

3-A[®] Sanitary Standards for Portable Bins for Dry Milk and Dry Milk Products, Number 34-02

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)

It is the purpose of the IAFIS, IAFP, USPHS, and DIC in connection with the development of the 3-A Sanitary Standards Program to allow and encourage full freedom for inventive genius or new developments. Portable dry milk bin 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, and DIC 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 the sanitary aspects of portable bins for storage, transportation and handling of dry milk and dry milk products in bulk. They do not pertain to (1) stationary bins, (2) bins (tanks) installed on automotive highway equipment, or (3) piping and appurtenances that are not attached to the bin.

A2 In order to conform with these 3-A Sanitary Standards, dry milk bins shall comply with the following design, material, and fabrication criteria, and the applicable documents referenced herein.¹

B DEFINITIONS

B1 *Product:* Shall mean the dry milk or dry milk product which is stored and/or transported in this equipment.

B2 *Dry Milk Bins:* (Referred to hereinafter as "bins"). Shall mean portable bins in which products are stored and/or transported.

B3 *Product Contact Surfaces:* Shall mean all surfaces that are exposed to the product or from which liquids and/or solids may drain, drop or be drawn into the product.

B4 *Nonproduct Contact Surfaces:* Shall mean all other exposed surfaces.

B5 *Mechanical Cleaning or Mechanically Cleaning:* Shall denote cleaning, solely by circulation and/or flowing chemical detergent solutions and water rinses onto and over the surfaces to be cleaned, by mechanical means.

C MATERIALS

C1 Product contact surfaces shall be of stainless steel of the American Iron and Steel Institute (AISI) 300 Series² or corresponding Alloy Cast Institute³ (ACI) types (See Appendix, Section

²The data for this series are contained in the *AISI Steel Products Manual, Stainless & Heat Resisting Steels*, November 1990, Table 2-1, pp. 17-20. Available from the American Iron and Steel Society, 410 Commonwealth Drive, Warrendale, PA 15086 (412) 776-1535.

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

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

E.), aluminum alloys conforming to The Aluminum Association⁴ designations 5052 and 6061, 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, except that:

- C1.1 Rubber and rubber-like materials may be used for gaskets, inspection port covers and parts used in similar applications. These materials shall comply with the applicable provisions or the 3-A Sanitary Standard for Multiple-Use Rubber and Rubber-Like Materials Used as Product Contact Surfaces in Dairy Equipment, Number 18-.
- C1.2 Plastic materials may be used in sight and/or light openings and for gaskets, inspection port covers, latch dog wear parts and parts used in similar applications. These materials shall comply with applicable provisions of the 3-A Sanitary Standard for Multiple-Use Plastic Materials Used as Product Contact Surfaces for Dairy Equipment, Number 20-.
- C1.3 Rubber and rubber-like materials and plastic materials used for bonded gaskets having product contact surfaces, shall be of such composition as to retain their surface and conformation characteristics when exposed to the conditions encountered in the environment of intended use and in cleaning and bactericidal treatment.
- C1.4 The final bond and residual adhesive, if used, of bonded rubber and rubber-like material in bonded plastic material shall be nontoxic⁵.
- C2 Nonproduct contact surfaces shall be of corrosion-resistant material or material that is rendered corrosion resistant. If coated, the coating used shall adhere. Nonproduct contact surfaces shall be relatively non absorbent,

durable and cleanable. Parts removable for cleaning having both product contact and non-product contact surfaces shall not be painted if in cleaning they will be immersed in water and/or a cleaning or sanitizing solution.

D FABRICATION

- D1 Product contact surfaces shall be at least as smooth as a No. 4 finish on stainless steel sheets free of imperfections such as pits, fold and crevices (see Appendix, Section F). Aluminum sheets with a mill finish free of imperfections such as slivers and scratches and also stainless steel sheets with a No. 2B finish free of imperfections such as pits, folds and crevices are considered to meet this finish criterion.
- D2 Permanent joints in product contact surfaces shall be continuously welded. Product contact surfaces of welded areas shall be at least as smooth as a No. 4 finish on stainless steel sheets free of imperfections such as pits, folds and crevices except that: Welds in aluminum product contact surfaces shall be free of pits, folds and crevices using the gas metal-arc welding (GMAW) process with backing bar, the gas tungsten-arc welding (GTAW) process, the combination of GMAW and GTAW, or equivalent, lightly finished with a stainless steel wire brush, resulting in a maximum weld surface irregularity of 0.0012 inch (0.030 mm) differential within 1/8 inch increments. the maximum weld height shall be 1/8 in. (3.18 mm). The maximum weld width shall not exceed three times the parent material thickness (See Appendix, Section H).
- D3 Bins that are to be mechanically cleaned shall be designed so that all product contact surfaces and all parts not removed during cleaning can be mechanically cleaned and can be visually inspected.

⁴The Aluminum Association, 900 19th Street, N.W., Suite 300, Washington, D.C. 20006 (202) 862-5100.

⁵Adhesives shall comply with 21 CFR 175 – Indirect Food Additives: Adhesives and Components of Coatings. Document for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (202) 512-1800.