



Mailed 5/5/72

THE SOCIETY OF THE PLASTICS INDUSTRY, INC.
250 PARK AVENUE • NEW YORK, NEW YORK 10017 • 212/687-2675

March 7, 1972

TO: MEMBERS OF THE TECHNICAL COMMITTEE
OF THE PLASTIC BOTTLE DIVISION

Dear Member:

At the last meeting of the Technical Committee, approval was given to circulate the "Recommended Practice for Measuring Toughness of PVC Bottles by Drop Impact" for full Committee ballot. The procedure in final draft form is attached with a ballot.

As is our customary practice, the procedure with ballot will be sent to the official representative of member companies who do not have a representative on the Technical Committee for their review and vote.

Please note that ballots must be returned by March 31, 1972. A negative ballot must be accompanied by an explanation to be considered valid. Assuming the procedure has been approved, it will be submitted to the Executive Committee for their approval before printing.

You are requested to return your ballot as soon as possible.

Cordially,

Thomas J. McGrath
Staff Administrator
Plastic Bottle Division

TJM/mm
att.

SPI-25586

REVISED
FINAL DRAFT

RECOMMENDED PRACTICE FOR MEASURING TOUGHNESS OF PVC BOTTLES BY DROP IMPACT

1. SCOPE

This recommended practice is designed to provide a procedure for measuring drop impact resistance of polyvinyl chloride bottles which are intended for use as containers. The procedure is not designed to evaluate the suitability of any particular bottle shape, PVC compound, or set of molding conditions and it is not intended to be a specification for PVC bottles. This procedure may be used, however, for setting requirements for performance of PVC bottles as agreed upon between buyer and seller.

2. SUMMARY OF PROCEDURE

The procedure consists of dropping sealed PVC chloride bottles, which have been filled with water, onto a steel surface from a prescribed height in one position (flat bottom drop). Each bottle is dropped once.

3. APPARATUS

A drop testing machine such as specified in ASTM D-2463-65R, SPI Technical Bulletin PBD-4-1968 or equivalent shall be used.

4. TEST SAMPLES

A. Test bottles shall be selected by a suitable procedure to assure that the sample properly represents the lot being tested. The minimum sample size should not be less than 20 bottles, provided that each mold cavity is equally represented in the sample.

B. Closures which afford a good seal.

5. PROCEDURE

The test bottles should be filled to nominal capacity with water at $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$ then capped tightly and conditioned at $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 24 hours. Prepare the drop testing apparatus so as to assure that bottles hit the impact surface squarely on their bottoms, following the procedure described in ASTM D-2463 paragraph 6 or equivalent. FN(1) Set the platform to the desired height. Flat bottom drop bottles once each. Examine each bottle for evidence of failure. Any visible rupture us a failure; any appearance of water on the outside of the container except leakage from the closure or an external source is a failure.

FN(1) Desired height would be that one agreed upon between buyer and seller.

6. REQUIREMENTS

Expectancy of impact survival based on above criteria; survival should be determined and agreed upon by buyer and seller.

7. REPORT

The report shall include the following:

- A. Complete identification of the bottle tested including size, style, material, weight, date of manufacture and any other pertinent information.
- B. Temperature at which test was run.
- C. Number of bottles tested.
- D. Type of drop (bottom).
- E. Height of drop.
- F. Number of bottles that failed, if any, and location of failures.

March 7, 1972

Letter of Ballot to: Technical Committee

Item: Recommended Practice for Measuring
Toughness of PVC Bottles by Drop Impact

Vote: Affirmative ☐ Negative ☐

SIGNATURE _____

COMPANY _____

DATE _____

Negative ballots must be accompanied by an explanation to be valid.

DEADLINE FOR RETURN OF BALLOT: March 31, 1972

Return Ballot to: Mr. Thomas J. McGrath
Plastic Bottle Division
The Society of the Plastics Industry, Inc.
250 Park Avenue
New York, New York 10017

SPI-25589