



Standard Guide for Use and Handling of Flexible Retort Food Pouches in the Processing Environment¹

This standard is issued under the fixed designation F 1278; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This guide is recommended for use by all producers of food in retort pouches. Adherence to this guide will help prevent damage to the pouches by preventing and avoiding known causes of damage that occur in the processing environment.

1.2 This guide for flexible retort food pouches is based on the recommendations of a task force created by the Department of the Army in 1986.² The purpose of the task force was to determine the possible causes of holes in pouches of food product produced for operational rations for the Department of Defense at that time. Members of the task force visited several food processors to observe and evaluate manufacturing methods commonly being used for processing retort pouches. The recommendations in this guide should be useful as the basis for good manufacturing practices and employee training programs used by food pouch processors.³

1.3 *This standard may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety concerns associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Terminology

2.1 Definitions:

2.1.1 *defect*—any damage to a flexible pouch that would allow the entrance of foreign substances or the escape of the pouch contents.

2.1.2 *flexible retort food pouch*—a flat container formed from flexible materials, sometimes laminated with a layer of

metallic or other barrier material. It is designed to be hermetically sealed, compatible with the thermal sterilization process, and to protect the contained food from recontamination. Because of the generally flat profile when filled, the product may be easily reheated.

2.1.3 *retort racks*—compartmented shelf-like racks intended to be stacked in layers in retort carts during use. Racks should be designed to hold, separate, and often restrain individual pouches during the retorting cycle. To prevent pouch damage, the rack design must provide for support of the pouch during retorting, while still allowing heat transfer from the heating and cooling medium.

3. Significance and Use

3.1 Use of this guide, supplemental to the use of properly designed and maintained equipment and effective management of the production unit process, is expected to minimize costs and product loss. Training of operational personnel is essential. Each of the topics stated in this guide should be addressed in the producers program of training for operators and supervisors to ensure that each individual is aware of them and consciously employs them wherever the need or opportunity exists.

4. Personnel Considerations

4.1 Employee Training:

4.1.1 *Careful handling*—Employees should be trained to handle pouches very carefully to avoid causing defects.

NOTE 1—A keen awareness of factors affecting pouch integrity must be promoted through on-going employee training and education. Employees should demonstrate an attitude of care and concern for pouch integrity. While pouches are moving through the production process, being filled, sealed, heated, and handled by inspectors and other operators, they are most susceptible to damage. They are relatively safe from being damaged once they have been put into protective cartons or shipping containers. Until then, extreme care must be taken to avoid possible damage to the pouches which can lead to food spoilage later.

4.1.2 *Recognizing defects*—Management should provide training manuals and selected examples of defects to employees for training, and as reminders of conditions to be avoided.

4.2 *Safety conditions*—Employees and inspectors should be prohibited from wearing jewelry, wrist watches, neckties, or other items which could cause either pouch damage or personal injury.

¹ This guide is under the jurisdiction of ASTM Committee F02 on Flexible Barrier Materials and is the direct responsibility of Subcommittee F02.30 on Test Methods.

Current edition approved Oct. 10, 1996. Published December 1996. Originally published as F 1278 – 90. Last previous edition F 1278 – 90.

² For additional information, see Report by Meal, Ready-to-Eat (MRE) Task Force, July 1986, sponsored by the Office of the Deputy Chief of Staff for Logistics Headquarters, Dept. of the Army, Pentagon, Washington, DC 20310.

³ For additional information, see *Flexible Package Integrity Bulletin* (Bulletin 41-L), available from National Food Processors Assoc., 1401 New York Avenue, NW, Washington, DC 20005 and Classification of Visible (Exterior) Flexible Package Defects, published by Assoc. of Official Analytical Chemists, 2200 Wilson Blvd, Suite 400, Arlington, VA 22201.