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The Printer Working Group

PWG Media Standardized Names 2.0 (MSN2)

Status: Approved

Abstract: This document defines standard colorant and media names and naming conventions to be used by other PWG specifications. These lists of names are a superset of the names that are defined in the Printer MIB [RFC3805] and various Internet Printing Protocol documents.

This document is a PWG Candidate Standard. For a definition of a "PWG Candidate Standard", see:

ftp://ftp.pwg.org/pub/pwg/general/pwg-process20.pdf

This document is available electronically at:

ftp://ftp.pwg.org/pub/pwg/candidates/cs-pwgmsn20-20130328-5101.1.docx
ftp://ftp.pwg.org/pub/pwg/candidates/cs-pwgmsn20-20130328-5101.1.pdf

Title: *PWG Media Standardized Names 2.0 (MSN2)*

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In general, a PWG standard is a specification that is stable, well understood, and is technically competent, has multiple, independent and interoperable implementations with substantial operational experience, and enjoys significant public support.

For additional information regarding the Printer Working Group visit:

http://www.pwg.org

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1. Introduction

Media names/properties for coatings, colors, sizes, sources, tooth, and types have been defined in many previously published standards related to printing. Examples are the ISO Document Printing Application [ISO10175], the IEEE Transport Independent Printer/System Interface [IEEE1284.1], the Printer MIB v2 [RFC3805], and the Internet Printing Protocol/1.1: Model and Semantics [RFC2911]. Although there is a high degree of commonality in the set of media names/properties presented in these documents, they do not represent a uniform set. This document defines a complete set of coatings, colors, sizes, sources, tooth, and types that can be used as a normative reference by other standards. These definitions are also registered in the IANA registry for IPP [IANA-IPP].

The previous version of this specification, PWG 5101.1-2002, focused on collecting existing media color, size, and type names and defining a self-describing media size name format. This specification extends this work to include new "common" names including media sources, custom, vendor, and derived name formats, and a proper IANA registration for use with IPP.

1.1 Scope

This document defines colorant names and media coatings, colors, sizes, tooth, and types. Other numeric media properties such as weight and opacity are not included.

The media size dimensions that are defined in this document are independent of the media feed direction (i.e. short edge feed or long edge feed) or printing orientation (i.e. portrait or landscape). Both of these parameters are best handled by unique properties rather than overloading the media size, e.g., in IPP a "media" attribute with value 'na_letter_8.5x11in' and "orientation-requested" attribute with value 4 (landscape).

Dimensions are provided in inches or millimeters to avoid conversion errors. Programs that convert media dimensions to/from other units have a responsibility to ensure that errors do not accumulate. For example, when converting from inches to hundredths of millimeters, programs will truncate any fractional remainder, but when converting from hundredths of millimeters to inches those same programs will round any remainder to the nearest thousandth of an inch.

Media sizes typically represent cut sheets. Sizes can also represent the minimum and maximum supported sheet dimensions, the inner and outer diameters of printable discs (e.g. CD, DVD, etc.), the minimum and maximum supported roll dimensions, and specific roll-fed media dimensions. No accommodation is made to support continuous printing applications, although a client application can supply multiple "pages" of content with each page representing a strip of content on a continuous printout.

The color property that is included in a portion of the Media Name entries in both the Printer MIB and IPP are included as a separate independent set of Color Names in this specification. The Color Names are defined to be used to describe marker colorants and media color. The sRGB reference values for each named color are not normative but

rather are provided for purposes of display on a client, much as the Localized Name (see section 1.2 below) can be used on the client.

1.2 Localization

The intent of the names defined in this specification is for machine communication. Examples include:

1. From a printer to client software,
2. From client software to a printer, and
3. From a printer data description file to client software.

This specification defines example localizations for each name in the "Localized Name" column of each table. Typically a client will localize these names to the language of the user before displaying them. However, when a client encounters a name that it does not recognize, the names have been structured so that they can be converted to title case form (e.g. "photographic-glossy" becomes "Photographic Glossy") and displayed to the user without further localization. Color names can also include sRGB reference values for display as well.

The Media Size Self-Describing Name deserves special mention. It contains both a media size name and the dimensions, in case the receiver does not recognize the media size name. Such a receiver can then parse the Media Size Self-Describing Name and discover the intended dimensions of such an unrecognized media. These names have also been defined to facilitate parsing and/or fallback presentation of either the media size name and/or the dimensions parts. Programs are encouraged to display dimensional sizes using the original units to avoid confusion, however this behavior is outside the scope of this specification.

2. Terminology

2.1 Conformance Terminology

Capitalized terms, such as MUST, MUST NOT, RECOMMENDED, REQUIRED, SHOULD, SHOULD NOT, MAY, and OPTIONAL, have special meaning relating to conformance as defined in Key words for use in RFCs to Indicate Requirement Levels [RFC2119].

2.2 Other Terminology

ABNF (Augmented Backus-Naur Form); [ABNF] A formal meta-syntax used to express content-free grammars. ABNF is commonly used in Internet protocol specifications and is defined in the Augmented BNF for Syntax Specifications [STD68].

Alias; An alternative name that is commonly used to mean the same as a name standardized in this document, but which is not defined for a use that conforms to this specification.

Color Name; The standard name used to identify the color of media or marker colorant such as ‘white’, ‘red’, ‘ivory’, 'cyan', 'magenta', 'yellow', and 'black'.

Legacy Name; A standard name used in the same contexts as the names defined in this specification, but which is deprecated from use when conforming to this specification. This name is provided for historical context.

Media; The consumable upon which the marking engine marks so as to form a text and/or pictorial image, typically paper.

Media Dimensions; The short and long dimensions of the media or the inner and outer diameters of a printable disc.

Media Finish; An adjective that describes the surface texture of the medium. In most cases the texture is obtained by the application of a coating. Examples: ‘glossy’, ‘matte’.

Media Size Name; The standard name that identifies a particular media size. Examples: ‘iso_a4’, ‘na_letter’, ‘monarch’.

Media Size Self-Describing Name (or Media Size for short); An ASCII string that contains a Media Size Name and the Media Dimensions that correspond to the Media Size Name. Examples: ‘iso_a4_210x297mm’, ‘na_letter_8.5x11in’, ‘na_monarch_3.875x7.5in’.

Media Source Name; The standard name that identifies a particular media source. Examples: 'tray-1', 'manual', 'large-capacity'.

Media Type Name; The standard name that identifies a particular media type, i.e., the predominate characteristic of the media. Examples: ‘stationery’, ‘transparency’, ‘envelope’.

2.3 Acronyms and Organizations

ASCII: American Standard Code for Information Interchange

ASME: American Society of Mechanical Engineers, http://www.asme.org/

DPA: Document Printing Application

IANA: Internet Assigned Numbers Authority, http://www.iana.org/

IETF: Internet Engineering Task Force, http://www.ietf.org/

IPP: Internet Printing Protocol

ISO: International Organization for Standardization, http://www.iso.org/

JTAPI: Job Ticket Application Programming Interface,
http://wiki.linuxfoundation.org/en/OpenPrinting/JTAPI

MIB: Management Information Base

PSTN: Public Switched Telephone Network

PWG: Printer Working Group, http://www.pwg.org/

RFC: Request For Comments

sRGB, sRGBA: Standard Red Green Blue (Alpha) color space,
http://www.w3.org/Graphics/Color/sRGB.html

3. Media Type Names

The following subsections define standard media type names and naming conventions.

3.1 Standard Media Type Names

The standard Media Type Names are defined in Table 1. The base set of these names is derived from the Printer MIB v2 [RFC3805], Media Features for Display, Print, and Fax [RFC2534], and IPP Production Printing Attributes - Set 1 [PWG5100.3]. Additional values MAY be registered with IANA according to section 6.1 of the Internet Printing Protocol/1.1: Model and Semantics [RFC2911].

Media Types that are produced using a coating or special process can only apply coating or process on one side. The Media Type Names defined in this specification do not distinguish between one sided and two sided conditions.

Standard Media Type Names conform to the following ABNF [STD68]:

```
standard-type-name = keyword
keyword = ALPHA 1*( ALPHA / DIGIT / "-" / "_" / ".")
```

Table 1 - Media Type Names

Name	Localized Name	Description
aluminum	Aluminum	An opaque aluminum media; deprecated - see "metal"
auto	Automatic	Automatically selected/detected media
back-print-film	Back Print Film	A translucent film that the user can view with or without backlighting
cardboard	Cardboard	A corrogated, opaque material
cardstock	Card Stock	A heavier or stiffer opaque material than "stationery"
cd	Compact Disc	A compact disc; deprecated - see "disc"
continuous	Continuous	Continuously connected sheets of an opaque material - which edge is connected is not specified [RFC2534]
continuous-long	Continuous (Long)	Continuously connected sheets of an opaque material connected along the long edge [RFC3805]
continuous-short	Continuous (Short)	Continuously connected sheets of an opaque material connected along the short edge [RFC3805]
corrogated-board	Cardboard	A corrogated, opaque materal; deprecated - see "cardboard"
disc	Optical Disc	An optical disc
disc-glossy	Optical Disc (Glossy)	An optical disc with a glossy coating
disc-high-gloss	Optical Disc (High-	An optical disc with a "high-gloss"

Name	Localized Name	Description
	Gloss)	coating
disc-matte	Optical Disc (Matte)	An optical disc with a matte coating
disc-satin	Optical Disc (Satin)	An optical disc with a satin finish coating
disc-semi-gloss	Optical Disc (Semi-Gloss)	An optical disc with a semi-gloss coating
double-wall	Cardboard (Double Wall)	A corrogated, opaque material with two layers or walls
dvd	Digital Versatile Disc	A printable DVD; deprecated - see "disc"
end-board	Cardboard (End)	A corrogated, opaque material that is closed on the ends
envelope	Envelope	Envelopes that can be used for conventional mailing purposes [RFC2534] [RFC3805]
envelope-archival	Envelope (Archival)	Envelopes made from an archival-quality material
envelope-bond	Envelope (Bond)	Envelopes made from a medium stock
envelope-coated	Envelope (Coated)	Envelopes made from a coated material
envelope-colored	Envelope (Colored)	Envelopes made from a colored material
envelope-cotton	Envelope (Cotton)	Envelopes made from a material composed in part of cotton or rag fibers
envelope-fine	Envelope (Fine)	Envelopes made from vellum or other high quality opaque material
envelope-heavyweight	Envelope (Heavyweight)	Envelopes made from a heavy stock
envelope-inkjet	Envelope (Inkjet)	Envelopes made from a material designed to minimize the spread of liquid inks. Can be accomplished using a coating
envelope-lightweight	Envelope (Lightweight)	Envelopes made from a light stock
envelope-plain	Envelope (Plain)	Envelopes that are not preprinted and have no windows [RFC2534] [RFC3805]
envelope-preprinted	Envelope (Preprinted)	Envelopes with a preprinted image
envelope-window	Envelope (Window)	Envelopes that have windows for addressing purposes [RFC3805]
fabric	Fabric	Printable fabric
fabric-archival	Fabric (Archival)	Printable fabric with archival qualities
fabric-glossy	Fabric (Glossy)	Printable fabric with a glossy coating or finish
fabric-high-gloss	Fabric (High-Gloss)	Printable fabric with a high-gloss coating or finish
fabric-matte	Fabric (Matte)	Printable fabric with a matte coating or

Name	Localized Name	Description
		finish
fabric-semi-gloss	Fabric (Semi-Gloss)	Printable fabric with a semi-gloss coating or finish
fabric-waterproof	Fabric (Waterproof)	Printable fabric that is waterproof
full-cut-tabs	Full Cut Tabs	Media with a tab that runs the full length of the sheet so that only one tab is visible extending out beyond the edge of non-tabbed media
glass	Glass	Sheets of rigid glass, typically transparent
glass-colored	Glass (Colored)	Sheets of colored rigid glass
glass-opaque	Glass (Opaque)	Sheets of opaque rigid glass
glass-surfaced	Glass (Surfaced)	Sheets of rigid glass with a semi-smooth (abraded) surface, typically translucent
glass-textured	Glass (Textured)	Sheets of rigid glass with a raised surface texture of lines, ridges, and or shapes
labels	Labels	Label stock, for example a sheet of peel-off labels
labels-colored	Labels (Colored)	Label stock with a colored (non-white) appearance
labels-glossy	Labels (Glossy)	Label stock with a glossy finish
labels-high-gloss	Labels (High-Gloss)	Label stock with a "high-gloss" finish
labels-inkjet	Labels (Inkjet)	Label stock designed to minimize the spread of liquid inks
labels-matte	Labels (Matte)	Label stock with a matte finish
labels-permanent	Labels (Permanent)	Label stock with a permanent adhesive
labels-satin	Labels (Satin)	Label stock with a satin finish
labels-security	Labels (Security)	Label stock with a semi-permanent adhesive with security features
labels-semi-gloss	Labels (Semi-Gloss)	Label stock with a semi-gloss finish
letterhead	Stationery (Letterhead)	Letterhead; deprecated - see "stationery-letterhead"
metal	Metal	A metallic medium
metal-glossy	Metal (Glossy)	A metallic medium with a glossy finish
metal-high-gloss	Metal (High-Gloss)	A metallic medium with a "high-gloss" finish
metal-matte	Metal (Matte)	A metallic medium with a matte finish
metal-satin	Metal (Satin)	A metallic medium with a satin finish
metal-semi-gloss	Metal (Semi-Gloss)	A metallic medium with a semi-gloss finish
multi-layer	Multi-Layer	Form medium composed of multiple layers which are pre-attached to one another; e.g., for use with impact

Name	Localized Name	Description
		printers [RFC3805]
multi-part-form	Multi-Part Form	Form medium composed of multiple layers not pre-attached to one another; each sheet can be drawn separately from an input source [RFC3805]
other	Other	Other media that does not fall into any of the specific type names; deprecated
paper	Stationery	Separately cut sheets of an opaque material; deprecated, see "stationery"
photographic	Photo	An opaque material to produce photographic quality images. The coating is unspecified
photographic-archival	Photo (Archival)	An archival-quality material used to reproduce photographic quality images.
photographic-film	Photo (Film)	Film used to produce photographic quality images
photographic-glossy	Photo (Glossy)	An opaque material that has a "glossy" coating to produce photographic quality images [PWG5100.3]
photographic-high-gloss	Photo (High-Gloss)	An opaque material that has a "high-gloss" coating to produce photographic quality images [PWG5100.3]
photographic-matte	Photo (Matte)	An opaque material that has a "matte" coating to produce photographic quality images [PWG5100.3]
photographic-satin	Photo (Satin)	An opaque material that has a "satin" coating to produce photographic quality images [PWG5100.3]
photographic-semi-gloss	Photo (Semi-Gloss)	An opaque material that has a "semi-gloss" coating to produce photographic quality images [PWG5100.3]
plastic	Plastic	An opaque printable plastic (polypropylene or similar)
plastic-archival	Plastic (Archival)	An opaque, archival-quality printable plastic
plastic-colored	Plastic (Colored)	An opaque, colored printable plastic
plastic-glossy	Plastic (Glossy)	An opaque printable plastic with a glossy coating or finish
plastic-high-gloss	Plastic (High Gloss)	An opaque printable plastic with a high gloss coating or finish
plastic-matte	Plastic (Matte)	An opaque printable plastic with a matte coating or finish
plastic-satin	Plastic (Satin)	An opaque printable plastic with a satin coating or finish
plastic-semi-gloss	Plastic (Semi-Gloss)	An opaque printable plastic with a semi-

Name	Localized Name	Description
		gloss coating or finish
pre-cut-tabs	Pre-Cut Tabs	Media with tabs that are cut so that more than one tab is visible extending out beyond the edge of non-tabbed media in an Output-Document.
roll	Roll	Media provided on a roll; deprecated - see any other media type name that correctly describes the type of media
screen	Screen	A refreshable display [RFC2534]
screen-paged	Screen (Paged)	A refreshable display which cannot scroll [RFC2534]
self-adhesive	Self-Adhesive Paper	Self-adhesive paper as sheets or rolls; see "labels" for pre-cut labels
self-adhesive-film	Self-Adhesive Film	Self-adhesive film as sheets or rolls
single-face	Single Face	Corrogated cardboard with a single face
single-wall	Cardboard (Single Wall)	Corrogated cardboard with a single layer or wall
sleeve	Sleeve	An opaque media used for a sleeve
stationery	Paper (Plain)	General-purpose opaque material [RFC2534] [RFC3805]
stationery-archival	Paper (Archival)	An archival-quality material used for long-lived documents
stationery-bond	Paper (Bond)	A medium stock opaque material
stationery-coated	Paper (Coated)	An opaque material with a coating of unspecified type
stationery-colored	Paper (Colored)	A colored (non-white) opaque material
stationery-cotton	Paper (Cotton)	An opaque material composed in part of cotton or rag fibers
stationery-fine	Paper (Vellum)	Vellum or other high quality opaque material
stationery-heavyweight	Paper (Heavyweight)	A heavy stock opaque material
stationery-heavyweight-coated	Paper (Heavyweight Coated)	A heavy stock opaque material with a coating of unspecified type
stationery-inkjet	Paper (Inkjet)	An opaque material designed to minimize the spread of liquid inks. Can be accomplished using a coating
stationery-letterhead	Paper (Letterhead)	An opaque material with a preprinted letterhead [PWG5100.3]
stationery-lightweight	Paper (Lightweight)	A light stock opaque material
stationery-preprinted	Paper (Preprinted)	An opaque material with a preprinted image [PWG5100.3]
stationery-prepunched	Paper (Prepunched)	An opaque material that is punched with an unspecified hole pattern

Name	Localized Name	Description
tab-stock	Tab Stock	Media with tabs (either pre-cut or full-cut) [RFC3805]
tractor	Tractor Feed	Tractor feed media
transfer	Transfer	Transfer paper, such as for T-shirt printing
transparency	Transparency	A transparent material [RFC2534] [RFC3805]
triple-wall	Cardboard (Triple Wall)	Cardboard with three layers or walls

3.2 Vendor Media Type Names

Vendor Media Type Names MAY be added without an update to this specification by prefixing the names with a reverse-DNS identifier, e.g. "org.pwg-my-type". The format is defined by the following ABNF [STD68]:

```
vendor-type-name = 1*ALPHA 1*dns-name "-" base-name
base-name        = ( ALPHA / DIGIT ) *( ALPHA / DIGIT / "-" / "." )
dns-name         = "." 1*( ALPHA / DIGIT / "-" )
```

3.3 Custom Media Type Names

Media Type Names MAY be locally extended using a Custom Media Type Name without an update to this specification by prefixing the names with the string "custom-", e.g. "custom-xyz-letterhead". The format is defined by the following ABNF [STD68]:

```
custom-type-name = "custom-" base-name
base-name        = ( ALPHA / DIGIT ) *( ALPHA / DIGIT / "-" / "." )
```

3.4 Derived Media Type Names

Media Type Names MAY be locally extended from existing standard, vendor, or custom media names by prefixing the names with the string "derived-" and appending the existing name with a leading underscore, e.g. "derived-xyz-photo_photographic-glossy". The format is defined by the following ABNF [STD68]:

```
derived-type-name = "derived-" base-name "_"
                    ( base-name / vendor-type-name /
                      custom-type-name )
base-name         = ( ALPHA / DIGIT ) *( ALPHA / DIGIT / "-" / ".")
```


4. Color Names

Table 2 defines the Media Color Names. These names are derived primarily from the Printer MIB v2 [RFC3805] prtInputMediaColor and JTAPI [JTAPI] standard values. The name 'transparent' has been replaced by 'no-color' to allow the use of a color attribute with the media type ‘transparency’ as defined in Table 2.

Table 2 - Color Names

Name	Localized Name	sRGBA Value	Sample
no-color	Transparent	0xFFFFFF00	
black	Black	0x000000FF	
clear-black	Clear Black	0x0000007F	
light-black	Light Black	0x808080FF	
blue	Blue	0x0000FFFF	
clear-blue	Clear Blue	0x0000FF7F	
dark-blue	Dark Blue	0x00008BFF	
light-blue	Light Blue	0xADD8E6FF	
brown	Brown	0xA52A2AFF	
clear-brown	Clear Brown	0xA52A2A7F	
dark-brown	Dark Brown	0x5C4033FF	
light-brown	Light Brown	0x9966FFFF	
buff	Buff	0xF0DC82FF	
clear-buff	Clear Buff	0xF0DC827F	
dark-buff	Dark Buff	0x976638FF	
light-buff	Light Buff	0xECD9B0FF	
cyan	Cyan	0x00FFFFFF	
clear-cyan	Clear Cyan	0x00FFFF7F	
dark-cyan	Dark Cyan	0x008B8BFF	
light-cyan	Light Cyan	0xE0FFFFFF	
gold	Gold	0xFFD700FF	
clear-gold	Clear Gold	0xFFD7007F	
dark-gold	Dark Gold	0xEEBC1DFF	
light-gold	Light Gold	0xF1E5ACFF	
goldenrod	Goldenrod	0xDAA520FF	
clear-goldenrod	Clear Goldenrod	0xDAA5207F	
dark-goldenrod	Dark Goldenrod	0xB8860BFF	
light-goldenrod	Light Goldenrod	0xFFEC8BFF	
gray	Gray	0x808080FF	
clear-gray	Clear Gray	0x8080807F	
dark-gray	Dark Gray	0x404040FF	
light-gray	Light Gray	0xD3D3D3FF	
green	Green	0x008000FF	
clear-green	Clear Green	0x0080007F	

Name	Localized Name	sRGBA Value	Sample
dark-green	Dark Green	0x006400FF	
light-green	Light Green	0x90EE90FF	
ivory	Ivory	0xFFFFF0FF	
clear-ivory	Clear Ivory	0xFFFFF07F	
dark-ivory	Dark Ivory	0xF2E58FFF	
light-ivory	Light Ivory	0xFFF8C9FF	
magenta	Magenta	0xFF00FFFF	
clear-magenta	Clear Magenta	0xFF00FF7F	
dark-magenta	Dark Magenta	0x8B008BFF	
light-magenta	Light Magenta	0xFF77FFFF	
multi-color	Multi-Color	Undefined	
clear-multi-color	Clear Multi-Color	Undefined	
mustard	Mustard	0xFFDB58FF	
clear-mustard	Clear Mustard	0xFFDB587F	
dark-mustard	Dark Mustard	0x7C7C40FF	
light-mustard	Light Mustard	0xEEDD62FF	
orange	Orange	0xFFA500FF	
clear-orange	Clear Orange	0xFFA5007F	
dark-orange	Dark Orange	0xFF8C00FF	
light-orange	Light Orange	0xD9A465FF	
pink	Pink	0xFFC0CBFF	
clear-pink	Clear Pink	0xFFC0CB7F	
dark-pink	Dark Pink	0xE75480FF	
light-pink	Light Pink	0xFFB6C1FF	
red	Red	0xFF0000FF	
clear-red	Clear Red	0xFF00007F	
dark-red	Dark Red	0x8B0000FF	
light-red	Light Red	0xFF3333FF	
silver	Silver	0xC0C0C0FF	
clear-silver	Clear Silver	0xC0C0C07F	
dark-silver	Dark Silver	0xAFAFAFFF	
light-silver	Light Silver	0xE1E1E1FF	
turquoise	Turquoise	0x30D5C8FF	
clear-turquoise	Clear Turquoise	0x30D5C87F	
dark-turquoise	Dark Turquoise	0x00CED1FF	
light-turquoise	Light Turquoise	0xAFE4DEFF	
violet	Violet	0xEE82EEFF	
clear-violet	Clear Violet	0xEE82EE7F	
dark-violet	Dark Violet	0x9400D3FF	
light-violet	Light Violet	0x7A5299FF	
white	White	0xFFFFFFFF	
clear-white	Clear White	0xFFFFFF7F	

Name	Localized Name	sRGBA Value	Sample
yellow	Yellow	0xFFFF00FF	
clear-yellow	Clear Yellow	0xFFFF007F	
dark-yellow	Dark Yellow	0xFFCC00FF	
light-yellow	Light Yellow	0xFFFFE0FF	

4.1 Vendor Color Names

Vendor Color Names MAY be added without an update to this specification by prefixing the names with a reverse-DNS identifier and optionally adding one or more sRGBA colors on the end, e.g. "org.pwg-my-color_ff0000ff". The format is defined by the following ABNF [STD68]:

```
vendor-color-name = 1*ALPHA 1*dns-name "-" base-name
                    *( "_" red-color green-color blue-color
                       [ alpha-color ] )
base-name         = ( ALPHA / DIGIT ) *( ALPHA / DIGIT / "-" / "." )
dns-name          = "." 1*( ALPHA / DIGIT / "-" )
red-color         = 2HEXDIG
green-color       = 2HEXDIG
blue-color        = 2HEXDIG
alpha-color       = 2HEXDIG
```

4.2 Custom Color Names

Media Color Names MAY be locally extended using a Custom Media Color Name without an update to this specification by prefixing the color name with the string "custom-" and optionally adding one or more sRGBA colors to the end, e.g. "custom-mauve_b996ae". The format is defined by the following ABNF:

```
custom-color-name = "custom-" base-name
                    *( "_" red-color green-color blue-color
                       [ alpha-color ] )
base-name         = ( ALPHA / DIGIT ) *( ALPHA / DIGIT / "-" / "." )
red-color         = 2HEXDIG
green-color       = 2HEXDIG
blue-color        = 2HEXDIG
alpha-color       = 2HEXDIG
```


5. Media Size Self-Describing Names

The media size specifications defined in this document, labeled as Media Size Self-Describing Names, are cross indexed to Legacy Names and Alias (common) names. The Legacy Names define the names currently used in the ISO DPA, Printer MIB, or IPP documents.

5.1 Media Size Self-Describing Name Format

This specification defines a Media Size Self-Describing Name format that is recommended to be used by all new implementations. Names conforming to this format do not contain any space characters (0x20) - only letters, numbers, period ("."), hyphen ("-"), and underscore ("_") are allowed.

Wherever possible, the Media Size Self-Describing Name has been derived from the Legacy Name. In many cases the 'class_size-name' portion is identical to the Legacy Name. In the remaining cases, the 'class' portion MUST be ignored to match the Legacy Name.

This format has the Media Size Name and the Media Dimensions embedded within the string and allows a device to operate without a Media Size Name to Media Dimensions localization table. A long-dim value of 0 is used for reporting the width of roll-fed media (section 5.1.3). The Media Size Self-Describing Name format is structured using the following ABNF [STD68]:

```
media-size-self-describing-name =
                  media-size-name / "choice" 2*( "_" media-size-name )
media-size-name = class-in "_" base-name "_" short-dim "x" long-dim "in" /
                  class-mm "_" base-name "_" short-dim "x" long-dim "mm" /
                  "disc_" size-name "_" inner-dim "x" outer-dim "mm"
class-in        = "custom" / "na" / "asme" / "roc" / "oe" / "roll"
class-mm        = "custom" / "iso" / "jis" / "jpn" / "prc" / "om" / "roll"
base-name       = ( ALPHA / DIGIT ) *( ALPHA / DIGIT / "-" / "." )
short-dim       = dim
long-dim        = dim / "0"
inner-dim       = dim
outer-dim       = dim
dim             = integer-part [fraction-part] / "0" fraction-part
integer-part    = non-zero-digit *digit
fraction-part   = "." *digit non-zero-digit
non-zero-digit  = %x31-39
```

The above ABNF is current as of the date of publication this document. Implementers should be aware that the currently defined class names will be expanded in the future to cover new groups of media sizes. Thus conforming client parser implementations that are developed using this ABNF MUST accept class names that are not currently represented in this list. The online PWG Media Names ABNF [MSN-ABNF] is the proper reference for use within this specification.

5.1.1 class-in, class-mm, "choice", and "disc"

This string part is present to indicate the name space or jurisdiction for the size name in order to prevent name clashes. Currently defined classes are:

'asme'; American Society of Mechanical Engineers sizes in inches,
'choice'; Lists two or more self-describing media names that can be used in alphabetical order,
'custom'; Site-unique and user-defined sizes in inches or millimeters as defined in section,
'disc'; Printable optical disc media, sizes are inner and outer printable diameters in millimeters,
'iso'; International Standards Organization sizes in millimeters,
'jis'; Japanese Information Standard sizes in millimeters,
'jpn'; Japan sizes in millimeters,
'na'; North America sizes in inches,
'oe'; Other vendor-defined (English) sizes in inches,
'om'; Other vendor-defined (metric) sizes in millimeters,
'prc'; People's Republic of China sizes in millimeters,
'roc'; Republic of China (Taiwan) sizes in inches, and
'roll'; Roll media sizes in inches or millimeters.

New class names MUST conform to the following ABNF:

```
class-name = ( ALPHA / DIGIT ) *( ALPHA / DIGIT / "." )
```

5.1.2 size-name

This string provides a textual description of the media size. It is normally derived from the Legacy or Alias name associated with the media size. The size-name can consist of multiple parts, with each part separated by a hyphen (0x2D).

5.1.3 short-dim and long-dim

These values define the media size. The short-dim is always the smaller of the two dimensions for sheet-fed media. The dimensions are presented in decimal format to as many places as necessary to define the size. Trailing zeros MUST NOT be used if a decimal portion is present. Leading zeros MUST NOT ever be used. When expressing a supported or ready media width for roll-fed media where the minimum and maximum lengths are unbounded or unknown, the long-dim MUST BE 0.

Examples:

```
123         (valid)
123.456     (valid)
123.        (invalid, trailing decimal with no digits)
123.4560    (invalid, trailing zero)
0123.456    (invalid, leading zero)
```


5.1.4 inner-dim and outer-dim

These values define the inner and outer diameters of the printable area on an optical disc. The dimensions are presented in decimal format to as many places as necessary to define the size. Trailing zeros MUST NOT be used if a decimal portion is present. See section 5.1.3 for examples.

5.1.5 Conversion

For interchange between programs, the dimensions presented in this specification MUST NOT be converted to another system of units but MUST remain as defined in this specification.

The common usage of some names can represent several physical sizes, e.g., folio, quarto, foolscap, and executive. To avoid naming and sizing conflicts, a hyphenated identifier MUST be used to link the names to a specific size.

5.1.6 Examples

The letter size (8.5 inches by 11 inches) used primarily in North America:

```
na_letter_8.5x11in
```

The ISO A4 size (210 mm by 297 mm) used world-wide:

```
iso_a4_210x297mm
```

5.1.7 Custom and Roll-Fed Media Size Self-Describing Names

The classes "custom" and "roll" allow extensibility of the media size set without an update to this specification. These classes are primarily intended for special or user-defined media sizes that are used at a minimum number of locations. Size names that use the "custom" or "roll" prefix MUST NOT be registered with IANA.

5.1.8 Reserved Size Names

The following size names are reserved**:**

'current'; indicates the currently loaded media,
'current.*source-name*'; indicated the currently loaded media for the given media source,
'max'; Indicates the upper size limit of either a device or application,
'max.*source-name*'; indicates the upper size limit for the given media source,
'min'; indicates a lower size limit, and
'min.*source-name*'; indicates the lower size limit for the specified media source.

For example, a device that can process forms from 2 x 3 inches to 18 x 36 inches would report:


```
custom_max_18x36in
custom_min_2x3in
```

A device with two roll sources, "roll-1" and "roll-2", that accept rolls up to 60 inches in width and 1800 inches (150 feet) in length with a 36 inch roll installed with 240 inches (20 feet) remaining would report:

```
roll_current.roll-1_36x240in
roll_max_60x1800in
roll_min_2x3in
```

5.1.9 Conventions for the Tables

The rest of this section contains the tables of Media Size Self-Describing Names. Within a table entries from different sources are grouped together. The entries in these groups are arranged in order of increasing size of the smaller dimension. Engineering sizes are defined in Decimal Inch Drawing Sheet Size and Format [ASME-IN] and Metric Drawing Sheet Size and Format [ASME-M].

The presence of “(envelope)” in the Alias column indicates this size is also commonly used for envelopes. It does not imply that this size is only available as an envelope media type.

Table 3 - North American Sheet Media Sizes

Legacy Name	Alias (common name)	Self-Describing Name (inches)	Localized Name
	index-3x5	na_index-3x5_3x5in	3 x 5"
	personal (envelope)	na_personal_3.625x6.5in	Personal Envelope
monarch-envelope		na_monarch_3.875x7.5in	Monarch Envelope
na-number-9-envelope		na_number-9_3.875x8.875in	#9 Envelope
	index-4x6 (postcard)	na_index-4x6_4x6in	4 x 6"
na-number-10-envelope	comm-10 (envelope)	na_number-10_4.125x9.5in	#10 Envelope
	a2 (envelope)	na_a2_4.375x5.75in	A2 Envelope
	number-11 (envelope)	na_number-11_4.5x10.375in	#11 Envelope
	number-12 (envelope)	na_number-12_4.75x11in	#12 Envelope
	5x7	na_5x7_5x7in	5 x 7"
	index-5x8	na_index-5x8_5x8in	5 x 8"
	number-14 (envelope)	na_number-14_5x11.5in	#14 Envelope
invoice	statement, mini, half-letter	na_invoice_5.5x8.5in	Statement

Legacy Name	Alias (common name)	Self-Describing Name (inches)	Localized Name
	index-4x6-ext	na_index-4x6-ext_6x8in	6 x 8"
na-6x9-envelope	6x9 (envelope)	na_6x9_6x9in	6 x 9"
	c5 (envelope)	na_c5_6.5x9.5in	C5 Envelope
na-7x9-envelope	7x9 (envelope)	na_7x9_7x9in	7 x 9"
executive		na_executive_7.25x10.5in	US Executive
na-8x10	government-letter	na_govt-letter_8x10in	8 x 10"
	government-legal	na_govt-legal_8x13in	8 x 13"
quarto		na_quarto_8.5x10.83in	Quarto
na-letter	letter, a, engineering-a	na_letter_8.5x11in	US Letter
	fanfold-european	na_fanfold-eur_8.5x12in	European Fanfold
	letter-plus	na_letter-plus_8.5x12.69in	US Letter (Plus)
	foolscap, german-legal-fanfold	na_foolscap_8.5x13in	Foolscap
	oficio	na_oficio_8.5x13.4in	Oficio (Mexico)
na-legal	legal	na_legal_8.5x14in	US Legal
	super-a	na_super-a_8.94x14in	8.94 x 14"
na-9x11-envelope	9x11 (envelope), letter-tab	na_9x11_9x11in	9 x 11"
arch-a	architecture-a (envelope)	na_arch-a_9x12in	9 x 12"
	letter-extra	na_letter-extra_9.5x12in	US Letter (Extra)
	legal-extra	na_legal-extra_9.5x15in	US Legal (Extra)
	10x11	na_10x11_10x11in	10 x 11"
na-10x13-envelope	10x13 (envelope)	na_10x13_10x13in	10 x 13" Envelope
na-10x14-envelope	10x14 (envelope)	na_10x14_10x14in	10 x 14" Envelope
na-10x15-envelope	10x15 (envelope)	na_10x15_10x15in	10 x 15" Envelope
	11x12	na_11x12_11x12in	11 x 12"
	edp	na_edp_11x14in	11 x 14"
	fanfold-us	na_fanfold-us_11x14.875in	US Fanfold
	11x15	na_11x15_11x15in	11 x 15"

Legacy Name	Alias (common name)	Self-Describing Name (inches)	Localized Name
tabloid	ledger, b, engineering-b	na_ledger_11x17in	11 x 17"
	european-edp	na_eur-edp_12x14in	12 x 14"
arch-b	architecture-b, tabloid-extra	na_arch-b_12x18in	12 x 18"
	12x19	na_12x19_12x19in	12 x 19"
	b-plus	na_b-plus_12x19.17in	12 x 19 1/6"
	super-b	na_super-b_13x19in	13 x 19"
c	engineering-c	na_c_17x22in	17 x 22"
arch-c	architecture-c	na_arch-c_18x24in	18 x 24"
d	engineering-d	na_d_22x34in	22 x 34"
arch-d	architecture-d	na_arch-d_24x36in	24 x 36"
f	e1	asme_f_28x40in	28 x 40"
	wide-format	na_wide-format_30x42in	30 x 42"
e	engineering-e	na_e_34x44in	34 x 44"
arch-e	architecture-e	na_arch-e_36x48in	36 x 48"
	f, engineering-f	na_f_44x68in	44 x 68"

Table 4 - ISO Sheet Media Sizes

Legacy Name	Alias (common name)	Self-Describing Name (mm)	Localized Name
iso-a10	a10	iso_a10_26x37mm	A10
iso-a9	a9	iso_a9_37x52mm	A9
iso-a8	a8	iso_a8_52x74mm	A8
iso-a7	a7	iso_a7_74x105mm	A7
iso-a6	a6	iso_a6_105x148mm	A6
iso-a5	a5	iso_a5_148x210mm	A5
	a5-extra	iso_a5-extra_174x235mm	A5 (Extra)
iso-a4	a4	iso_a4_210x297mm	A4
	a4-tab	iso_a4-tab_225x297mm	A4 (Tab)
	a4-extra	iso_a4-extra_235.5x322.3mm	A4 (Extra)
iso-a3	a3	iso_a3_297x420mm	A3
iso-a4x3, a4x3		iso_a4x3_297x630mm	A4x3
iso-a4x4, a4x4		iso_a4x4_297x841mm	A4x4
iso-a4x5, a4x5		iso_a4x5_297x1051mm	A4x5
iso-a4x6, a4x6		iso_a4x6_297x1261mm	A4x6
iso-a4x7, a4x7		iso_a4x7_297x1471mm	A4x7
iso-a4x8, a4x8		iso_a4x8_297x1682mm	A4x8

Legacy Name	Alias (common name)	Self-Describing Name (mm)	Localized Name
iso-a4x9, a4x9		iso_a4x9_297x1892mm	A4x9
iso-a3-extra		iso_a3-extra_322x445mm	A3 (Extra)
iso-a2	a2	iso_a2_420x594mm	A2
iso-a3x3, a3x3		iso_a3x3_420x891mm	A3x3
iso-a3x4, a3x4		iso_a3x4_420x1189mm	A3x4
iso-a3x5, a3x5		iso_a3x5_420x1486mm	A3x5
iso-a3x6, a3x6		iso_a3x6_420x1783mm	A3x6
iso-a3x7, a3x7		iso_a3x7_420x2080mm	A3x7
iso-a1	a1	iso_a1_594x841mm	A1
iso-a2x3, a2x3		iso_a2x3_594x1261mm	A2x3
iso-a2x4, a2x4		iso_a2x4_594x1682mm	A2x4
iso-a2x5, a2x5		iso_a2x5_594x2102mm	A2x5
iso-a0	a0	iso_a0_841x1189mm	A0
iso-a1x3, a1x3		iso_a1x3_841x1783mm	A1x3
iso-a1x4, a1x4		iso_a1x4_841x2378mm	A1x4
a0x2	2a0	iso_2a0_1189x1682mm	A0x2
a0x3		iso_a0x3_1189x2523mm	A0x3
iso-b10	b10	iso_b10_31x44mm	B10
iso-b9	b9	iso_b9_44x62mm	B9
iso-b8	b8	iso_b8_62x88mm	B8
iso-b7	b7	iso_b7_88x125mm	B7
iso-b6	b6 (envelope)	iso_b6_125x176mm	B6 Envelope
	b6/c4 (envelope)	iso_b6c4_125x324mm	B6/C4 Envelope
iso-b5	b5 (envelope)	iso_b5_176x250mm	B5 Envelope
	b5-extra	iso_b5-extra_201x276mm	B5 (Extra)
iso-b4	b4 (envelope)	iso_b4_250x353mm	B4 Envelope
iso-b3	b3	iso_b3_353x500mm	B3
iso-b2	b2	iso_b2_500x707mm	B2
iso-b1	b1	iso_b1_707x1000mm	B1
iso-b0	b0	iso_b0_1000x1414mm	B0
	c10 (envelope)	iso_c10_28x40mm	C10 Envelope

Legacy Name	Alias (common name)	Self-Describing Name (mm)	Localized Name
	c9 (envelope)	iso_c9_40x57mm	C9 Envelope
iso-c8	c8 (envelope)	iso_c8_57x81mm	C8 Envelope
iso-c7	c7 (envelope)	iso_c7_81x114mm	C7 Envelope
	c7/c6 (envelope)	iso_c7c6_81x162mm	C7/C6 Envelope
iso-c6	c6 (envelope)	iso_c6_114x162mm	C6 Envelope
	c6/c5 (envelope)	iso_c6c5_114x229mm	C6/C5 Envelope
iso-c5	c5 (envelope)	iso_c5_162x229mm	C5 Envelope
iso-c4	c4 (envelope)	iso_c4_229x324mm	C4 Envelope
iso-c3	c3 (envelope)	iso_c3_324x458mm	C3 Envelope
iso-c2	c2 (envelope)	iso_c2_458x648mm	C2 Envelope
iso-c1	c1 (envelope)	iso_c1_648x917mm	C1 Envelope
iso-c0	c0 (envelope)	iso_c0_917x1297mm	C0 Envelope
iso-designated	designated-long, dl (envelope)	iso_dl_110x220mm	DL Envelope
iso-ra4		iso_ra4_215x305mm	RA4
iso-sra4		iso_sra4_225x320mm	SRA4
iso-ra3		iso_ra3_305x430mm	RA3
iso-sra3		iso_sra3_320x450mm	SRA3
iso-ra2		iso_ra2_430x610mm	RA2
iso-sra2		iso_sra2_450x640mm	SRA2
iso-ra1		iso_ra1_610x860mm	RA1
iso-sra1		iso_sra1_640x900mm	SRA1
iso-ra0		iso_ra0_860x1220mm	RA0
iso-sra0		iso_sra0_900x1280mm	SRA0

Table 5 - Other Metric Sheet Media Sizes

Legacy Name	Alias (common name)	Self-Describing Name (mm)	Localized Name
	small-photo	om_small-photo_100x150mm	100 x 150mm
		om_wide-photo_100x200mm	100 x 200mm
	Italian (envelope)	om_italian_110x230mm	Italian Envelope
	Postfix (envelope)	om_postfix_114x229mm	Postfix Envelope
	medium-photo	om_medium-photo_130x180mm	120x180mm
	large-photo	om_large-photo_200x300	200 x 300mm
folio		om_folio_210x330mm	Folio
	folio-sp	om_folio-sp_215x315mm	Folio (Special)
	Invite (envelope)	om_invite_220x220mm	Invitation Envelope

Table 6 - Japanese Sheet Media Sizes

Legacy Name	Alias (common name)	Self-Describing Name (mm)	Localized Name
jis-b10		jis_b10_32x45mm	JIS B10
jis-b9		jis_b9_45x64mm	JIS B9
jis-b8		jis_b8_64x91mm	JIS B8
jis-b7		jis_b7_91x128mm	JIS B7
jis-b6		jis_b6_128x182mm	JIS B6
jis-b5		jis_b5_182x257mm	JIS B5
jis-b4		jis_b4_257x364mm	JIS B4
jis-b3		jis_b3_364x515mm	JIS B3
jis-b2		jis_b2_515x728mm	JIS B2
jis-b1		jis_b1_728x1030mm	JIS B1
jis-b0		jis_b0_1030x1456mm	JIS B0
	exec	jis_exec_216x330mm	JIS Executive
	kaku2 (envelope)	jpn_kaku2_240x332mm	Kakugata 2 Envelope
		jpn_kaku3_216x277mm	Kakugata 3 Envelope
		jpn_kaku4_197x267mm	Kakugata 4 Envelope
		jpn_kaku5_190x240mm	Kakugata 5 Envelope
		jpn_kaku7_142x205mm	Kakugata 7 Envelope
		jpn_kaku8_119x197mm	Kakugata 8 Envelope
	chou4 (envelope)	jpn_chou4_90x205mm	Chou 4 Envelope
	hagaki (postcard)	jpn_hagaki_100x148mm	Hagaki
	you4 (envelope)	jpn_you4_105x235mm	You 4 Envelope
	you6 (envelope)	jpn_you6_98x190mm	You 6 Envelope
	chou2 (envelope)	jpn_chou2_111.1x146mm	Chou 2 Envelope
	chou3 (envelope)	jpn_chou3_120x235mm	Chou 3 Envelope
		jpn_chou40_90x225mm	Chou 40 Envelope
	oufuku (reply postcard)	jpn_oufuku_148x200mm	Oufuku Reply Postcard
	kahu (envelope)	jpn_kahu_240x322.1mm	Kahu Envelope

Table 7 - Chinese Sheet Media Sizes

Legacy Name	Alias (common name)	Self-Describing Name (mm)	Localized Name
	prc-32k	prc_32k_97x151mm	Chinese 32k
	prc1 (envelope)	prc_1_102x165mm	Chinese #1 Envelope
	prc2 (envelope)	prc_2_102x176mm	Chinese #2 Envelope
	prc4 (envelope)	prc_4_110x208mm	Chinese #4 Envelope
	prc8 (envelope)	prc_8_120x309mm	Chinese #8 Envelope
	prc6 (envelope)	prc_6_120x320mm	Chinese #6 Envelope
	prc3 (envelope)	prc_3_125x176mm	Chinese #3 Envelope
	prc-16k	prc_16k_146x215mm	Chinese 16k
	prc7 (envelope)	prc_7_160x230mm	Chinese #7 Envelope
	juuro-ku-kai	om_juuro-ku-kai_198x275mm	Chinese 4k (Large)
	pa-kai	om_pa-kai_267x389mm	Chinese 16k (Large)
	dai-pa-kai	om_dai-pa-kai_275x395mm	Chinese 8k (Large)
	prc10 (envelope)	prc_10_324x458mm	Chinese #10 Envelope
	roc-16k	roc_16k_7.75x10.75in	ROC 16k
	roc-8k	roc_8k_10.75x15.5in	ROC 8k

6. Media Coating Names

Standard "media-coating" names are defined in the IANA IPP Registry [IANA-IPP]. Localizations are provided in Table 8.

Table 8 - Media Coating Names

Name	Localized Name
glossy	Glossy
high-gloss	High Gloss
matte	Matte
none	None
satin	Satin
semi-gloss	Semi-Gloss

6.1 Vendor Media Coating Names

Vendor Media Coating Names MAY be added without an update to this specification by prefixing the names with a reverse-DNS identifier, e.g. "org.pwg-my-coating". The format is defined by the following ABNF [STD68]:

```
vendor-coating-name = 1*ALPHA 1*dns-name "-" base-name
base-name           = ( ALPHA / DIGIT ) *( ALPHA / DIGIT / "-" / "." )
dns-name            = "." 1*( ALPHA / DIGIT / "-" )
```

6.2 Custom Media Coating Names

Media Coating Names MAY be locally extended using a Custom Media Coating Name without an update to this specification by prefixing the names with the string "custom-", e.g. "custom-xyz-coating". The format is defined by the following ABNF [STD68]:

```
custom-coating-name = "custom-" base-name
base-name           = ( ALPHA / DIGIT ) *( ALPHA / DIGIT / "-" / "." )
```


7. Media Source Names

Standard "media-source" names are defined in the IANA IPP Registry [IANA-IPP]. Localizations are provided in Table 9.

Table 9 - Media Source Names

Name	Localized Name
alternate	Alternate Tray
alternate-roll	Alternate Roll
auto	Automatic
bottom	Bottom Tray
by-pass-tray	Multipurpose Tray
center	Center Tray
disc	CD/DVD Feed
envelope	Envelope Feed
hagaki	Hagaki Tray
large-capacity	Large Capacity Tray
left	Left Tray
main	Main Tray
main-roll	Main Roll
manual	Manual Feed
middle	Middle Tray
photo	Photo Tray
rear	Rear Feed
roll-1	Roll 1
roll-2	Roll 2
roll-3	Roll 3
roll-4	Roll 4
roll-5	Roll 5
roll-6	Roll 6
roll-7	Roll 7
roll-8	Roll 8
roll-9	Roll 9
roll-10	Roll 10
side	Side Tray
top	Top Tray
tray-1	Tray 1
tray-2	Tray 2
tray-3	Tray 3
tray-4	Tray 4
tray-5	Tray 5
tray-6	Tray 6
tray-7	Tray 7
tray-8	Tray 8
tray-9	Tray 9
tray-10	Tray 10

Name	Localized Name
tray-11	Tray 11
tray-12	Tray 12
tray-13	Tray 13
tray-14	Tray 14
tray-15	Tray 15
tray-16	Tray 16
tray-17	Tray 17
tray-18	Tray 18
tray-19	Tray 19
tray-20	Tray 20

7.1 Vendor Media Source Names

Vendor Media Source Names MAY be added without an update to this specification by prefixing the names with a reverse-DNS identifier, e.g. "org.pwg-my-source". The format is defined by the following ABNF [STD68]:

```
vendor-source-name = 1*ALPHA 1*dns-name "-" base-name
base-name          = ( ALPHA / DIGIT ) *( ALPHA / DIGIT / "-" / "." )
dns-name           = "." 1*( ALPHA / DIGIT / "-" )
```

7.2 Custom Media Source Names

Media Source Names MAY be locally extended using a Custom Media Source Name without an update to this specification by prefixing the names with the string "custom-", e.g. "custom-xyz-source". The format is defined by the following ABNF [STD68]:

```
custom-source-name = "custom-" base-name
base-name          = ( ALPHA / DIGIT ) *( ALPHA / DIGIT / "-" / "." )
```


8. Media Tooth Names

Standard "media-tooth" names are defined in the IANA IPP Registry [IANA-IPP]. Localizations are provided in Table 10.

Table 10 - Media Tooth Names

Name	Localized Name
antique	Antique
calendared	Calendared
coarse	Coarse
fine	Fine
linen	Linen
medium	Medium
smooth	Smooth
stipple	Stipple
uncalendared	Uncalendared
vellum	Vellum

8.1 Vendor Media Tooth Names

Vendor Media Tooth Names MAY be added without an update to this specification by prefixing the names with a reverse-DNS identifier, e.g. "org.pwg-my-tooth". The format is defined by the following ABNF [STD68]:

```
vendor-tooth-name = 1*ALPHA 1*dns-name "-" base-name
base-name         = ( ALPHA / DIGIT ) *( ALPHA / DIGIT / "-" / "." )
dns-name          = "." 1*( ALPHA / DIGIT / "-" )
```

8.2 Custom Media Tooth Names

Media Tooth Names MAY be locally extended using a Custom Media Tooth Name without an update to this specification by prefixing the names with the string "custom-", e.g. "custom-xyz-tooth". The format is defined by the following ABNF [STD68]:

```
custom-tooth-name = "custom-" base-name
base-name         = ( ALPHA / DIGIT ) *( ALPHA / DIGIT / "-" / "." )
```


9. Conformance Requirements

Implementations conforming to this specification MUST:

1. Support media type names as defined in section 3,
2. Support color names as defined in section 4,
3. Support size names as defined in section 5,
4. Support coating names as defined in section 6,
5. Support source names as defined in section 7,
6. Support tooth names as defined in section 8,
7. Support the internationalization considerations defined in section 10, and
8. Support the security considerations defined in section 11.

Media Names defined in this specification are presented using lower case characters. Other referencing standards can impose case sensitive rules if necessary. For interoperability and implementation efficiency, this specification strongly recommends these names be used in the lower case form defined in this document.

10. Internationalization Considerations

For interoperability and basic support for multiple languages, conforming implementations MUST support:

1. The Universal Character Set (UCS) Transformation Format -- 8 bit (UTF-8) [STD63] encoding of Unicode [UNICODE] [ISO10646]; and
2. The Unicode Format for Network Interchange [RFC5198] which requires transmission of well-formed UTF-8 strings and recommends transmission of normalized UTF-8 strings in Normalization Form C (NFC) [UAX15].

Unicode NFC is defined as the result of performing Canonical Decomposition (into base characters and combining marks) followed by Canonical Composition (into canonical composed characters wherever Unicode has assigned them).

Localized names provided in this specification have been chosen to unambiguously identify the named media property for translation. See the PWG Sample English localization of registered IPP attributes and values [PWG-CATALOG] for an example of how these value can be localized.

11. Security Considerations

The media property names defined in this document require the same security considerations as defined in the IPP/1.1: Model and Semantics [RFC2911].

12. IANA Considerations

12.1 Attribute Value Registrations

The keyword attribute values defined in this document will be published by IANA according to the procedures in the IPP/1.1: Model and Semantics [RFC2911] section 6.1 in the following file:

http://www.iana.org/assignments/ipp-registrations

The registry entries will contain the following information:

Attributes (attribute syntax) Keyword Attribute Value	Reference
media (type3 keyword | name(MAX))	[RFC2911]
asme_f_28x40in	[PWG5101.1]
iso_2a0_1189x1682mm	[PWG5101.1]
iso_a0_841x1189mm	[PWG5101.1]
iso_a0x3_1189x2523mm	[PWG5101.1]
iso_a10_26x37mm	[PWG5101.1]
iso_a1_594x841mm	[PWG5101.1]
iso_a1x3_841x1783mm	[PWG5101.1]
iso_a1x4_841x2378mm	[PWG5101.1]
iso_a2_420x594mm	[PWG5101.1]
iso_a2x3_594x1261mm	[PWG5101.1]
iso_a2x4_594x1682mm	[PWG5101.1]
iso_a2x5_594x2102mm	[PWG5101.1]
iso_a3-extra_322x445mm	[PWG5101.1]
iso_a3_297x420mm	[PWG5101.1]
iso_a3x3_420x891mm	[PWG5101.1]
iso_a3x4_420x1189mm	[PWG5101.1]
iso_a3x5_420x1486mm	[PWG5101.1]
iso_a3x6_420x1783mm	[PWG5101.1]
iso_a3x7_420x2080mm	[PWG5101.1]
iso_a4-extra_235.5x322.3mm	[PWG5101.1]
iso_a4-tab_225x297mm	[PWG5101.1]
iso_a4_210x297mm	[PWG5101.1]
iso_a4x3_297x630mm	[PWG5101.1]
iso_a4x4_297x841mm	[PWG5101.1]
iso_a4x5_297x1051mm	[PWG5101.1]
iso_a4x6_297x1261mm	[PWG5101.1]
iso_a4x7_297x1471mm	[PWG5101.1]
iso_a4x8_297x1682mm	[PWG5101.1]
iso_a4x9_297x1892mm	[PWG5101.1]
iso_a5-extra_174x235mm	[PWG5101.1]
iso_a5_148x210mm	[PWG5101.1]
iso_a6_105x148mm	[PWG5101.1]
iso_a7_74x105mm	[PWG5101.1]
iso_a8_52x74mm	[PWG5101.1]
iso_a9_37x52mm	[PWG5101.1]
iso_b0_1000x1414mm	[PWG5101.1]
iso_b10_31x44mm	[PWG5101.1]
iso_b1_707x1000mm	[PWG5101.1]

iso_b2_500x707mm	[PWG5101.1]
iso_b3_353x500mm	[PWG5101.1]
iso_b4_250x353mm	[PWG5101.1]
iso_b5-extra_201x276mm	[PWG5101.1]
iso_b5_176x250mm	[PWG5101.1]
iso_b6_125x176mm	[PWG5101.1]
iso_b6c4_125x324mm	[PWG5101.1]
iso_b7_88x125mm	[PWG5101.1]
iso_b8_62x88mm	[PWG5101.1]
iso_b9_44x62mm	[PWG5101.1]
iso_c0_917x1297mm	[PWG5101.1]
iso_c10_28x40mm	[PWG5101.1]
iso_c1_648x917mm	[PWG5101.1]
iso_c2_458x648mm	[PWG5101.1]
iso_c3_324x458mm	[PWG5101.1]
iso_c4_229x324mm	[PWG5101.1]
iso_c5_162x229mm	[PWG5101.1]
iso_c6_114x162mm	[PWG5101.1]
iso_c6c5_114x229mm	[PWG5101.1]
iso_c7_81x114mm	[PWG5101.1]
iso_c7c6_81x162mm	[PWG5101.1]
iso_c8_57x81mm	[PWG5101.1]
iso_c9_40x57mm	[PWG5101.1]
iso_dl_110x220mm	[PWG5101.1]
iso_ra0_860x1220mm	[PWG5101.1]
iso_ra1_610x860mm	[PWG5101.1]
iso_ra2_430x610mm	[PWG5101.1]
iso_ra3_305x430mm	[PWG5101.1]
iso_ra4_215x305mm	[PWG5101.1]
iso_sra0_900x1280mm	[PWG5101.1]
iso_sra1_640x900mm	[PWG5101.1]
iso_sra2_450x640mm	[PWG5101.1]
iso_sra3_320x450mm	[PWG5101.1]
iso_sra4_225x320mm	[PWG5101.1]
jis_b0_1030x1456mm	[PWG5101.1]
jis_b10_32x45mm	[PWG5101.1]
jis_b1_728x1030mm	[PWG5101.1]
jis_b2_515x728mm	[PWG5101.1]
jis_b3_364x515mm	[PWG5101.1]
jis_b4_257x364mm	[PWG5101.1]
jis_b5_182x257mm	[PWG5101.1]
jis_b6_128x182mm	[PWG5101.1]
jis_b7_91x128mm	[PWG5101.1]
jis_b8_64x91mm	[PWG5101.1]
jis_b9_45x64mm	[PWG5101.1]
jis_exec_216x330mm	[PWG5101.1]
jpn_chou2_111.1x146mm	[PWG5101.1]
jpn_chou3_120x235mm	[PWG5101.1]
jpn_chou4_90x205mm	[PWG5101.1]
jpn_hagaki_100x148mm	[PWG5101.1]
jpn_kahu_240x322.1mm	[PWG5101.1]
jpn_kaku2_240x332mm	[PWG5101.1]
jpn_kaku3_216x277mm	[PWG5101.1]
jpn_kaku4_197x267mm	[PWG5101.1]
jpn_kaku5_190x240mm	[PWG5101.1]
jpn_kaku7_142x205mm	[PWG5101.1]
jpn_kaku8_119x197mm	[PWG5101.1]

jpn_oufuku_148x200mm	[PWG5101.1]
jpn_you4_105x235mm	[PWG5101.1]
na_10x11_10x11in	[PWG5101.1]
na_10x13_10x13in	[PWG5101.1]
na_10x14_10x14in	[PWG5101.1]
na_10x15_10x15in	[PWG5101.1]
na_11x12_11x12in	[PWG5101.1]
na_11x15_11x15in	[PWG5101.1]
na_12x19_12x19in	[PWG5101.1]
na_5x7_5x7in	[PWG5101.1]
na_6x9_6x9in	[PWG5101.1]
na_7x9_7x9in	[PWG5101.1]
na_9x11_9x11in	[PWG5101.1]
na_a2_4.375x5.75in	[PWG5101.1]
na_arch-a_9x12in	[PWG5101.1]
na_arch-b_12x18in	[PWG5101.1]
na_arch-c_18x24in	[PWG5101.1]
na_arch-d_24x36in	[PWG5101.1]
na_arch-e_36x48in	[PWG5101.1]
na_b-plus_12x19.17in	[PWG5101.1]
na_c5_6.5x9.5in	[PWG5101.1]
na_c_17x22in	[PWG5101.1]
na_d_22x34in	[PWG5101.1]
na_e_34x44in	[PWG5101.1]
na_edp_11x14in	[PWG5101.1]
na_eur-edp_12x14in	[PWG5101.1]
na_executive_7.25x10.5in	[PWG5101.1]
na_f_44x68in	[PWG5101.1]
na_fanfold-eur_8.5x12in	[PWG5101.1]
na_fanfold-us_11x14.875in	[PWG5101.1]
na_foolscap_8.5x13in	[PWG5101.1]
na_govt-legal_8x13in	[PWG5101.1]
na_govt-letter_8x10in	[PWG5101.1]
na_index-3x5_3x5in	[PWG5101.1]
na_index-4x6-ext_6x8in	[PWG5101.1]
na_index-4x6_4x6in	[PWG5101.1]
na_index-5x8_5x8in	[PWG5101.1]
na_invoice_5.5x8.5in	[PWG5101.1]
na_ledger_11x17in	[PWG5101.1]
na_legal-extra_9.5x15in	[PWG5101.1]
na_legal_8.5x14in	[PWG5101.1]
na_letter-extra_9.5x12in	[PWG5101.1]
na_letter-plus_8.5x12.69in	[PWG5101.1]
na_letter_8.5x11in	[PWG5101.1]
na_monarch_3.875x7.5in	[PWG5101.1]
na_number-10_4.125x9.5in	[PWG5101.1]
na_number-11_4.5x10.375in	[PWG5101.1]
na_number-12_4.75x11in	[PWG5101.1]
na_number-14_5x11.5in	[PWG5101.1]
na_number-9_3.875x8.875in	[PWG5101.1]
na_oficio_8.5x13.4in	[PWG5101.1]
na_personal_3.625x6.5in	[PWG5101.1]
na_quarto_8.5x10.83in	[PWG5101.1]
na_super-a_8.94x14in	[PWG5101.1]
na_super-b_13x19in	[PWG5101.1]
na_wide-format_30x42in	[PWG5101.1]
oe_photo-l_3.5x5in	[PWG5101.1]


```
    om_dai-pa-kai_275x395mm                                  [PWG5101.1]
    om_folio-sp_215x315mm                                    [PWG5101.1]
    om_folio_210x330mm                                       [PWG5101.1]
    om_invite_220x220mm                                      [PWG5101.1]
    om_italian_110x230mm                                     [PWG5101.1]
    om_juuro-ku-kai_198x275mm                                [PWG5101.1]
    om_large-photo_200x300                                   [PWG5101.1]
    om_medium-photo_130x180mm                                [PWG5101.1]
    om_pa-kai_267x389mm                                      [PWG5101.1]
    om_postfix_114x229mm                                     [PWG5101.1]
    om_small-photo_100x150mm                                 [PWG5101.1]
    om_wide-photo_100x200mm                                  [PWG5101.1]
    prc_10_324x458mm                                         [PWG5101.1]
    prc_16k_146x215mm                                        [PWG5101.1]
    prc_1_102x165mm                                          [PWG5101.1]
    prc_2_102x176mm                                          [PWG5101.1]
    prc_32k_97x151mm                                         [PWG5101.1]
    prc_3_125x176mm                                          [PWG5101.1]
    prc_4_110x208mm                                          [PWG5101.1]
    prc_5_110x220mm                                          [PWG5101.1]
    prc_6_120x320mm                                          [PWG5101.1]
    prc_7_160x230mm                                          [PWG5101.1]
    prc_8_120x309mm                                          [PWG5101.1]
    roc_16k_7.75x10.75in                                     [PWG5101.1]
    roc_8k_10.75x15.5in                                      [PWG5101.1]

  media-color (type3 keyword | name(MAX))                    [PWG5100.3]
    black                                                    [PWG5101.1]
    brown                                                    [PWG5101.1]
    clear-black                                              [PWG5101.1]
    clear-blue                                               [PWG5101.1]
    clear-brown                                              [PWG5101.1]
    clear-buff                                               [PWG5101.1]
    clear-cyan                                               [PWG5101.1]
    clear-gold                                               [PWG5101.1]
    clear-goldenrod                                          [PWG5101.1]
    clear-gray                                               [PWG5101.1]
    clear-green                                              [PWG5101.1]
    clear-ivory                                              [PWG5101.1]
    clear-magenta                                            [PWG5101.1]
    clear-multi-color                                        [PWG5101.1]
    clear-mustard                                            [PWG5101.1]
    clear-orange                                             [PWG5101.1]
    clear-pink                                               [PWG5101.1]
    clear-red                                                [PWG5101.1]
    clear-silver                                             [PWG5101.1]
    clear-turquoise                                          [PWG5101.1]
    clear-violet                                             [PWG5101.1]
    clear-white                                              [PWG5101.1]
    clear-yellow                                             [PWG5101.1]
    cyan                                                     [PWG5101.1]
    dark-blue                                                [PWG5101.1]
    dark-brown                                               [PWG5101.1]
    dark-buff                                                [PWG5101.1]
    dark-cyan                                                [PWG5101.1]
    dark-gold                                                [PWG5101.1]
    dark-goldenrod                                           [PWG5101.1]
```



```
    dark-gray                                                    [PWG5101.1]
    dark-green                                                   [PWG5101.1]
    dark-ivory                                                   [PWG5101.1]
    dark-magenta                                                 [PWG5101.1]
    dark-mustard                                                 [PWG5101.1]
    dark-orange                                                  [PWG5101.1]
    dark-pink                                                    [PWG5101.1]
    dark-red                                                     [PWG5101.1]
    dark-silver                                                  [PWG5101.1]
    dark-turquoise                                               [PWG5101.1]
    dark-violet                                                  [PWG5101.1]
    dark-yellow                                                  [PWG5101.1]
    gold                                                         [PWG5101.1]
    light-black                                                  [PWG5101.1]
    light-blue                                                   [PWG5101.1]
    light-brown                                                  [PWG5101.1]
    light-buff                                                   [PWG5101.1]
    light-cyan                                                   [PWG5101.1]
    light-gold                                                   [PWG5101.1]
    light-goldenrod                                              [PWG5101.1]
    light-gray                                                   [PWG5101.1]
    light-green                                                  [PWG5101.1]
    light-ivory                                                  [PWG5101.1]
    light-magenta                                                [PWG5101.1]
    light-mustard                                                [PWG5101.1]
    light-orange                                                 [PWG5101.1]
    light-pink                                                   [PWG5101.1]
    light-red                                                    [PWG5101.1]
    light-silver                                                 [PWG5101.1]
    light-turquoise                                              [PWG5101.1]
    light-violet                                                 [PWG5101.1]
    light-yellow                                                 [PWG5101.1]
    magenta                                                      [PWG5101.1]
    multi-color                                                  [PWG5101.1]
    mustard                                                      [PWG5101.1]
    silver                                                       [PWG5101.1]
    turquoise                                                    [PWG5101.1]
    violet                                                       [PWG5101.1]

  media-type (type3 keyword | name(MAX))                         [PWG5100.3]
    auto                                                         [PWG5101.1]
    disc-glossy                                                  [PWG5101.1]
    disc-high-gloss                                              [PWG5101.1]
    disc-matte                                                   [PWG5101.1]
    disc-satin                                                   [PWG5101.1]
    disc-semi-gloss                                              [PWG5101.1]
    envelope-archival                                            [PWG5101.1]
    envelope-bond                                                [PWG5101.1]
    envelope-coated                                              [PWG5101.1]
    envelope-cotton                                              [PWG5101.1]
    envelope-fine                                                [PWG5101.1]
    envelope-heavyweight                                         [PWG5101.1]
    envelope-inkjet                                              [PWG5101.1]
    envelope-lightweight                                         [PWG5101.1]
    envelope-preprinted                                          [PWG5101.1]
    fabric                                                       [PWG5101.1]
    fabric-archival                                              [PWG5101.1]
```


fabric-glossy	[PWG5101.1]
fabric-high-gloss	[PWG5101.1]
fabric-matte	[PWG5101.1]
fabric-semi-gloss	[PWG5101.1]
fabric-waterproof	[PWG5101.1]
glass	[PWG5101.1]
glass-colored	[PWG5101.1]
glass-opaque	[PWG5101.1]
glass-surfaced	[PWG5101.1]
glass-textured	[PWG5101.1]
labels-colored	[PWG5101.1]
labels-glossy	[PWG5101.1]
labels-high-gloss	[PWG5101.1]
labels-inkjet	[PWG5101.1]
labels-matte	[PWG5101.1]
labels-permanent	[PWG5101.1]
labels-satin	[PWG5101.1]
labels-security	[PWG5101.1]
labels-semi-gloss	[PWG5101.1]
metal	[PWG5101.1]
metal-glossy	[PWG5101.1]
metal-high-gloss	[PWG5101.1]
metal-matte	[PWG5101.1]
metal-satin	[PWG5101.1]
metal-semi-gloss	[PWG5101.1]
photographic-archival	[PWG5101.1]
plastic	[PWG5101.1]
plastic-archival	[PWG5101.1]
plastic-colored	[PWG5101.1]
plastic-glossy	[PWG5101.1]
plastic-high-gloss	[PWG5101.1]
plastic-matte	[PWG5101.1]
plastic-satin	[PWG5101.1]
plastic-semi-gloss	[PWG5101.1]
self-adhesive-film	[PWG5101.1]
stationery-archival	[PWG5101.1]
stationery-cotton	[PWG5101.1]
stationery-heavyweight-coated	[PWG5101.1]
transfer	[PWG5101.1]

13. Collected ABNF

The following ABNF [STD68] grammar defines the syntax of valid names in this specification. This ABNF is also available online [MSN-ABNF].

```
; PWG ISTO 5101.1 ABNF DEFINITIONS
;
; Last Update: March 28, 2013
;
; This document contains the current ABNF definitions for the PWG Media
; Standardized Names Specification, PWG ISTO Document Number 5101.1.  The
; ABNF definitions contained herein, if different from the definitions in
; the specification, supercede those present in the specification.
;
; NOTE: This ABNF allows for a mix of uppercase and lowercase letters in
; names, however specific bindings such as the Internet Printing Protocol
; only allow for lowercase letters.
;

; 3 Media Type Names
type-name = custom-type-name / derived-type-name / standard-type-name /
            vendor-type-name

custom-type-name = "custom-" base-name

derived-type-name = "derived-" base-name "_"
                    ( base-name / custom-type-name / vendor-type-name )

standard-type-name = keyword

vendor-type-name = 1*ALPHA 1*dns-name "-" base-name

; 4 Color Names
color-name = custom-color-name / standard-color-name / vendor-color-name

custom-color-name = "custom-" base-name
                    *( "_" red-color green-color blue-color
                       [ alpha-color ] )

standard-color-name = keyword

vendor-color-name = 1*ALPHA 1*dns-name "-" base-name
                    *( "_" red-color green-color blue-color
                       [ alpha-color ] )

red-color   = 2HEXDIG
green-color = 2HEXDIG
blue-color  = 2HEXDIG
alpha-color = 2HEXDIG

; 5 Media Size Names
media-size-self-describing-name =
                  media-size-name / "choice" 2*( "_" media-size-name )
media-size-name = class-in "_" base-name "_" short-dim "x" long-dim "in" /
                  class-mm "_" base-name "_" short-dim "x" long-dim "mm" /
                  "disc_" base-name "_" inner-dim "x" outer-dim "mm"
```



```
class-in        = "custom" / "na" / "asme" / "roc" / "oe" / "roll"
class-mm        = "custom" / "iso" / "jis" / "jpn" / "prc" / "om" / "roll"
short-dim       = dim
long-dim        = dim / "0"
inner-dim       = dim
outer-dim       = dim
dim             = integer-part [fraction-part] / "0" fraction-part
integer-part    = non-zero-digit *DIGIT
fraction-part   = "." *DIGIT non-zero-digit

; 6 Media Coating Names
coating-name = custom-coating-name / standard-coating-name /
               vendor-coating-name

custom-coating-name = "custom-" base-name

standard-coating-name = keyword

vendor-coating-name = 1*ALPHA 1*dns-name "-" base-name

; 7 Media Source Names
source-name = custom-source-name / standard-source-name / vendor-source-
name

custom-source-name = "custom-" base-name

standard-source-name = keyword

vendor-source-name = 1*ALPHA 1*dns-name "-" base-name

; 8 Media Tooth Names
tooth-name = custom-tooth-name / standard-tooth-name / vendor-tooth-name

custom-tooth-name = "custom-" base-name

standard-tooth-name = keyword

vendor-tooth-name = 1*ALPHA 1*dns-name "-" base-name

; Common rules
base-name = ( ALPHA / DIGIT ) *( ALPHA / DIGIT / "-" / "." )

dns-name = "." 1*( ALPHA / DIGIT / "-" )

keyword = ALPHA 1*( ALPHA / DIGIT / "-" / "_" / ".")

non-zero-digit = %x31-39

; EOF
```


14. Parser Considerations for the Media Size Name (Informative)

Special consideration needs to be made during the development of a parser for the Media Size Name. Since additional "class" names and "size-names" will be defined in the future, in many cases the parser cannot be strictly conformant to the ABNF. The following is intended to provide guidelines for the development of client parsers and device parsers.

14.1 Client Parsers

There are several degrees of client which display something to the user for selection and MAY format documents (where it would need to know the dimensions):

Non-formatting client**;** In this case, the parser treats the string as a unit and can simply display it to the user as is, no parsing is required. If the parser localizes and finds a string that it doesn't recognize, then it can just display the entire string as received, or perhaps breaks it up into separate pieces separated by a space. Such a client most likely doesn't format documents, so it will not even care about the dimensions, only the user and Printer do.

Client does formatting; Now the client will separate the class field, the name field, and the dimension field. The class and name fields can be displayed as is or localized, and the dimensions are converted to the units preferred by the user. If a class or name field isn't recognized, it will be displayed as is, perhaps with underlines replaced by spaces. The dimensions will also be converted to the internal units for formatting documents.

14.2 Device Parsers

On the Printer side, there are two cases to consider, the one that doesn't support client's inventing custom sizes and the one that does. If the Printer displays media sizes to an operator or on a control panel, then that parser code has the same problems as the client (see above):

Device doesn't support client-defined custom sizes; In this situation the parser doesn't even need to parse the string. It simply compares the entire string with a list of supported strings, including system administrator defined custom sizes. If there isn't a match, the Printer doesn't support that requested size and takes the appropriate action.

Device supports client-invented custom sizes; Here the Printer parser MUST look at the class field for "custom", then parse the dimensions and check for a valid range and then possibly convert to the Printer's internal units.

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