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MIS-STD-52406B-IS
14 Jun 2011
CAGE Code 18876

SUPERSEDING
MIS-STD-52406A-IS
14 February 2005

INTERFACE STANDARD

FOR

SYSTEM INTERFACE REQUIREMENTS
FOR ENGINEERING DATA

AMSC N/A

FSC MISC

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INTERFACE STANDARD
FOR
SYSTEM INTERFACE REQUIREMENTS
FOR ENGINEERING DATA

UNITED STATES ARMY AVIATION AND MISSILE COMMAND
REDSTONE ARSENAL, ALABAMA

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1. SCOPE

1.1 Scope. This standard covers the method and format requirements for delivery of engineering data to the U.S Army Aviation and Missile Command (AMCOM) engineering data repository.

1.2. Classification. The type and composition for delivery of engineering data will be as follows:

1.2.1. Type.

Compact Disk - Read Only Memory (CD-ROM) optical media.
Digital Video Disk (DVD) optical media
Electronic File Transfer

1.2.2. Composition.

Submittal packages must consist of two types of data, image file(s) and a metadata file.

2. APPLICABLE DOCUMENTS

2.1. General. The documents listed in this section are specified in sections 3, 4, and 5 of this standard. This section does not include documents cited in other sections of this standard or recommended for additional information as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3, 4, and 5 of this standard, whether or not they are listed.

2.2. Government documents.

2.2.1. Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

MILITARY SPECIFICATIONS

MIL-PRF-28002C – Raster Graphics Representation in Binary Format, Requirements for
MIL-STD-31000 – Detail Specification, Technical Data Package

2.2.2. Other government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

PUBLICATIONS

DODD 5230.24 – Distribution Statements on Technical Documents
DODD 5230.25 – Withholding of Unclassified Technical Data from Public Disclosure

(Unless otherwise indicated, copies of the above specifications, standards, handbooks, and directives are available from <http://assist.daps.dla.mil>).

2.3. Non-Government Publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) PUBLICATION

ASME Y14.1-2005 – Decimal Inch Drawing Sheet Size and Format
ASME Y14.100-2004 – Engineering Drawing Practices
ASME Y14.41-2003 – Digital Product Definition Data Practices

ASME Y14.35-1997 – Revision of Engineering Drawings and Associated Lists
ASME Y 14.34-2008 – Associated Lists

INSTITUTE OF ELECTRICAL and ELECTRONIC ENGINEERS (IEEE)

IEEE Std 802.3 – Information Technology-Telecommunications and Information Exchange Between Systems.

INTERNATIONAL STANDARD ORGANIZATION (ISO) PUBLICATION

ISO-9660 – Information Processing – Volume and File Structure of CD-ROM for Information Interchange

ADOBE SYSTEMS INCORPORATED

Portable Document Format Reference Manual

2.4. Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. DEFINITIONS.

3.1 Metadata. Information about data. In this case, metadata is the attribute information (index data) which identifies and references each image file.

3.2 Image Files. 2D and 3D data files that define the engineering data in the submittal. Includes, but is not limited to, engineering drawings, Parts Lists, Associated Lists, 2D digital data and 3D models.

3.3 Pels. Picture Elements. The smallest graphic element that can be individually addressed within a picture, synonymous with pixel.

3.4 Raster. A matrix that is constructed of orthogonally positioned rows and columns of discrete data points. The binary value of each data point indicates the presence or absence of a pictorial (visual) artifact.

3.5 DPI. Dots Per Inch. The standard unit used to determine the raster density of an image. Unit of measure is in pels as described in para 3.3.

3.6 Accompanying Document. Any document or file that is attached to another document or file (base document). Used as reference material or to provide additional information about the base document. Examples of accompanying documents are as follows:

- a. A document that makes a change to a specific revision of a document/drawing/specification or an associated list (an Engineering Change Proposal (ECP) or Engineering Change Order (ECO)).
- b. Digital data, see para 4.2.2.1.4.

4. GENERAL REQUIREMENTS.

4.1. Delivery Compositions.

4.1.1. Delivery Creation It is recommended that the delivery be created with the instructions found at the AMCOM Corporate Information Office/G-6 (CIO/G-6) Service Desk web site: <http://edmstag.redstone.army.mil>.

4.1.1.1 Compact Disk (CD) and Digital Video Disk (DVD) Physical Media. The file structure shall be compliant with ISO-9660, Interchange Level 1.

4.1.1.2 Electronic File Transfer. All files within a delivery set shall be encapsulated into a single file using either Tape Archive (TAR) or Microsoft Windows standard ZIP formats. Each delivery set shall be a discrete entity and independent of other delivery sets. Detailed procedures are available at the CIO/G-6 Service Desk website, <http://edmstag.redstone.army.mil>.

4.2. Delivery General Requirements.

4.2.1. Metadata file. Each delivery shall contain a metadata file with filename of INDEX.DLF. The metadata file shall be located at the root level of the file structure. The term metadata is used to describe the attribute information (i.e. index data), which identifies and references an Image File. The metadata file shall contain one metadata record entry for each Image File contained in the delivery. The metadata file must be in a pipe-delimited, ASCII text file format that is suitable for all Image data types. Each record shall describe a single engineering data entity and reference a single Image File. The format of the metadata file shall be as described in 5.1. Metadata Tailoring

4.2.2. Image Files.

4.2.2.1. Required Image File Types. All image data shall be delivered in one of the following formats described below. Other formats may be submitted in addition to the Required Image File Types. Contact the CIO/G-6 Service Desk at 256-955-0196, or email at edms-tag@conus.army.mil prior to submittal of different formats.

4.2.2.1.1. Continuous Acquisition and Life-Cycle Support (CAL S) raster image data. The digital representation of raster graphics shall be prepared in accordance with (IAW) MIL-PRF-28002C, Type 1, Untitled Raster Graphics Data (Default Mode). Raster image density shall be a maximum of 300 DPI.

4.2.2.1.2. Portable Document Format (PDF) image data. Fixed-layout format used for representing two-dimensional documents. PDF images shall be a maximum density of 300 DPI. Textual documents such as Engineering Change Proposals (ECP), Specifications, and Parts Lists shall be contained in a single file. PDF images shall not contain markups such as Comments, Watermarks, Sticky Notes, etc. All notes, Distribution Statements, Rights Statements, etc., shall be a permanent part of the PDF image.

4.2.2.1.3. Stablebase image data. Engineering drawings formally submitted in Stablebase Mylar format shall be submitted in digital format. A minimum of two digital formats are required: a 2D raster image as described in para's 4.2.2.1.1 and 4.2.2.1.2, and a dimensionally accurate high-resolution TIF produced by a certified vendor, a Computer Aided Design (CAD) file, or a Gerber file to be used for manufacture of the item. The metadata file shall contain a separate index record for each image file. See Appendix C for a list of appropriate index data to populate Field 13, FileType. Contact the CIO/G-6 Service Desk at 256-955-0196, or email at edms-tag@us.army.mil, for assistance with an image file type not listed in Appendix C.

4.2.2.1.4. Digital Data. For the purpose of this Interface Standard, Digital Data is defined as any data type that is different from the data defined in paragraphs 4.2.2.1.1, 4.2.2.1.2, and 4.2.2.1.3, i.e. Gerber data files, native CAD formats and Model Based Definition (MBD) solid model data. Delivery requirements for these data types are defined in two separate categories, 2D and 3D.

- a. 2D. Any 2 dimensional digital data that is not MBD data. This delivery must contain:
 1. A 2D raster representation of the digital data in one of the formats described in para's 4.2.2.1.1 and 4.2.2.1.2. This image file shall contain all elements of an engineering

- drawing (border, title block, revision block, signature blocks, etc) as defined in ASME Y14.100.
2. The digital data file in its native format. This image file shall contain all elements of an engineering drawing (border, title block, revision block, signature blocks, etc) as defined in ASME Y14.100. The 2D raster and digital data images must both contain the appropriate distribution statements, etc on the face of the image within the drawing border.
 3. The metadata file shall contain a separate index record for each image and digital data file in the submittal.
- b. 3D. Any 3 dimensional MBD data. This delivery must contain:
1. A 2D raster representation of the digital data or a Product Data Definition sheet in one of the formats described in para's 4.2.2.1.1 and 4.2.2.1.2. This image file shall contain all elements of an engineering drawing (border, title block, revision block, signature blocks, etc) as defined in ASME Y14.100. See Appendix D for a Product Data Definition sheet sample.
 2. The digital data file(s) in its native format. All MBD deliveries that consist of more than one file for a single part must be zipped in a standard MS Windows ZIP file and submitted as a single file. All MBD file(s) will be attached to the 2D raster record as an accompanying document.
 3. The 2D raster image and each MBD file must both contain the appropriate distribution statements, etc. The MBD shall display applicable restriction markings, legends, and statements clearly visible when the solid model is first opened as described in MIL-STD-31000 and/or ASME Y14.41,
 4. The metadata file shall contain a separate index record for each image and MBD file in the submittal.

See Appendix C for a list of appropriate index data to populate Field 13, FileType. Contact the CIO/G-6 Service Desk at 256-955-0196, or email at edms-tag@us.army.mil, for assistance with an image file type not listed in Appendix C.

4.2.3. Image Requirements. Images shall meet the following requirements:

- a. Image shall be centered in frame.
- b. Image shall have the same visual diffuse transmission density as the area in the frame surrounding the document image area.
- c. Extraneous data, clutter, etc., which is not part of the engineering drawing (including contractor identification (ID) number) shall not be visible on the image.
- d. Lines shall not bleed, blur, or fill in.
- e. The resolution of the image shall provide a separation of lines through their entire length. If lines do not show separation through the entire length, the image will be rejected.
- f. Line width shall be a minimum of 3 pels for 200 pels per inch or 10 pels for 300 pels per inch.

4.2.4. Image Drawing Size. Drawing Sizes shall be as defined in ASME Y14.1. Image pel counts for drawings, excluding any protective or binding margins outside the ASME size definition, shall not be more than +/- one inch from its actual drawing size for drawing sizes A through C and +/- three (3) inches for drawing sizes greater than C. See Appendix E for actual drawing sizes and pel counts.

4.2.5. Approval Signature, Release Authorization and Date. Unless otherwise specified, the Design Activity shall have an effective verification, authorization and approval system for the detailed examination and review for technical accuracy of all engineering drawings, associated lists, databases, including data transmission and referenced documents. The names or signatures of the responsible individuals shall be a required entry in the appropriate blocks to indicate conformance of the engineering drawings and associated lists with applicable requirements and contract provisions.

4.3. Position of book form drawings or documents. All documents, including book form drawings, shall be positioned one sheet per frame/image for CALS raster image data or per page for PDF image data.

When revisions are made to documents previously positioned with multiple sheets per frame/image, the entire document, with the revision level of each sheet raised to the next revision level, shall be submitted positioned one sheet per frame/image/page.

4.4. Multiple Sheet Additions and/or deletions. Any sheet additions shall be added to the end of the document with a continuous sheet count. Alpha sheets shall not be used. Sheet deletions to a document shall require sheet one, and all sheets after the deletion, to be renumbered and the document submitted in its entirety.

5. DETAILED REQUIREMENTS

5.1 The Metadata shall be as described in Table II below:

TABLE II. METADATA DESCRIPTION

Field Number	MIS-STD-52406 Mandatory	Data Element	FIELD DESCRIPTION	Max Characters	Notes
1	X	BaseDocNumber	Document Number. Unique identifier for a drawing or other document as assigned by the organization identified by the document CAGE. Document numbers shall reflect what is in drawing title block and shall not include letters that would be on preprinted forms. If record describes an Accompanying Document, this field shall contain the Base Document's Document Number.	32	16
2	X	BaseDocCage	Commercial And Government Entity (CAGE) Code. If record describes an Accompanying Document, this field shall contain the Base Document's CAGE Code.	5	
3	X	BaseDocType	Document Type. The value of the Base Document Type shall be a value from Appendix A, Document Type Listings (DTL). If record describes an Accompanying Document, this field shall contain the Base Document's Document Type. If document does not have a document type, leave blank or null.	2	4
4	X	DocumentSize	Document Size. Value shall be one of the following: A, B, C, D, E, F, G, H, J, and K as defined by ASME-Y-14.1	2	
5	X	BaseDocRevision	Document Revision. If record describes an Accompanying Document, this field shall contain the Base Document's Revision. The following Document Revisions are invalid: I, O, Q, S, X, and Z. Single digit number revisions shall be zero padded to 2 characters (i.e. 02). A blank, null, or dash '-' is used to reflect no revision.	2	4, 6, 11, 13
6		DocumentRevDate	Revision Date. Date of Document Revision. Use dates of the form DD-MON-YYYY, where DD is the day of the	20	7,12

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			month, MON is the alpha three-digit Month, YYYY is the four-digit year (i.e. 01-AUG-1959).		
7		DocumentTitle	Document Title. Human-readable short description of the document	40	17
8	X	SheetNumber	Sheet Number. The value shall be numeric, zero padded to 4 characters.	12	18
9	X	NumberOfSheets	Number of Sheets. The value shall be numeric, zero padded to 4 characters.	4	
10	X	BaseDocSheetRevision	Sheet Revision. If record describes an Accompanying Document, this field shall contain the Base Document's Document Revision. The following Document Revisions are invalid: I, O, Q, S, X, and Z. Single digit number revisions shall be zero padded to 2 characters (i.e. 02). A blank, null, or dash '-' is used to reflect no revision.	1	4, 11
11	X	FrameNumber	Frame Number. If Document has no frames enter "0001".	4	
12	X	NumberOfFrames	Number of Frames. Total number of frames a sheet is composed of. If Document has no frames, enter "0001".	4	
13	X	FileType	File Type. Use appropriate value from Appendix C, Image File Types.	5	
14		FileTypeFormat	File Type Format. Use appropriate value from Appendix C, Image File Types.	20	3, 10
15		FileTypeSrcFlavor	Source Flavor. Use appropriate value from Appendix C, Image File Types.	20	3, 10
16		FileTypeDestFlavor	Destination Flavor. Use appropriate value from Appendix C, Image File Types.	20	3, 10
17		FileTypeContent	File Type Content. Use appropriate value from Appendix C, Image File Types.	20	3, 10
18		FileTypeVersion	File Type Version. Use appropriate value from Appendix C, Image File Types.	14	3, 10
19		SourceCage	Site Code. CAGE code of the Data Originator.	5	3
20	X	FileName	File Name. Name of the Image file (without extension) corresponding to this record. If the Pathname\Filename in the delivery package for this record is "IMAGES\000\123456.XYZ", "123456" would be the value in this field.	32	8

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21	X	FileExtension	<p>File Extension.</p> <p>Extension of the Image file corresponding to this record. If the Pathname\Filename in the delivery package for this record is "IMAGES\000\123456.XYZ", "XYZ" would be the value in this field.</p>	3	8
22	X	FilePath	<p>File Path.</p> <p>Path to the Image file corresponding to this record. If the Pathname\Filename in the delivery package for this record is "IMAGES\000\123456.XYZ", "IMAGES\000" would be the value in this field.</p> <p>File Paths shall be formatted IAW the description provided in Metadata Notes 8 and 9. .</p>	242	8, 9
23	X	MediaVolumeID	<p>Media Volume ID.</p> <p>Volume ID of the media containing the Data Delivery. This field is only a required field if the delivery is a multi-volume physical media delivery. Each volume of a multi-volume delivery shall have a unique Volume ID name.</p>	11	8
24		MajorGroup	<p>Major Group.</p> <p>Major grouping designation within index. This field is generally left blank or null on a delivery.</p>	20	
25		MinorGroup	<p>Minor Group.</p> <p>Minor grouping designation within index. This field is generally left blank or null on a delivery.</p>	8	
26	X	SecurityLevel	<p>Security Level.</p> <p>Security level assigned to sheet/image Value shall be one of the following: N, C, E, H, M, S, F, J, T, G, K.</p> <p>N Unclassified C Confidential E Confidential - restricted H Confidential - formerly restricted M Confidential - modified handling authorized S Secret F Secret - restricted J Secret - formerly restricted T Top secret G Top secret - restricted K Top secret - formerly restricted</p> <p>Data Delivery is required to be a Delivery Composition of Compact Disk (CD) Physical Media if this field is other than "N".</p>	1	
27	X	Rights	<p>Rights.</p> <p>Value shall be one of the following: U, G or L</p> <p>U Unlimited Rights G Government Purpose Rights L Limited, Restricted or Special License Rights</p>	1	
28	X	ForeignSecure	<p>Foreign Secure.</p> <p>Foreign Secure designation. Value shall be one of the following: Y or N</p> <p>Y Foreign Secure N Not Foreign Secure</p>	1	

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29	X	Nuclear	Nuclear. Nuclear equipment designation. Value shall be one of the following: Y or N Y Nuclear N Not Nuclear	1	
30	X	Subsafe	Sub Safe. Sub Safe designation. Only for submarines, does not apply for Flight Critical. Indicates if drawing depicts critical safety info. SUBSAFE is a Navy program that requires special work procedures and inspections of equipment that cross the boundary of a submarine pressure hull. Examples include hatches, sensors and radio antenna wiring, and periscopes. The idea is to guarantee that seawater stays outside the pressure hull. Drawings which depict such equipment are labeled SUBSAFE so that ship crew and maintenance workers know they must apply the special procedures and inspections. Value shall be one of the following: Y or N Y Subsafe N Not Subsafe	1	
31		AirType	Air Type. Leave Blank or null.	6	
32		Apl	APL. Leave Blank or null.	35	
33		CadInfo	Computer Aided Design Reference. Leave Blank or null.	2	
34	X	ControlCode	Control activity code. This code identifies the primary repository that controls the official record copy of engineering data. Value shall be: BD	2	
35		Hsc	HSC. Leave Blank or null.	12	
36		Nsn	National Stock Number (NSN). NSN identifies an item of supply in the Federal Supply Catalog, maintained by the Defense Logistics Information Service (DLIS). Leave Blank or null.	13	
37		Uic	UIC. Leave Blank or null.	5	
38		System	System. Leave Blank or null.	32	
39		Nomenclature	Nomenclature. Leave Blank or null.	20	
40		ShipClass	Ship Class. Leave Blank or null.	4	
41		ShipTypeHullNum	Ship Type Hull Number. Leave Blank or null.	9	
42		MasterLocation	Engineering drawing master location.	30	

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			Leave Blank or null.		
43		OfflineLocation	Engineering drawing off-line location. Leave Blank or null.	80	
44		ParentCage	Parent CAGE. Leave Blank or null.	5	19
45		ParentDocNumber	Parent Doc Number. Leave Blank or null.	32	19
46		PartNumber	Part Number. Leave Blank or null.	32	
47		SubSheet	Sub Sheet. Leave Blank or null.	3	15
48		Succeeding	Succeeding Drawing. Drawing number and CAGE of superceding drawing. Leave Blank or null.	20	
49	X	DistStmt	Distribution Statement. Populated according to DODD 5230.24.	2	
50	X	AccDocType	Accompanying Document Type. If record describes an Accompanying Document, this field shall contain the Accompanying Document's Document Type as defined within Appendix B, Accompany Document Type Listing (ADTL). If record describes a Base Document, this field shall be left Blank or Null.	2	4, 5, 13
51	X	AccDocNumber	Accompanying Document Number. Accompanying Document numbers shall reflect what is in the drawing title block and shall not include letters that would be on preprinted forms. If record describes an Accompanying Document, this field shall contain the Accompanying Document's Document Number If record describes a Base Document, this field shall be left Blank or Null.	32	5, 13, 16
52	X	AccDocCage	Accompanying Document CAGE Code. If record describes an Accompanying Document, this field shall contain the Accompanying Document's CAGE Code. If record describes a Base Document, this field shall be left Blank or Null.	5	5, 13
53	X	AccDocRevision	Accompanying Document Revision. If record describes an Accompanying Document, this field shall contain the Accompanying Document's Revision. The following Accompanying Document Revisions are invalid: I, O, Q, S, X, and Z. If record describes a Base Document, this field shall be left Blank or Null.	2	4, 5, 13
54		[Blank]	[Blank] Leave Blank or null.	0	14
55		[Blank]	[Blank] Leave Blank or null.	0	14
56	X	WeaponsSystemCode	Weapon System Code. Two character designator for the Weapons System. Contact the CIO/G-6 Service Desk 256-955-0196 ,	15	

			edms-tag@conus.army.mil for the appropriate data to populate this field.		
57	X	Version	Version. Value shall be: 1.0	4	
58	X	Record End	Record End. Value shall be: CR/LF (Hex 0D0A).	2	

Metadata Notes:

(1) The metadata file is a character delimited, American Standard Code for Information Interchange (ASCII) character format encoded text file, with one Image Row Entry (Record) per image referencing an image file in a hierarchical directory structure. The file and hierarchical directory structure naming conventions are not pre-defined. Each Image Row Entry contains a sequenced series of pre-defined standard Fields separated by the ASCII Vertical Bar (pipe bar) character "|" (decimal 124). Image Row Entries are separated by a Field 58 (CR/LF) (decimal 13/10). An ASCII Vertical Bar character is required between Fields 57 and 58. There should be no blank lines, or lines that do not conform to an Image Row Entry description as defined in the Metadata Description table. The file shall contain only those characters permitted by ANSI X3.4-1986. The Vertical Bar character is an invalid character in all Fields.

(2) The metadata file format does not pre-define the size (width) of the Fields. Field sizes defined indicate the maximum size allowed. Padding of Fields is not required (i.e. Sheet 1 can be entered as "|1|" and does not require an entry of "|0001|". All entries in Fields should be uppercase. Leading and trailing spaces within the Field are ignored (i.e. "| 1 |" will be interpreted the same as "|1|". Null entries may be represented by "|".

(3) Metadata file usage only. These Fields are informational within the metadata file to describe Field 13, FileType and are not used as part of the input.

(4) Mandatory data element where "blank" is a valid entry. Null is not a valid entry (i.e. "|" is valid, "" is invalid). "Blank" is not a valid entry for other mandatory fields.

(5) Mandatory field when Image Row Entry is an Accompanying Document.

(6) Field 5, BaseDocRevision for multiple sheet documents will be the same as the Field 10, BaseDocSheet Revision for Sheet 1 of the document.

(7) Enter the date of the original drawing when drawing is the original release (i.e. Field 10, BaseDocSheet Revision is blank).

(8) Fields 20, FileName; 21 FileExtension; and 23, MediaVolumeID entries must contain only ISO-9660 d-characters. Field 22, FilePath must contain only the d-characters and either the backslash "\" or forward slash "/". The d-characters consist of the letters A through Z (upper case), the numbers 0 through 9, and the underscore symbol "_". Corresponding file names of the image files on the media must contain only d-characters. Individual subdirectory names within the File Path may contain no more than eight (8) characters and consist only of d-characters. The backslash "\" (recommended) or forward slash "/" characters are to be used as the separators between individual subdirectory names (do not use both). A trailing slash should not be used at the end of the directory structure (e.g. "\images\01" or "images\01"). If a relative path is used (i.e. "images\01"), the current directory is taken from the perspective of the location of the metadatafile. Example, if there is a directory structure "\images\level1\level2", and the path within Field 22, FilePath is "level1\level2", the metadata file must be physically located in the subdirectory "images\level1". If a relative path is used and the images are in the same directory as the metadata file, then use a period "." as the path. Drive letter designator and colon are not to be used as part of Field 22, FilePath.

(9) If media is an ISO-9660 Compact Disk/DVD, Field 22, FilePath should not exceed 66 characters (including directory names, and slashes) and should include no more than eight (8) levels in a directory hierarchy. If the metadata set is transferred electronically (i.e. over a network) Field 22, FilePath should only use relative path entries.

(10) Field 13, FileType is a five character File Type code which indicates the file format of the image file (e.g. CALS Type I raster, AutoCAD 13 Vector, etc.). Fields 14 through 19 are descriptors of Field 13.

(11) Field 10, BaseDocSheetRevision for an Individual Sheet of a Base Document is the only revision stored in the repository. For this reason Field 5, BaseDocRevision is ignored for Base Documents when the metadata file is used to populate the repository database.

(12) Dates will be expressed in the following formats: DD-MON-YYYY or DD-MON-YYYY:HH24:MI:SS where DD is the Day, MON is the Month, YY or YYYY is the Year, HH24 is the 24 hour representation of the Hour (i.e. 15 for 3:00PM), MI is the Minutes, and SS is the Seconds. Examples include "27-JUN-1996:15:50:59", "28-JAN-1992:00:00:00" and "28-JAN-1992".

(13) ACCOMPANYING DOCUMENT NOTES:

A1. Fields 1, BaseDocNumber; 2, BaseDocCage; 3, BaseDocType; 5, BaseDocRevision and 10, BaseDocSheetRevision pertain to the Base Document when an Image Row Entry describes an Accompanying Document. Only the aforementioned fields should contain entries pertaining to the Base Document for an Image Row Entry describing an Accompanying Document. All fields other than the aforementioned pertain to the Accompanying Document when the Image Row Entry represents an Accompanying Document.

A2. An Accompanying Document is associated with a Revision of Sheet 1 of the Base Document. The Base Document Revision will be resolved from the entry in Field 5, BaseDocRevision. Field 10, BaseDocSheetRevision is ignored. For consistency purposes, Fields 5 and 10 should contain the same value.

A3. If Field 51, AccDocNumber is non-null and contains entries other than blanks, then the Image Row Entry is assumed to be describing an Accompanying Document.

(14) Fields 54 and 55 are not defined in current implementation of the index but are retained as placeholders for future use.

(15) Field 47, SubSheet is not a valid entry for an Accompanying Document and should be reflected as a Null entry ("||").

(16) For Fields 1, BaseDocNumber and 51, AccDocNumber, the following ASCII characters are invalid:

ASCII Character Description	Character (in Quotes)	Decimal Value
Quotation Mark	(")	34
Dollar Sign	(\$)	36
Percent Sign	(%)	37
Apostrophe	(')	39
Backslash	(\)	92
Underline	(_)	95

(17) For Field 7, DocumentTitle the following ASCII are invalid:

ASCII Character Description	Character (in Quotes)	Decimal Value
Quotation Mark	(")	34
Dollar Sign	(\$)	36
Percent Sign	(%)	37
Apostrophe	(')	39
Backslash	(\)	92

Underline

(_)

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(18) Field 8, SheetNumber is listed as a twelve (12) character field. This is due to some organization's use of what is referred to as "complex sheet numbers". If "complex sheet numbers" are not being used, then this is a four (4) character field.

(19) Fields 44, ParentCage and 45, ParentDocNumber are no longer used and should be reflected as a Null entry ("||").

5.2. Data acceptance criteria. All Image Files will be reviewed for clarity, legibility, appropriate markings, format, compliance with the Appendix E Size Tables and completeness. The metadata will be reviewed for format, compliance with Table II Metadata Description and accuracy. All data in the metadata file must match to corresponding data in the Image File. The following lists the most common reasons for rejection:

- a. Illegible image - hot, faded , missing print
- b. Distribution statement missing
- c. Incorrect or missing cage code
- d. Incomplete document - sheet(s) missing
- e. Invalid rights code
- f. Approval Block - missing approval date and/or signature or ECP/ECOT number
- g. Incorrect revision
- h. Invalid sheet count
- i. Invalid weapon system code
- j. Invalid base doc type
- k. Filmed higher than 1 up
- l. Index data and image data mismatch
- m. Missing ECP number
- n. No .dlf file
- o. Chopped image
- p. Accompanying Doc on face of document (overlay)
- q. Accompanying Doc on outside border of document (overlay)
- r. Revision not in index
- s. Inappropriate distribution statement
- t. Duplicate in system/do not resubmit
- u. Mismatch in rights and distribution. Image stamped proprietary
- v. Nonconforming markings
- w. No effective date
- x. Data in comments/must be marked on face of document
- y. Conflicting distribution statement on drawing
- z. Invalid character(s) in index
- aa. Must be CALS Type 1 format
- bb. Missing Image File(s)
- cc. Drawing size outside acceptable range
- dd. Government Purpose Rights indexed incorrectly should be "G"
- ee. Change in rights. Unlimited to Limited. Request PM to challenge marking
- ff. Invalid revision on ECP, current to new.
- gg. Nonconforming copyright marking
- hh. Unapproved suffix to drawing and/or associated list
- ii. Distribution statement is stamped over existing data
- jj. Sheet revision does not match revision status block on sheet 1
- kk. Distribution statement outside border
- ll. Incomplete markings on image

5.3 Physical media protection. All CDs/DVDs shall be packaged such that the media (referred to as Delivery Package) is protected from dirt, moisture, and mechanical damage, such as scratching or bending,

and exposure to light or heat. No special electromagnetic field protection is required. Paper documents (e.g. reports or tabulations), if used as part of a Delivery Package, shall be preserved and packaged IAW commercial practices and in a manner that will afford protection against corrosion, deterioration, and physical damage during shipment to the first receiving activity.

5.4. Marking

5.4.1. CD/DVD. All media shall have identification information printed upon it identifying the contents of the media. The markings shall be accomplished using indelible ink. Gummed paper labels shall not be used.

5.4.1.1. Distribution statement. The media shall be marked with the most restrictive distribution statement of any document contained within the media.

5.3.1.2. Delivery package markings. The delivery package shall be conspicuously labeled with a warning "Fragile, Optical Media, Keep Away From Excessive Heat or Light, Do Not Bend". The delivery package shall contain the receiving POC address.

6. NOTES. (This section contains information of a general or explanatory nature which may be helpful, but is not mandatory.)

6.1. Intended use. This document should be used to ensure that engineering data interface requirements are met. The intent of this standard is to utilize readily available digital media for exchange of information between data originators and government entities. Emphasis has been placed on defining data format and structures such that consistency can be maintained while incorporating new digital media that becomes widely utilized. The data structures described in the document are based on a media that supports a hierarchical file system and, as such, are applicable to a variety of transfer media. Alternative transfer media may be used by mutual written consent of the Data Originator, Contracting Officer, and the CIO/G-6 Knowledge Management Office.

6.2 Subject Term (key word) listing.

MIL-PRF-28002C
 CALS
 PDF
 Engineering Drawing
 Technical Data Delivery
 Interface Standard

Electronic File Transfer
 Compact Disk
 Digital Video Disk
 AMCOM

6.3. First Article Inspection. Data originators submitting a delivery to the CIO/G-6 Knowledge Management Office for the first time should be validated as to their ability to meet the requirements stated herein.

6.4. Conformance Inspection. The Government may perform a 100% conformance inspection of all deliveries to meet the requirements stated herein. The Government may reject any delivery for less than 100% conformance of all requirements stated herein. At the Government's discretion, it may partially accept a delivery. The data originator should resubmit the rejected portion of the delivery at a later date. Data originators will be notified upon the acceptance or rejection of the delivery. A memorandum identifying the data being rejected and the reason for the rejection will be sent to the data originator. Data deliveries will not be returned to the data originator.

6.5. Data Rights/Restrictive Markings. Technical data, computer software documentation, and computer software which is delivered to the Government may not contain any restrictive markings (as to use, government rights, or further distribution) except those markings authorized by DFARS 252.227-7013, 252.227-7014, or 252.227-7018. Such authorized restrictive markings should not be used on deliverables until after the parties have acknowledged the contractor's claim asserting such restrictions by an attachment to the contract IAW the above DFARS clauses. See DFARS 252.227-7030 for additional government remedies regarding improperly marked deliverables. The Government's license rights in technical data, computer software documentation, and computer software as set forth in the contract clauses are independent of delivery or non-delivery.

Custodian:
Army - MI

Preparing Activity:
Army – MI

ECP MI-N3264
ECP MI-D3571

APPENDIX A

DOCUMENT TYPE LISTINGS (DTL)

CODE	DOCUMENT TYPE
(blank)	Drawing or Aviation Specification
AM	Amendment
AL	Application List
CL	Classification of Defects List
CP	Equipment Development Specification
DL	Data List
EC	Inspection Equipment Calibration Procedure
ED	List of Equipment Depot Installed
EL	Inspection Equipment List
EM	List of Equipment - Manufacturer Installed
EP	Engineering Change Proposal (ECP)
ER	Engineering Release Record (ERR)
ET	List of Equipment - Troop Installed
ID	Interconnecting Diagram
IM	Instruction Manual
ME	Military Exception (AMCOM in-house only)
MS	Missile Specification (MIS), or Program Peculiar Specification/Missile Purchase Description (MPD)
NT	Notice
OI	Inspection Equipment Operating Instructions
PD	Packaging Data Sheet, or Special Packaging Instructions
PE	Performance Specification, Detail Design Document, Purchase Description, or Performance Specification Operating Instructions
PL	Parts List
PP	Aviation Spares Technical Data Procurement Package
PR	Process Specification
QR	Quality Requirements, or Quality Assurance Provisions
QS	Supplemental Quality Assurance Provisions (SQAP)
SC	Schematic Diagram
SM	Material Specification
SS	System Specification
SU	Supplement
TP	Test Procedure/Tape Procedure Computer Program
TR	Test Requirement

APPENDIX A

TS	Test Specification
WD	Wiring Diagram
WL	Wiring List

(NOTE: For Document Type Codes not listed above, contact the CIO/G-6 Service Desk at [256-955-0196](tel:256-955-0196), or email at edms-tag@conus.army.mil.)

APPENDIX B

ACCOMPANYING DOCUMENTS TYPE LISTINGS (ADTL)

CODE	DOCUMENT TYPE
AD	Addendum
AM	Amendment to Specification
AN	Annex
AP	Appendix to the Table
D9	Digital Data
NR	Notice of Revision (NOR)
NT	Notice
SU	Supplement

(NOTE: For Accompanying Document Type Codes not listed above, contact the CIO/G-6 Service Desk at [256-955-0196](tel:256-955-0196), or email at edms-tag@conus.army.mil.)

APPENDIX C

IMAGE FILE TYPES

Field 13, FileType	Field 14, FileTypeFormat	Field 15, FileTypeSrcFlavor	Field 16, FileTypeDesFlavor	Field 17, FileTypeContent	Field 18, FileTypeVersion	Comments	Field 21, FileExtension
2	VCTR	IGES	V3			IGES-2D v3	IGS
3	CGM	CGM	T1			CGM Type 1	CGM
5	ASCI	TEXT				Text File	TXT
8	RSTR	CALS				CALS Type 1	CAL
29	DOC	PDF	PDF	NATIVE		Adobe Systems Incorporated	PDF
30	CAD	ACAD	R9	NATIVE		ACAD R9 Native	DWG
31	CAD	ACAD	R10	NATIVE		ACAD R10 Native	DWG
32	CAD	ACAD	R11	NATIVE		ACAD R11 Native	DWG
33	CAD	ACAD	R12	NATIVE		ACAD R12 Native	DWG
34	CAD	ACAD	R13	NATIVE		ACAD R13 Native	DWG
35	CAD	ACAD	R14	NATIVE		ACAD R14 Native	DWG
44	VCTR	DXF	ALL	NATIVE		ACAD DXF	DXF
95	MFG	APT	ALL	NATIVE		APT	APT
101	RSTR	BMP	ALL	NATIVE		BMP	BMP
128	CAD	CATIA	V4.X	ZIP		CATIA v4 ZIP	ZIP
141	CAD	DGN	V5	NATIVE		MICROSTATION v5	DGN
145	ELEC	DMIS	1982	NATIVE		DMIS 82	TXT
156	ELEC	EIA274	1988	NATIVE		EIA-274	EIA
157	ELEC	GERBER	ALL	NATIVE		EIA-274 GERBER	EIA
171	CAD	INTRLE		NATIVE		Intergraph RLE	RLE
180	SPRD	EXCEL	V5	NATIVE		EXCEL v5	XLS
182	VCTR	HPGL	ALL	NATIVE		HPGL	HPL
183	VCTR	HPGL2	ALL	NATIVE		HPGL2	HPL
184	DOC	HTML	V1	NATIVE		HTML v1	HTM
202	DOC	IPDF	ALL	ZIP		PDF Indexed	ZIP
203	RSTR	JPEG	V6	NATIVE		JPEG v6	JPG
209	SPRD	LT123W	V5	NATIVE		Lotus 123 Version 5	WKS
249	RSTR	TIFF	ALL	UNCOM		TIFF UNCOM	TIF
252	RSTR	TIFFG	G4	CCG4		TIFF G4	TIF
275	DOC	WORD	V1	NATIVE		Word v1 dos	DOC
280	DOC	WPDOS	V4.2	NATIVE		WP v4.2 dos	WPD
287	SND	SOUND		NATIVE		Sound	WAV
306	ELEC	GERBER	274X	ZIP		Gerber RS-274X (Extended Gerber)	ZIP
308	ELEC	GBRSTD	RS274D	ZIP		Gerber Std RS-274D	ZIP
358	CAD	PROE	V18	ZIP		ProEngineer V18 by Parametric Technology Corp	ZIP

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Field 13, FileType	Field 14, FileTypeFormat	Field 15, FileTypeSrcFlavor	Field 16, FileTypeDesFlavor	Field 17, FileTypeContent	Field 18, FileTypeVersion	Comments	Field 21, FileExtension
378	CAD	PROE	V20.X	ZIP		ProEngineer V20 by Parametric Technology Corp	ZIP
385	CAD	VRBST	V98.X	ZIP		VeriBest Version 98.x by VeriBest Inc	ZIP
741	DOC	WORD	V2003	NATIVE		Word 2003	DOC
50004	DWG	DWG				Autocad Drawing	DWG
50006	DXF	DXF				Autocad Neutral File	DXF
50017	DOC	ZIP	IADS				ZIP
50018	DOC	NONE	HTML				HTM
50019	VCTR	NONE	DGN				DGN
50020	RSTR	NONE	GIF				GIF
50021	AUD	NONE	WAVE				WAV
50023	VID	NONE	AVI				AVI
50024	DOC	NONE	MSWORD				DOC
50025	CAD	VX MOD	8.1	NATIVE	8.1	VARIMETRIX VX Advanced Modeler	MDL
50026	CAD	RNMOD	1.1	NATIVE	1.1	RHINOCEROS Nurbs Modeler	3DM
50027	CAD	PROENG	2000I	NATIVE	2000I	ProEngineer	PRT
50029	CAD	MASDES	7	NATIVE	7	MASTERCAM Design	MC7
50030	CAD	MDESK	3	NATIVE	3	Mechanical Desktop	DWG
50033	CAD	VX IGS	8.1	NATIVE	8.1	VARIMETRIX VX Advanced Modeler	IGS
50034	CAD	RN IGS	1.1	NATIVE	1.1	RHINOCEROS Nurbs Modeler	IGS
50035	CAD	PROIGS	2000I	NATIVE	2000I	ProEngineer	IGS
50036	CAD	MASIGS	7	NATIVE	7	MASTERCAM Design	IGS
50037	CAD	PROSTP	2000I	NATIVE	2000I	ProEngineer	S'TP
50038	CAD	RNSAT	1.1	NATIVE	1.1	RHINOCEROS Nurbs Modeler	SAT
50039	CAD	CFXSAT	2.1	NATIVE	2.1	CADFIX	SAT
50040	CAD	RNX T	1.1	NATIVE	1.1	RHINOCEROS Nurbs Modeler	X T
50041	CAD	CFXX T	2.1	NATIVE	2.1	CADFIX	X T
50043	DRD	GERBER	EXE	NATIVE		Executable GERBER Drill File	DRD
50065	EXEC	EXEC	EXE	NATIVE		Zipped executable file	ZIP
50083	CAD	VXVIS	3.1	NATIVE	3.1	VARIMETRIX VX Vision	VX
50084	CAD	VXIGS	3.1	NATIVE	3.1	VARIMETRIX VX Vision	IGS
50085	CAD	VXSTP	3.1	NATIVE	3.1	VARIMETRIX VX Vision	S'TP
50103	CAD	CADFIX		NATIVE			S'TP
50124	CAD	RNMOD	1	NATIVE	1	Rhinoceros Nurbs modeler file	S'TP
50145	ELEC	GERBER	GBR	NATIVE			GBR

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Field 13, FileType	Field 14, FileTypeFormat	Field 15, FileTypeSrcFlavor	Field 16, FileTypeDesFlavor	Field 17, FileTypeContent	Field 18, FileTypeVersion	Comments	Field 21, FileExtension
50163	GAP	GERBER	GERBER	NATIVE		ViewMate GAP file	GAP
50183	MAT	GERBER	GERBER	NATIVE			MAT
50184	GTL	GERBER	GERBER	NATIVE			GTL
50185	GBL	GERBER	GERBER	NATIVE			GBL
50186	GTO	GERBER	GERBER	NATIVE			GTO
50187	GTS	GERBER	GERBER	NATIVE			GTS
50188	DSN	GERBER	GERBER	NATIVE			DSN
50191	RPT	GERBER	GERBER	NATIVE			RPT
50264	CAD	IGES	SOLIDW		98		PRT
50283	L01	GERBER	GERBER	NATIVE		Gerber Layer File	L01
50284	L02	GERBER	GERBER	NATIVE		Gerber Layer File	L02
50285	MSK	GERBER	GERBER	NATIVE		Gerber Solder Mask File	MSK
50286	SLK	GERBER	GERBER	NATIVE		Gerber Silk Screen File	SLK
50303	DPT	GERBER	GERBER	NATIVE		Gerber NC Tool Report	DPT
50304	DRL	GERBER	GERBER	NATIVE		Gerber NC Drill File	DRL
50305	FAB	GERBER	GERBER	NATIVE		Gerber Drill/Fab Drawing	FAB
50306	L03	GERBER	GERBER	NATIVE		Gerber Layer 03	L03
50307	L04	GERBER	GERBER	NATIVE		Gerber Layer 04	L04
50308	L05	GERBER	GERBER	NATIVE		Gerber Layer 05	L05
50309	L06	GERBER	GERBER	NATIVE		Gerber Layer 06	L06
50310	L07	GERBER	GERBER	NATIVE		Gerber Layer 07	L07
50311	L08	GERBER	GERBER	NATIVE		Gerber Layer 08	L08
50312	L09	GERBER	GERBER	NATIVE		Gerber Layer 09	L09
50313	L10	GERBER	GERBER	NATIVE		Gerber Layer 10	L10
50327	PSB	GERBER	GERBER	NATIVE		Gerber Solder Paste Bottom	PSB
50328	PST	GERBER	GERBER	NATIVE		Gerber Solder Paste Top	PST
50329	SSB	GERBER	GERBER	NATIVE		Gerber Silk Screen Bottom	SSB
50330	SST	GERBER	GERBER	NATIVE		Gerber Silk Screen Top	SST
50331	SMB	GERBER	GERBER	NATIVE		Gerber Soldermask Bottom	SMB
50332	SMT	GERBER	GERBER	NATIVE		Gerber Soldermask Top	SMT
50343	DOC	IADS	PKZIP				ZIP
50345	DOC	HTML					HTM
50346	VCTR	DGN					DGN
50347	RSTR	GIF					GIF
50348	DEF	C4	C4				DEF
50364	CAD	CATIA	CATIA	NATIVE	V4.2	Catia Model	MDL
50384	CAD	PROE	WF2	ZIP	WILDFIRE2	Pro/ENGINEER vWildfire2 (by Parametric Technology Corp.)	ZIP
50406	CAD	UGS DM	V8.X	NATIVE	V8.X	3D Visualization Model	JT
50411	CAD	CAM350	GERBER		9.X		CAM
50413	DRP	GERBER	GERBER	NATIVE		Gerber Drill Tool List	DRP

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Field 13, FileType	Field 14, FileTypeFormat	Field 15, FileTypeSrcFlavor	Field 16, FileTypeDesFlavor	Field 17, FileTypeContent	Field 18, FileTypeVersion	Comments	Field 21, FileExtension
50468	CAD	PROE	WF3	ZIP	WILDFIRE3	ProEngineer vWildfire3 (by Parametric Technology Corp.)	ZIP
50515	CAD	EAGLE	V4XGPI	NATIVE		Eagle Ver 4.x	GPI
50516	CAD	EAGLE	V4XDRI	NATIVE		Eagle Ver 4.x	DRI
50517	CAD	EAGLE	V4DXDX	NATIVE		Eagle Ver 4.x	DXX
50527	ELEC	VALOR	VALOR			Zipped GERBER files by Valor Computerized Systems	TGZ
50568	GER	GERBER	ALL	NATIVE		EIA-274 GERBER	ZIP
50627	CAD	SOLIDW	PDF		V2009	SOLIDWORKS 3D PDF	PDF
50648	GBR	GCODE	GWK	NATIVE			GWK

(Note: Additional Image File Types are added as the repository system is enhanced. Contact the CIO/G-6 Service Desk at [256-955-0196](tel:256-955-0196), or email at edms-tag@conus.army.mil for the latest list of Image File Types).

APPENDIX D

Application Block		Revisions			
Next Assy	Used On	LTR	Description	Date	Approval
1006748	UH-60M		Released by ERR AV-10329	23 May 2007	John Doe
Affected Documents:		Rev/ Version		Type	
1006474.asm 1006747.drw 1006749.prt 1006750.asm 1006751.prt 1006751.asm 1006751.prt 1006754-generic.prt 1006759-generic.prt 1006763.prt 1006766.prt 1006827.prt c-redstone.sht1.frm				ProE Wildfire 2.0 ASM ProE Wildfire 2.0 DRW ProE Wildfire 2.0 PRT ProE Wildfire 2.0 ASM ProE Wildfire 2.0 PRT ProE Wildfire 2.0 ASM ProE Wildfire 2.0 PRT ProE Wildfire 2.0 PRT ProE Wildfire 2.0 PRT ProE Wildfire 2.0 PRT ProE Wildfire 2.0 PRT ProE Wildfire 2.0 PRT ProE Wildfire 2.0 PRT ProE Wildfire 2.0 PRT	
Distribution Statement: A Approved for Public Release Distribution is unlimited.		Delivered under U.S. Government Contract # W31XXX-XX-X-XXXX By Compnay Name and Address			
CONTR		DATE		U. S. Army Aviation and Missile Command Redstone Arsenal, AL 35898.5000 Case, Spindle Bender	
Preparer Preparer name		23 May 2007			
Chk Checker name		23 May 2007			
Eng Engineer name					
		Size A	Code Indent No. 81996	Dwg No. 1006747	
Change No.	Scale: NONE		Rev	Sheet 0001	

SAMPLE

APPENDIX E

DRAWING SIZE TABLE – 200 DPI IMAGES

STD SIZES					ACCEPTABLE RANGE								
Dwg Size	Pixels (200 DPI)		Inches		Var (Inches)	Pixels (200 DPI)				Inches			
						W		L		W		L	
	W	L	W	L		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
A	1700	2200	8.5	11	+/- 1	1500	1900	2000	2400	7.5	9.50	10.00	12.00
B	2200	3400	11	17	+/- 1	2000	2400	3200	3600	10	12.00	16.00	18.00
C	3400	4400	17	22	+/- 1	3200	3600	4200	4600	16	18.00	21.00	23.00
D	4400	6800	22	34	+/- 3	3800	5000	6200	7400	19	25.00	31.00	37.00
E	6800	8800	34	44	+/- 3	6200	7400	8200	9400	31	37.00	41.00	47.00
F	5600	8000	28	40	+/- 3	5000	6200	7400	8600	25	31.00	37.00	43.00

STD SIZES							ACCEPTABLE RANGE												
Dwg Size	Pixels (200 DPI)			Inches			Var (Inches)	Pixels (200 DPI)						Inches					
								W		MIN L		MAX L		W		MIN L		MAX L	
	W	MIN L	MAX L	W	MIN L	MAX L		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
G	2200	4500	18000	11	22.5	90	+/- 3	1600	2800	3900	5100	17400	18600	8	14	19.50	25.5	87	93
H	5600	8800	28600	28	44	143	+/- 3	5000	6200	8200	9400	28000	29200	25	31	41.00	47	140	146
J	6800	11000	35200	34	55	176	+/- 3	6200	7400	10400	11600	34600	35800	31	37	52.00	58	173	179
K	8000	11000	28600	40	55	143	+/- 3	7400	8600	10400	11600	28000	29200	37	43	52.00	58	140	146

APPENDIX E

DRAWING SIZE TABLE – 300 DPI IMAGES

STD SIZES					ACCEPTABLE RANGE								
Dwg Size	Pixels (300 DPI)		Inches		Var (Inches)	Pixels (300 DPI)				Inches			
	W	L	W	L		W		L		W		L	
						MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
A	2550	3300	8.5	11	+/- 1	2250	2850	3000	3600	7.5	9.50	10.00	12.00
B	3300	5100	11	17	+/- 1	3000	3600	4800	5400	10	12.00	16.00	18.00
C	5100	6600	17	22	+/- 1	4800	5400	6300	6900	16	18.00	21.00	23.00
D	6600	10200	22	34	+/- 3	5700	7500	9300	11100	19	25.00	31.00	37.00
E	10200	13200	34	44	+/- 3	9300	11100	12300	14100	31	37.00	41.00	47.00
F	8400	12000	28	40	+/- 3	7500	9300	11100	12900	25	31.00	37.00	43.00

STD SIZES							ACCEPTABLE RANGE												
Dwg Size	Pixels (300 DPI)			Inches			Var (Inches)	Pixels (300 DPI)						Inches					
	W	MIN L	MAX L	W	MIN L	MAX L		W		MIN L		MAX L		W		MIN L		MAX L	
								MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
G	3300	6750	27000	11	22.5	90	+/- 3	2400	4200	5850	7650	26100	27900	8	14	19.50	25.5	87	93
H	8400	13200	42900	28	44	143	+/- 3	7500	9300	12300	14100	42000	43800	25	31	41.00	47	140	146
J	10200	16500	52800	34	55	176	+/- 3	9300	11100	15600	17400	51900	53700	31	37	52.00	58	173	179
K	12000	16500	42900	40	55	143	+/- 3	11100	12900	15600	17400	42000	43800	37	43	52.00	58	140	146

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APPENDIX F

METADATA FILE EXAMPLES

Sample metadata file - 1 base document with 1 accompanying document (ECO):

7-511511169-001|8V613||D|-||0001|0001|-|0001|0001|8|RSTR|CAL|||8V613|dwg|12943|cal|.|JEDMICSW53||N|U|N|N|N|||BD|||||||||D|||||BJ|1.0|

7-511511169-001|8V613||A|-||0001|0001|-|0001|0001|29|DOC|PDF|PDF|||8V613|ECO|A64-6000325-01|pdf|.|JEDMICSW53||N|U|N|N|N|||BD|||||||||D|NT|ECO|A64-6000325-01|8V613|||BJ|1.0|

Sample metadata file - 1 base document with 2 accompanying documents (digital data):

UN316-724S3031|77272||A|02|||0001|0001|02|0001|0001|29|DOC|PDF|PDF|||77272|UN316_724S3031_02-PD|pdf|.|VOLUME||N|U|Y|N|N|||BD|||||||||D|||||BK|1.0|

UN316-724S3031|77272||A|02|||0001|0001|02|0001|0001|128|CAD|CATIA|V4.X|ZIP||77272|724S3031-MODELS|zip|.|VOLUME||N|U|Y|N|N|||BD|||||||||D|D9|MODELS|77272|||BK|1.0|

UN316-724S3031|77272||A|02|||0001|0001|02|0001|0001|50406|CAD|UGSDM|V8.X|NATIVE|V8.X|77272|724S3031-JT|jt|.|VOLUME||N|U|Y|N|N|||BD|||||||||D|D9|724S3031-02-JT|77272|||BK|1.0|