

GS1 Standards

Product Images and Media Assets

for Strategic Brand Management and Successful
Content Marketing – FMCG





The Global Language of Business

GS1 Standards

Product Images and Media Assets

for Strategic Brand Management and Successful Content Marketing – FMCG

Version 5.1, November 2022

Document summary

Document name	Product Images and Media Assets – Recommendations for Use
Last modification date	November 2022
Document version	Version 5.1
Document description	Recommendations for use in the creation of product images and media assets for strategic brand management and successful content marketing

Contributors

Organisation	Name
atrify	Lorry, Burkhard
atrify	Spanier, Rene
Dirk Rossmann GmbH	Consiglio, Anne
Dirk Rossmann GmbH	Ljubicic, Danica
dm-drogerie markt GmbH + Co. KG	Leibold, Laura
Dr. Oetker Nahrungsmittel KG	El Issa, Nader
Dr. Oetker Nahrungsmittel KG	Schlüter, Georg
Dr. Oetker Nahrungsmittel KG	Scholz, Sophie-Mareen
EDEKA DIGITAL GmbH	Handzik, Ines
EDEKA DIGITAL GmbH	Lüske, Alexander
EDER GmbH	Ellinghausen, Dennis
GS1 Germany GmbH	Aengenvoorth
GS1 Germany GmbH	Blozik, Martin
GS1 Germany GmbH	Prinz, Carolin
GS1 Germany GmbH	Salim, Vivian
Henkel AG	Bock, Thoralf
Henkel AG	Brams, Christina
Kaufland Stiftung & Co. KG	Beyl, Dirk
MARKANT Deutschland GmbH	Knoll, Christian
MARKANT Deutschland GmbH	Kornmeier, Timo
Mars Deutschland	Hoeting, Yvonne
METRO Deutschland GmbH	Sieg, Julius
Nestlé Deutschland AG	Belfor, Julia
Nestlé Deutschland AG	Belke, Jürgen
Procter & Gamble Service GmbH	Bartnik, Ronald
Procter & Gamble Service GmbH	Bosshammer, Okka
Procter & Gamble Service GmbH	Trzeciok, Manuela
REWE Group	Bauer, Vanessa

Organisation	Name
REWE Group	Kujus, Steffen
REWE Group	Müller, Katrin

Log of changes

Version	Date of change	Changed by	Summary of change
1.0	07.03.2014	Tanja Thomsen	
2.0	02.09.2014	Tanja Thomsen	Updates with respect to <ul style="list-style-type: none"> □ trading units □ mapping metadata / GDSN □ additional information on the use of GDTI
3.0	09.09.2016	Arne Dicks Tanja Thomsen	<ol style="list-style-type: none"> 1. Three indicators added to product image types X18 promo; relaunch; undefined X19 landscape; portrait, undefined X20 packed; unpacked 2. Image size is now oriented to the longest side. This has the advantage that images of narrow products are not displayed overdimensioned. 3. Explicit representation / example GDTI with encrypted GTIN 4. Specification of topic metadata 5. Representation of the reference (URL in GDSN) via complete paths or directory path

Version	Date of change	Changed by	Summary of change
4.0	21.06.2018	Tanja Thomsen	<ol style="list-style-type: none"> 1. New images in Chapter 2.1.1. Front view added for specification 2. Example in chapters 2.1.6 Border and 2.1.8 Packaging added 3. New product images added: <ul style="list-style-type: none"> □ Mobile-ready hero image □ Secondary images □ Image of packaging information □ Special cases 4. Additional views in the area of depiction of consumer units added <ul style="list-style-type: none"> □ Construction of file name completely reworked; new construction of the file name – GTIN-based □ GDTI-based file name removed 5. Recommendation to access the product images via the URL 6. Specification of topic metadata 7. Transfer via GDSN <ul style="list-style-type: none"> □ Chapter 2.4 directory path now only permitted for 360-degree turn
4.1	09.08.2018	Christian Przybilla	<ol style="list-style-type: none"> 1. Specification margin 2. Specification of the depictions consumer unit and trade unit 3. Supplement image access via encrypted URL (authorisation) 4. Specification 'fileEffectiveEndDateTime' date for standard products
4.2	20.03.2019	Tanja Thomsen	<ol style="list-style-type: none"> 1. Minor changes in names of figures 2. Specified margin with regard to secondary product images
4.3	18.12.2019	Carolin Prinz	<ol style="list-style-type: none"> 1. Chapter 2.3. and 2.4.: Update of Images concerning the File Name Construction 2. Chapter 2.2.5.: Update on 360 degree image: Addition of minimum number of image files including metadata and file description 3. Chapter 2.5.2.: Add Metadata: Format and Colour Scheme 4. Chapter 2.2.6.: New image type: label 5. Chapter 2.4.: Add SEO product description in URL 6. Chapter 2.3.: Update of table that describes the file name Construction due to changes. Add image Type 'Top view' in image categories A, B and C

Version	Date of change	Changed by	Summary of change
4.4	01.10.2020 Correction: 31.03.2021	Carolin Prinz	<ol style="list-style-type: none"> 1. Chapter 2.3: Delete X19-X21 from file naming. Update on Definitions 2. Chapter 2.3: Update of figures 3. Chapter 2.4: Addition of a note on using compression formats such as ZIP, WINZIP, 7ZIP 4. Chapter 2.2.3.1: Specifying the Mobile Ready Hero Image 5. Chapter 2.3.2: Specifying SEO product naming in File Naming Construction and changing order of chapters. 6. Chapter 2.3.1: Addition of a new chapter regarding the structure of the file name 7. Chapter 2.2.5: Addition of the axles 8. Chapter 2.1.4: Specifying the clipping path and adding figure 9. Chapter 2.5.2: Addition of the code values used to exchange data via GDSN 10. Chapter 2.2.5: Errata: Specifying the 360 Turn: Image turns counterclockwise while camera spins clockwise
5	01.10.2021	Maik Hoffmann	<ol style="list-style-type: none"> 1. Chapter 2.1.4: Sharpening of the definition and explanation of cut-out path and clipping path 2. Chapter 2.1.6: Change to the definition on the basis of the global guidelines 3. Chapter 2.4: Correction of the link and addition of file ending .jpg 4. Adjustment in various chapters to global name structures in line with GS1 image specification

Version	Date of change	Changed by	Summary of change
5.1	01.10.2022	Carolin Prinz	<ol style="list-style-type: none"> 1. Chapter 2: Heading Depiction of Consumer Units and Depitction of Trade Units removed due to redundancy 2. Chapter 2.1.6.: Specification margin 3. Chapter 2.2: Addition of the minimum requirement for a primary image 4. Chapter 2.2.: Image category and footnote in the image descriptions added. Sample images partially updated. 5. Chapter 2.2.1.3 and Chapter 2.2.2.3 Image size specification clarified 6. Add chapter 2.2.2 Product images for trade items: Shelf Ready boxes (closed and open hood). 7. Chapter 2.2.3: Optimized Images added 8. Chapter 2.2.7: packaging information: supplement the animal feed feeding recommendation 9. Chapter 2.3: Structure of file name: A note on the file extension and SEO product description for the file name and a note on upper and lower case letters added. <ul style="list-style-type: none"> □ Figure 2 – 30: Type of product image: Supplement Optimized Hero Image, Shelf Ready, animal feed feeding recommendation □ Figure 2 – 35 added examples of variable length. □ Moved the chapter to add an SEO product description to the file name from 2.3 to 2.4 10. Chapter 2.4: Addition of the attribute Datei: Name [M416] in Figure 2-35: Exemplary structure of a directory path 11. Appendix: Addition of code values for mapping images in GDSN (referencedFileTYpeCode) and example images per image category

Disclaimer

GS1® endeavours to avoid uncertainties in its intellectual property policy by requiring that all members of the working groups that are developing this standard, the general GS1 specifications, grant all GS1 participants a free licence or a FRAND licence. Furthermore, we would like to point out that the implementation of one or more features of a standard may prejudice a patent or other intellectual property right. Such patents or intellectual property rights fall outside of GS1's licensing obligation. The agreement to grant a licence according to the GS1 IP Policy does not apply to intellectual property rights or to the claims of third parties who have not been involved in the working groups.

The greatest of care has been taken in compiling these documents and the GS1 standards contained therein. GS1, GS1 Germany and all third parties that were involved in the compilation of this document explicitly declare that they cannot be held liable in connection with this document nor for any damages suffered by third parties, including direct and indirect damages and loss of profits, that arose in connection with the use of these standards.

This document is subject to amendments at any time and may be adapted in light of new developments. The standards presented in this document may be adapted to new requirements – particularly legal requirements – at any time. This document may contain protected trademarks or logos that may not be reproduced by third parties without the permission of the holder of these rights.

GS1 Germany GmbH

It started with a beep.

1974 was the year that a barcode was scanned for the first time by a supermarket. This was the beginning of the automated check-out – and the first chapter in GS1’s success story. The machine-readable GS1 barcode, which also includes the GTIN, has since become the universal standard in the global exchange of goods. Six billion of these barcodes are scanned on products each and every day. The GS1 standards are the global language for efficient and secure business processes – a language that is spoken between different companies and across all continents. As part of a global network, we work with our customers and partners to develop market-driven and future-oriented solutions that have a direct impact on the success of their business. Today, two million companies from over 20 sectors worldwide use this language to uniquely identify their products, sites and assets, so that they can collect relevant data and share it with business partners within value-added networks. GS1 – The Global Language of Business.

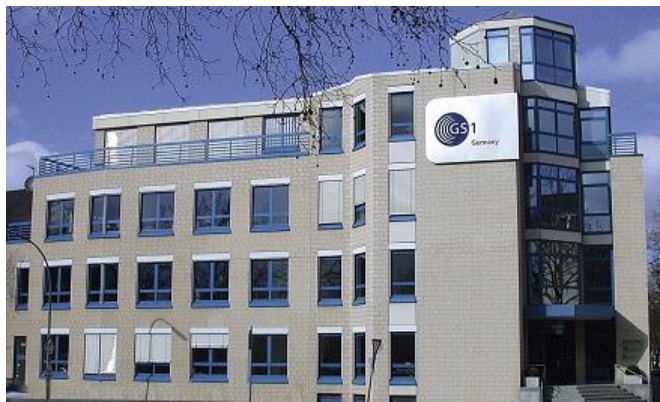


Table of contents

- List of figures 11**
- 1 Introduction 12**
 - 1.1 Objectives of the specifications 12
 - 1.2 Target group 12
 - 1.3 Scope 12
- 2 Specifications for the production of product images and media assets for the German target market..... 13**
 - 2.1 Image and file specifications..... 13
 - 2.1.1 Front view 13
 - 2.1.2 Image properties 14
 - 2.1.3 Colour and quality..... 15
 - 2.1.4 Clipping path..... 15
 - 2.1.5 Backgrounds 15
 - 2.1.6 Border..... 15
 - 2.1.7 Format for the end user..... 16
 - 2.1.8 Packaging 16
 - 2.1.9 Terms of use / Liability disclaimer..... 16
 - 2.2 Requirements for modern product depictions in omnichannel marketing..... 16
 - 2.2.1 Product images for consumer units 17
 - 2.2.1.1 File format 18
 - 2.2.1.2 Colour mode 18
 - 2.2.1.3 Image size 18
 - 2.2.1.4 File resolution..... 18
 - 2.2.2 Product images for trade units..... 18
 - 2.2.2.1 File format 19
 - 2.2.2.2 Colour space 19
 - 2.2.2.3 Image size 19
 - 2.2.2.4 File resolution..... 19
 - 2.2.3 Optimised Image 19
 - 2.2.3.1 Mobile-ready hero image 19
 - 2.2.3.2 Optimised Hero Images 20
 - 2.2.3.3 File format 21
 - 2.2.3.4 Colour mode 21
 - 2.2.3.5 Image size 21
 - 2.2.3.6 File resolution..... 21
 - 2.2.3.7 Clipping path..... 21
 - 2.2.4 Secondary product images..... 21
 - 2.2.4.1 Composition 21
 - 2.2.4.2 Content/texture..... 21
 - 2.2.4.3 Detail/technology..... 22
 - 2.2.4.4 Social media 22
 - 2.2.4.5 Application 23
 - 2.2.4.6 Ambience/mood..... 23

2.2.4.7	Size comparison	23
2.2.5	360° turn of the consumer unit (2D turns)	24
2.2.5.1	Depiction	24
2.2.5.2	File format	26
2.2.5.3	Image size	26
2.2.5.4	Colour space	26
2.2.6	Packaging information	26
2.2.7	Special cases.....	28
2.3	File name construction	29
2.3.1	Application examples: Structure of the file name based on three cases.....	32
2.3.1.1	Case 1: Permanent standard product and a parallel promotion with time limitation ..	32
2.3.1.2	Case 2: Temporary promotion with different layouts without standard product	33
2.3.1.3	Case 3: Permanent standard version with two image variants in different formats (portrait and landscape) and in chronological sequence of a new image version after changing the product design	33
2.4	Transferring product images and media assets via GDSN	34
2.5	Metadata.....	35
2.5.1	Transfer of metadata in the image	36
2.5.2	Transfer of metadata information through GDSN	36
Appendix.....		38
Glossary.....		47
Legal information.....		48

List of figures

Figure 2 – 1: Views for product images	14
Figure 2 – 2: Example for clipping paths	15
Figure 2 – 3: Product images with and without packaging	16
Figure 2 – 4: Consumer unit – front in perspective view (C1C1)	17
Figure 2 – 5: Consumer unit– bottom with relevant product information (C7N1)	17
Figure 2 – 6: Consumer unit for planograms – front without perspective (C1N1)	18
Figure 2 – 7: Product image of an open tray (C1LM)	18
Figure 2 – 8: Product image of an Shelf Ready tray (open) (C1LM)	19
Figure 2 – 9: Product image of a closed tray (C1LA)	19
Figure 2 – 10: Examples of mobile-ready hero images	20
Figure 2 – 11: Examples of an optimised hero image (U1N1)	20
Figure 2 – 12: Examples of composition images (M1, M2, M3, M7, M8, M9)	21
Figure 2 – 13: Examples of images of content or a texture (T)	22
Figure 2 – 14: Examples of detail images (F)	22
Figure 2 – 15: Examples of technology images (F)	22
Figure 2 – 16: Examples of social media images (K)	23
Figure 2 – 17: Examples to depict usage (N)	23
Figure 2 – 18: Examples to depict ambience (R)	23
Figure 2 – 19: Examples to depict size (Q)	23
Figure 2 – 20: Arc position of a 360° image with n individual images	24
Figure 2 – 21: Arc position of a 360° image with 24 individual images	25
Figure 2 – 22: 2D turn comprising 24 individual images (E1_R00_C01-24)	25
Figure 2 – 23: Image of the artwork (L1)	26
Figure 2 – 24: Image of the product label (L1)	27
Figure 2 – 25: Image of the product label (L9)	27
Figure 2 – 26: Image the nutritional information (L2)	27
Figure 2 – 27: Image of the ingredients index (L4)	28
Figure 2 – 28: Image of the instruction for preparation (L8)	28
Figure 2 – 29: Image of seals (L7)	28
Figure 2 – 30: Pharmaceuticals with original image (the legal text must also be depicted)	29
Figure 2 – 31: Pharmaceuticals with retouched image (without legal text)	29
Figure 2 – 32: Medical product	29
Figure 2 – 33: GTIN-based construction of file names	30
Figure 2 – 35: File names with variable length	32
Figure 2 – 36: Application example case 1	32
Figure 2 – 37: Application example case 2	33
Figure 2 – 38: Application example case 3	33
Figure 2 – 39: Example construction of a directory path	34
Figure 2 – 40: Example construction of an SEO product name	34
Figure 2 – 41: Examples for product images	35
Figure 2 – 42: Mapping metadata – IPTC attributes	36
Figure 2 – 43: Mapping metadata – GDSN attributes	37

1 Introduction

1.1 Objectives of the specifications

The digital presentation of products is a critical success factor in omnichannel.

This document describes specifications for the production of product images and media assets as well as the standard for naming the media files. The requirements have been developed together with experts from the areas of photography, marketing, e-commerce, and print and asset management from industry and retail. As well as uniform creation and processing of media assets, areas of application also include 360-degree views for online shops or in-store TV, views for shelf optimisation and advertising images from a wide variety of perspectives for use in marketing.

1.2 Target group

The document is intended for all those who are responsible for marketing and information technology to ensure the media asset supply for strategic brand management and content marketing in the systems of their organisation.

1.3 Scope

The document was developed in collaboration with stakeholders of the FMCG sector, and therefore its validity is in the areas of food, near-food, non-food and DIY.

2 Specifications for the production of product images and media assets for the German target market

Product images are used synonymously in this document for the terms photos/pictures, planograms, computer-generated illustrations, artwork and montage images. If the content refers only to one of these special forms, these are explicitly mentioned, for example, information on photography or specific product images for Web and e-commerce applications (montage images).

2.1 Image and file specifications

If the product image is a photograph, precise selection of the product sample should be made first. It is important to ensure that the samples are clean and damage-free, and contain no breaks, cracks, fingerprints, glued label or similar. Also, the sample should be typical of the product insofar as the weighted and measured values correspond to the requirements of the manufacturer. If the samples are sent by post or courier, they should be packaged with suitable protection and undamaged.

2.1.1 Front view

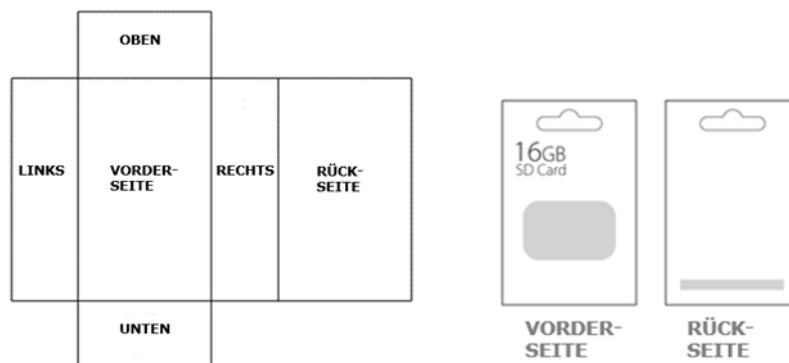
The front view of a product is the starting point for additional images. This is defined for consumer units using the package measurement rules of GS1 (GDSN Measurement Rules).

According to the measurement rules, the front side of a **consumer unit** is the side with the largest surface area, which is used by the manufacturer to advertise the product to the consumer. This is, for example, the side with the indication of the product name. Additional guidance on determining the front is described in the document "Measurement rules for packaging" (see Chapter 2.4).

For **unpacked goods** (e.g. fresh food, DIY), the measurement rules do not exist or are not completely described.

The depiction of the **trade units** may vary due to different use cases (shelving units, trays, etc.) and should be defined for each application purpose by the manufacturer.

All other sides for both the consumer unit and trade unit can be derived on the basis of the defined front view of the product:



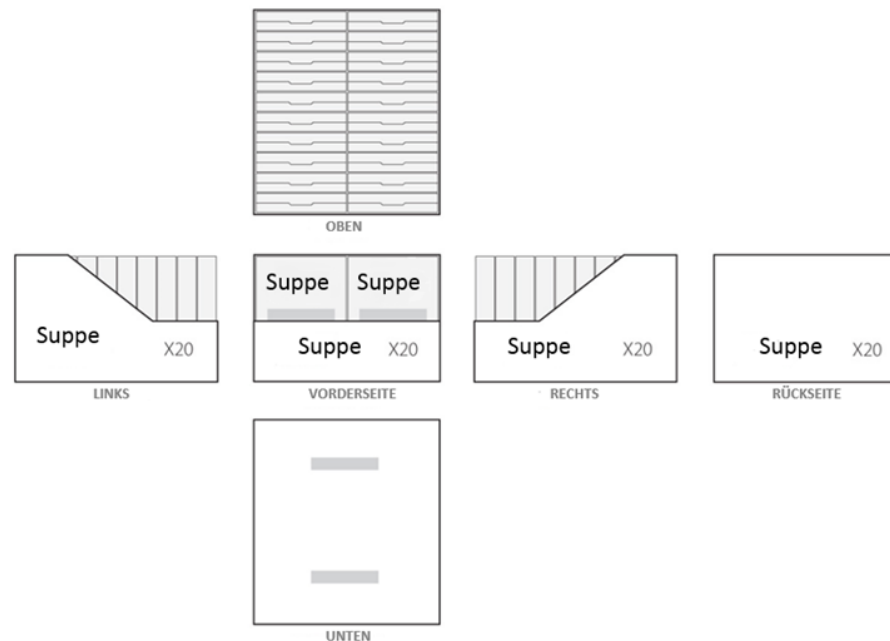


Figure 2 – 1: Views for product images

2.1.2 Image properties

The image should have the following properties:

- No alpha channels or layers
- No rulers or guide lines
- No bubbles or light and dark zones
- No transfer function or post-script colour management
- No imprints
- No fingerprints or visible watermarks
- No compressed products
- Preferably no interpolation ('resizing up', no visible artefacts)
- No scanning from printed pages
- No evidence of dust or scratches
- No manufactured shadows
- Moiré patterns should be minimised
- No vintage data (e.g. for wine)
- No production-specific information such as best before date, batch numbers or competition codes
- No item-specific labels, i.e. labels that contain a check number or a validity period, such as those from Stiftung Warentest, Ökotest
- It is recommended to make the labels available to the user as a separate graphic file
- No product-independent information (e.g. recipe of the week, indications of promotions)
- No reflections where possible
- No representation of size ratios on individual article level

2.1.3 Colour and quality

A media-independent depiction of the products in compliance with the corporate identity and the corporate design of the respective manufacturer is recommended.

2.1.4 Clipping path

The product image should contain exactly one clipping path. Preferably, the clipping path should be created manually and marked by name (e.g. as 'Pfad 1' or in the local language 'Path 1', etc.). The clipping path must be closed and surround the entire product.

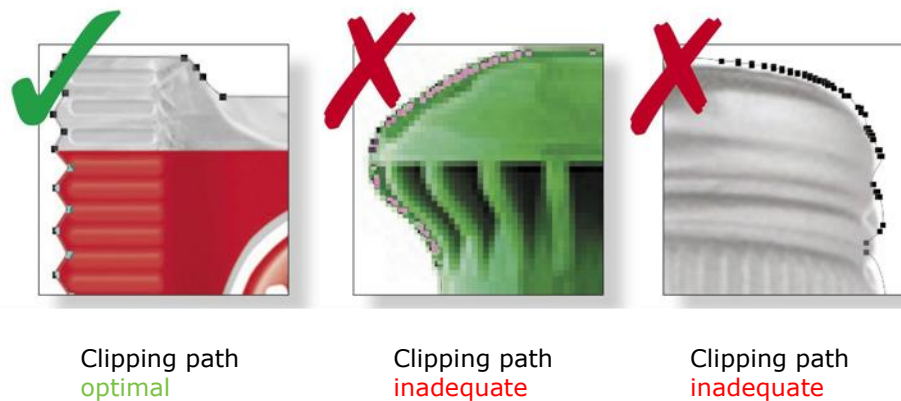


Figure 2 – 2: Example for clipping paths

The recommended rounding tolerance value is 1 pixel and maximum 10,000 individual points, but this is not strictly necessary.

Explanation:

Cut-out path:

The cut-out path should preferably be created manually using a path tool in an image-editing program, such as Photoshop. In this way, information on which areas are intended to be displayed in the layout as cut-outs can be added. By implication, all areas outside the path are hidden during further processing.

Clipping path:

A clipping path is required so that a layout program can use the cut-out of an image directly and, accordingly, hide all areas outside the path. This means that the desired image can be specifically cut out in order to remove it from the original background and then position it in front of any desired background. Cut-out images can be used for image compositions on the one hand and for depictions on a white or individual background on the other. In applications such as Photoshop, a cut-out path must be actively defined as a clipping path so that it is set for the further processing described.

2.1.5 Backgrounds

All products are presented on a neutral background. This means that the product must be isolated from the background, e.g. by being coloured white. Props, tools, people and additional items may also not appear in the product image. Exceptions are made for non-food products, for which a sole image is not sufficient.

2.1.6 Border

The image should be centred in such a way that the borders, if available, take up a maximum of 5% of the working area and the background is white.

2.1.7 Format for the end user

Due to the numerous possible combinations of the format, the sizes and the resolutions, not all possible combinations are listed in these recommendations for use.

The recommendations of these specifications are aimed at a high-quality product image and based on the latest technical possibilities. This allows the creation of a central image source in maximum image quality, out of which the required qualities and formats for the end user are created.

2.1.8 Packaging

Due to the variety of products and the different requirements, precise specification is not possible here. The decision on whether a product is shown with or without packaging is left to the discretion of the manufacturer of the product. Notes concerning the packaging can be displayed via the metadata ([see Chapter 2.5 Metadata](#)).



Figure 2 – 3: Product images with and without packaging

For this kind of product images, a perspective from slightly above is recommended.

More details on images with compositions, i.e. images that show both the packaging and the content, can be found in [Chapter 2.2.4 Secondary product images](#).

2.1.9 Terms of use / Liability disclaimer

Only image files for which the business partner can be granted unrestricted usage rights may be provided.

The client is thus granted usage rights unrestricted in terms of place and time for the images created, in order to advertise and market the product shown offline and online.

Further information on this can be found in [Chapter 2.5 Metadata](#).

2.2 Requirements for modern product depictions in omnichannel marketing

Depending on the aim, the following solutions are recommended in order to meet the requirements for modern product depictions in omnichannel marketing:

- [Product images for consumer units incl. path cut-outs](#)
- [Product images for trade units](#)
- [Mobile-ready hero image](#)
- [Secondary images](#)
- [360° turn of consumer units](#)
- [Packaging information](#)
- [Special cases](#)

To meet these specific requirements, providing four product images optimised for advertising is recommended. If more detailed information or a better product depiction is required, providing an additional 360° turn is recommended.

In data exchange via GDSN, at least one primary image must be supplied.¹

The manufacturer is responsible for the final decision as to which additional product images will be selected.

2.2.1 Product images for consumer units

At least one image, in which the front side of the product is shown with a perspective from slightly above (see [Chapter 2.3 File name construction Depiction of the product image C1C1](#)), should be provided. In addition, further images from different viewpoints can be provided according to the specifications in [Chapter 2.3](#).

A frontal shot without perspective is recommended for planograms and products with shallow depth (e.g. pouch products, CDs/DVDs, etc.), among other items. For planograms, differentiation between the images in terms of quality and size is not recommended.

Ideally, additional images of the side views, back view and a depiction of the bottom, insofar as these contain information relevant for the users, should be provided. A cut-out of the product is essential for planograms.



Figure 2 – 4: Consumer unit – front in perspective view (C1C1)²



Figure 2 – 5: Consumer unit– bottom with relevant product information (C7N1)

¹ Detailed requirements for the [DQ-Standard](#): Ensuring data quality in the German GDSN target market

² C1C1 is the image category. The image category is an abstract description of each product image type. The abbreviation encodes information such as perspective, product side shown, product image type, etc. It is defined in the global image standard of the GS1 "Product Image Specifications". The image categories used in the target market of Germany are described in Chapter 2.3 File name structure [in Table 2 – 34: Type of product image](#).



Figure 2 – 6: Consumer unit for planograms – front without perspective (C1N1)

2.2.1.1 File format

JPEG format with a compression factor of 12 in maximum quality is recommended

2.2.1.2 Colour mode

ECI RGB V2 colour mode with 8 bits per channel

2.2.1.3 Image size

- As a minimum requirement, the image size of 2,401 pixels at 300 ppi is recommended i.e. the pixel height or pixel width should have a value of at least 2401 pixels.
- in order to ensure printing capability of A0 formats, a value of 4,800 pixels at 300 ppi is recommended (each according to GS1 Product Image Specification).

The final decision on the applicable image size, taking the technical circumstances into account.

2.2.1.4 File resolution

300 ppi

2.2.2 Product images for trade units

Due to different use cases (shelving units, trays, etc.), the front view of the trade unit is defined by the manufacturer. However, following the example of the depiction in Chapter 2.2.1. Depiction of consumer units and the specifications of Chapter 2.3 File name construction for the depiction of the product image is recommended.

Images for planograms should always be depicted with a frontal perspective. For all other applications, a perspective from slightly above at a rotation (e.g. of 15 – 20 degrees) is recommended.



Figure 2 – 7: Product image of an open tray (C1LM)



Figure 2 – 8: Product image of an Shelf Ready tray (open) (C1LM)



Figure 2 – 9: Product image of a closed tray (C1LA)

2.2.2.1 File format

JPEG format with a compression factor of 12 in maximum quality is recommended

2.2.2.2 Colour space

ECI RGB V2 colour mode with 8 bits per channel

2.2.2.3 Image size

- As a minimum requirement, the image size of 2,401 pixels at 300 ppi is recommended i.e. the pixel height or pixel width should have a value of at least 2401 pixels.
- in order to ensure printing capability of A0 formats, a value of 4,800 pixels at 300 ppi is recommended (each according to GS1 Product Image Specification).

The final decision on the applicable image size, taking the technical circumstances into account.

2.2.2.4 File resolution

300 ppi

2.2.3 Optimised Image

There are two types of Optimised Images described in this guideline: Mobile Ready Hero Images and Optimized Hero Images.

2.2.3.1 Mobile-ready hero image

The mobile-ready hero image has been specially developed for e-commerce and should be used for mobile (smaller) depiction in particular. The mobile-ready hero image is considerably simplified in

comparison to the classic product image of the consumer unit (see Chapter 2.2.1). It is reduced to the depiction of the core product features and characteristics: product name (e.g. Pampers Baby Dry), layout/design (green heart), version (nappy size 5) and product contents (23: in the Pampers size 5 saver pack there are 23 nappies). In this way, the mobile-ready image gives the user quicker product perception than the classic 'realistic' image.

The specifications for these product images in terms of format, image size, colour space and resolution match the values established in [Chapter 2.2.1 Product images for consumer units](#).



Figure 2 – 10: Examples of mobile-ready hero images

Note: Further details can be found in the global GS1 Mobile Ready-Hero Images Guideline at <https://www.gs1.org/standards/Mobile-Ready-Hero-Image/1-0>.

2.2.3.2 Optimised Hero Images

Optimized Hero Images has also been developed for eCommerce purposes. However, there is no direct reference to the screen size. Optimised Hero Images objective is to provide consumers specific/additional information about the product instead of having only the representation of the physical pack key elements. This can be a specific packaging size, a flavor and fragrance or, as in the following example, a specific area of application (for adult cats of different breeds, good for the muscles).



Figure 2 – 11: Examples of an optimised hero image (U1N1)

The following chapters describe the image specifications for both mobile ready hero images and optimised hero images:

2.2.3.3 File format

JPEG format with a compression factor of 12 in maximum quality is recommended.

2.2.3.4 Colour mode

ECI RGB V2 colour mode with 8 bits per channel.

2.2.3.5 Image size

A value of 600 pixels at 300 ppi is recommended as the minimum requirement for the image size. That means the pixel height or pixel width should have a value of at least 600 pixels.

2.2.3.6 File resolution

300 ppi

2.2.3.7 Clipping path

The product image must be provided with exactly one clipping path. The clipping path should preferably be created manually and identified by name (e.g. as "Pfad 1" or "Path 1" in the local language, etc.). The clipping path must be closed and enclose the entire product. More information about the clipping path in chapter 2.1.4 Clipping path (clipping path activated).

2.2.4 Secondary product images

The secondary images go beyond the classic product image and show product-specific images containing further information for the consumer, or relevant features that could positively influence a possible purchase decision.

2.2.4.1 Composition

The 'composition' image type shows images depicting the items packaged or unpackaged. The image can comprise several individual images. Products can be depicted with contents/flask/can/pen with cap closed or open. Another variant of the composition could also show outer packaging with the flask in front of it.



Figure 2 – 12: Examples of composition images (M1, M2, M3, M7, M8, M9)

2.2.4.2 Content/texture

The 'content/texture' image category shows images that depict the content or texture of a product. The image should be designed in such a way that the texture can be experienced by the end user similarly in stationary retail, e.g. creme, lipstick.



Figure 2 – 13: Examples of images of content or a texture (T)

2.2.4.3 Detail/technology

The 'detail/technology' image category shows images that depict, for example, a close-up of special product characteristics, or images that describe the function or a special feature, such as the particular properties of a nappy.



Figure 2 – 14: Examples of detail images (F)



Figure 2 – 15: Examples of technology images (F)

2.2.4.4 Social media

The 'social media' image category shows assets with media content.



Figure 2 – 16: Examples of social media images (K)

2.2.4.5 Application

The 'application' image category is used to depict how the product itself is used.



Figure 2 – 17: Examples to depict usage (N)

2.2.4.6 Ambience/mood

The 'ambience/mood' image category shows images used as 'mood images'.



Figure 2 – 18: Examples to depict ambience (R)

2.2.4.7 Size comparison

The 'size comparison' image category makes clear the actual size of the product, e.g. via a schematic depiction of a person or well-known object (e.g. one-euro coin) in the background.



Figure 2 – 19: Examples to depict size (Q)

The specifications for secondary product images in terms of format, image size, colour space and resolution match the values established in [Chapter 2.2.1 Product images for consumer units](#).

2.2.5 360° turn of the consumer unit (2D turns)

The 360° turn of the consumer unit is described in the following chapters. A detailed description of the data exchange via GDSN is provided in [Chapter 2.4 Transferring product images and media assets via GDSN](#) and [2.5 Metadata](#).

2.2.5.1 Depiction

Depending on the product, the following alternatives are possible:

- 2D turn comprising at least 24 individual images (max. 99 individual images), frontal perspective on one axis (horizontal)
(for products with limited depth, e.g. pouch products, CDs/DVDs, etc.)
- 2D turn consisting of at least 24 individual images (max. 99 individual images), perspective from slightly above on one axis (horizontal)

There are two options for creating a 360° turn:

Option 1: The camera moves clockwise around the static product.

Option 2: The camera is fixed. The product stands on a turntable moving anticlockwise.

The starting image is the frontal view (image number 01 / arc position 1). The order of images can be described using the following figures:

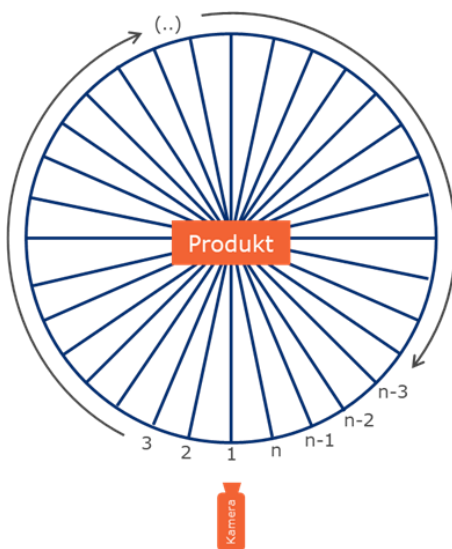


Image number	Arc position
01	1
02	2
03	3
(..)	(..)
n-2	n-2
n-1	n-1
n	n

Figure 2 – 20: Arc position of a 360° image with n individual images

The following figures depict the arc positions of a 360° image with 24 individual images:

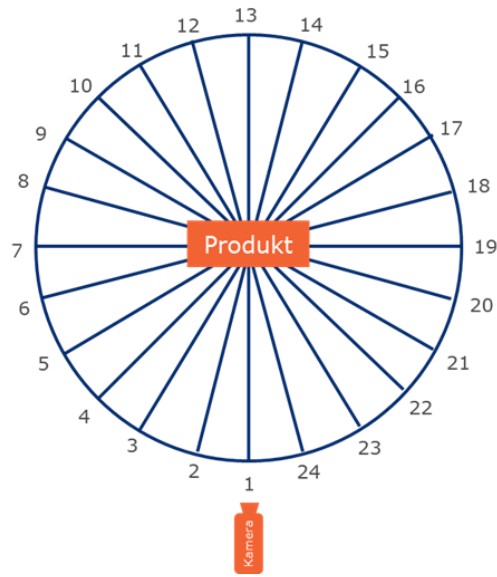


Image number	Arc position	Image number	Arc position	Image number	Arc position
01	1	09	9	17	17
02	2	10	10	18	18
03	3	11	11	19	19
04	4	12	12	20	20
05	5	13	13	21	21
06	6	14	14	22	22
07	7	15	15	23	23
08	8	16	16	24	24

Figure 2 – 21: Arc position of a 360° image with 24 individual images



Figure 2 – 22: 2D turn comprising 24 individual images (E1_R00_C01-24)

2.2.5.2 File format

JPEG file format is recommended.

2.2.5.3 Image size

- The minimum requirement for the image size of the individual images is A4 1136 × 640 pixels (retina display) (326 pixels per inch) and
- 2880 × 1800 pixels (retina display) (220 pixels per inch) is recommended as the maximum displayable size.

2.2.5.4 Colour space

sRGB colour space

2.2.6 Packaging information

For e-commerce applications, it may be necessary to provide the consumer with packaging information that they would normally get from the physical product.

Additional images of all the artwork, the ingredients list, the nutritional information and the instructions for preparing the product are therefore recommended.

The image of the **artwork** shows the final print layout of product packaging, including all the information that appears on the product.



Figure 2 – 23: Image of the artwork (L1)

The **label** image type is a product image developed from the artwork, without print-specific information such as colour spectrum or fold lines, including all the information that appears on the product.



Figure 2 – 24: Image of the product label (L1)

As can be seen in the previous example, it is not strictly necessary to show all sides of the product packaging. In the example, the upper, lower and front view are not shown.

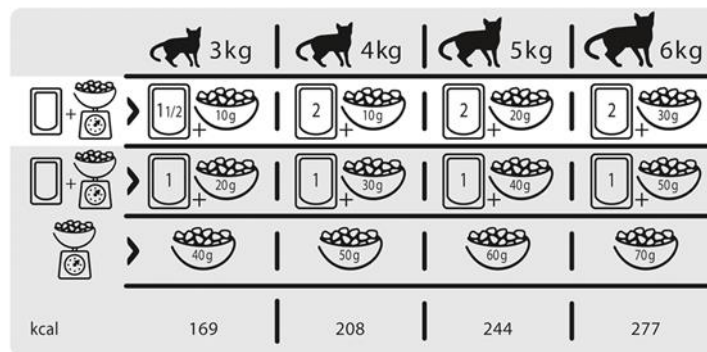


Figure 2 – 25: Image of the product label (L9)

The **nutritional information** provides details of the nutritional composition of a product. This image type only applies for consumable food products.

Nährwerte	pro 100 g	pro Portion 160 g (½ Pizza)	pro 320 g (1 Pizza)	% Referenz- menge* pro Portion
Energie	1012 kJ 241 kcal	1619 kJ 386 kcal	3239 kJ 771 kcal	19%
Fett – davon gesättigte Fettsäuren	8,6 g 4,1 g	13,8 g 6,5 g	27,6 g 13,0 g	20% 33%
Kohlenhydrate – davon Zucker	28,1 g 1,2 g	45,0 g 1,9 g	90,0 g 3,8 g	17% 2%
Ballaststoffe	2,4 g	3,8 g	7,6 g	–
Eiweiß	11,5 g	18,4 g	36,9 g	37%
Salz	1,7 g	2,7 g	5,4 g	45%

* Referenzmenge für einen durchschnittlichen Erwachsenen (8400 kJ/2000 kcal). Packung enthält 2 Portionen.

Nähr- werte	pro 100 ml
Energie	434 kJ 102 kcal
Fett davon gesättigte Fettsäuren	0,0 g 0,0 g
Kohlenhydrate davon Zucker	7,4 g 5,1 g
Ballaststoffe	0,0 g
Eiweiß	18 g
Salz	24,9 g

Figure 2 – 26: Image the nutritional information (L2)

The image of the **ingredients index** is the list of all the ingredients printed on the packaging.



Figure 2 – 27: Image of the ingredients index (L4)



Figure 2 – 28: Image of the instruction for preparation (L8)

Seals can be clearly allocated to an item and are relevant for a specified time period. The specifications for secondary product images in terms of format, image size, colour space and resolution match the values established in [Chapter 2.2.1 Product images for consumer units](#).



Figure 2 – 29: Image of seals (L7)

2.2.7 Special cases

Pharmaceuticals/over-the-counter pharmaceuticals, nutritional supplements and medical products

Legal aspects must be considered in the depiction of pharmaceuticals/over-the-counter pharmaceuticals, nutritional supplements and medical products.

Original images of pharmaceuticals/over-the-counter pharmaceuticals including the depicted indication may only be used for end-user communication if the corresponding legal text is also shown. If this legal text is not additionally shown, the retouched image (indication) **MUST** be used.

When providing product images of pharmaceuticals, always showing a retouched version is recommended. The customer relies on being able to use the images as they are provided.



Figure 2 – 30: Pharmaceuticals with original image (the legal text must also be depicted)



Figure 2 – 31: Pharmaceuticals with retouched image (without legal text)

For nutritional supplements and medical products, the original images can always be used for end-user communication. There are no special points to consider.



Figure 2 – 32: Medical product

2.3 File name construction

With the help of the file name, media assets such as product images can be clearly identified and the allocation to a product can be more easily recognised. The file name is generated by the data inputter using the GTIN of the product. Additional information such as the image category, variant and version is included in the file name. This ensures that the numerous different product images can be differentiated precisely and mix-ups are avoided.

The global GS1 Product Image Specification Standard provides the basis for the naming of product images. It is available via <https://www.gs1.org/standards/gs1-product-image-specification-standard/current-standard>

These recommendations for use make use of the elements of the global GS1 Product Image Specification Standard for the naming of product images listed below. Please note that the length of the file name can vary depending on the type of product image.

Mapping of the previously used national naming structures to the now-applicable global naming convention can be found for all relevant product image types in the appendix of these recommendations for use.

For clarification of the individual elements of the naming structure, application for the relevant primary images for the German target market are described:

GTIN

The first 14 spaces of the file name are reserved for the GTIN of the product. For GTIN-13, the first space is to be filled with a zero. The GTIN-8 is depicted in spaces N7 to N14. The leading spaces N1 to N6 are to be filled with zeroes.

Delimiter

The space X15 represents the delimiter `_'`.

Image category

Spaces X16–X19 describe in coded form the product image type, the side view and the perspective, among other things.

Delimiter

The space X20 represents the delimiter `_'`.

Version (consecutive numbering for relaunch or replacement within an image category)

The consecutive numbering for replacement or relaunch (spaces X21 to X23) ensures there is no ambiguity if there is an update to an existing product image or a product image for a relaunch with the same GTIN. Starting with the value s01 is recommended.

Delimiter

The space X24 represents the delimiter `_'`.

Variant (consecutive numbering within an image category)

The consecutive numbering of an image category (spaces X25 to X27) ensures there is no ambiguity within a category. This is the case, for example, when a manufacturer provides several secondary images from the 'application' category. Starting with the value v01 is recommended.

For example, images in portrait and/or landscape format, with or without a promotion, etc., could be allocated to a category.

The elements version (s01) and variant (v01) are required for every product image type and are attached to the relevant description of the product category, separated by the delimiter.

GTIN														Image category				Version			Variant					
0	4	0	0	0	0	0	1	0	2	2	3	9	7	_	C	1	C	1	_	s	0	1	_	v	0	1
n1	n2	n3	n4	n5	n6	n7	n8	n9	n10	n11	n12	n13	n14	x15	x16	x17	x18	x19	x20	x21	x22	x23	x24	x25	x26	x27

Figure 2 – 33: GTIN-based construction of file names

Note: The format extension (e.g. .jpeg/.jpg) and the SEO product description (see chapter 2.4.) are not part of the file name. The file name is to be transferred in the attribute fileName (Datei: Name) [M416]. Accordingly, neither the format (e.g. jpg/jpeg) nor the SEO description may be specified in the attribute fileName (Datei: Name) [M416].

Note: It is recommended to use upper and lower case as shown in the examples, as this makes the file name easier to read for humans.

Classification of product images	Description of image category (within the classification)	GTIN	Delimiter	Image category	Delimiter	Version	Delimiter	Variant	Mapping of image category to the code value of referencedFileTypeCode [M379]	
		n14		C1C1		s01-s99		v01-v99		
A	Product images for consumer units (each, within the packaging)	Front view with perspective/top view*		C1C1					PRODUCT_IMAGE	
		Left view (oblique from the left) with perspective		C1L1						
		Right view (oblique from the right) with perspective		C1R1						
		Frontal view without perspective		C1N1						
		Frontal back view without perspective		C7N1						
		Frontal back view with perspective		C7C1						
		Frontal view of the right side without perspective		C8N1						
		Frontal view of the right side with perspective		C8C1						
		Frontal view of the left side without perspective		C2N1						
		Frontal view of the left side with perspective		C2C1						
		Bottom view		C9N1						
		View of the top		C3N1						
		B	Product images for trade units (box)	Front view with perspective/overview*		C1CA				
Front view with perspective/overview (open)				C1CM						
Left view (oblique from the left) with perspective				C1LA						
Left view (oblique from the left) with perspective (open)				C1LM						
Right view (oblique from the right) with perspective				C1RA						
Right view (oblique from the right) with perspective (open)				C1RM						
Frontal view without perspective				C1NA						
Frontal view without perspective (open)				C1NM						
Frontal back view without perspective				C7NA						
Frontal back view with perspective				C7CA						
Frontal view of the right side without perspective				C8NA						
Frontal view of the right side without perspective (open)				C8NM						
Frontal view of the right side with perspective				C8CA						
Frontal view of the right side with perspective (open)				C8CM						
Frontal view of the left side without perspective				C2NA						
Frontal view of the left side without perspective (open)				C2NM						
Frontal view of the left side with perspective				C2CA						
Frontal view of the left side with perspective (open)				C2CM						
Bottom view				C9NA						
View of the top		C3NA								
View of the top (open)		C3NM								
B	Product images for trade units (display/pallet)	Front view with perspective/overview*		C1CP				PRODUCT_IMAGE		
		Left view (oblique from the left) with perspective		C1LP						
		Right view (oblique from the right) with perspective		C1RP						
		Frontal view without perspective		C1NP						
		Frontal back view without perspective		C7NP						
		Frontal back view with perspective		C7CP						
		Frontal view of the right side without perspective		C8NP						
		Frontal view of the right side with perspective		C8CP						
		Frontal view of the left side without perspective		C2NP						
		Frontal view of the left side with perspective		C2CP						
		Bottom view		C9NP						
		Top view		C3NP						
		C	Simplified/mobile-ready hero image (unit)	Front view with perspective/top view		H1C1				
Left view (oblique from the left) with perspective				H1L1						
Right view (oblique from the right) with perspective				H1R1						
Front view without perspective*				H1N1						
C	Optimised Hero Image (unit)	Front view with perspective/top view		H1C1				OPTIMISED_HERO_IMAGE		
		Left view (oblique from the left) with perspective		H1L1						
		Right view (oblique from the right) with perspective		H1R1						
		Front view without perspective*		H1N1						
D	Secondary image types	Detail/technology		F				ZOOM_VIEW		
		Social media		K				SOCIAL_MEDIA_IMAGE		
		Composition/montage - 1 - front		M1				MONTAGE_IMAGE		
		Composition/montage - 2 - left		M2				MONTAGE_IMAGE		
		Composition/montage - 3 - top		M3				MONTAGE_IMAGE		
		Composition/montage - 7 - back		M7				MONTAGE_IMAGE		
		Composition/montage - 8 - right		M8				MONTAGE_IMAGE		
		Composition/montage - 9 - bottom		M9				MONTAGE_IMAGE		
		Application		N				APPLICATION_IMAGE		
		Size comparison		Q				PRODUCT_IMAGE		
		Ambience/mood		R				AMBIENCE_MOOD_IMAGE		
Content/texture		T				CONTENT_TEXTURE_IMAGE				
E	Image of packaging information	Artwork		L1				PACKAGING_ARTWORK		
		Label		L1				PRODUCT_LABEL_IMAGE		
		Nutritional information		L2				NUTRITION_FACT_LABEL		
		Ingredients list		L4				INGREDIENTS_LABEL		
		Seal		L7				CERTIFICATION		
		Preparation instructions		L8				PREPARATION_INSTRUCTIONS		
		Petfood feeding instructions		L9				PETFOOD_FEEDING_INSTRUCTIONS		
		W	360° turn of the consumer unit	2D frontal view with rotation around the vertical axis		E1_R00_C01-24				360_DEGREE_IMAGE
		Y	360° turn of the consumer unit	2D perspective view with rotation around the vertical axis		E1_R15_C01-24				360_DEGREE_IMAGE

Figure 2 – 34: Type of product image (* Preferred depiction of the corresponding image category)

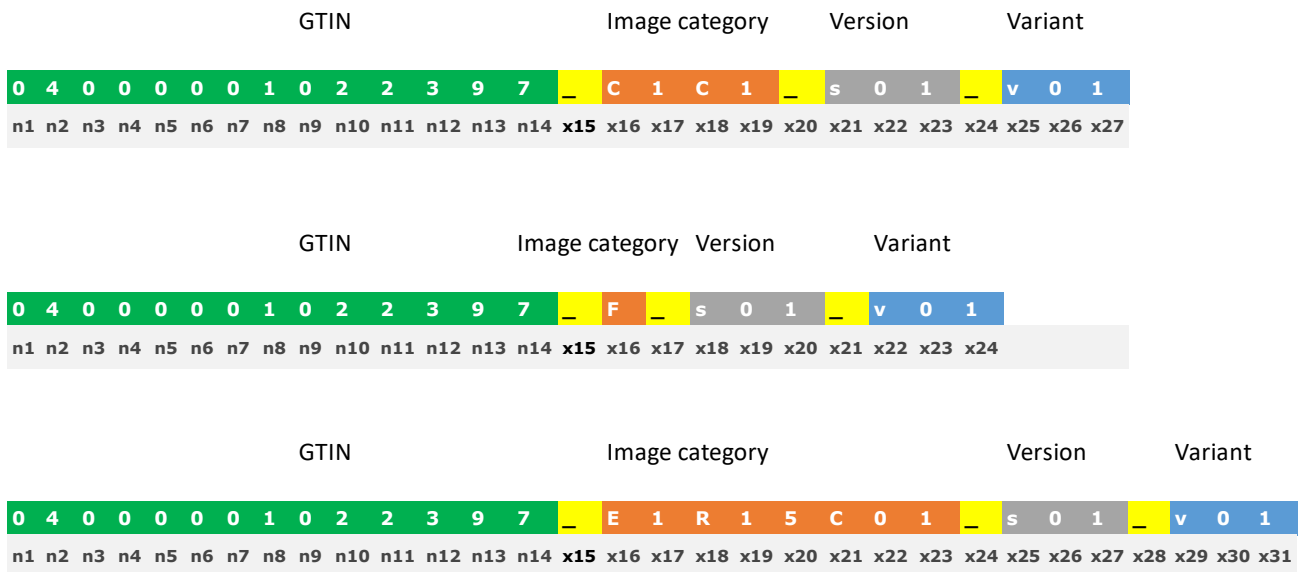


Figure 2 – 35: File names with variable length

2.3.1 Application examples: Structure of the file name based on three cases

2.3.1.1 Case 1: Permanent standard product and a parallel promotion with time limitation



Product example	Image name							Valid from	Valid until	Content description
	GTIN	Delimiter	Image category	Delimiter	Version <small>(consecutive numbering for relaunch or adjustment of a product image within an image category)</small>	Delimiter	Variant <small>(consecutive numbering within an image category)</small>			
	N1-N14	X15	X16-X19	X20	X21-X23	X24	X25-X27			
	05900951264672	_	C1N1	_	s01	_	v01	01.01.2020	<empty>	<empty>
	05900951264672	_	C1N1	_	s01	_	v02	04.05.2020	19.09.2020	On-Pack Fußball Promotion

Figure 2 – 36: Application example case 1

* The 'fileEffectiveEndDateTime' date should be provided when publishing the promotional product image

2.3.1.2 Case 2: Temporary promotion with different layouts without standard product




Product example	Image name							Valid from	Valid until	Content description
	GTIN	Delimiter	Image category	Delimiter	Version (consecutive numbering for relaunch or adjustment of a product image within an image category)	Delimiter	Variant (consecutive numbering within an image category)			
	N1-N14	X15	X16-X19	X20	X21-X23	X24	X25-X27			
	05000159452540	_	C1N1	_	s01	_	v01	06.04.2020	01.08.2020	On-pack football promotion – Abseits
	05000159452540	_	C1N1	_	s01	_	v02	06.04.2020	01.08.2020	On-pack football promotion – Bekloppt
	05000159452540	_	C1N1	_	s01	_	v03	06.04.2020	01.08.2020	On-pack football promotion – Abstauber

Figure 2 – 37: Application example case 2

* The 'fileEffectiveEndDateTime' date should be provided when publishing the promotional product image

2.3.1.3 Case 3: Permanent standard version with two image variants in different formats (portrait and landscape) and in chronological sequence of a new image version after changing the product design





Product example	Image name							Valid from	Valid until	Content description
	GTIN	Delimiter	Image category	Delimiter	Version (consecutive numbering for relaunch or adjustment of a product image within an image category)	Delimiter	Variant (consecutive numbering within an image category)			
	N1-N14	X15	X16-X19	X20	X21-X23	X24	X25-X27			
	04008429010989	_	C1R1	_	s01	_	v01	01.02.2019	31.01.2020	<empty>
	04008429010989	_	C1R1	_	s01	_	v02	01.02.2019	31.01.2020	<empty>
	04008429010989	_	C1R1	_	s02	_	v01	01.02.2020	<empty>	<empty>
	04008429010989	_	C1R1	_	s02	_	v02	01.02.2020	<empty>	<empty>

Figure 2 – 38: Application example case 3

* A new product image (e.g. relaunch) replaces the previous standard version. At the same time, when the new version is published, the 'fileEffectiveEndDateTime' date must be specified for the previous version.

2.4 Transferring product images and media assets via GDSN

No image files are transferred directly via GDSN standard. A URL is transferred in the master data notification (CIN – Catalogue Item Notification) that references an image or group of images (360 turn).

The URL must refer directly to an individual image file (complete path including the file name).

Example: http://www.brandname_A/pictures/hashvalue/0400001022397_C1C1_s01_v01.jpg

Directory path

In a directory path, the path to a directory is specified, where, for example, a group of images (e.g. for the 360° turn) is stored.

Example: http://www.brandname_A/pictures/hashvalue/0400001022397_C1C1_s01_v01/

The URL itself is not subject to naming conventions. This is built according to the predefined structure of each company. Only the naming conventions of the file name of the image must be observed. For new images it is necessary to generate new URLs and communicate them via GDSN.

Accessing product images and media assets via the URL

Access to the images described in this recommendation for use should generally be designed as simply as possible for the data recipient or retailer. It should be possible to download the image file by accessing the URL. That means that, where possible, access via username and password or exchanging certificates should not be used if this is permitted by the applicable company-internal IT security rules.

To remain compliant with in-house IT security policies of the suppliers of media assets and to prevent arbitrary downloads or crawling of media assets at the same time, the integration of a 128-bit hash value within the URL is recommended. This further reduces potential hurdles (username/password or exchange of certificates) and ensures fast and efficient access to media assets.



Figure 2 – 39: Example construction of a directory path

Note: The recommended file format for product images is JPEG. Do not use compressed formats, e.g. with ZIP, 7ZIP, WINZIP, etc., as this can prevent automatic further processing. The file ending (e.g. .jpg / .jpeg) must be provided for image links. Files without ending will not be processed.

Adding an SEO product description to the file name

Including an SEO (search-engine-optimised) product description in the file name is recommended. The SEO product description should consist of the modules brand, sub-brand and a product description in a web-compliant form.

Web-compliant means that a minus is used as word separator, no special characters or spaces are used, and ideally the text is written in lower case.

Module	Text
Brand	Katjes
Sub-brand	Fred Ferkel
Product description	Fruit gums
Web-compliant SEO description	Katjes-fred-ferkel-fruit-gums

Figure 2 – 40: Example construction of an SEO product name

2.5 Metadata

The metadata defined below refers to additional information relating to the image or media asset. This metadata can be transmitted in two different ways. On the one hand, it can be directly connected to the image (embedded in the image file) ([see Chapter 2.5.1](#)). On the other hand, this metadata can be transmitted independently of the image via GDSN ([see Chapter 2.5.2](#)). A link for the information in GDSN takes place via the respective GTIN and the URL of the image.

Valid from date (DDMMYYYY)

Earliest date from when the image can be used or may be shown. Always maintaining the 'Valid from date' is recommended. If no future validity has been defined, the current date should be used.

Expiration date (DDMMYYYY)

After this time, the image should not be shown. For standard products with unlimited validity, no 'Expiration date' should be entered.

Terms of use

Ideally, unrestricted usage rights should be granted for the images. In this case, nothing needs to be entered. However, if it is necessary to transfer special terms of use (e.g. pharmaceuticals, tobacco or promotional articles), these can be defined using the following examples:

- Cannot be used in print
- Cannot be used globally
- May only be used for the online sector

Special conditions should be defined as free text.

Copyright

Ideally, there should be no copyright on the images. Therefore, if there are no restrictions, it is not used.

Creation date of the product image

If the creation date is not known, this is left blank.

Author/creator

If the author is not known, this is left blank.

Content description

Informal description of the content of the referenced file. Providing additional information on the 360° turn and/or the product variant here is recommended.

For a 360° turn, the number of images should be specified (at least 24).

For example: 24

For the product variant, what type of article variant is involved should be specified.

The example in Fig. 2 – 36 shows different packaging designs, each with identical net weight, identical customer information and the same GTIN. The product images of these different variants can be clearly identified via the meta-information 'File:Description (Datei:Inhaltsbeschreibung [M422])'.



Figure 2 – 41: Examples for product images

The tagging is not part of this specification and the responsibility is up to the user of the product image.

Example: bow, rose, hearts

If necessary, information on the 360° turn and the article variant can be entered.

Example: 24; bow

Seasonal products

In line with GTIN allocation rules, a seasonal product is depicted via a new GTIN. For this purpose, a new article with product information and product images is created via GDSN.

2.5.1 Transfer of metadata in the image

Image editing programs use different formats and releases to store metadata in an image file. One frequently used standard is the International Press Telecommunications Council (IPTC).

In the following table, the meta information displayed in [Chapter 2.5](#) is mapped to the current IPTC Standard, insofar as it is available. Providing the metadata in the image is optional.

Metadata	IPTC attribute
Terms of use	IPTC: rights usage terms
Copyright	IPTC: copyright notice
Author/Creator	IPTC: copyright owner

Figure 2 – 42: Mapping metadata – IPTC attributes

2.5.2 Transfer of metadata information through GDSN

Another possibility for technical communication of metadata between suppliers and retailers is the use of the standardised 'Global Data Synchronisation Network' (GDSN).

The Global Data Synchronisation Network (GDSN) is a worldwide network of master data pools via which product master data can be exchanged between manufacturers and retailers globally. In this context, the data must only be provided in a single data pool. The GDSN connects around 30 certified data pools worldwide, to which more than 25,000 companies are currently connected. GDSN data pools all use the same standards – for example, they use the GTIN for item identification. To enable the global exchange of data across multiple data pools, GDSN accesses a central register (global registry). This makes it possible to locate item data and company data worldwide in data pools. For additional information on the GDSN, please visit: <http://www.gs1.org/qsmp/kc/gdsn>.

For each piece of meta-information, the following table shows the corresponding GDSN attribute in the German target market profile FMCG DIY, in which the information can be transferred:






Metadata	GDSN attribute
File type	referencedFileTypeCode [M379] Mapping image category/code values see table in the appendix Status: dependent mandatory (code value product image)
URL of the product image	uniformResourceIdentifier [M378] Status: dependent mandatory
File name	fileName [M416] Status: dependent optional
Valid from date (DDMMYYYY)	fileEffectiveStartDateTime [M417] Status: dependent optional If this attribute is not filled in by the supplier, the image is immediately valid and can be used.






Metadata	GDSN attribute
Expiration date (DDMMYYYY)	fileEffectiveEndDateTime [M418] Status: dependent optional For promotional merchandise, this attribute must be filled in. For standard products with unlimited validity, no 'fileEffectiveEndDateTime' should be entered.
Terms of use	fileUsageRestriction [M419] Status: dependent optional
Copyright	fileCopyrightDescription [M420] Status: dependent optional
Author/creator	fileAuthorName [M421] Status: dependent optional
Content description	contentDescription [M422] Status: dependent optional
GTIN	gtin [M017] Status: mandatory
Format	fileFormatName [M423] Status: dependent optional
Colour scheme	fileColourSchemeCode [M426] Status: dependent optional


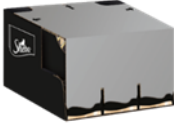





Figure 2 – 43: Mapping metadata – GDSN attributes



Appendix




Mapping of image categories national (old)/global (new) naming and allocation image categories to code value of the GDSN attribute 'referencedFileTypeCode' [M379]





	Klassifizierung der Produktabbildungen	Beschreibung der Bildkategorie (innerhalb der Klassifizierung)	GTIN	Trenner	Bild-kategorie alt	Bild-kategorie	Trenner	Version	Trenner	Variante	Mapping Bildkategorie zum Codewert Datei: Code der Art [M379]	Beispielbild
			n14	–			–	s01-s99	–	v01-v99		
A	Product images for consumer units (each, within the packaging)	Front view with perspective/top view*			A001	C1C1					PRODUCT_IMAGE	
		Left view (oblique from the left) with perspective			A002	C1L1						
		Right view (oblique from the right) with perspective			A003	C1R1						
		Frontal view without perspective			A004	C1N1						
		Frontal back view without perspective			A005	C7N1						
		Frontal back view with perspective			A005	C7C1						






	Klassifizierung der Produktabbildungen	Beschreibung der Bildkategorie (innerhalb der Klassifizierung)	GTIN	Trenner	Bild-kategorie alt	Bild-kategorie	Trenner	Version	Trenner	Variante	Mapping Bildkategorie zum Codewert Datei: Code der Art [M379]	Beispielbild
			n14	–			–	s01-s99	–	v01-v99		
A	Product images for consumer units (each, within the packaging)	Frontal view of the right side without perspective			A006	C8N1					PRODUCT_IMAGE	
		Frontal view of the right side with perspective			A006	C8C1						
		Frontal view of the left side without perspective			A007	C2N1						
		Frontal view of the left side with perspective			A007	C2C1						
		Bottom view			A008	C9N1						
		View of the top			A009	C3N1						
B	Product images for trade units (box)	Front view with perspective/overview *			B001	C1CA					PRODUCT_IMAGE	





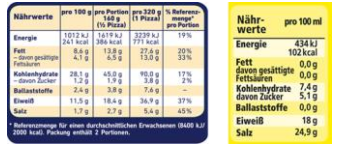

Klassifizierung der Produktabbildungen	Beschreibung der Bildkategorie (innerhalb der Klassifizierung)	GTIN	Trenner	Bild-kategorie alt	Bild-kategorie	Trenner	Version	Trenner	Variante	Mapping Bildkategorie zum Codewert Datei: Code der Art [M379]	Beispielbild
		n14	–			–	s01-s99	–	v01-v99		
B Product images for trade units (box)	Front view with perspective/overview (open)			B001	C1CM					PRODUCT_IMAGE	
	Left view (oblique from the left) with perspective			B002	C1LA						
	Left view (oblique from the left) with perspective (open)			B002	C1LM						
	Right view (oblique from the right) with perspective			B003	C1RA						
	Right view (oblique from the right) with perspective (open)			B003	C1RM						
	Frontal view without perspective			B004	C1NA						
	Frontal view without perspective (open)			B004	C1NM						
	Frontal back view without perspective			B005	C7NA						
	Frontal back view with perspective			B005	C7CA						

	Klassifizierung der Produktabbildungen	Beschreibung der Bildkategorie (innerhalb der Klassifizierung)	GTIN	Trenner	Bild-kategorie alt	Bild-kategorie	Trenner	Version	Trenner	Variante	Mapping Bildkategorie zum Codewert Datei: Code der Art [M379]	Beispielbild
			n14	–			–	s01-s99	–	v01-v99		
B	Product images for trade units (box)	Frontal view of the right side without perspective (open)			B006	C8NA					PRODUCT_IMAGE	
		Frontal view of the right side without perspective (open)			B006	C8NM						
		Frontal view of the right side with perspective			B006	C8CA						
		Frontal view of the right side with perspective (open)			B006	C8CM						
		Frontal view of the left side without perspective			B007	C2NA						
		Frontal view of the left side without perspective (open)			B007	C2NM						
		Frontal view of the left side with perspective			B007	C2CA						
		Frontal view of the left side with perspective (open)			B007	C2CM						
		Bottom view			B008	C9NA						
		View of the top			B009	C3NA						
		View of the top (open)			B009	C3NM						

	Klassifizierung der Produktabbildungen	Beschreibung der Bildkategorie (innerhalb der Klassifizierung)	GTIN	Trenner	Bild-kategorie alt	Bild-kategorie	Trenner	Version	Trenner	Variante	Mapping Bildkategorie zum Codewert Datei: Code der Art [M379]	Beispielbild
			n14	–			–	s01-s99	–	v01-v99		
B	Product images for trade units (display/pallet)	Front view with perspective/overview *			B001	C1CP					PRODUCT_IMAGE	
		Left view (oblique from the left) with perspective			B002	C1LP						
		Right view (oblique from the right) with perspective			B003	C1RP						
		Frontal view without perspective			B004	C1NP						
		Frontal back view without perspective			B005	C7NP						
		Frontal back view with perspective			B005	C7CP						
		Frontal view of the right side without perspective			B006	C8NP						
		Frontal view of the right side with perspective			B006	C8CP						
		Frontal view of the left side without perspective			B007	C2NP						
		Frontal view of the left side with perspective			B007	C2CP						
		Bottom view			B008	C9NP						
		Top view			B009	C3NP						

	Klassifizierung der Produktabbildungen	Beschreibung der Bildkategorie (innerhalb der Klassifizierung)	GTIN	Trenner	Bild-kategorie alt	Bild-kategorie	Trenner	Version	Trenner	Variante	Mapping Bildkategorie zum Codewert Datei: Code der Art [M379]	Beispielbild
			n14	–			–	s01-s99	–	v01-v99		
C	Mobile Ready Hero Image	Front view with perspective/top view			C001	H1C1					MOBILE_READY_HERO_IMAGE	
		Left view (oblique from the left) with perspective			C002	H1L1						
		Right view (oblique from the right) with perspective			C003	H1R1						
		Front view without perspective*			C004	H1N1						
	Optimised Hero Image	Front view with perspective/top view			C001	U1C1					OPTIMISED_HERO_IMAGE	
		Left view (oblique from the left) with perspective			C002	U1L1						
		Right view (oblique from the right) with perspective			C003	U1R1						
		Front view without perspective*			C004	U1N1						

	Klassifizierung der Produktabbildungen	Beschreibung der Bildkategorie (innerhalb der Klassifizierung)	GTIN	Trenner	Bild-kategorie alt	Bild-kategorie	Trenner	Version	Trenner	Variante	Mapping Bildkategorie zum Codewert Datei: Code der Art [M379]	Beispielbild	
			n14	–			–	s01-s99	–	v01-v99			
D	Secondary image types	Detail/technology			D012/D16	F					ZOOM_VIEW		
		Social media			D013	K					SOCIAL_MEDIA_IMAGE		
		Composition/montage - 1 - front			D010	M1					MONTAGE_IMAGE		
		Composition/montage - 2 - left			D010	M2					MONTAGE_IMAGE		
		Composition/montage - 3 - top			D010	M3					MONTAGE_IMAGE		
		Composition/montage - 7 - back			D010	M7					MONTAGE_IMAGE		
		Composition/montage - 8 - right			D010	M8					MONTAGE_IMAGE		
		Composition/montage - 9 - bottom			D010	M9					MONTAGE_IMAGE		
		Application			D014	N						APPLICATION_IMAGE	
		Size comparison			D017	Q						PRODUCT_IMAGE	

	Klassifizierung der Produktabbildungen	Beschreibung der Bildkategorie (innerhalb der Klassifizierung)	GTIN	Trenner	Bild-kategorie alt	Bild-kategorie	Trenner	Version	Trenner	Variante	Mapping Bildkategorie zum Codewert Datei: Code der Art [M379]	Beispielbild	
			n14	–			–	s01-s99	–	v01-v99			
D	Secondary image types	Ambience/mood			D015	R					AMBIENCE_MOOD_IMAGE		
		Content/texture			D011	T					CONTENT_TEXTURE_IMAGE		
E	Image of packaging information	Artwork			E013	L1					PACKAGING_ARTWORK		
		Label			E014	L1					PRODUCT_LABEL_IMAGE		
		Nutritional information			E011	L2						NUTRITION_FACT_LABEL	
		Ingredients list			E010	L4						INGREDIENTS_LABEL	






	Klassifizierung der Produktabbildungen	Beschreibung der Bildkategorie (innerhalb der Klassifizierung)	GTIN	Trenner	Bild-kategorie alt	Bild-kategorie	Trenner	Version	Trenner	Variante	Mapping Bildkategorie zum Codewert Datei: Code der Art [M379]	Beispielbild
			n14	–			–	s01-s99	–	v01-v99		
E	Image of packaging information	Seal			D018	L7					CERTIFICATION	
		Preparation instructions			E012	L8					PREPARATION_INSTRUCTIONS	
		Petfood feeding instructions			E012	L9					PETFOOD_FEEDING_INSTRUCTIONS	
W	360° turn of the consumer unit	2D frontal view with rotation around the vertical axis			W001-WXXX	E1_R00_C01-24					360_DEGREE_IMAGE	
Y	360° turn of the consumer unit	2D perspective view with rotation around the vertical axis			Y001-YXXX	E1_R15_C01-24					360_DEGREE_IMAGE	

Figure 2 – 39: Mapping of image categories and link to code value „GDSN attribute `referencedFileTypeCode` [M379]

Glossary

Term	Definition
ECI RGB V2	Standardised RGB colour spaces from the ECI (European Color Initiative). It is recommended as a working colour space for professional image editing.
Global Trade Item Number (GTIN)	Globally valid numbering structure to uniquely identify products and services with max. 14 spaces (GTIN-8, GTIN-12, GTIN-13 and GTIN-14).
Global Location Number (GLN)	Globally valid numbering structure for unique identification of physical, functional or legal entities of companies and/or business units.
Trade unit	Each unit of a product or service for which passing on master data is required and for which at some point of the supply chain a price is communicated or can be ordered, offset or billed (max. 14 spaces: GTIN-13 or GTIN-14).
IPTC	The IPTC-IIM standard (often just IPTC for short) aids the saving of metadata in image files. The IPTC-IIM standard was developed by the International Press Telecommunications Council (IPTC) together with the Newspaper Association of America (NAA) and is fundamentally suitable for all types of media, i.e. texts, photos, graphics, audio or video.
Consumer unit	Each trade unit intended for sale to an end user at the retail POS. The units are identified by a GTIN-8, GTIN-12 or GTIN-13, which is encrypted in an omnidirectionally readable symbol for the purpose of very fast scanning.
Metadata	Metadata is structured data for a uniform description of e.g. data, documents, people, concepts.
Pixel	Also called image point. The smallest element in the rastered, digitised depiction of an image on a screen or by means of a printer.
Pixels per inch (ppi)	With pixels per inch, the dot density is specified. In image reproduction, this is a measure for the level of detail of a rastered, visual depiction, and thus one of the quality aspects of the technical reproduction method.
sRGB	Standard RGB (Red Green Blue) is an RGB colour space.

Legal information

Published by:
GS1 Germany GmbH

Chief Executive Officer
Thomas Fell

Text:
Carolin Prinz
Tanja Thomsen
Maik Hoffmann

GS1 Germany GmbH
Maarweg 133, D-50825 Cologne

P.O. Box 30 02 51
D-50772 Cologne

Tel.: +49 (0)221 947140
Fax: +49 (0)221 9471 4990

Email: info@gs1.de
Website: www.gs1.de

© GS1 Germany GmbH, Cologne