

THIS COPY FOR MR. R. P. CARTER PITTSBURGH - 7 A.B. JUL 9

ALUMINUM COMPANY OF AMERICA

ALCOA BUILDING - PITTSBURGH, PENNSYLVANIA 15219



ALCOA

1978 July 18

Mr. D. J. Forster
Alcoa of Australia Limited
Point Henry Works
P. O. Box 460
Geelong, Victoria 3220, AUSTRALIA

RE: REQUESTED FURNACE AND RELATED INFORMATION

Dear Mr. Forster:

Mr. A. J. Sartschev has asked that I forward information on several items that were requested while he visited Point Henry or you requested during your visit to the United States.

I. Door Guard System for Over The Door Arch of Melt Pces.

Enclosed are prints of the typical door guard detail, Dwg. No. D-145985-PE, and a normal installation, Dwg. No. A-108654-AT.

II. Demolition Problems with Asbestos Insulation in Old Furnaces

We are enclosing a February 5, 1973 letter issued by Messrs. A. J. Sartschev and R. P. Carter, entitled "Replacement of Asbestos-Containing Insulation Block". This letter and the various attachments list the recommended procedures to prevent asbestos exposure. Please note that effective July 1, 1976, the allowable asbestos fiber exposure limit was reduced to 2 fibers per millimeter as stated in the AJS-RPC letter. (A copy of the AJS-RPC letter and its attachments are being attached to Mr. J. H. J. Erkins' copy of this letter.)

III. Tennessee's Three Piece Water Cooled Door Frame and Water Cooled Sticker Door

We are enclosing one print of each of the following drawings:

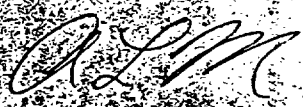
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In addition to these drawings, refer also to Drawing A-108663-AT which is a side view in the 3-piece door arch-Sticker door drawings (listed earlier).

Almost all furnace installations use silicon carbide brick in the ramp section and first knuckle of the furnace hearth soldier course. Many melters use the silicon carbide bricks for the entire hearth soldier course. Since silicon carbide transmits heat very well, we use 85% Alumina Brick (A. P. Green's DV-38) for the skim shelf refractory. DV-38 is also used for the one row that has a flat top (at top of ramp).

If you need more information or drawings on any of the above subjects, please feel free to contact us.

Very truly yours,



A. L. MAGNUSSEN

ALM/G

Attachments

CC: L. E. Fletcher - Point Henry Works
A. R. Hendrie - Point Henry Works
J. H. J. Erkins - Point Henry Works
T. I. S. Boak, Jr. - Pittsburgh - 14 A.B.
R. P. Carter - Pittsburgh - 7 A.B.
A. J. Sartschev - Pittsburgh - 3 WPH

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<u>Drawing No.</u>	<u>Description</u>
Sticker Dwg. No. 3239 Rev. 2	Sticker Door Detail
A-108663-AT	Door Ass'y.
A-108664-AT	Fabricated Details
A-108677-AT	Assembly Section
A-109343-AT	Water Piping
A-109344-AT	Water Piping

According to reports we have received, Tennessee has had some doors and frames in operation for a year or longer without problems. They have also had two doors explode due to rapid steam generation when water flow decreased or stopped. I call your attention to the rupture discs shown on the piping drawings as this is the present method of preventing the explosions. Careful piping to insure minimum valves, short discharge piping and a positive continuous water supply are pluses to prevent the hazard.

IV. Molten Metal Furnace Tools

I'm enclosing a copy of Davenport's cast skim tool, Drawing No. B-150644-MW. Davenport initially had these plates made of the heat resistant cast iron material and having two sloping ribs on one side and only a center rib on the opposite side. Plates were then made with heat resistant ductile iron materials and life was improved as breakage was reduced. Most recently, they have added the other 2 ribs (on side with vertical center rib) and are specifying material as ASTM-A536 Grade 65-45-12 Ductile Iron. These blades are lasting quite well and finally fail due to erosion.

V. Standard Design Skim Shelf

Our standard design is shown on the following drawings which are enclosed:

D-154952-PE	Skim Shelf Detail
D-154953-PE	Skim Shelf Support
D-154954-PE	Skim Shelf Support
A-108660-AT	Typical Refractory at Skim Shelf