Guidelines and Quality Assurance rules for Product Images

GS1 Sweden

Version I, 2023-07-18

Document information

Information type	Information
Title	Guidelines and Quality Assurance rules for Product Images
Date	2023-07-18
Version	I

Change log

Release	Date of change	Changed by	Summary of change
A	2011-11-22	Gustavsson	First version
B	2013-08-28	Gustavsson	Second version
C	2013-11-25	Gustavsson	Third version. Updated planogram rules. Clarifying text adjustments.
D	2014-04-22	Gustavsson	4th version. Changed rules WRN to NOK. Clarifying text adjustments in rule descriptions.
E	2014-10-27	Gustavsson	5th version. Updates according GS1 Product Image Specification vers. 2.5, Mar-2014. Changes rule 737001. Images added and clarifications for identification of images (new file/nature type and new angle) and file naming.
F	2016-12-19	Ralfsson	6th version. Update according GS1 Europe guidelines. Changes rule 737024. The image should be cropped max 2,5% from image object edge to image cropping (image sides).
G	2018-09-24	M. Danofsky	7th version. Clarification regarding rule 737006. Functional name comparison with image
H	2019-06-03	M. Danofsky	8th version. Added requirements for MRHI-Images
I	2023-07-18	N. Kihlman	9th version. Clarification of image types. Clarification of area of use for planograms. Changed names and comments in "results" and "comment text"

Contents

1 Introduction

GS1 publishes, stores, and distributes quality assured product images. The quality assurance is made in two steps. First step is an auto validation from a set of parameters, for example file format and image size. Next step is manual checking of the image making sure it fulfills specified quality requirements. The system also compares the image against quality assured trade item information in Validoo.

2 Purpose of document

GS1 Sweden's rules and guidelines for product images have been developed and supported by GS1 Sweden's user groups and are based on the global GS1 standard for product images GS1 Product Image Specification, 3.3.

The purpose of this document is to describe these rules and guidelines, what is included in the image review and how it is carried out.

3 Scope

The document does not specify the images end-use format, the idea is that product images in Validoo are of high enough quality that they can be used as an image source to the end user's own specific needs.

In need of product images of large size or other requirement that does not comply with the rules below, it is up to the provider and recipient to agree on the handling of images outside the provided service.

4 Image types

Images that primarily can represent the product in an e-commerce application, these include product images with or without supporting elements.

4.1 Still of a product

An image of a product against a white background, without other elements in the image

4.2 Still of a product with supporting elements

An image of a product against a white background, with additional elements not included in the sale of the product. The additional elements are there to strengthen the product, not to create a "Beauty shot" also called a staged image. It should include additional items that highlight the product, (eg a fresh apple in front of an apple juice.

5 Angles for product images per area of use

A product image can be photographed from several different angles depending on package type and field of application. When product images are uploaded to Validoo some views are mandatory and others recommended.

5.1 Product image for marketing

As a first option, a perspective image in its packaging is recommended. The picture is taken obliquely from the front or obliquely from above depending on the type of packaging (see below). In addition to those recommended, you can have more images both in and out of your packaging.
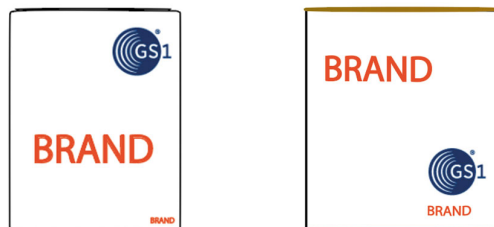
If a perspective image is not available for the packaging type, a front image is mandatory. The image should be taken straight from the front (see below).

5.2 Product image for planogram

Mandatory product image for planograms is a front image. The image should be taken straight from the front and should not be depicted with an angle or perspective (see below).

5.3   Optional images for Planogram

- One image "branded" side. Image is taken straight-on from one side (side marked .2 eller.8 in below figures).

- One image from top. Image is taken straight-on top (side marked .3 in figures below).
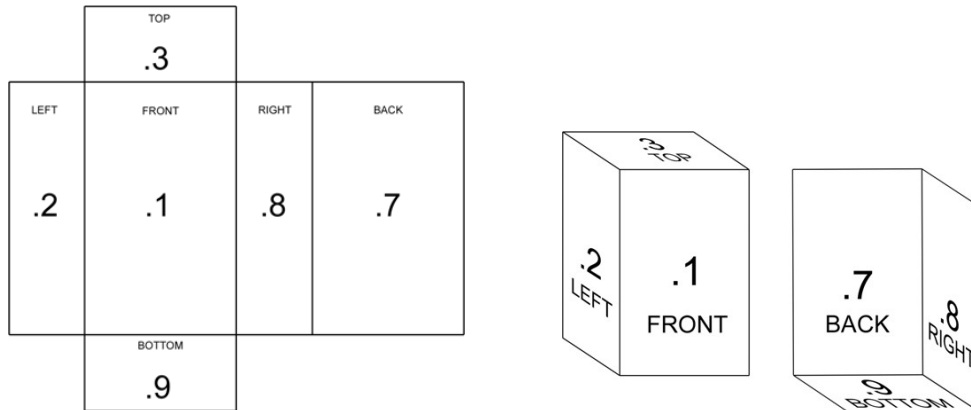
6   Image identification

The rules for the file name are to identify images of products (GTIN) and to distinguish the views of each image through image metadata and/or filename at download. Read more about file/nature type with supporting elements on Validoo.se.

For images for Sales and marketing the file name is constructed according to:

Image metadata	Content file name	Position in file name	Explanation
GS1 item number	GTIN	1-14	
Underscore	_	15	
Still shot single GTIN	C	16	File Nature/type
Still shot single GTIN with supporting elements	D		
Front Left Top Back Right Bottom	1 2 3 7 8 9	17	Facing indicator
Center (uppifrån) Left (vänster) Right (höger) No Plunge (ingen vinkel)	C L R N	18	Angle identifier
In packaging Out of packaging	1 0	19	In/Out of packaging

GTIN_C1L1   GTIN_C1R1

7 Area of use sales and marketing

In the production of product images for sales and marketing shadows and reflections should be realistic and neutral. White background (RGB 255/255/255) is recommended.

7.1 Quality Assurance rules product images sales and marketing

In the production of product images for Validoo these rules must be followed to allow publication of the images for area use sales and marketing.

7.1.1 Image technical requirements and settings

The images must meet the following technical requirements to be published in Validoo.

- File format: LZW Compressed TIFF or JPEG
- Resolution: 300 ppi
- Image size: one side of the image must be at least 2400 pixels
- Colour mode RGB (for example Adobe RGB 1998)
- File size: max 40 Mb
- All images must contain one active Clipping Path, properly created and named "Path 1"
- No alpha channels or layers
- No guides
- The storage of the source file should be RGB 8 bit per channel

A MINIMUM OF 2400 PIXELS ON THE LONGEST SIDE

A MINIMUM OF 2400 PIXELS ON THE LONG-EST SIDE
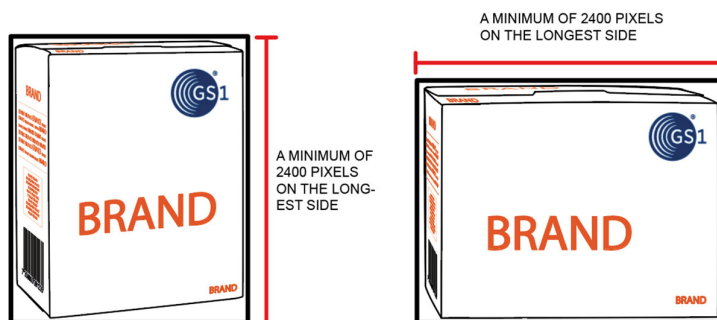
7.1.2   Image quality requirements

The images must meet the following quality requirements to be published in Validoo.

- No visible best-before-dates

- No signatures, fingerprints or visible water stamps

- No compression artefacts. No interpolation artefacts.

- No scanned images from printed pages.

- The image object has to be in good condition, for example no evidence of dust or scratches.

- Moiré patterns should be minimized

- Colour and contrast should be realistic and balanced over-all. No color casts.

- Retouching should be as undetectable as possible and be convincing at 200% magnification.

- The image should be cropped close to the object. Max 2,5% from image object edge to image cropping (image sides).*

- The image should be professionally produced.

- The image should not be over sharpened in the (digital) image processing.

- The lighting of product should be professionally and soft produced.

* Recommendation: cropping exactly to the image object's edge. Exceptions to the rule when image has a shadow or reflection. The image must be cropped exactly at the shadow or reflection or maximum of 2,5% from image object edges including the shadow / reflection. The size of image object (without shadow or reflection) must be minimum 1800 pixels.

Examples cropping: the left image is cropped exactly to the edges of the product and the second image is cropped with 2,5% white surface from the product's outer edges.

Examples cropping: the left image is cropped exactly to the edges of the product (reflection included) and the second image is cropped with 2,5% white surface from the product's (reflection included) outer edges.

7.2   Review of product images sales and marketing

The image review involves a check that the product image complies with the rules (see section above) through both an automatic validation and a manual quality assurance.

7.2.1   Automatic validation

An automatic validation checking file name, file format, image size, resolution and file size is done at upload.

Rule	Rule description (what)	Validation (how)	Result
737000	Accepted file formats are LZW compressed TIFF and JPEG	For the field metadata (Image Properties) file must be TIFF or JPEG	OK/NOK
737001	Image resolution must be 300 ppi.	For the field metadata (Image Properties) the resolution must be 300 pixels per inch.	OK/NOK
737002	One of the image sides must be at least 2400 pixels.	One of the fields for metadata (Image Properties) height and width must be at least 2400 pixels.	OK/NOK
737003	Colour mode should be RGB. (The ICC profile can as an example be Adobe RGB)	For the field metadata (Image Properties) the colour mode must include RGB (for example Adobe RGB)	OK/NOK
737004	The image file size must not be more than 40 MB.	The real size of the image must not be more than 40 Mb (Mega Bytes)	OK/NOK

If the image does not meet all the requirements, the user will directly in the web interface get a response that the image is not approved. The user can correct the image and then upload a new image. If the image meets all the requirements that are validated in the automatic validation the image will be transferred to the manual quality assurance (see next section).

7.2.2   Manual Quality Assurance

If the image has been approved in the automatic validation the image will be transferred to a manual image checking.

7.2.2.1   Image object corresponds with Trade Item Information

This step in the quality assurance means that GS1 Sweden manually checks if the GTIN, functional name, brand and package size on the image object corresponds with the trade item information.

Rule	Rule description (what)	Image check (how)	Result	Warning text	NOK text
737005	GTIN on the product must correspond with the Trade Item Information (T0154)	Manual check of image correspondence with trade item information	OK/NOK/ WRN	Checking is not possible due to not visible or readable information on the image.	GTIN on the product does not correspond with the trade item information (T0154)
737006	Functional Name in Trade Item Information (T0018) must correspond with the Item in the image.	Manual check of image correspondence with trade item information	OK/NOK/ WRN	Checking is not possible due to not visible, unidentifiable or readable information on the image.	Functional name in Trade Item Information (T0018) does not correspond with Item in image.

Rule	Rule description (what)	Image check (how)	Result	Warning text	NOK text
737007	Brand name of product in image must correspondence with Trade Item Information (T0143)	Manual check of image correspondence with trade item information	OK/NOK/WRN	Checking is not possible due to not visible or readable information on the image.	Brand on the product does not correspond with the trade item information (T0143)
737008	Article size, text of product in image must correspondence with Trade Item Information (T3338)	Manual check of image correspondence with trade item information	OK/NOK/WRN	Checking is not possible due to not visible or readable information on the image.	Article size on the product does not correspond with the trade item information (T3338)

If any of the attributes does not correspond with the trade item information a new image must be uploaded.

7.2.2.2 Image meta data reviewing/editing

Users fill in meta data about the image during the upload process. GS1 Sweden will perform a manual review, checking that filled in attributes corresponds with the rules. If the meta data is not correct GS1 Sweden will correct the meta data. The overall result of this step in the image review will be OK.

Rule	Rule description (what)	Image checking (how)	Result	Warning text
737009	Construction of file name, 16th position, definition of file type: Still shot single GTIN (C) Still shot single GTIN with supporting elements (D) Still shot single GTIN, graphic rendering (G)	Manual check that the filled in meta data correspond with the image. Editing by Validoo if not correctly filled in.	OK/WRN	File type has been edited according to quality assurance rules.
737010	Construction of file name, 17th sign, definition of facing: Front (1) Left (2) Top (3) Back (7) Right (8) Bottom (9)	Manual check that the filled in meta data correspond with the image. Editing by Validoo if not correctly filled in.	OK/WRN	Facing has been edited according to quality assurance rules.
737011	Construction of file name, 18th sign, definition of angle: Center (C) Left (L) Right (R) No plunge (N)	Manual check that the filled in meta data correspond with the image. Editing by Validoo if not correctly filled in.	OK/WRN	Angle has been edited according to quality assurance rules.

Rule	Rule description (what)	Image checking (how)	Result	Warning text
737012	Construction of file name, 19th sign, definition of with or without consumer package: In packaging (1) Out of packaging (0)	Manual check that the filled in meta data correspond with the image. Editing by Validoo if not correctly filled in.	OK/WRN	With or without package has been edited according to quality assurance rules.

7.2.2.3 Image review according to quality assurance rules

The last step in the quality assurance means a check of the image quality based on the rules (see earlier section).

Rule	Rule description (what)	Image check (how)	Result	NOK text
737013	All images must contain an activated and correctly designed clipping path named "Path 1"	Manual check	OK/NOK	Clipping path is missing or is incorrect.
737014	No signatures, finger prints or visible water stamps	Manual check	OK/NOK	There are visible signatures, fingerprints or water stamps
737015	No compression artefacts. No interpolation artefacts ("resizing up").	Manual check	OK/NOK	Image with compression artefacts or interpolation artefacts
737016	No scanned images from printed pages	Manual check	OK/NOK	The image is scanned from a printout.
737017	The image object has to be in good condition, for example no evidence of dust or scratches	Manual check	OK/NOK	Evidence of dust or scratches in image
737018	Moiré patterns should be minimized.	Manual check	OK/NOK	Moiré pattern is too prominent
737019	No visible best before date	Manual check	OK/NOK	Best before date is visible in the image.
737020	No alpha channels or layers	Manual check	OK/NOK	Image has alpha channels or layers
737021	No guides	Manual check	OK/NOK	Image has guides
737022	Colour and contrast should be realistic and balanced over-all. No colour casts.	Manual check	OK/NOK	Colour and contrast is not realistic and balanced over-all or image has colour casts.
737023	Retouching should be as undetectable as possible and be convincing at 200% magnification.	Manual check	OK/NOK	Retouching is not convincing at 200% magnification.
737024	The image should be cropped close to the object. Max 2,5% from image object edge to image cropping (image sides).	Manual check	OK/NOK	The image is not cropped close to the object.
737025	The image should be professionally produced.	Manual check	OK/NOK	Object in image is not professionally produced.

Rule	Rule description (what)	Image check (how)	Result	NOK text
737026	The Image should not be over sharpened in the (digital) image processing.	Manual check	OK/NOK	The image is over sharpened.
737027	The image of the product should have a professional and soft lightning.	Manual check	OK/NOK	The lightning of product is uneven
737028	The storage of the source file should be RGB 8 bit per channel	Manual check	OK/NOK	The storage of the image file is not 8 bit by channel.

7.2.2.4 Image review of MRHI-images (Mobile Ready Hero Image)

MRHI-images are marketing images adapted to small screens. These images are modified to enhance certain attributes on the image which make it easier for the consumer in their purchase process.

Examples of attributes that can be enhanced are size, product type, brand or variant. The images should follow the Guidelines for Mobile Ready Hero Images produced by GS1 Sweden.

Rule	Rule description (what)	Image check (how)	Result	NOK text
737041	Symbols, logotypes and information (text) must not appear off pack. Enhanced symbols must not be present.	Manual check	OK/NOK	The Image does not meet the requirements for MRHI.

8 Area of use planogram

The images for planograms are primarily intended to be used as an image source for store shelves created in software for Space Management. Planograms must be photographed in their packaging as

planogram images are used for shelf planning, where the product must be shown in its packaging and must not be depicted with an angle or perspective.

8.1 Quality Assurance rules for product images for planograms

In the production of product images for Validoo these rules must be followed to allow publication of the images for area of use planogram.

8.1.1 Image technical requirements and settings

The images must meet the following technical requirements to be published in Validoo.

- File format: PNG
- One of the image sides must be at least 300 pixels and maximum size of all sides is 500 pixels (see image below)
- Colour mode RGB (for example Adobe RGB 1998)
- File size: max 2 Mb
- **If** the image contains an activated clipping path it must be named "Path 1"
- No alpha channels or layers.

A MINIMUM OF 300 AND A MAXIMUM OF 500 PIXELS ON THE LONGEST SIDE

8.1.2 Image quality requirements

The images must meet the following quality requirements to be published in Validoo.

- The image must have a transparent background.
- The image must be straight on front, straight on top or straight on one of the sides. (No Plunge)
- The image should be cropped to image object edge. (see image below)

Example cropping exactly the image object's outer edges. Transparent background (when viewing the image editing software Photoshop).

8.2 Review of product images Planogram

The quality assurance involves a check that the product image complies with the rules (see section above) through both an automatic validation and a manual quality assurance.

8.2.1 Automatic validation

An automatic validation checking file name, file format, image size and file size is done at upload.

Rule	Rule description (what)	Validation (how)	Result
737030	Accepted file format is PNG	For the field metadata (Image Properties) the file format must be PNG	OK/NOK
737031	One of the image sides must be at least 300 pixels.	One of the fields for metadata (Image Properties) height and width must be at least 300 pixels.	OK/NOK
737003	Colour mode should be RGB. (The ICC-profile as an example be Adobe RGB)	For the field metadata (Image Properties) Colour mode must include RGB (as an example Adobe RGB)	OK/NOK
737032	Image file size should be maximum 2 MB.	Image real size must not be more than 2 Mb (Mega Bytes)	OK/NOK
737036	Maximum size of all sides of image is 500 pixels	No field for metadata, height or width can exceed 500 pixels.	OK/NOK

If the image does not meet all the requirements, the user will directly in the web interface get a response that the image is not approved. User can then correct image and then upload a new image. If the image meets all the requirements that are validated in the automatic validation the image will be transferred to the manual quality assurance (see next section).

8.2.2 Manual Quality Assurance

If the image has been approved in the automatic validation, the image moves on to a manual quality assurance.

8.2.2.1 Image object matches trade item information

In this step in the quality assurance, GS1 Sweden manually verifies that the GTIN, functional name, brand and package size on the image object corresponds with the trade the item information.

Rule	Rule description (what)	Image check (how)	Result	Warning text	NOK text
737005	GTIN on the product must correspond with the Trade Item Information (T0154)	Manual check of image correspondence with trade item information	OK/NOK/ WRN	Checking is not possible due to not visible or readable information on the image.	GTIN on the product does not correspond with the trade item information (T0154)
737006	Functional Name in Trade Item Information (T0018) must correspond with the Item in the image.	Manual check of image correspondence with trade item information	OK/NOK/ WRN	Checking is not possible due to not visible, unidentifiable or readable information on the image.	Functional name in Trade Item Information (T0018) does not correspond with Item in image.

Rule	Rule description (what)	Image check (how)	Result	Warning text	NOK text
737007	Brand name of product in image must correspondence with Trade Item Information (T0143)	Manual check of image correspondence with trade item information	OK/NOK/ WRN	Checking is not possible due to not visible or readable information on the image.	Brand on the product does not correspond with the trade item information (T0143)
737008	Article size, text of product in image must correspondence with Trade Item Information (T3338)	Manual check of image correspondence with trade item information	OK/NOK/ WRN	Checking is not possible due to not visible or readable information on the image.	Article size on the product does not correspond with the trade item information (T3338)

If any of these attributes do not correspond with the trade item information a new image must be uploaded.

8.2.2.2 Review that the image complies with the quality assurance rules

The last step in the quality assurance involves a review of the image quality based on the rules (see earlier section).

Rule	Rule description (what)	Image check (how)	Result	NOK text
737033	If the image contains an activated clipping path it must be named "Path 1".	Manuell granskning.	OK/NOK	Clipping path is not named "Path 1".
737020	No alpha channels or layers.	Manuell granskning.	OK/NOK	Image has alpha channels or layers.
737037	The image must be cropped exactly to the edge of image object.	Manual check	OK/NOK	The image is not cropped exactly to the edge of the image object.
737034	The image must have a transparent background.	Manual check	OK/NOK	The background on the image is not transparent.
737035	The image must be straight on front, straight on top or straight on left/right side. (No plunge)	Manual check	OK/NOK	The image is not straight on (it has an angle /perspective).

Appendix

File name standard at download

The first 14 digits is the trade item's GTIN. The remaining characters are for identifying images based on, for example, different angles. See chapter 5 in the section above for a description of the angles.

For images "still of a product" for sales and marketing the standard filename at download is constructed as following examples:

| GTIN_C1L1 | GTIN_C1N1 | GTIN_C1R1 | GTIN_C1C1 |

For images intended for planograms the file name is constructed according to:

Position in file name	Content	Explanation
1-14	GTIN	GS1's article number
15-16	.1	Straight on, front shot
	.2	Straight on, left view
	.3	Straight on, top view
	.7	Straight on, back shot
	.8	Straight on, right view
	.9	Straight on, bottom view

| GTIN.1 | GTIN.2 | GTIN.8 | GTIN.3 | GTIN.9 |