



Project Number: 14617.0001  
Traceability Code: E98.0032  
April 17, 1998

REVISED TEST REPORT

Prepared for: The Safron Corporation  
12391 SW 130<sup>th</sup> Street  
Miami, Florida 33186  
  
Attention of: Mr. E. Marshall Hickman  
  
Authorized by: P.O.# 98-10045, Check # 5819

MATERIALS TESTED

One (1) material was supplied in 1.9" OD pipe form. The material was identified as: High Impact Vinyl Pipe.

TEST PERFORMED

Dielectric Strength per ASTM D149 , 1.32" inner electrode with a 2" wide external electrode in oil.

TEST RESULTS

Test	Individual Results	Average
Dielectric Strength(v/mil)	231, 227, 239, 223, 215*	227*
Thickness (in)	0.262, 0.258, 0.262, 0.263, 0.263	0.262
Breakdown Voltage (kv)	60.6, 58.6, 62.6, 58.6, 56.5*	59.4*

\* - Sample flashed over, not an actual breakdown.

TEST PROCEDURES

All of the test procedures which were followed during testing are outlined in the applicable test specifications listed under "TEST PERFORMED".

Sincerely,

Charles B. Galuska  
Project Leader  
Electrical Testing

Reviewed By:

Paul O. Moore  
Laboratory Manager

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**Non-Grounding Code Section Applicable to SAFTRON Vinyl Railings:**

**NFPA 70 — May 2001 ROP** — Copyright 2000, NFPA

(Log #4258)

20- 82 - (680-22(a)(1)): Accept in Principle

**Note: It is the understanding of the Technical Correlating Committee that the Panel Action is covered by 680-26(B)(1) of the rewrite of Article 680 in Proposal 20-30a.**

**SUBMITTER:** Frederic P. Hartwell, Hartwell Electrical Services, Inc./Rep. Massachusetts Electrical Code Advisory Committee

**RECOMMENDATION:** Delete the last sentence and add a new exception, as follows:

**Exception: Where reinforcing steel is effectively insulated by an encapsulating nonconductive compound at the time of manufacture, it shall be permitted to be unbonded provided No. 8 or larger bare solid copper conductors are run in the pour around the perimeter of the pool below the normal water line, and through the pour at other locations such that no point in the pour, measured through the pour, is more than 15 ft (4.58 m) from a bonding conductor.**

**SUBSTANTIATION:** This proposal is a resubmittal of the proposal that provoked the change in this section. Unlike the 1999 NEC, however, it aims at the objectives of bonding without imposing completely unrealistic requirements.

The present literal text requires bonding to every epoxy coated reinforcing bar (commonly supplied for corrosion resistance) unless the steel foundry that rolled the bar stock went out and had the epoxy coating listed. Some major pool installations use a double concrete pour with literally thousands of reinforcing members, every single one of which are epoxy coated. Even the tie wires are coated. In the past a sensible inspector simply would have said that the reinforcing didn't involve "the usual steel tie wires" and agreed to other equivalent arrangements. Remember, even if someone did grind off the coating of all those steel rods, the construction specifications would have required repainting all the connections with epoxy so as to not defeat the objective of ordering the epoxy coating in the first place.

Now, however, the Code squarely addresses epoxy-coated reinforcing. The room for an inspector to maneuver has gotten far smaller. If enforced, this rule makes any such job prohibitive. No steel mill is going to go out and get 0.001% of its epoxy-coated steel bar stock listed when 99.999% of its market is for bridge construction and other venues for which listed epoxy is irrelevant. The 1999 NEC rule has not and will not see the light of day in Massachusetts. CMP 20 should step on this one quickly. Either accept some version of this proposal, or completely exempt coated reinforcing from consideration as a bonding candidate.

**PANEL ACTION:** Accept in Principle.

Revise the last sentence of 680-22(a)(1) to read: "Where reinforcing steel is effectively insulated by an encapsulating nonconductive compound at the time of manufacture and installation, it shall not be required to be bonded."

**PANEL STATEMENT:** The panel's action on this proposal meets the intent of the submitter.

**NUMBER OF PANEL MEMBERS ELIGIBLE TO VOTE:** 11

**VOTE ON PANEL ACTION:**

AFFIRMATIVE: 10

NOT RETURNED: 1 Ryan