



Internal Specification Level I

Title: Drawing Standards

Revision: 05

Revision Date: 9/23/2014

Number: IS-006

Requirements: NA

Contact Title: [Manager, Mechanical Engineering](#)

PURPOSE & SCOPE

This Internal Specification (IS) is intended to provide general information regarding engineering drawing standards. Drawing standards are the [means](#) by which engineering drawings [are](#) created, reviewed and interpreted. The [Specifications and Guidelines](#) noted herein [are not stand-alone documents for the purpose of addressing basic practices](#). The ASME Y14 series of standards, [AWS, IEEE, IPC, SAE, and other L-3 CSW documents](#) are separate instructions that, when addressed as a composite set, [provide an accurate compilation of engineering drawing practices](#).

This document is used when preparing L-3 Communications, Communication Systems–West (CSW) engineering drawings and associated documents. [It is not the intent of this standard to prevent the organization from utilizing specific drawing practices that meet individual needs, but rather to delineate the set of common standards used to promote understanding, interpretation, and use of CSW drawings and models.](#)

INTERNAL SPECIFICATION

The documents listed in the [table below \(Table 1: SPECIFICATIONS AND GUIDELINES\)](#) shall be used for definition, understanding and interpretation of CSW drawings and models. Internally developed portions of the drawing standards are considered L-3 proprietary and [shall not to be copied, loaned, or transferred without written authorization through the Engineering organization](#). Standards, such as ASME Y14.5, that make up part of CSW drawing standards are covered under their own copyright and [suppliers are responsible to obtain personal copies from the governing association](#). To accomplish the requirements of the applicable purchase agreement, [specific internal standards may be made available to suppliers per L-3 CSW policies and procedures for exporting Internal CSW documents](#).

L-3 CSW internal documents are created when external standards provide discretion, lack clarity, or CSW has a compelling need to deviate. CSW documentation is created “in accordance with” (IAW) the standard, both internally developed documents or the industry and national standards. Examples or language shown in the standards need not be followed verbatim when the design intent is clear and all design characteristics can be found within the product definition data set (drawing, model, parts list, wiretable, etc). When tailoring any standard, company quality documents as described in Workmanship Specifications Manual (WSM) shall not be compromised unless specific notation is identified within the released product data set providing an allowance.

Any changes to this document in whole should not be applied to drawings created prior to the change. Drawings meeting the existing standards at the time of creation should not be changed to meet new drawing standards. [Specifications or Guidelines may occasionally go “Out of Date” by deletion or supersession. Referring to out of date Specifications or Guidelines will be based on Contractual Agreements to meet requirements.](#)



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Table 1: SPECIFICATIONS AND GUIDELINES

ASME Y14.100	Engineering Drawing Practices
ASME Y14.1	Decimal Inch Drawing Sheet Size and Format
ASME Y14.1M	Metric Drawing Sheet Size and Format
ASME Y14.2	Line Conventions and Lettering
ASME Y14.24	Types and Applications of Engineering Drawings
ASME Y14.3	Multi and Sectional View Drawings ASME Y14AM, Pictorial Drawing
ASME Y14.31	Undimensioned Drawings
ASME Y14.34	Associated Lists
ASME Y14.35M	Revision of Engineering Drawings and Associated Documents
ASME Y14.36M	Surface Texture Symbols
ASME Y14.37	Composite Part Drawing
ASME Y14.38	Abbreviations and Acronyms for Use on Drawings and Related Documents
ASME Y14.44	Reference Designations for Electrical and Electronic Parts and Equipments
ASME Y14.5	Dimensioning and Tolerancing
ASME Y14.41	Digital Product Definition Data Practices
ASME Y14.6	Screw Thread Representation
ASME Y14.8M	Castings and Forgings
AWS D17.1	Specification for Fusion Welding for Aerospace Applications
AWS A2.4	Symbols for Welding, Brazing, and Nondestructive Examination
AWS A3.0	Standard Welding Terms and Definitions
IEEE 91	Graphic Symbols for Logic Functions
IEEE 91a	Supplement to Graphic Symbols for Logic Functions
IEEE 260.3	Mathematical Signs and Symbols for Use in Physical Sciences and Technology
IEEE 315	Graphic Symbols for Electrical and Electronics Diagrams
IEEE 315A	Supplement to Graphic Symbols for Electrical and Electronics Diagrams
IEEE 991	Logic Circuit Diagrams
IPC D-350D	Printed Board Description in Digital Form
SAE AS 1290B	Graphic Symbols for Aircraft Hydraulic and Pneumatic Systems
60037425	Specification, Practices for EMC – Electromagnetic Compatibility
60056954 **	Interpreting Limited Dimension Drawings and Expectations
60083155	Torque Specification
60102381	Guideline for Interpreting L-3 Com Cable/Harness Drawings
60112799	Cable Molded Backshell Design
1000383796	Engineering Drawing and Related Documentation Practices

** 60056954 has been superseded by document 1000383796 for new hardware part drawings released after Sept 1, 2014. After this date, the controlling document must be referenced in the product definition data set. Prior to this date, 60056954 may be applied to all CSW designed hardware parts by default when neither document is cited.

END OF DOCUMENT



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DOCUMENT INFORMATION

Responsible Organization: Engineering (ENG)

Sub-Level Function: Hardware Development and Support (HDW)

Governing Document: [Y-001](#), Quality Management System

Subordinate Documents: NA

Related Documents: See [Table 1](#)

Approval Requirements: *Manager, of Mechanical Engineering
Director of Hardware Development and Support
Product Configuration Control Board (PCCB) Chair

Review Requirements: Product Configuration Control Board
DCMA Representative (Review Only)

Revision History Summary:

Revision #	Reason for Update/Revision	Date
New – 02	Initial release through revision 02	VARIOUS
03	24 month review. Updated reference section.	02-18-2008
04	24 month review. Added reference documents.	7/20/2011
05	Updated for Clarification – Added Specs and Guidelines. Added new Table 1. Modified approval requirements. Changes are indicated with blue text.	9/23/2014