

3-A[®] Sanitary Standards for Filters Using Single Service Filter Media, Number 10-04

Formulated by
International Association of Food Industry Suppliers (IAFIS)
International Association for Food Protection (IAFP)
United States Public Health Service (USPHS)
The Dairy Industry Committee (DIC)
United States Department of Agriculture – Dairy Programs (USDA)
The European Hygienic Equipment Design Group (EHEDG)

It is the purpose of the IAFIS, IAFP, USPHS, DIC, USDA, and EHEDG in connection with the development of the 3-A Sanitary Standards Program to allow and encourage full freedom for inventive genius or new developments. Milk, milk product, and other comestibles filter specifications heretofore or hereafter developed which so differ in design, materials, and fabrication or otherwise as not to conform to the following standards but which, in the fabricator's opinion, are equivalent or better, may be submitted for the joint consideration of the IAFIS, IAFP, USPHS, DIC, USDA, and EHEDG at any time. The 3-A Sanitary Standards and 3-A Accepted Practices provide hygienic criteria applicable to equipment and systems used to produce, process, and package milk, milk products, and other perishable foods or comestible products. Standard English is the official language of 3-A Sanitary Standards and 3-A Accepted Practices.

A SCOPE

A1 These standards cover sanitary aspects of enclosed filtration equipment that uses single service filter media for filtering milk and milk products.

A2 In order to conform to these 3-A Sanitary Standards, filters shall comply with the following design, material, and fabrication criteria.¹

B DEFINITIONS

B1 *Product*: Shall mean milk and milk products, or other comestibles.

B2 *Filter*: Shall mean enclosed filtration equipment that uses single service filter media during the transmission of milk and milk products.

B3 Surfaces

B3.1 *Product Contact Surface*: Shall mean all surfaces that are exposed to the product, or from which liquid may drain, drop, or be drawn into the product.

B3.2 *Nonproduct Contact Surface*: Shall mean all other exposed surfaces.

B4 Cleaning

B4.1 *Mechanical or Mechanically Cleaned*: Shall mean soil removal by impingement, circulation, or flowing chemical detergent solutions and water rinses onto and over the surfaces to be cleaned by mechanical means in equipment or systems specifically designed for this purpose.

B4.2 *Manual (COP) Cleaning*: Shall mean soil removal when the equipment is partially or totally disassembled. Soil removal is effected with chemical solutions and water rinses with the assistance of one or a combination of brushes, nonmetallic scouring pads and scrapers, high or low pressure hoses and tank(s) which may be fitted with recirculating pump(s), and with all cleaning aids manipulated by hand.

B5 *Easily or Readily Removable*: Shall mean quickly separated from the equipment with the use of simple hand tools if necessary.

¹ Use current revisions or editions of all referenced documents cited herein.

B6 *Inspectable*: Shall mean all product contact surfaces can be made available for close visual observation

B7 *Simple Hand Tools*: Shall mean implements normally used by operating and cleaning personnel such as a screwdriver, wrench or mallet.

B8 *Nontoxic Materials*: Shall mean those substances which under the conditions of their use are in compliance with applicable requirements of the Food, Drug, and Cosmetic Act of 1938, as amended.

B9 *Corrosion Resistant*: Shall mean the surface has the property to maintain its original surface characteristics for its predicted service period when exposed to the conditions encountered in the environment of intended use, including expected contact with product and cleaning, sanitizing, or sterilization compounds or solutions.

C MATERIALS

C1 Metals

C1.1 Product contact surfaces shall be of stainless steel of the American Iron and Steel Institute (AISI) 300 (except 301 and 302) Series² or corresponding Alloy Cast Institute³ (ACI) types (See Appendix, Section E), or metal which under conditions of intended use is at least as corrosion resistant as stainless steel of the foregoing types, and is nontoxic and nonabsorbent.

C2 Nonmetals

C2.1 Rubber and rubber-like materials may be used for gaskets, sealing applications, and parts having the same functional purposes.

C2.1.1 Rubber and rubber-like materials, when used for the above-specified application(s), shall conform to the applicable provisions of the 3-A Sanitary Standards

² The data for this series are contained in the *AISI Steel Products Manual, Stainless & Heat Resisting Steels*, Table 2-1. Available from the American Iron and Steel Society, 186 Thorn Hill Road, Warrendale, PA 15086 (724) 776-1535.

³ Steel Founders Society of America, Cast Metal Federation Building, 455 State Street, Des Plaines, IL 60016 (708) 299-9160.

for Multiple-Use Rubber and Rubber-Like Materials Used as Product Contact Surfaces in Dairy Equipment, Number 18-.

C2.2 Plastic materials may be used for gaskets, sealing applications, and parts having the same functional purposes.

C2.2.1 Plastic materials, when used for the above-specified application(s), shall conform to the applicable provisions of the 3-A Sanitary Standards for Multiple-Use Plastic Materials Used as Product Contact Surfaces for Dairy Equipment, Number 20-.

C2.3 Cotton, linen, or synthetic materials may be used for single service filter media. These materials shall be nontoxic, nonshedding, relatively insoluble, and shall not impart a flavor to the product.

C3 Nonproduct Contact Surfaces

C3.1 All nonproduct contact surfaces shall be of corrosion-resistant material or material that is rendered corrosion resistant. If coated, the coating used shall adhere. All nonproduct contact surfaces shall be relatively nonabsorbent, durable, and cleanable. Parts removable for cleaning having both product contact and nonproduct contact surfaces shall not be painted.

D FABRICATION

D1 Surface Texture

D1.1 All product contact surfaces shall have a finish at least as smooth as a No. 4 ground finish on stainless steel sheets and be free of imperfections such as pits, folds, and crevices in the final fabricated form, except for the single service filter media. (See Appendix, Section F.)

D2 Permanent Joints

D2.1 All permanent joints in metallic product contact surfaces shall be continuously welded.⁴

⁴ Criteria for hygienic welds may be found in AWS/ANSI D18.1 – *Specification for Welding of Austenitic Stainless Steel Tube and Pipe Systems in Sanitary (Hygienic) Applications*. Available from the American Welding Society, 550 N.W. LeJeune Rd., Miami, FL 33126, phone: (305) 443-9353, fax: (305) 443-7559, e-mail: info@amweld.org; and EHEDG Doc. 9 – *Welding Stainless Steel to Meet Hygienic Requirements*. Available from the European Hygienic Equipment Design Group, Ellen Moens, Avenue Grand Champ 148, 1150 Brussels, Belgium, phone: +32 2 761 7408, fax: +32 2 763 0013, e-mail: moens@nsf.org.