

SAFETY AND SANITARY DESIGN STANDARDS

Our Mission:

Millard Manufacturing Corporation is committed to providing products and services which meet our customer's expectations in a timely fashion while serving our employees, vendors and communities in an environment where all people are treated fairly, with integrity, respect and consideration of economic benefit for all.



Safety and Sanitary Design Team Members:

Shop Supervision: Darrell Mass, Mark Jefferson

Engineering Manager: Joe Wroblewski

Sales Engineer(s): Mike Dytrych, Mike Dallan, Dave Vance, Brian Popp

Management: Harold Ellis, Mike Price



Safety and Sanitary Design Standards

Revision: A
Date: 4/5/2011
Page 2 of 19

TABLE OF CONTENTS

1.0 GENERAL..... 3

1.1 PURPOSE AND EXCEPTIONS..... 3

1.2 DEFINITIONS 4

2.0 SAFETY and SANITARY DESIGN STANDARDS 5

2.1 STANDARD #1 – CLEANABLE 5

2.2 STANDARD #2 – COMPATIBLE MATERIALS 6

2.3 STANDARD #3 – ACCESSIBLE FOR INSPECTION, MAINTENANCE, & CLEANING /
SANITATION..... 9

2.4 STANDARD #4 – NO LIQUID COLLECTION..... 10

2.5 STANDARD #5 – HOLLOW AREAS HERMETICALLY SEALED 11

2.6 STANDARD #6 – NICHE REDUCTIONS 12

2.7 STANDARD #7 – SANITARY OPERATIONAL PERFORMANCE 13

2.8 STANDARD #8 – HYGIENIC DESIGN OF EQUIPMENT AND ENCLOSURES..... 14

2.9 STANDARD #9 – OTHER SYSTEMS 15

2.10 STANDARD #10 – CLEANING / SANITIZING (Passivation)..... 17

2.11 STANDARD #11– PHYSICAL SAFETY 18

2.12 STANDARD #12 – GLASS 19

Millard Manufacturing Customers Only



Safety and Sanitary Design Standards

Revision: A
Date: 4/5/2011
Page 3 of 19

1.0 **GENERAL**

1.1 PURPOSE AND EXCEPTIONS

- 1.1.1 This document serves to convey design standards that Millard Manufacturing Corporation (MMC) uses in the fabrication of their equipment where applicable, required and/or specified by the customer and expressly accepted by MMC.
- 1.1.2 The requirements outlined below are considered our MINIMUM necessary standards. Before contracting, the Customer may require or request standards that exceed the MMC standards below with written notification. Such exceptions will be clearly labeled in a dedicated section of the quote document.
- 1.1.3 Due to the variety of applications within MMC, exceptions to customer requirements may have to be made to ensure compatibility with the customer's product. Exceptions submitted by MMC to this document for a specific piece of equipment will be reviewed and agreed upon by the customer. The application of specific equipment specifications will supersede this document.
- 1.1.4 While often discussed separately, sanitary construction and sanitary design are inter-related terminology. The objectives of designing and constructing a sanitary piece of equipment are to minimize harborage, eliminate the entrance of cleaning materials and other sources of contamination while maintaining ease of cleaning to the best of the design parameters.
- 1.1.5 All references in this document to customer specifications or approvals mean only such specifications or approvals as are expressly accepted by MMC.



Safety and Sanitary Design Standards

Revision: A
Date: 4/5/2011
Page 4 of 19

1.2 DEFINITIONS

- 1.2.1 Cleaned in Place – Cleaning of equipment without dismantling by impingement or circulation of flowing chemical solutions and water rinses into, onto and over surfaces in equipment or systems designed for this specific purpose.
- 1.2.2 Corrosion Resistant – Capable of maintaining original surface characteristics under prolonged contact with the intended end use environment and the normal use of cleaning compounds and sanitizing solutions.
- 1.2.3 Crevice – Surface characteristic (e.g. defect, crack, or fissure) which adversely affects clean ability.
- 1.2.4 Dead Space – Space where cleaning agents or soils can be trapped, retained or not completely removed during the operation of cleaning.
- 1.2.5 Joint – Junction of two or more pieces of material.
- 1.2.6 Manual Cleaning – Cleaning by manual means when the machinery is open or partially or totally disassembled.
- 1.2.7 Product Contact Surface – The machinery surfaces that are exposed to the customer's product.
- 1.2.8 Non Product Contact Surface – All other exposed machinery surfaces.
- 1.2.9 Passivation –
- 1.2.9.1 The process of immersing stainless steel components in a solution of nitric or citric acid without oxidizing salts. This process aids chemical removal and dissolution of foreign deposits such as imbedded iron, heat scale and weld heat tint and restoration of the original corrosion-resistant surface by forming a thin, transparent oxide film.
 - 1.2.9.2 Passivation treatment is intended to improve the surface condition of stainless steel by dissolving iron that has been imbedded in the surface during forming or machining. If allowed to remain, the iron can corrode and give the appearance of rust spots on the stainless steel.



MILLARD MANUFACTURING CORP

10602 OLIVE ST, OMAHA, NE 68128 (402) 331-8010

Safety and Sanitary Design Standards

Revision: A
Date: 4/5/2011
Page 5 of 19

2.0 SAFETY and SANITARY DESIGN STANDARDS

2.1 STANDARD #1 – CLEANABLE

*To learn more about Millard Manufacturing Corporation's
"Safety and Sanitary Design Standards"
please contact us:*

Email: sales@millardmfg.com

Call: (800) OMAHA NE
or
(402) 331-8010

Millard Manufacturing

Only