

IFT

TECHNICAL
SERVICES
INC.

July 10, 1990

for your info.

Roy

REC'D JUL 13 1990

FILE

FAILURE ANALYSIS

JUL 1 1990 PRODUCT DEVELOPMENT

GRAPHICS TECHNOLOGY

LICENSE #PI115S2

Al Reventes
Shintech, Inc.
#24 Greenway Plaza, Ste. 811
Houston, Texas 77046

Ref: IFT 88-076
Vinyl Institute Codes

Dear Al:

Reviewing developments at LAPMO recently, the May 1st, LAPMO Code Development Meeting (Boise) was a rather typical LAPMO affair in terms of code change agenda. Changes submitted which related to any expanded use (or improved understanding of the use) of plastic products were rejected; the familiar "combustible construction" issues raised were rejected as well.

One interesting aspect of the meeting was the altered make-up of the Code Development Committee. As you probably know, the LAPMO code development committee is larger than code development committees in any of the other codes' bodies and historically, because expenses for committee members have, as far as I know, been paid by LAPMO, the Committee has followed party line through the years. What has changed recently is that membership of the group has been altered with substantial personnel being drawn from locations as far east as Kentucky and Pittsburg (with the latter being one of the more obviously anti-plastic cities). This is in contrast to the group's former far west and Rocky Mountain states population base. I feel that the new make-up of the committee reflects the approach of LAPMO to become national in scope so that it can produce a national plumbing code document. This is consistent with the fact that the ANSI-A-40 Committee "national plumbing code," because it permits reasonable use of non-metallic products, is no longer the document of choice for the unions and contracting interests. For this reason, they are now backing expanding adoption of the LAPMO Code in the East, Mid-west and Southern United States.

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On an associated issue, I have attached the introduction and conclusion sections from a review of CABO, One and Two Family Dwelling Code plumbing provisions; the review was conducted by LAPMO under contract. The position LAPMO has consistently taken is that the CABO plumbing code is insufficient, and this study reinforces that position. This is a position, incidentally, which is consistent with union and metal pipe interests, but inconsistent with low-cost one and two family housing construction.

Sincerely,



Joseph B. Zicherman, Ph.D

JBZ/rrw

enclosure

cc: R. Gottesman
P. Toner
F. Clarke III



INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS

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April 16, 1990

Dear IAPMO Member:

Enclosed you will find a copy of a report titled, "Review of Plumbing Portion of CABO One and Two Family Dwelling Code and Referenced Documents," dated March 1990. This report was prepared by Edward Saltzberg and Associates, Consulting Mechanical Engineers, under contract with IAPMO. This contract was entered into as a result of unanimous membership votes taken at the 1986 and the 1989 Annual Education and Business Conferences directing your Board of Directors to oppose the plumbing requirements of the CABO One and Two Family Dwelling Code.

I would like to urge all of you to make a real effort to review the Saltzberg report carefully. We think that you will find it very interesting and enlightening as it is probably the most complete engineering critique of available plumbing technical and testing documents in existence. Also, your familiarity with this report and your ability to communicate the significance of its contents to members of your local political governing body could have a significant effect on the future health and safety of your community.

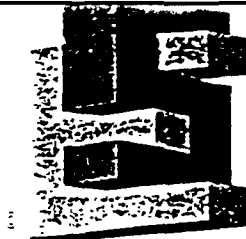
We believe that the Saltzberg report shows conclusively:

1. That the CABO plumbing requirements are unsupportable, unsafe, unsanitary and completely contrary to the public interest.
2. That provisions of the Uniform Plumbing Code are in close agreement with the legitimate documented engineering and testing performed on plumbing systems during the last 60 years.

To emphasize the seriousness of the problem that we face with this CABO code, I would like to relate to you a recent experience. The Saltzberg report was distributed to the 15-member CABO One and Two Family Dwelling Code Committee by overnight mail on March 9, 1990 in support of a proposed code change to the CABO code which would replace the present CABO requirements with the Dwelling Requirements of the Uniform Plumbing Code. Hearings on this and other pro-

*(remainder of letter missing in
info rec'd from Joe Zicherman)*

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Edward Saltzberg & Associates
Consulting Mechanical Engineers

REVIEW OF
PLUMBING PORTIONS OF
CABO ONE & TWO
FAMILY
DWELLING CODE
& REFERENCED DOCUMENTS

MARCH, 1990

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SECTION I
INTRODUCTION

CTL029949

Edward Saltzberg & Associates
Consulting Mechanical Engineers

INTRODUCTION

As a consulting mechanical engineer licensed in approximately 20 states, specializing in the design of plumbing, piping, HVAC and fire protection and having a unique understanding of plumbing, I was retained to review and critique the plumbing portion of the 1989 CABO One and Two Family Dwelling Code, hereinafter referred to as "the Code".

In addition to reviewing and critiquing "the Code", I was also retained to review and critique the numerous technical documents that were supposedly utilized or referred to in the creation of "the Code". These referenced documents are listed in the Bibliography (Section V), and most of these documents were reviewed. However, there were some documents that could not be reviewed because they were either out of print or were unavailable for whatever reason from their authors.

My review of these documents was to validate the engineering parameters and to substantiate the operational, health and safety aspects of "the Code". It was to be done in a purely objective analytical manner without any bias or prejudice. The ultimate goal of this effort was to look at "the Code" and its supporting documents and either substantiate their claims or, if that was not possible, then point out the incorrectness of their various assumptions or engineering criteria.

EDWARD SALTZBERG & ASSOCIATES

Edward Saltzberg

Edward Saltzberg, PE, CEM, CIPE
President



SECTION II

CONCLUSIONS

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Edward Saltzberg & Associates
Consulting Mechanical Engineers

CONCLUSIONS

After extensive review and critique of the individual supporting referenced documents, I find that numerous sections of the plumbing portion of the CABO One and Two Family Dwelling Code are not substantiated either by bona fide engineering documentation; (1) are based on invalid or incorrect assumptions; (2) have ignored or excluded the imposed restrictions or warnings; (3) are based on laboratory models or mathematical computations without substantiation by valid field trial and the real world tests; or (4) are based on improper or invalid field testing. My specific comments concerning each document are included in Section VII.

The major sections of "the Code" whose justification fall into the above categories are:

1. The reduced drainage fixture unit basis.
2. The waste pipe sizing.
3. Fixture trap sizing.
4. Island sink venting.
5. Basis for sizing continuous waste flows.
6. Cleanout locations.
7. Mechanical vents.
8. Vent terminations.
9. Frost closure of vents.
10. Water sizing fixture unit basis.
11. Reduced water pipe sizing.
12. Shutoff valve locations.
13. Reduced vent sizing.

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All of these code sections, which are essentially the total basis of the CABO Plumbing Code, have serious defects in their engineering approach. Therefore, they jeopardize the health and safety of the occupants, create a plumbing system which is not commensurate with the life expectancy of the structure to which the plumbing system is installed and will inconvenience and cost the ultimate consumers extensive money. Furthermore, whatever minimal initial cost saving might occur will be significantly more than offset by the problems created from the use of "this Code".

Furthermore, based on these serious defects noted in the engineering concepts of this plumbing code, it is my professional opinion that they invalidate the bulk of the CABO residential plumbing code, and therefore, it should no longer be deemed acceptable as a standard plumbing code.

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