

Robert B. Travis

I am responsible for L.I.A.'s promotional activity in three areas of lead consumption; radiation shielding, cable sheathing and corrosion protection. Of these, the market for lead radiation shielding appears to have the most promising new lead markets. And that picture is quite bright.

Mr. Smith of Babcock and Wilcox will tell you about the potential of nuclear powered shipping, but the increased market I have in mind is not so much the steady increase in the use of radioactive materials in science, industry, and medicine but is rather the imminent boom in irradiation processing of materials, particularly foods, for preservation and storage. There is a considerable body of informed opinion in the field that sees very rapid expansion in the next five-year period. On top of this is the fact that the Atomic Energy Commission and the Food and Drug Administration have either cleared or are now approving methods for irradiation processing of bacon, wheat and other grains, fruits, (nectarines and peaches), chicken, frankfurters, potatoes and carrots.

According to The Journal of Commerce, Government estimates are that within two years irradiated foods will be in the supermarkets. Conservative scientific estimates put that off for a third year. While this is certainly, as one FDA man put it, "not a panacea" it can represent an annual food sale of one million dollars within the decade.

Several large corporations are sufficiently optimistic about this field to invest their own money in the design and development of low-dose irradiators. Among these are Dow Chemical, High-Voltage Engineering and American Machine and Foundry.

The portable potato irradiator designed by AMF Atomic and built by AMF's Atomic Energy of Canada points up where the market for lead will be. This one unit carried in a truck trailer uses six thousand pounds of lead.

Later on, many of the irradiators, particularly the large capacity units, will be stationary installations, probably shielded by concrete. However, right now most attention is being directed to mobile units.

This certainly is an area that will get much of my attention and the information I get will be directed to LIA members and used for publicity in all available channels.

While it appears unlikely that lead will regain its stature as the sheathing material for electrical power and telephone cable it does seem that the inroads made into this market by aluminum and plastics, particularly polyethylene, have halted. And it looks like time itself is exposing the shortcomings of some of the newer sheathing materials and lead is regaining some ground.

By way of aggravating this situation, we will, of course, emphasize lead's proven advantages in the sheathing field. Several excellent and helpful contacts were made in the cable industry and in some large public utility and telephone companies during the course of preparing Lead Sheathing for Power Cable and they are helping with a continuing series of articles on cable that will be featured in LEAD magazine (and will be available to the trade press).

The advertising program in cable sheathing is closely coordinated with the press program and will continue to be for at least the next year. This is an area that requires fairly close attention and a substantial amount of time to keep abreast of new developments and to exploit new leads.

The trend back to lead seems to carry over into the chemical construction field also. For example, Chromium Corporation of America in Chicago found it necessary to replace polyvinylchloride tank linings with lead in their chrome plating operations. At 120 to 140°F, where the plating operation takes place, this temperature is only fifteen degrees below the plastic's upper limit. I hope to visit more lead fabricators and burners this year to see their operations and learn about their experiences along this line.

Also in the corrosion prevention field I might mention that interest continues in lead anodic protection systems. Mr. Leo Sudrabin has been particularly active in this field and recently gave an excellent paper on the system used to protect the Staten Island, N.Y. ferry piers. A condensation for general consumption is under way and is typical of the things I would like to do to keep the use of lead in anode systems before engineering and management audiences.