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Standard Terminology Relating to Flexible Barrier Materials[1]

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acid foods—foods that have a natural pH of 4.6 or below.

aseptic—as applied to aseptic packaging, synonymous with commercially sterile.

aseptic packaging—filling of a commercially sterilized product into presterilized containers, followed by hermetic sealing in a commercially sterile atmosphere.

barrier—any material limiting passage through itself of solids, liquids, semisolids, gases, vapors, or forms of energy such as ultraviolet light.

biological evaluation test (biotest)—a test which involves exposure of sealed packages to biological indicators and is designed to determine the microbiological integrity of a package under the specific conditions of the test.

coextrusion—*in flexible barrier materials*, (*1*) a process whereby two or more plastic streams are forced simultaneously through one or more shaping orifices to become one continuously-formed multilayered structure. (*2*) Also, the product resulting from such a process.

commercial sterility— *of thermally processed food*, the condition achieved by application of heat, alone or in combination with other appropriate treatments, to render the food free of microorganisms capable of growing in the food at normal nonrefrigerated conditions at which the food is likely to be held during distribution and storage.

delamination—the separation of layers in a multilayered structure.

dispersion coating—*in flexible barrier materials*, (*1*) a process of applying a material, suspended or dispersed in a vehicle, to a surface in such a way that a continuous, coalesced, adherent layer results when the vehicle liquid (usually water) is evaporated. (*2*) Also, the product resulting from such a process.

extrusion coating—*in flexible barrier materials*, (*1*) a process of extrusion whereby a molten extrudate adheres to the surface of another (solid) material, forming a continuous layer upon cooling. (*2*) Also, the product resulting from such a process.

flexible—easily hand-folded, flexed, twisted, and bent.

DISCUSSION—"Flexible" may be a characteristic of thin barrier materials, especially when thinner than 5 to 10 mils, that are composed of materials that are otherwise classified as "rigid" or "semi-rigid" under the definitions concerning rigidity based on modulus of elasticity (see Terminology D 883, Terminology Relating to Plastics[2]). Modulus of elasticity is an inherent property of a material which in conjunction with thickness determines flexibility.

fusion seal—a bond formed by combining two or more materials through melting or other means so that the joining layers become indistinguishable at the interface.

hermetically sealed aseptic container— a container that is designed and intended to be secure against the entry of microorganisms and thereby to maintain the commercial sterility of its contents.

laminate—a product made by bonding together two or more layers of material or materials. (See also **multilayered structure**)

lamination—*in flexible barrier materials*, the process of preparing a laminate which consists of two or more flexible barriers bonded together (see also **laminate**).

low-acid food—any food, other than alcoholic beverages, with a finished equilibrium pH greater than 4.6 and a water activity (a_w) greater than 0.85. Tomatoes and tomato products having a finished equilibrium pH less than 4.7 are not classed as low-acid foods.

major package defect—a defect that is likely to result in failure or reduce significantly the usability of the package for its intended use.

microbiological contamination (of packaged products)—the entry of viable microorganisms into a finished package due to lack of or loss of package integrity.

microbiological package integrity—the physical condition of a finished package, including, but not limited to, the security of package seals, which ensures the maintenance of the package contents in a commercially sterile condition.

minor package defect—a defect that does not significantly reduce the usability of the package for its intended purpose, or that is a departure from established standards having little or no bearing on the effective use of the package.

[1] This terminology is under the jurisdiction of ASTM Committee F02 on Flexible Barrier Materials and is the direct responsibility of F02.50 on Package Design and Development.

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.