

July 16, 1957

TO: W. W. McLaughlin  
Testing and Research Engineer

SUBJECT: Aluminum Right-of-Way Fence  
Research Project 57 G-85; Report No. 279.

In accordance with your memorandum of May 6, 1957, we have made a study of the feasibility of using aluminum for chain link fence in lieu of galvanized steel. As a result of this study, it is our recommendation that aluminum not only be permitted as an alternate, but even be considered preferable to galvanized steel.

The strength of aluminum is entirely adequate for this purpose and its corrosion resistance gives it a considerable advantage over steel. While the initial cost of aluminum fence is about 25 percent higher than that of steel, the difference in maintenance cost would equalize the total cost in less than 10 years and make the aluminum a much better investment in the long run. The following cost data are considered typically average at today's prices:

	<u>Alum.</u>	<u>Galv.Steel</u>
Cost per lineal foot of 6 ft. fence, installed	3.75	3.00
Cost of painting, per lineal foot		.50

In an industrial atmosphere, the galvanized steel will require a first painting in less than 5 years and subsequent paintings approximately every 2 years at a cost of about 50 cents per lineal foot.

Aluminum posts can be set in concrete without danger of excessive corrosion by the cement. Corrosive attack may occur on aluminum posts buried in the ground, depending on the type of soil; and such posts should be protected by application of a bitumastic coating both inside and out. The coated area should extend several inches above the ground. Posts for chain link fence are almost invariably set in concrete and our present

specifications require this type of installation. Line posts for woven wire fencing may be set directly in the ground, however, and in that case should be coated on the buried portion.

We have a list of 12 manufacturers of aluminum chain link fence, but have been advised that none are currently making woven wire, or stock type, fencing although there is a strong possibility that this type will also be produced in the near future.

The specifications for aluminum chain link fence submitted by Consoer, Townsend and Associates conform to the recommendations of both Reynolds Metals Company and the Aluminum Company of America with one exception. The alloy specified for posts should be 6063-T6 instead of 6061-T6. The former has the same corrosion resistance as the latter and, while not quite as strong, the strength is adequate and the cost appreciably less.

Specifications for Department use have been discussed by Mr. McCormick and Mr. Rhodes and the necessary information, including the list of producers of aluminum chain link fence, has been given to Mr. McCormick who will set up the specifications along the same lines as those for galvanized steel.



E. A. Finney  
Research Engineer

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