



## National Fire Protection Association

Engineering

1 Batterymarch Park, Quincy, Massachusetts 02269-9101 USA  
Telephone (617) 770-3000 Fax (617) 984-7110 Electrical Dept. Fax (617) 984-7070

October 7, 1997

E. Marshall Hickman

Fax# 305-251-8826

Dear Mr. Hickman:

Thank you for your correspondence dated October 1, 1997 concerning NFPA 70-1996. I am happy to respond to your question with the following.

Please note that it is beyond the scope of our activities to review designs and plans for Code compliance, however I will offer the following staff opinion.

Section 680-22(a)(3) requires the bonding together of all metal fittings within or attached to the pool structure. Section 680-22(a)(6) requires the bonding together of ... metal piping and all fixed metal parts that are within 5 ft horizontally of the inside walls of the pool ... The 1996 National Electrical Code® Handbook includes a new paragraph of code commentary which indicates that structural reinforcing steel encapsulated by a non-conductive coating such as epoxy or plastic is not required to be bonded to the other metal parts of the pool system. Please note that the code commentary is not part of the Code itself and it is intended only to explain the requirements of the Code. This commentary represents the personal opinion of the NFPA Handbook editors and should not be taken to represent a Formal Interpretation. The new paragraph in the code commentary is supported in part by the Panel Action and Panel statement on Proposal 20-87 of the Annual 1995 Report on Proposals, enclosed for your information. (Note that the proposal mentioned in your letter is similar.)

Extending from the above rationale, as a personal opinion, where the metal pipe inside the handrail is completely encapsulated with nonconductive material so that the metal pipe is permanently sealed from any contact with the pool water or pool structure, the handrail would not be considered a metal fitting, metal piping or a fixed metal part and would therefore not require bonding.

I hope this satisfies your concerns. Please understand that since this has not been processed as a Formal Interpretation, it must be considered my personal opinion. See the printed notice on interpretations at the bottom of this letterhead.

Very truly yours,

Lee F. Richardson

Senior Electrical Engineer

LFR/mvw

cc: Mark W. Earley  
D. Harold Ware, Chair NEC-AAC  
Robert M. Milatovich, Chair NEC-P20