

GS1 Standards

Product Images and Media Assets

for Strategic Brand Management and Successful
Content Marketing – FMCG





The Global Language of Business

GS1 Standards

GS1 Product Images and Media Asset

for Strategic Brand Management and Successful Content Marketing – FMCG

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GS1 Germany at a glance

GS1 Germany supports companies from all sectors in the adoption and practical implementation of modern communication and process standards, in order to improve the efficiency of their business processes. Among other things, within Germany, the company is responsible for the GS1 numbering system for globally unique identification, which in turn serves as the basis for barcodes. Moreover, GS1 Germany supports the application of new technologies for fully automatic object identification (EPC/RFID) and for standardised electronic data interchange (EDI). The focus is also on solutions for increased customer orientation (ECR – Efficient Consumer Response) and consideration of trends such as mobile commerce, multichannelling and sustainability in development work.

GS1 Germany is part of the international GS1 network and, after the USA, is the second largest of more than 110 GS1 country organisations. The German Markenverband and the EHI Retail Institute hold equal shares.

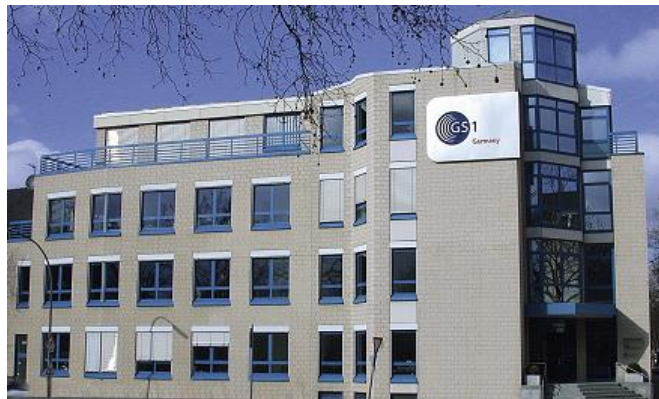


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1 Introduction

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

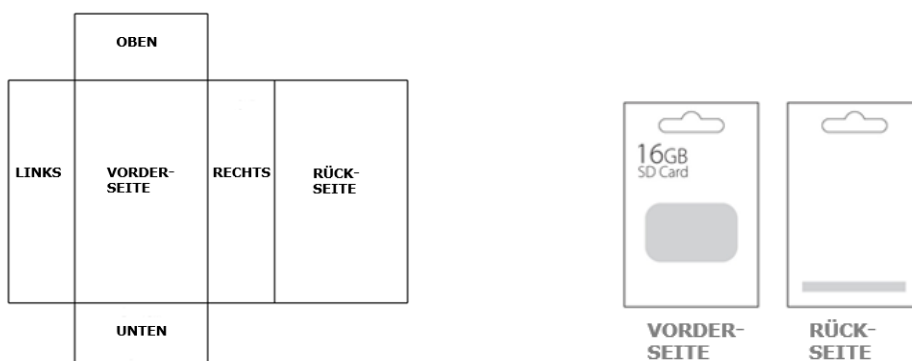
The front view of a product is the starting point for additional images. This is defined for user units using the package measurement rules of GS1 (GDSN Measurement Rules).

According to the measurement rules, the front side of a **user 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 **unpackaged 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 user unit and trade unit can be derived on the basis of the defined front view of the product:



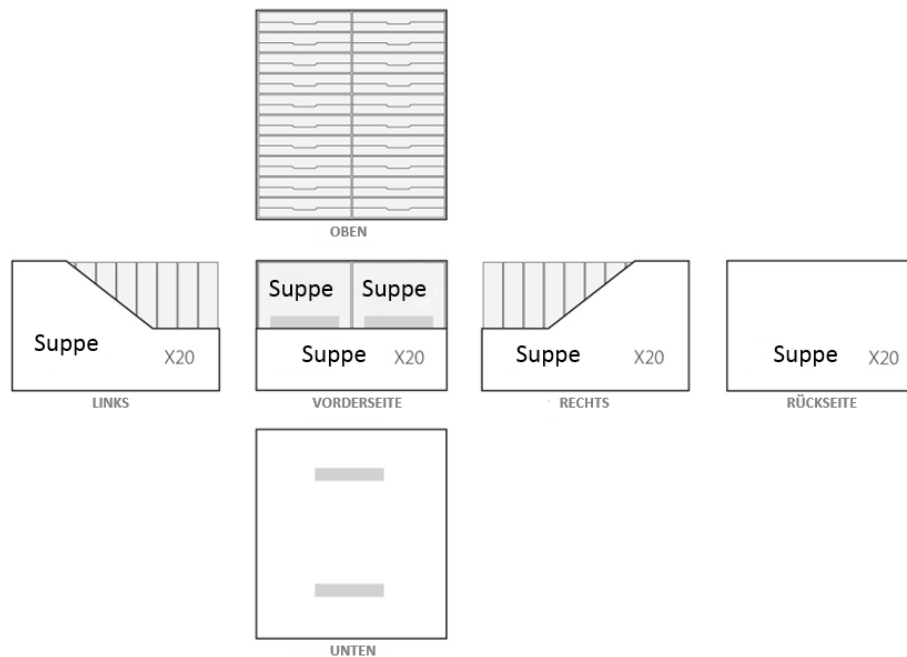


Fig. 1: Views for product images

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
- No interpolation ('resizing up')
- 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 only one clipping path. Preferably, the clipping path should be created manually and labelled as 'Path 1'. The recommended rounding tolerance value is 1 pixel and maximum 10,000 individual points.

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

At least 10 pixels and a maximum of 100 pixels on each side in white is recommended as a border.

Example (to make clear in Fig. 2 with black framing):



Fig. 2: Product images with different white borders

With an increasing border size on the same image size, the net image content of the image is reduced.

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 guidelines.

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).



Fig. 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 user units incl. path cut-outs](#)
- [Product images for trade units](#)
- [Mobile-ready hero image](#)
- [Secondary images](#)
- [360° turn of user 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. The manufacturer is responsible for the final decision on which product images will be selected.

2.2.1 Product images for user units

2.2.1.1 Depiction of user units

At least one image, in which the front side of the product is shown by means of a perspective view with slight top view (see chapter 2.3 Structure file name representation of the product image A001), should be provided. In addition, additional images in different views can be provided according to the specifications in chapter 2.3.

A frontal shot without perspective is recommended for planograms and products with shallow depths (eg pouch products, CD / DVD, etc.). For planograms, it is not recommended to distinguish the images in terms of quality and size.

Ideally, additional mappings of the page views, the rear view, and a representation of the subpage should be provided, provided that this information is relevant to the consumer. A cropping of the product is mandatory for planograms.

At least one image should be provided, on which the the front of the products should be depicted with a perspective from slightly above (see chapter 2.3 Structure file name representation of the product image A001).

An additional frontal view without perspective, for e.g. planograms or products with limited depths (e.g. pouch products, CD / DVD, etc.) is also recommended. In this context, differentiation between the images in terms of quality or 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. Planograms must also be cropped to the products edge.



Fig. 4: Image of user unit – perspective depiction of front



Fig. 5: Image of user unit – bottom with relevant product information



Fig. 6: Image of user unit for planograms – front without perspective

2.2.1.2 File format

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

2.2.1.3 Colour mode

ECI RGB V2 colour mode with 8 bits per channel

2.2.1.4 Image size

- As a minimum requirement, the image size of 2000 pixels on the longest side at 300 ppi (about 17 cm at 300 dpi) is recommended, and
- in order to ensure printing capability of A0 formats, a value of 4000 pixels for the longest side at 300 ppi (about 33.85 cm at 300 dpi) is recommended.

The manufacturer will take the final decision on the applicable image size, considering the technical circumstances.

2.2.1.5 File resolution

300 ppi

2.2.2 Product images for trade units

2.2.2.1 Depiction of trade units

Due to different use cases (shelving units, trays, etc.) the manufacturer defines the front view of the trade unit. However, it is recommended to follow the presentation from chapter 2.2.1 Product images for user units and to observe the specifications of chapter 2.3 File name construction for images.

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



Fig. 7: Product image of a tray

2.2.2.2 File format

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

2.2.2.3 Colour mode

ECI RGB V2 colour mode with 8 bits per channel

2.2.2.4 Image size

- As a minimum requirement, the image size of 2000 pixels on the longest side at 300 ppi (about 17 cm at 300 dpi) is recommended, and
- in order to ensure printing capability of A0 formats, a value of 4000 pixels for the longest side at 300 ppi (about 33.85 cm at 300 dpi) is recommended.

The manufacturer will take the final decision on the applicable image size, considering the technical circumstances.

2.2.2.5 File resolution

300 ppi

2.2.3 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 user 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.

2.2.3.1 Depiction of the mobile-ready hero 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 user units.



Fig. 8: Examples of mobile-ready hero images

Note: Further details can be found in the global GS1 guidelines 'Mobile-ready hero images' (currently in development).

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 item with contents/flask/can/pen with cap closed or open. The image comprises several individual images. Another variant of the composition could also show outer packaging with the flask in front of it.



Fig. 9: Examples of composition images

2.2.4.2 Content/texture

The 'content/texture' image type 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 to in stationary retail, e.g. creme, lipstick.

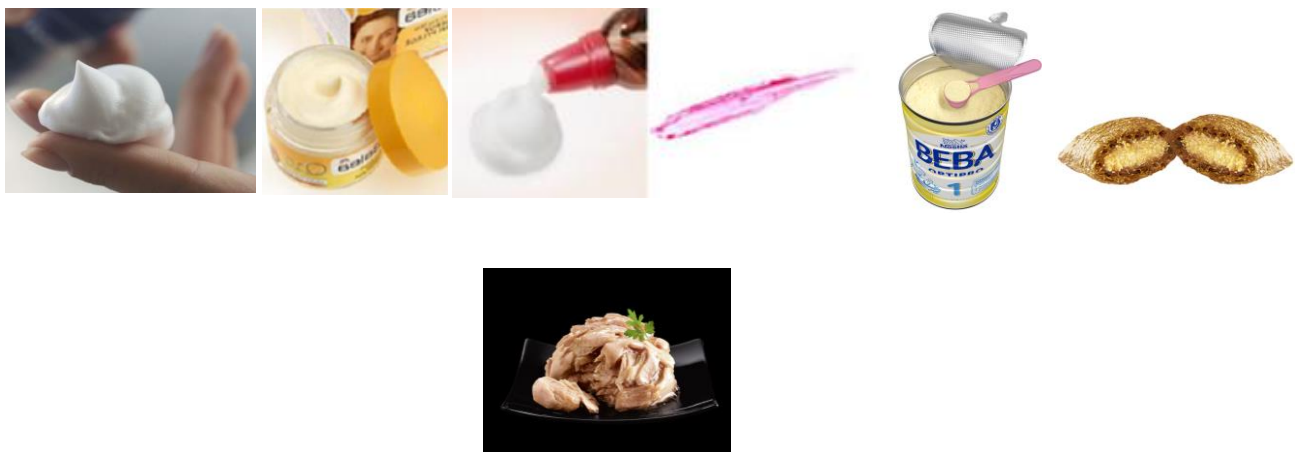


Fig. 10: Examples of images of content or a texture

2.2.4.3 Detail

The 'detail' image type shows images which depict a close-up of special product characteristics, for example.



Fig. 11: Examples of detail images

2.2.4.4 Social media

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



Fig. 12: Examples of social media images

2.2.4.5 Application

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



Fig. 13: Examples to depict use

2.2.4.6 Ambience/mood

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



Fig. 14: Examples of depiction of ambience

2.2.4.7 Technology

The 'technology' image type shows images that show the function or a special feature, such as the particular properties of a nappy, in detail.



Fig. 15: Example images to depict technology

2.2.4.8 Size comparison

The 'size comparison' image type 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.



Fig. 16: Examples to depict size

2.2.4.9 Seal

The 'seal' image type shows seals that can be clearly allocated to an item and are relevant for a specified time period.



Fig. 17: Examples of seals

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 user units.

2.2.5 360° turn of the user unit

2.2.5.1 Depiction

Depending on the product, the following alternatives are possible:

- 2D comprising 24 individual images, frontal perspective (for products with limited depth, e.g. pouch products, CDs/DVDs etc.)
- 2D comprising 24 individual images, perspective slightly from above
- 3D turn, comprising 120 individual images, containing perspectives from 0, 15, 30, 60 and 90 degrees

When generating the individual images, the rotation of the products generally takes place in a clockwise direction.



Fig. 18: 2D turn comprising 24 individual images

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.



Fig. 19: Image of the product label/artwork

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) | % Referenzmenge* 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.

| Nährwerte | 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 |

Fig. 20: Images of the nutritional information

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

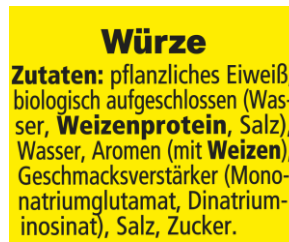


Fig. 21: Image of the ingredients index



Fig. 22: Image of the instructions for preparation

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.



Fig. 23: Pharmaceuticals with original image (the legal text must also be depicted)



Fig. 24: 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.



Fig. 25: Medical product

2.3 File name construction

With the help of the file name, product images and media assets can be clearly identified and the allocation to a product can be more easily recognised. The file name is provided by the publisher (manufacturer or retailer) of the image and generated using the GTIN of the product. Additional information such as the image category and other image features is also included in the file name. This ensures that the numerous different product images can be differentiated precisely and mix-ups are avoided. In detail, the file names for product images are composed as follows:

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.

Type of product image (image category)

The spaces X15 to X18 represent the type of product image in coded form. A complete overview of all types of product image can be found in Figure 25.

Relaunch, seasonal or basic items identification

With this identifier (space X19), whether the product image is for a relaunch, seasonal or standard article can be included in the file name. The value 'x' means undefined, no information available / not filled.

Portrait/landscape format identification

This identifier (space X20) defines whether the product is shown in portrait or landscape format. The value 'x' means undefined, no information available / not filled.

Unpackaged identification

The value 'u' in space X21 shows that the image is of an unpackaged product. The value 'x' means undefined, no information available / not filled.

Consecutive numbering of an image category

The consecutive numbering of an image category (spaces X22 to X23) 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. It is recommended to start with the value "01".

Consecutive numbering for replacement/relaunch of an image

The consecutive numbering for replacement or relaunch (spaces X24 to X25) 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. It is recommended to start with the value "01".



Fig. 26: GTIN-based construction of file names for product images and media assets

| Type of Product Image (category of image) | | X15-X18 of file name | Depiction of of the Product Image |
|--|--|-------------------------|---|
| A | Product images for consumer units (Each) | A001* | Depiction front of the products with a perspective/slightly above |
| | | A002 | left view (slightly oblique from the left) with a perspective |
| | | A003 | right view (slightly oblique from the right) with a perspective |
| | | A004 | frontal depiction of the products without perspective |
| | | A005 | frontal back view with/without a perspective |
| | | A006 | frontal side view of the right side without/ with a perspective |
| | | A007 | frontal side view of the left side without/ with a perspective |
| | | A008 | view of the bottom |
| B | Product images for trade units (box, tray, Pallet) | B001* | Depiction front of the products with a perspective/slightly above |
| | | B002 | left view (slightly oblique from the left) with a perspective |
| | | B003 | right view (slightly oblique from the right) with a perspective |
| | | B004 | frontal depiction of the products without perspective |
| | | B005 | frontal back view with/without a perspective |
| | | B006 | frontal side view of the right side without/ with a perspective |
| | | B007 | frontal side view of the left side without/ with a perspective |
| | | B008 | view of the bottom |
| C | Simplified/Mobile Ready Hero Image consumer unit | C001 | Depiction front of the products with a perspective/slightly above |
| | | C002 | left view (slightly oblique from the left) with a perspective |
| | | C003 | right view (slightly oblique from the right) with a perspective |
| | | C004* | frontal depiction of the products without perspective |
| | | C005 | frontal back view with/without a perspective |
| | | C006 | frontal side view of the right side without/ with a perspective |
| | | C007 | frontal side view of the left side without/ with a perspective |
| | | C008 | view of the bottom |
| D | Secondary images | D010 | Composition |
| | | D011 | Content/texture |
| | | D012 | Detail |
| | | D013 | Social media |
| | | D014 | Application |
| | | D015 | Ambience/Mood |
| | | D016 | Technology |
| | | D017 | Size comparison |
| | | D018 | Seal |
| | | D019 | for future image types |
| E | Packaging information | E010 | Ingredients index |
| | | E011 | Nutritional information |
| | | E012 | Instructions for preparation |
| | | E013 | Artwork/Label |
| W | 360° turn of consumer units | W001-W024 | 2D Frontal view, Rotation around the vertical centre Frontal |
| Y | 360° turn of consumer units | Y001-Y024 | 2D Perspective view with Rotation around the vertical centre echter Ansicht |
| Z | 360° turn of consumer units | Z001-Z120 | 3D Perspektivische Ansicht um alle Achsen horizontal / vertikal |

*) Preferred depiction of the corresponding image category

Fig. 27: Type of product image

Example: Generation of GTIN of the product 'I Love Milka Geschenkherz 187g' from Mondelez Switzerland GmbH

- **GS1 company prefix: 7622300** (Provided by GS1 Switzerland)
Mondelez Switzerland GmbH

- **GTIN: 7622300215286**
I Love Milka Geschenkherz 187g



Fig. 28: 'I Love Milka Geschenkherz 187g' product image

■ **Construction of file name with encrypted GTIN:**

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 0 | 7 | 6 | 2 | 2 | 3 | 0 | 0 | 2 | 1 | 5 | 2 | 8 | 6 | A | 0 | 0 | 6 | b | x | x | 0 | 1 | 0 | 1 |
| N ₁ | N ₂ | N ₃ | N ₄ | N ₅ | N ₆ | N ₇ | N ₈ | N ₉ | N ₁₀ | N ₁₁ | N ₁₂ | N ₁₃ | N ₁₄ | X ₁₅ | X ₁₆ | X ₁₇ | X ₁₈ | X ₁₉ | X ₂₀ | X ₂₁ | X ₂₂ | X ₂₃ | X ₂₄ | X ₂₅ |
| GTIN | | | | | | | | | | | | | | Image category + Identifier + Consecutive serial numbering of the image category and replacement image | | | | | | | | | | |

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.

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

Example: http://www.markenhersteller_A/bilder/GTIN4711.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.markenhersteller_A/bilder/GTIN4711/

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. Ideally, 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.

Particular exceptions could include the provision of individual special formats or mock-ups of new products at early stages of development.

To be compliant with in-house IT security policies of the suppliers of Media Assets and to prevent arbitrary downloads or crawling of Media Assets 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.

<https://xxx/c54c6b24607fbe14080d90ef1b0c12c2/7622300215286/A001xxx01>

Fixer Link zum Bild

Eindeutiger Hashwert mit fester Länge

GTIN

Bild-Typ

Fig. 29: Example URL with integrated 128-bit hash value

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.

Product variant

This information must only be provided if it is a product variant.

The example in Fig. 29 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 with the meta-information 'product variant'.



Fig. 30: Examples of product variants

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

2.5.1 Transfer of metadata in the image

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

In the following table, the meta-information shown in Chapter 2.5 is mapped to the current IPTC standard, if 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 |

Fig. 31: 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/gsm/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 | File: Referenced File Type Code [M379] = "PRODUCT_IMAGE" or "PRODUCT_LABEL_IMAGE" Status: optional |
| URL of the product image | File: URI (Uniform Resource Identifier) [M378] Status: dependent mandatory |
| File name | File: Name [M416] Status: dependent optional |
| Valid from date (DDMMYYYY) | File: Valid from [M417] Status: dependent optional If this attribute is not filled in by the supplier, the image is immediately valid and can be used. |
| Expiration date (DDMMYYYY) | File: Expiration date [M418] Status: dependent optional For promotional merchandise, this attribute must be filled in. For standard products with an unlimited term there is no expiration date. |
| Terms of use | File: Terms of use [M419] Status: dependent optional |
| Copyright | File: Copyright description [M420] Status: dependent optional |
| Author/Creator | File: Author/creator [M421] Status: dependent optional |
| Product variant | File: Content description [M422] Status: dependent optional |
| GTIN | GTIN [M017] Status: mandatory |

Fig. 32: Mapping metadata – GDSN attributes

Appendix: 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. |
| User 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 | 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. |

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