Product Image Specification

GS1 Standards Document

Issue 2.3, Feb-2008

Document Summary

Document Item	Current Value
Document Title	Product Image Specification
Date Last Modified	Feb-2008
Creation Date	July-2005
Current Document Issue	Issue 2.3
Status	Approved
Document Description (one sentence summary)	This GS1 Standard establishes rules for the storage of digital images associated to products. The product identification number used is the Global Trade Item Number (GTIN) and this document provides details on all aspects of digital imaging storage. This document does not specify how the images should be delivered via electronic commerce. Image delivery is out of scope.
	These rules are based upon the guidelines that were originally developed in July 2005 by Voluntary Interindustry Commerce Solutions Association (VICS), http://www.vics.org, so there would be consistency in the use of digital images for trade facilitation.

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Log of Changes in Issue 2.3

Issue No.	Date of Change	Changed By	Summary of Change
2006 06 29	2006 29 June	D. Buckley	Converted 'VICS Product Image Specification' into GS1-GSMP template format
2006 07 11	2006 11 July	R. Laur	Updated information for CR submission to GSMP
1	2006 08 December	GDSN/GSMP Imaging Specification Work Group	See analysis documentation.
2	2007 11 January	GDSN/GSMP Imaging Specification Work Group	See comment resolution document from GSMP Public Review
2.1	2007 07 February	GDSN/GSMP Imaging Specification Work Group	Errata to fix examples.
2.2	2007 13 February	GDSN BRG	Clarification of examples 4-2, 4-3, 4-4
2.3	2008 26 February	D.Clark	Clarification to planogram naming structure 2.1.5

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Table of Contents

1. Introduction

This GS1 Standard establishes rules for the storage of digital images associated to products. The product identification number used is the Global Trade Item Number (GTIN) and this document provides details on all aspects of digital imaging storage. This document does not specify how the images should be delivered via electronic commerce. Image delivery is out of scope.

These rules are based upon the guidelines that were originally developed in July 2005 by Voluntary Interindustry Commerce Solutions Association (VICS), http://www.vics.org, so there would be consistency in the use of digital images for trade facilitation.

2. Planogram Image and Data Field Specifications

2.1.1. File Format

File format must be as follows: 72 ppi-150ppi, Targa, 16-32 bit (if 32 then alpha must be I/O), no compression

2.1.2. Views

All products that are produced in a package should be represented with up to 6 views of the In-Package consumer pack, with 3 views as a minimum straight-on front, straight-on top, and straight-on left side views. Items that are not produced in a package, such as hammers, must be represented with the same above 3 views. An additional straight-on front view of an inner pack should be available when appropriate.

2.1.3. Backgrounds and Cropping

Images for contour products must appear with a transparent background. Images for contour and non-contour products must also be cropped to products' edge.

No props or additional products are allowed within the primary image areas.

2.1.4. Image Size

Image size for all planogram images is to be 50k minimum.

2.1.5. File Name construction

First 14 characters are the GTIN of the product (required). After the first period, the planogram view indicator will be present (required). GTINs with multiple graphic layouts that do not conflict with the GTIN allocation rules should be identified with 'A' for Alternative.

*If the GTIN is unique to a display or tray the image will be named using the display/tray GTIN as well as the inner product GTIN followed by its appropriate identifier ('T' for tray , 'D' for display, and 'A" for alternate)

Valid image views are:

- straight on, front shot
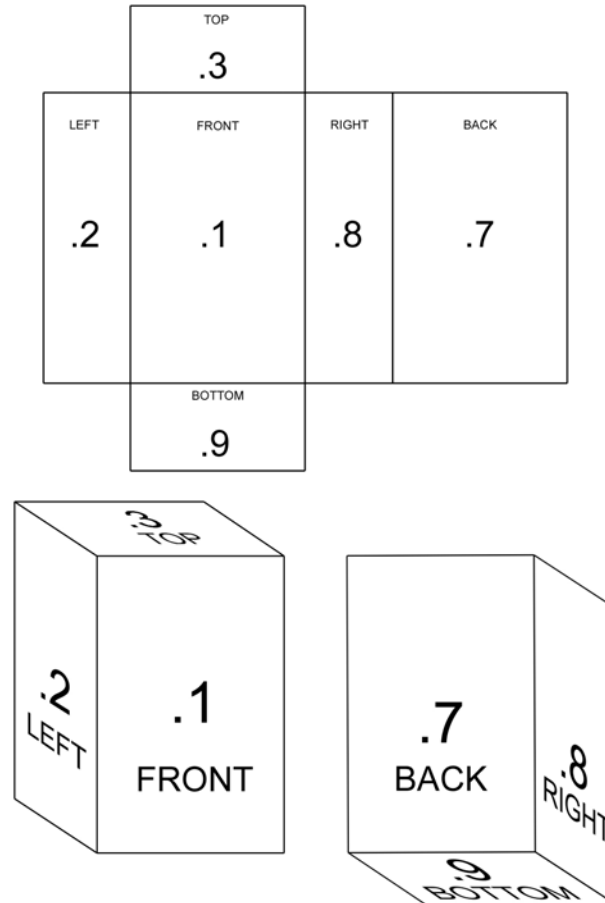- straight on, left view
- straight on, top view

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Optional image views:

■ straight on, back shot

■ straight on, right view

■ straight on, bottom view

The standard image naming indicators are:

■ (GTIN) **.1** front face

■ (GTIN) **.2** left of front

■ (GTIN) **.3** top

■ (GTIN) **.7** back

■ (GTIN) **.8** right of front

■ (GTIN) **.9** bottom

See Image 2.1.5 for visual reference

2.1.6. Determining the front face

2.1.6.1. Default Front Face

The front facing of the products is determined by the Package Measurement Rules (see Section 6.8 GS1 General Specifications). All other facings are taken in relation to the front face and are identified with a numerical extension identifying that face. Merchandisable facings are automatically captured as the numerical extension allows multiple images (and facings) for the same GTIN.

2.1.6.2. Alternate Language

Should there be alternate language facing on the packaging, there should be note of this in the data accompanying the images.

2.1.6.3. Consumer Display (not identified with GTIN)

Should the product be sold in a displayer/tray that does not bear it's own unique GTIN, then the tray images should be captured using the unit GTIN appended with a "T" This will allow space management users to select either the unit or the tray when creating their planogram.

Example:

■ Unit: 00012345678905.1

■ Tray: 00012345678905T.1

3.   File Naming

First 14 characters are the product specific GTIN.(Numeric)

■ 15th Underscore spacer

■ 16th File nature/type (simple designation AlphaNumeric). This section is dynamic (subject to frequent updates).

✓   **Note:** Planogram images are exempt from this convention

4.   Marketing Image Specifications

4.1.1. Over all Supplied Photography Guidelines

It is understood that there will be instances where photography, other than "product" photography will be needed. Also, situations may arise where product shots are needed at a size or resolution that exceeds the above-mentioned standards. In these cases, it will be up to the customer to either originate the photography themselves, or work out arrangements with the vendor to supply said photography on an "as needed" basis. ALL supplied photography should conform to the guidelines listed below.

4.1.2. File Characteristics

No alpha channels or layers, guides or rulers. No bubbles, fingerprints or Newton rings from scans. No transfer functions or postscript colour management. No signatures, "finger printing" or visible watermarks. No compression artefacts. No interpolation ("resizing up"). No scanning from printed

pages. No evidence of dust or scratches. No manufactured shadows. Moiré Patterns should be minimized.

4.1.3. Guidelines for Image Colour and Quality

No colour casts. Colour should be as rich, vibrant and eye-catching as possible. Colour should be balanced over-all and not "blown-out" in highlights. Flesh tones and grass should be realistic and life-like. Reflections should also be realistic. Shadows should be realistic and neutral. Retouching should be as seamless and undetectable as possible and be convincing at a minimum of 200% magnification (i.e. removal of expiration/best before dates. Please see the section on File Name Construction for indication of new product or promotional tag rules. Colour should be matched to product PMS colours (list to be provided by designer). If PMS colour is not available or if colour is proprietary, users must either match as closely as possible to colour swatches or the actual RGB breakdown must be provided.

4.1.4. End Usage Formats

It is recognized that due to the many potential combinations of format, resolution and size in end user applications, it is not possible to enumerate all possibilities in a standard. It is the understanding that the specifications recommended for advertising images are of sufficiently high quality that they will provide a source image that can be repurposed by the end user for their own specific applications. This includes different print media formats and items as well as Ecommerce (electronic) images.

4.1.5. Product Photography

Decisions as to whether products should be photographed in the package, out of package, or both, should be made based on the presentation of the product in a live sale scenario (i.e. box of cereal on a shelf vs. a lawnmower on display). If there are doubts as to which format is most appropriate both should be taken and appropriately identified. This decision should be communicated to the manufacturer.

Note: No props or additional objects should be in the frame (for this nature/type – see section on File Name Construction). This applies to still shots for products (single GTIN)

Backgrounds:

All backgrounds must be knocked out to white. (RGB 255/255/255)

4.1.6. Clipping Paths

All images must contain a clipping path in order for the product to be silhouetted. It is very important for the purpose of batch image repurposing that the clipping path be named "Path 1." Default flatness setting should be 1-device pixels.

4.1.7. Image Size

Minimum image size: 75 mm (3.0 in.) x 75 mm (3.0 in.) (900 pixels x 900 pixels)

Maximum image size 250 mm (8.0 in.) x 250 mm (8.0 in.) (2400 pixels x 2400 pixels).

File resolution: 300 ppi.

### 4.1.8. File Format and Colour Mode

File format: LZW Compressed TIFF

Colour Mode: RGB

Note: The ICC profile or exact colour space must be known and defined. The preference for storage of the source file is RGB 8 bit per channel.

4.1.9. Product Views

All products should have a maximum of 3 separate views when warranted per marketable face – a front view taken at 15 degrees top from centre is preferred for 3D images, however some products may require a steeper or shallower angle to display effectively. For 2D images (images of products with negligible depth properties) a 0 degree plunge angle is permitted.

Figure 4-1 Example Plunge Angle
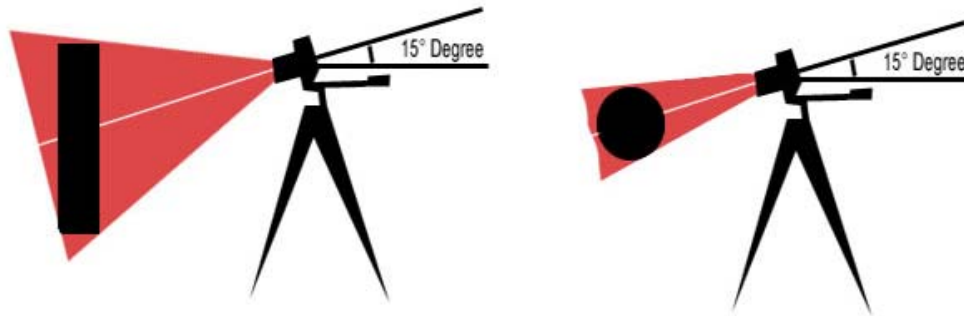
4.1.10. File Name;

A significant portion of the Marketing image standard covers the naming conventions to identify the views represented by each image. There could be multiple languages on a product leading to exceptionally long file names. There could also be more than one marketing view available for a product. The same product in Country A with bilingual packaging will not have the same GTIN as the version sold in Country B which has another set of languages. The languages on the packaging will be unique to the specific product GTIN. When all merchandisable views contain all languages present on packaging, there is no need for a language indicator (Example default in-package, primary merchandisable view). Only when alternate views exist unique language facings require a unique language indicator (Alternate side of same product with alternate language view - in this case the English view would add the "_en" to the file name).

This leads to the other key aspect of identification. When faced with multiple merchandisable faces, which is the primary. To resolve this, refer to the existing standards for determining the front face found in Section 6.8 of the *GS1 General Specifications* (see the following excerpt).

6.8.1.3.2 "For the purposes of this standard, the Default Front is the side with the largest surface area that is used by the manufacturer to 'sell' the product to the consumer, in other words, the side with markings such as the product name."…

"Some product packages have more than one possible front with the same surface area. These products can be presented both vertically and horizontally on the shelves. If a product package has more than one possible front, the highest side is considered to be the Default Front"…

4.1.11. File Name construction: Still Shot Single GTIN

Note for digits 1-15 see File Naming section.

16th File Nature/Type:

■ A - Still shot product single GTIN

- Z - Undetermined

17th Facing indicator: As with planogram images a front determination is required with all subsequent faces relative to the front face.

- 1 Front

- 2 Left

- 3 Top

- 7 back

- 8 right

- 9 bottom

18th Angle identifier: Angle reference relative to the face being represented

- (C) Center

- (L) Left

- (R) Right

19th In/Out of packaging

- (1) In packaging

- (0)Out of packaging

The following characters are optional additions to be used if the product being imaged requires them in the order in which they should appear.

- 20th Underscore to separate optional identifiers

- 21-27th characters:

- Language Indicator (2 character alpha):

  □ ISO639 format - Example syntax for populating a country variation of a Language Code attribute: aa   or optionally   aa-BB where aa = ISO 369 code list, must be lower case where BB =ISO 3166-1 Country Code, 2 Alpha character representation, must be upper case to be used only if multiple faces of dissimilar languages occur

  □ Image end date/promotional (4 character numeric)

    MMYY that image is valid until (ie. If good until 1206 (Dec 2006) then to be removed after 01 January 2007.

Examples

Examples: Please note that (GTIN) in the examples represents the 14 digit product GTIN

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Figure 4-2 Example default in-package, primary merchandisable view all angles

(GTIN)_A1L1   (GTIN)_A1C1   (GTIN)_A1R1
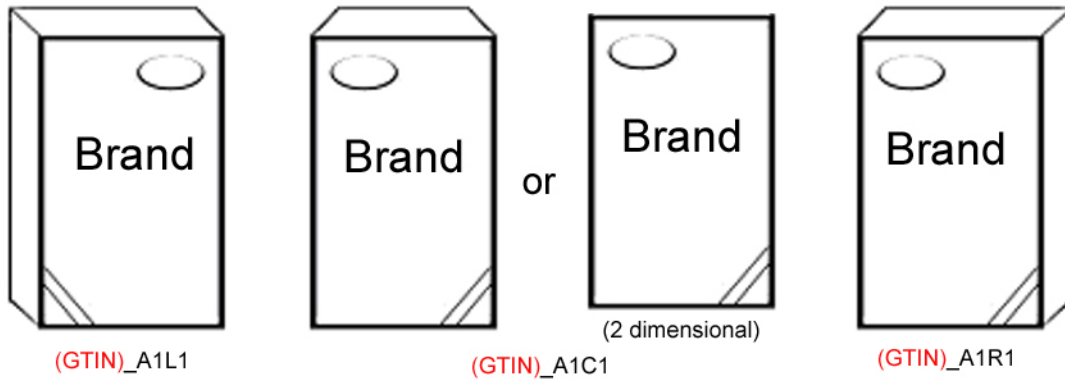
Figure 4-3 Product with alternate Marketable faces

*Note tallest vertical face is designated as face '1'

(GTIN)_A1C1   (GTIN)_A7C1
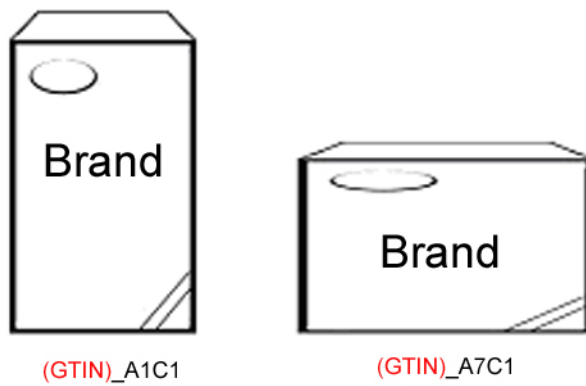
Figure 4-4 Same product with multiple marketable faces containing dissimilar languages

(GTIN)_A1L1_en   (GTIN)_A1L1_fr
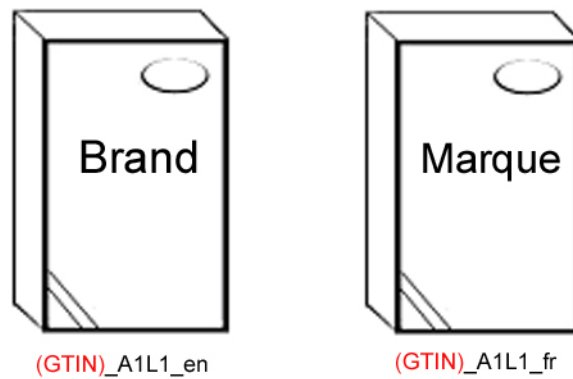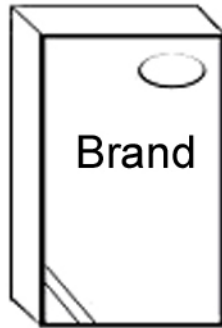
Figure 4-5 Promotional end date for time specific packaging

(GTIN)_A1L1   (GTIN)_A1L1_0109

Appendix A – Source of Requirements

It should be noted that the source of the requirements leading to the development of this standard are several related GSMP change requests. The change requests are listed below:

- CR 05-000077
- CR 05-000320
- CR 06-000163

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Appendix B – Reserved for Future Development

Section	Heading	Description	16th Character	Date Added	Date Modified	CR number
4.1.11	Still Shot Single GTIN	Image of one GTIN, regardless of multiple formats/designs, on a white background	A	01/10/2007		
	Still Shot Multiple GTIN	Image of multiple (identical or different) GTINs on a white background	B	TBD		
	Line Art	Line art rendering of a single GTIN	C	TBD		
	Graphic Rendering	Image of a GTIN used in the design process; a generated 3D representation of a GTIN	D	TBD		
4.1.11	Undefined	To be used when type is not covered by current documentation	Z	01/10/2007		
	Safety Data Sheet	Safety specifications related to GTIN	T	TBD		
	Manufacturer Documentation	Technical sheet relating to GTIN	U	TBD		
	3D Motion	A 3D representation incorporating movement	V	TBD		
	Audio/ Soundtrack	TBD	E	TBD		
	Movie/ Audio-visual sequence	TBD	F	TBD		
	Interactive	TBD	G	TBD		
	GTIN Certificates	Certification/Validation specific to the GTIN	H	TBD		