charge for Vancouver's two 9-in. diameter FDC and Massena's 8-in. diameter FDC made at the same time was \$1143 which is an average of \$381 per mold. So, adding on for materials, a realistic tooling charge for a medium-size FDC header may be in the range of \$500-\$600 using the ATC machine shop at \$21.50 per hour. Again, this may be high. It is possible that machining time would decrease if one machinist were always to do the work and did several at one time.

Shop orders are being set up and an internal accounting system for our own records is being established. Your help in obtaining purchase orders to cover mold tooling and header manufacture will be appreciated. I would suggest that each plant specify on their requisition that \$600 be allowed for each mold tooling (probably need six for Vancouver 9 in., four for Vancouver 11 in., six for Vancouver 6 x 6 HDC, two each for 6 in. and 7 in. HDC, 30# Barlok), and the estimated monthly requirements in addition to the initial startup. That way, each plant could notify us on a monthly basis if a release of the monthly requirement is needed or not. Adjustments will be made to reflect the actual costs.

In case you do not know, a much larger mixer and vacuum deairing pump have been ordered so the only other major item that remains to be acquired is a larger furnace.


R. G. LABAR

RGL/rms

Attachment

cc: Library, ATC-C
A. J. Sartschev, Pittsburgh
D. L. Schaffer/M. L. Redhair, Pgh.
M. J. Caprio, Pittsburgh
F. M. Townsend, Pittsburgh

E. W. Miguelucci, ATC-D
G. MacZura, East St. Louis
G. K. Turnbull/R. E. Spear, ATC-
L. K. Hudson, ATC-C



ARD 007188

10-4112 (REV 11-66)

COST ESTIMATES
PRECISION CAST R-680

<u>Item</u>	<u>Cost/Piece</u>
15-in. Diameter FDC REDACTED	\$15
12-in. Diameter FDC	14
9-in. Diameter FDC	14
22-in. Diameter FDC	20
20-in. Diameter Axial Flow Impeller	66
R-622 Disperser	22