

VI TECHNICAL COMMITTEE MEETING

Vinyl Institute Office
155 Route 46 West
Wayne, New Jersey 07470

Wednesday
February 6, 1991
9:40 a.m. - 4:00 p.m.

Attendees:

Frank Borrelli, Georgia Gulf Corporation
Larry Brecker, Witco Corporation, Argus Division
Charles Bush, BFGoodrich Company
Leon Fishbein, Borden Chemicals & Plastics
Don Goodman, Occidental Chemical Corporation
Roy Gottesman, Vinyl Institute
H. J. "Bud" Hall, Vista Chemical Company
Robert Hinderer, BFGoodrich Company
Marcelo Hirschler, BFGoodrich Company
John Kirkpatrick, Vista Chemical Company
Richard Magee, NJIT
Ron McCreedy, Dow Chemical Company
Debbie Neale, BFGoodrich Company
Al Reventas, Shintech Inc.

I. SELF-INTRODUCTIONS AND APPROVAL OF MINUTES OF NOV.8,1990 MEETING

Chairman Chuck Bush opened the meeting at 9:40 a.m. with a round of self-introductions. The minutes of the November 8, 1990 Technical Committee meeting held in Cleveland were approved as received on motion by Bud Hall, seconded by Marcelo Hirschler.

II. FIRE SCIENCES SUBCOMMITTEE

A. Proposal for Corrosivity Testing

Marcelo Hirschler reported that Bud Hall, Bob Strength and he had met with Loren Caudill and John Blair of duPont to discuss carrying out a joint program for corrosivity testing. All agreed that there was no sense in conducting full-scale tests. Of the small-scale tests being considered, the German DIN test is not sufficiently well-defined to be considered for this test program.

The subcommittee therefore suggested carrying out a test program using the CNET and radiant (NIBS) apparatus. Marcelo Hirschler distributed a letter from Underwriters Laboratories which responded to his request for a quotation to carry out the testing on 11 samples listed in his hand-out which is attached to these minutes as Appendix 1.

Underwriters Laboratories is the only U.S. facility that has a CNET apparatus but it will be necessary to get duPont to authorize our testing at UL. The cost for carrying out both the CNET and radiant tests in duplicate on these 11 samples is approximately \$30,000.

Using the radiant test apparatus is based on the assumption that the NIBS apparatus will go through the ASTM process and the apparatus itself will be approved. The purpose of these tests would be to gain information on how vinyl wire, cable and insulating materials perform so as to put us in a better position to propose changes as corrosivity test protocols are put forward.

The intent is to develop a "corrosive hazard" rather than a "corrosive potency" assessment. "Corrosive potency" represents a measure of absolute corrosivity viz. amount of corrosion per unit of time while "corrosive hazard" brings in other factors such as smoke level, rate of heat release etc. and therefore more closely relates to real-life situations.

Marcelo Hirschler projected that once the materials needed for testing are procured, the actual testing itself would take an additional 1-2 months. The Technical Committee agreed to undertake this program at UL. Al Reventas suggested adding conduit samples to this test program and it was agreed that two samples, one filled and one not filled, would be added to the originally agreed upon 11 samples.

Action:

1. Samples needed for this programs will be obtained as follows:

Lee Fishbein

THHN compound, THW compound

Bud Hall

SPT appliance cord compound, Plenex jacket compound, Plenex insulation compound, Union Carbide polyolefin cable compound crosslinked but halogen free.

Marcelo Hirschler

Communications cable compound, Flexel jacket compound, Flexel insulation compound, polyolefin tray cable compound with halogen FR additives, EVA or similar cable compound with halogen FR additives.

Al Reventas

Two cable compounds from Carlon. These samples are to be sent to Bud Hall who will have test specimens prepared for transmittal to UL.

2. Roy Gottesman will contact Loren Caudill to request that duPont approve and authorize UL to carry-out tests in the CNET apparatus for the Vinyl Institute program.
3. Marcelo Hirschler is to contact Underwriters Laboratories as the CCFS meeting on February 13-14 and ask for a revised proposal to include the additional samples, timing and costs.

B. Combustion Toxicity Test Methods

Marcelo Hirschler reported that he had attended a meeting in New York on January 30th at which the smoke toxicity issue and particularly the NIBS test program were discussed. A copy of his report on this meeting are attached to these minutes as Appendix 2.

Marcelo Hirschler suggested consideration be given to the Vinyl Institute joining the New York Building Congress which was one of the sponsors of the January 30th meeting. Because New York City building code issues are of interest to other divisions of the SPI, joining the Congress should be an SPI membership.

Action:

Roy Gottesman will provide the information on membership in the New York Building Congress to Pat Toner with the suggestion that SPI consider membership in this organization.

The desirability of publishing the critique developed by Fred Clarke and Marcelo Hirschler on the shortcomings of the IT 50 method in the NIBS test was discussed and Don Goodman moved that the paper be approved for publication in a peer-reviewed journal such as the Journal of Fire Sciences. This was unanimously agreed to.

Action:

Roy Gottesman will circulate this paper to the appropriate individuals for necessary approvals so that the paper can be released for publication.

It was also noted that the NIBS test will be considered by both ASTM and NFPA and that it will be necessary for the Vinyl Institute to follow the progress at both of these bodies.

Action:

Dick Magee is to coordinate and arrange for a meeting with Hank Roux to include Fred Clarke so as to discuss the NIBS test and its limitations.

Marcelo Hirschler advised that an advisory committee is being developed to participate in the revision of the New York City building code and suggested that the Vinyl Institute seek to have a representative named to this advisory committee. Inasmuch as the building codes involve other plastics in addition to vinyl, it was agreed that participation should be via SPI.

Action:

Roy Gottesman will bring the establishment of this advisory committee to the attention of Pat Toner with the suggestion that SPI attempt to get representation on this committee.

C. HCl Decay Studies

Marcelo Hirschler reported that these studies are being completed and are expected to be completed by the end of June 1991. The information will be included in the latest version of the NIST fire model.

D. Vinyl Siding Code Issue

The BOCA Board of Directors rejected the petition of SPI to overturn the recent code action that affects vinyl siding ruling that the BOCA procedures were correctly followed. Following the discussion as to the possible role that the Vinyl Institute might play in any further action, Roy Gottesman phoned Julie Cahn, Executive Director of the Vinyl Siding Institute, and was informed that further action is being moved forward through Rich Gottwald and the SPI Technical Department and that, at this point in time, nothing further is needed from the Vinyl Institute.

Roy Gottesman reported that he had asked Julie Cahn to contact him if Vinyl Institute assistance is needed at any time in the future. Don Goodman further agreed to serve as the VI liaison to the Vinyl Siding Institute on this issue.

E. Future Program on Fire Sciences

The Committee was advised that Dr. Marcelo Hirschler had resigned his position at BFGoodrich effective March 1 and will be joining Product Safety Engineering as a consultant.

On motion of Don Goodman, the Committee unanimously agreed that the minutes of the meeting reflect the admiration and respect that the Committee had for Dr. Hirschler's past contributions to the Institute Fire Sciences program and acknowledge its thanks to him for those efforts.

Marcelo Hirschler, in a letter to Chuck Bush and Roy Gottesman on January 28th, had proposed a program of future activities that he offered to carry-out for the Institute. Separately, he will advise the Vinyl Siding Institute of his services as a consultant to them on the vinyl siding code issue.

Action:

Messrs. Bush, Borrelli, Fishbein, Gottesman and Hall agreed to meet over dinner following the Technical Committee meeting to review the proposal, define the future fire sciences program and to decide how much of the Hirschler activities proposal the Vinyl Institute wishes to undertake. (This meeting took place and separately Roy Gottesman has written to Marcelo Hirschler indicating the activities selected and requesting a proposal to include costs either on a per diem or retainer basis.)

III. PROJECT REVIEWS

A. Life Cycle Analysis Project on PVC Packaging

Chuck Bush reported that a kick-off meeting had been held with Chem Systems on December 5th and that a review meeting was scheduled to be held on the following day, February 7th.

Roy Gottesman reported that Pat Toner had requested that all divisions review the final draft document issued by

Franklin Associates on a study carried out for SPI on energy impacts of the plastic industry. Specifically, he requested volunteers to review the sections dealing with PVC. Gabe Lefebvre of BFGoodrich had served on the SPI Task Force on this project and has already reviewed the PVC section.

Action:

Don Goodman and Dick Magee agreed to review the Franklin draft report and provide comments to Roy Gottesman no later than February 19th, so that he can respond to Pat Toner by the requested date of February 22nd.

B. Recycling Projects

In the absence of Fred Krause and Bill Carroll, Roy Gottesman updated the group on the recent activities of VIGOR including the latest developments at NRT and in supporting the Devtech development. He specifically highlighted the major actions at the January 10th meeting of VIGOR, details of which can be found in the issued minutes of that meeting.

Roy Gottesman also advised that he, Lee Fishbein and Fred Krause will be visiting with the Rhode Island Solid Waste Management Corporation in Providence on February 12th to inform them of the vinyl sortation developments and to encourage the inclusion of vinyl collection in their mandatory recycling program.

He noted that no response had been received from Victor Bell of the Rhode Island Department of Environmental Management on the draft petition to include vinyl in the Rhode Island program and that this will be pursued at the February 12th meeting.

C. Incineration

Dick Magee reported that he had written to Rune Niklasson at Norsk Hydro concerning the Norwegian and Swedish (Umea) proposed studies on February 4th, reiterating the concerns that had been brought to their attention in Roy Gottesman's letter to Harold Clayton of November 15th. Not only has there be no indication that they are considering our suggestions regarding varying the PVC content of the synthetic fuel, coordination of the two studies, and incorporation of an air pollution control device, but Dick Magee expressed concern about the design of the Norwegian proposed incinerator. We are not aware that the performance of that incinerator has been correlated with full-scale incinerators.

Action:

Roy Gottesman will fax a letter to Rune Niklasson emphasizing these concerns and asking that he raise these issue in a February 21 meeting with the Norwegian and Swedish investigators.

Chuck Bush reported on a recent contact with Beco Engineering that had reportedly developed a retrofit system for hospital incinerators. This could be important where use of PVC medical devices is under attack because of alleged responsibility for dioxin formation in hospital incinerators.

Action:

Dick Magee will review this information, talk with Beco Engineering and advise Dr. Bush and the Technical Committee how we might work with Beco to promote their equipment, if this is warranted.

D. Medical/ Health Effects Program1. Compendium of Critical Papers

Bob Hinderer reported on the progress of this project which is aimed at assembling a compilation of all relevant papers on fire toxicity and health effects. It now appears that approximately 75 papers have been identified and he is now in the process of narrowing down the list of papers to be included.

He expects that the paper on the inhalation toxicity studies at SwRI involving baboons will be submitted to a journal by March 31, 1991 and that the paper would appear in early 1992. He expects to complete the compendium so that it can be issued shortly thereafter.

Action:

Bob Hinderer has the continuing assignment to oversee the completion and publication of this compendium.

2. American Liver Foundation Pamphlet

Dr. Carlo Tamburro has now written a letter to the President of the American Liver Foundation pointing out the error dealing with angiosarcoma being caused

by PVC and strongly suggesting that the error be corrected in their next issuance of this pamphlet. Roy Gottesman has written to Dr. Tamburro thanking him for this and this item is now completed and will be removed from the agenda.

3. Dr. Kaplan Consultation

Bob Hinderer reported that Dr. Kaplan will continue on retainer until the end of this fiscal year and will give a paper at the Business Communications Company seminar in May on the inhalation toxicity studies involving the combustion of PVC. He is also expected to give a paper at the '92 Hilado Conference next January.

We will not retain Dr. Kaplan as a consultant under retainer next year but might contract with him, if needed in the future, on a project basis.

4. Angiosarcoma Registry

Roy Gottesman reported that he had talked with Willem Prinselaar of EVC regarding the European's concerns with the transfer of the Registry to the U.S. where Dr. Jack Drumwright of Vista Chemical had agreed to continue its maintenance but the issue has not been resolved.

Action:

Roy Gottesman will continue to pursue this with Willem Prinselaar to resolve who will continue maintenance of the Registry.

Bud Hall will inquire of Dr. Jack Drumwright the status of the annual update of the Registry which has normally been issued in January of each year.

IV. OTHER SUBJECTS

A. Military Standards and Specifications for Wire and Cable

Bud Hall has not contacted Charles Carmen at BFGoodrich to determine if the Institute can accomplish anything worthwhile on this situation which involves rewriting military specifications so that PVC products could be included.

Action:

The assignment continues with Bud Hall to contact Charles Carmen and to provide a recommendation at the next Technical Committee meeting.

B. National Research Council of Canada's World Building Congress (CIB '92)

Marcelo Hirschler has submitted a paper on an update of smoke corrosivity for CIB '92 which will be held in Montreal on May 18-22, 1992.

C. Anderson Laboratories - Indoor Air Pollution Testing

Roy Gottesman reported that he had written to Mark Goldman at Anderson Laboratories questioning the validity and appropriateness of the test procedures. He received a reply indicating that Anderson Laboratories took our concerns seriously. We have since received a revision of their test protocol which was distributed to meeting attendees.

Further, Roy Gottesman indicated that he had sent copies of his letter to Susan Young at CCFA and Wally Anderson at RFCI so that they could alert their members to this potentially detrimental protocol.

While there is a need to continue to monitor this issue as it develops, it was suggested that VI member companies should alert their customers to the fact that indoor air pollution issues are being studied and that they must be vigilant to the use of inappropriate testing procedures such as carrying out tests at extremely high temperatures, outside the range of those in the built environment.

D. Solvent Cement Issue - California

Don Goodman reviewed the background on this issue including the necessity to reduce volatile organic emissions from solvent cements down to 250 g/li effective January 1, 1993 because of regulations promulgated by the California South Coast Air Quality Management District (SCAQMD).

There is serious concern that current solvent cement types will not be able to meet this requirement and that new joining systems will be needed. A "Solvent Summit" meeting is to be held prior to the PPFA meeting in Palm Springs on Saturday, March 2nd at 1:00 p.m. to involve solvent cement manufacturers, fittings manufacturers,

resin producers and other interested parties to assure that a coordinated effort is undertaken to assure that the SCAQMD requirements can be met.

Action:

1. Chuck Bush will talk with the Oateys concerning their awareness of this situation and their plans to handle this problem. Oatey is a leading solvent cement manufacturer.
2. Don Goodman will attempt to quantify the size of the market so that contacts can be made with adhesive manufacturers to see if they can offer alternative products for use. Such products will have to pass NSF Standard 61 testing.
3. Roy Gottesman and Fred Sacks of Occidental (who will be briefed by Don Goodman) will attend the "Solvent Summit" and will report back to the Technical Committee on the role the VI should play in this program.

V. NEW BUSINESS

A. Plasticizer Toxicity Issue

Don Goodman raised the issue of alleged plasticizer toxicity and whether there was a role for the Technical Committee on this issue which was the cause of a recent perception problem in England. Roy Gottesman advised that a special group formed within the SPI Food Drug and Cosmetic Committee and headed by representatives from plasticizer manufacturer companies with counsel from Jerry Heckman are handling this issue and have had contact with FDA on it. There is no need for VI involvement at this time.

B. Indoor Air Pollution

Don Goodman noted some questions have been raised concerning potential air pollution from vinyl products and inquired whether this was an issue which the Technical Committee should address.

A Vinyl Institute Technical Information paper entitled "Effects on Vinyl Products on Indoor Air Quality" was issued in January 1990 covering this subject completely and concludes that "... these recent investigations confirm that household articles made of vinyl do not contribute to indoor air pollution either from vinyl chloride monomer or other vinyl compound ingredients such

as plasticizers like DOP." As a result, it was agreed that nothing further is needed on this subject at this time.

VI. '91-'92 TECHNICAL COMMITTEE BUDGET

The Committee developed the following preliminary budget requirements for the next fiscal year as follows:

<u>Item</u>	<u>Projected Need (\$000)</u>
Dev Tech Program*	70
CPRR Membership	30-60
New Project at CPRR	25
VRI	5
R2B2	5
Ecobalance Follow-Up Studies	50
Fire Related Corrosivity Testing	30
Consultants (Hirschler or Others)	To be determined**
Swedish Incineration Study*	10
Publish Fire Toxicity Compendium	10
Contingency	<u>30</u>
Total	295+ **

*These items have been committed to and represent firm budget needs.

As the development of the overall '91-'92 VI budget gets underway, this will serve as the starting point for developing the Technical Committee portion of that budget.

VII. NEXT MEETING DATE

The next meeting of the Technical Committee will be held on Thursday, May 30th at 8:00 a.m. in Dallas as part of the VI Annual Meeting.

VIII. ADJOURNMENT

The meeting was adjourned at 4:00 pm.

Respectfully submitted,

Roy T. Gottesman

Roy T. Gottesman

Appendix 1

UL Smoke Corrosivity Tests

1. Protocol under development by ASTM E.5.21.70 Radiant Apparatus Protocol

Cost per test	# Materials	# Tests	Cost	+ 1 More Probe	Total
\$580	11	22	\$12,760	\$1,650	\$14,410

Additional expenses:

Gases, per test	Other probes, per test	Bridging, etc., per test
\$200	\$75	\$100 (Probes cost, rough)

(not essential) (included above)

With all details:	Total cost
	\$21,010

2. CNET Protocol

Cost per test	# Materials	# Tests	Total Cost
\$375	11	22	\$8,250

Total: Cost of running both sets of tests:

Basic tests: \$21,010

Full tests \$29,260

Compromise: \$24,860 (no gases)

Recommended materials (H.J. Hall, M.M. Hirschler)

- 1 THHN compound
- 2 THW compound
- 3 Communications cable compound
- 4 SPT appliance cord compound
- 5 Flexel jacket compound
- 6 Flexel insulation compound
- 7 Plenex jacket compound
- 8 Plenex insulation compound
- 9 Polyolefin tray cable compound, with halogen FR additives
- 10 EVA or similar cable compound, with halogen FR additives
- 11 Union Carbide polyolefin cable compound crosslinked, halogen free