



GSMP:
General Specifications Change Notification (GSCN)

Table with 3 columns: WR #, GSCN Name, Effective Date. Row 1: 23-103, Digital Product Passport, 24-Jan-2025

1 Associated Work Request (WR) Number:

-

2 Background:

Under the framework of the EU Green Deal, the European Commission has adopted the Ecodesign for Sustainable Products Regulation (ESPR) in 2024. The overall aim of the regulation is to reduce the lifecycle environmental impacts of products through efficient digital solutions.

The following GS1 AIDC Application Standard aims to help GS1 standards users to fulfil regulatory requirements regarding identification and data carrier as a means to access DPP data.

Notations in the GSCN
ACTION shows what other GenSpecs sections need to be changed in order to be consistent with the new DPP application standard
Text in black is new text
Text in grey is existing GenSpecs text
Text in red represent proposed changes/additions to existing GenSpecs text

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### 34 2.1.13 Trade item extended packaging applications

35

36 **ACTION:**  
37 The Circularity/DPP MSWG will submit a Work Request to the ID/AIDC SMG to modify this application standard  
38 to allow:

- 39 • Its use with product packaging, product documentation or direct marking on a product (this implies a  
40 change to the application standard name).
- 41 • Its use to reach web content with a smart device's native camera (with or without additional software)
- 42 • Its use with any trade item not simply those used by a consumer (e.g., repair person, customs official) or  
43 those sold at point-of-sale (e.g., rail car product, construction material).
- 44 • Its AIDC carrier use within all AIDC application standards, covered by Application Standard Profiles, as  
45 additional AIDC carriers until their use as alternative AIDC carriers is realized per Policy B11.
- 46 • GTIN-8 as this is required for DPP

47

48 **SUBSEQUENT PROVISIONAL RELEASE ACTION:**  
49 After the EPC RFID/NFC Sub-Team completes its work, the MSWG will modify the data carrier selection to  
50 allow:

- 51 • If EPC/RFID with smart devices, as alternative AIDC carrier until Policy B11 requirements are met.
- 52 • If NFC with smart devices, as additional AIDC carrier per Policy B11 as NFC is not being proposed as a  
53 potential replacement for 2D as it is inappropriate for use in the open supply chain.

### 54 2.1.16 Ecodesign for Sustainable Products Regulation (ESPR), products requiring a Digital Product 55 Passport (DPP)

#### 56 Application description

57 This application standard provides a GS1 normative response to a specific regulatory requirement. It covers  
58 identification of various entities (products, economic operators and facilities) and data carrier choices for  
59 products for the purpose of accessing a Digital Product Passport (DPP) per the [REGULATION \(EU\) 2024/1781 OF  
60 THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing a framework for the setting of ecodesign  
61 requirements for sustainable products, amending Directive \(EU\) 2020/1828 and Regulation \(EU\) 2023/1542  
62 and repealing Directive 2009/125/EC](#) (ESPR). The ESPR is the regulatory framework that, among several  
63 ambitious goals and new requirements, introduces the concept of a Digital Product Passport for products,  
64 components and intermediates products being placed on the EU market or put into service. As a consequence,  
65 ESPR impacts, global trade with the potential of enabling the international circulation of sustainable products Its  
66 overall goal is creating incentives for more sustainable product designs, for enabling consumers to make more  
67 sustainable product choices and for enabling an extended life cycle of a product or its material by  
68 refurbishment, repair and/or recycling. In short: a circular supply chain. Detailed requirements will be specified  
69 in delegated acts or other EU legislation for product categories where the ESPR is referenced and a DPP is  
70 established. In scope are product categories such as e.g. apparel, textiles and footwear, furniture, tyres, bed  
71 mattresses, detergents, paints, lubricants, toys, energy related products, information and communication  
72 technology products and other electronics, batteries, construction products as well as intermediary products  
73 such as iron and steel, chemicals, aluminium (see ESPR article 18 paragraph 3. Explicitly excluded are e.g.  
74 food, feed, medicinal products and motor vehicles. If other regulatory authorities outside the EU adopt the EU  
75 approach, this application standard is intended to support their efforts and enable global interoperability.

76  
77 The DPP is a digital representation of a physical product that provides access to information about the product's  
78 lifecycle, such as its' origin, composition, and sustainability credentials. The data points to be included in the  
79 DPP will be set up by legislation. Access to this data will take place through a persistent unique product  
80 identifier, embedded in a data carrier on the product in a syntax that can enable access to web-based content.  
81 For this reason, there is a strong dependency between this application standard and others that enable value



82 chain systems (e.g., for point-of-sale, inventory control, warranty, general distribution) as well as use by smart  
83 devices to reach web-content. Besides the unique product identifier, a unique economic operator identifier and  
84 a unique facility identifier are mandatory to register a product in the EU DPP registry before placing it on the EU  
85 market. All unique identifiers shall be ISO/IEC 15459 compliant identification keys. For the scope of this  
86 standard, these are limited to identification keys that begin with one of the ISO/IEC 15459 Issuing Agency  
87 Codes allocated to GS1: 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9.

88  
89 **Products/trade items**  
90

91 In scope are products/trade items placed or put into service on the EU market from the date defined in the  
92 relevant delegated acts. They may or may not be packaged. They may be made-to-stock or made-to-order  
93 trade items, including trade items composed of parts, components, or subassemblies (including packaging  
94 components as well) that are themselves products/trade items, some containing substances of concern, some  
95 sold aftermarket, some replaceable, some repairable, some not.

96  
97 According to the [ESPR FAQ 61](#) there shall be one globally unique identifier for a specific product leading to one  
98 DPP. Furthermore, the unique product identifier in the AIDC carrier shall enable a web-link to the Digital  
99 Product Passport. The unique product identifier in the GS1 system is the GTIN, possibly in conjunction with a  
100 version, batch or serial number depending on the relevant regulation per product category. Using the GS1  
101 Digital Link URI syntax embedding the GTIN and possibly a key qualifier based on GS1 Application Identifiers  
102 per ISO/IEC 15418 a structured web-link per ISO/IEC 18975 to the DPP is enabled.

103  
104 The unique product identifier shall be encoded in a data carrier which can be read by smart devices without an  
105 additional app to easily reach the DPP. The data carrier must be placed on the product itself or, if not possible  
106 or not practical (e.g., laundry detergent), on its packaging or documentation accompanying it for the lifespan of  
107 the product as specified by the delegated act. The data carrier options for a product category will be defined in  
108 the delegated acts.

109  
110 If an ESPR compliant data carrier is already an option defined in the relevant GS1 identification standard, best  
111 practice would be to use only one single data carrier for multiple applications (e.g. scanning at point-of-sale  
112 (POS) and/or in general distribution, access to DPP information, consumer engagement). For trade items  
113 scanned at point-of-sale and/or in general distribution, whether fixed or variable measure, this opportunity can  
114 be realised in future with the global migration to 2D barcodes containing a GS1 Digital Link.

115  
116 **Economic operators**  
117

118 Economic operators are the manufacturer/brand owner, the authorised representative of the  
119 manufacturer/brand owner, the importer, the distributor, the dealer and the fulfilment service provider dealing  
120 with products that are subject to the ESPR. The economic operator responsible for assigning the GTIN is the  
121 GTIN allocator and for creating the DPP is the brand owner. The economic operator responsible for making the  
122 DPP data available is the one placing the product on the market, e.g. the brand owner/manufacturer when  
123 located within the EU, or the importer.. Dealers must ensure that customers have access to relevant  
124 information accompanying the product s required by EU delegated Acts including in cases of distance selling.  
125 The unique operator identifier in the GS1 system is the GLN.

126  
127 **Facilities**  
128

129 Facilities are locations or buildings involved in the value chain of a product. For the DPP, the identifier is  
130 required for the facility where the product was produced. The unique facility identifier in the GS1 system is the  
131 GLN.  
132

133 **2.1.16.1 Unique product identification per ESPR (referred to as trade item identification by GS1)**

134 This section is applicable for new finished products, components and intermediary products covered by a  
135 delegated act or other EU legislation requiring a DPP according to the ESPR being placed on the EU market.  
136 These products require a unique product identifier as per ESPR.

137 **Note:** Remanufactured products are considered new products and fall under this section.



138 **GS1 key**

139 **Required**

140 Global Trade item Number (GTIN) in one of the formats (see list below) as permitted by the application  
141 standards for the intended distribution of the product. For example, application standards for retail point-of-sale  
142 do not permit the GTIN-14 format and the extended packaging application standard does not permit GTIN-8.

- 143 ■ GTIN-8
- 144 ■ GTIN-12
- 145 ■ GTIN-13
- 146 ■ GTIN-14

147 For made-to-stock products, Application Identifier (AI) 01 is used to encode the GTIN in a data carrier.

148 For made-to-order products, AI 03 is used to encode the compound GTIN in a data carrier.

149 **Note:** AI 03 is not for use in retail fulfilment.

150 **ACTION:**

151 The Circularity/DPP MSWG will submit a Work Request to the ID/AIDC SMG to rename Made-to-Order GTIN to  
152 Compound GTIN with a note pointing to the previous term as it is used in the MUDI-DI Application Standard.  
153 This name avoids confusion for some who manufacture products identified with AI (01) allocated per GTIN  
154 Rules for a specific customer order quantity. The term Compound GTIN is descriptive of the requirement to use  
155 GTIN with a key qualifier.

156  
157 Technical industries to define GTIN rules for compound GTIN within the custom trade item application standard.

158 **Rules**

- 159 ■ When an additional barcode is required to support another application, the GTIN in both data carriers  
160 SHALL be the same value per section 4.15.
- 161 ■ To ensure uniqueness, the (01) GTIN SHALL never be reused per section 4.2.5.
- 162 ■ To ensure uniqueness, the combination of (03) GTIN and the mandatory key qualifier SHALL never be  
163 reused.

164 All the GTIN rules described in section 4 pertain to AI (01).

165 Specific GTIN rules are described within the application standards where AI (03) is used.

166 **Attributes**

167 Delegated acts will specify which minimum granularity level (GTIN, GTIN with version, GTIN with batch/lot or  
168 GTIN with instance level) will be mandatory. The minimum granularity may differ by product type or by various  
169 lifecycle stages for a product. For example, a GTIN may be used for distance selling online where a GTIN plus  
170 serial number may be used to provide repair or refurbishment attestations.

171 **Note:** GTIN key qualifiers for finer granularity levels such as version number, lot number or serial number, may  
172 be encoded in the AIDC carrier for other processes, even if not required by regulation.

173  
174 **ACTION:**

175 The Circularity/DPP MSWG will submit a Work Request to the ID/AIDC SMG to:

- 176 • Allow the use of AI (22) to signal any party (e.g., consumer, regulator, customs official, trading partner)  
177 that a change affecting one or more external parties to the brand owner does not require a GTIN change  
178 but does require the ability to communicate minor changes at the GTIN version level.
- 179 • Allow the use of AI (242) Made to order variant with a made to order GTIN AI (03)
- 180 • Deprecate the use of Indicator digit 9 for Custom Trade Items and allow technical industries to utilise AI  
181 (03) as a forward-looking approach with GTIN Rules and mandatory key qualifiers for specific product types  
182 and/or use cases (e.g., made-to-order variant for configurable products, SGTIN for a specific instance of a  
183 window)
- 184 • Rename AI (22) GTIN Version Number to remove confusion with a configuration variant of a product  
185 identified using (03) (242).

186 **Background:**

- 187 • Where a GTIN change, made according to GTIN Allocation Rules, is sufficient to differentiate two  
188 products as trade items (priced, ordered invoiced), then (01) is used without the need for additional



- 189 GTIN key qualifiers (while they may be used for differentiation for other processes such as traceability,  
190 warranty returns).
- 191 • GTIN using Application Identifier (03), today called Made-to-Order GTIN, was first proposed at a  
192 conceptual level by the GS1 Architecture Group [Finding](#), Section 4.1.2.
  - 193 • The use of GTIN with (03) requires a made-to-order variant, lot number, or serial number to identify a  
194 product for the purpose of trade. This allows the (03) GTIN to be the same value for products that  
195 share a certain number of characteristics but differ in others that have a bearing on order fulfilment as  
196 not all products with the same (03) GTIN value can be substituted for each other as is the case with  
197 (01) GTIN. This means the (03) GTIN must be used with one of the GTIN key qualifiers mentioned  
198 above if there is a trade or regulatory requirement to distinguish the product from another product with  
199 the same (03) GTIN value.
  - 200 • The rules for when the (03) GTIN must change and which GTIN key qualifiers are used for trade or  
201 other business processes will be defined in sector-specific application standards.
  - 202 • The use of (03) GTIN supporting other business processes such as regulatory reporting at an aggregate  
203 level above the product level may require only (03) GTIN.
  - 204 • The use of (03) GTIN supporting other business processes such as maintenance, repair, and operations  
205 may require the use of different GTIN key qualifiers. For example, repair of a specific instance of a  
206 product may require a (03) GTIN plus a serial number.

### 207 **Required**

208 For AI (01) GTIN, it will be determined based upon the level of identification granularity required per each  
209 delegated act if the use of one of the following key qualifiers is mandatory:

- 210 ■ For production batches, Lot/Batch Number, AI (10)
- 211 ■ For production instances within a batch, Serial Number, AI (21)
- 212 ■ For product changes not requiring a GTIN change, GTIN Version Number, AI (22)

213 For AI (03) one of the following AIs is mandatory independent of DPP but which is mandatory for the DPP will be  
214 determined based upon the level of identification granularity required per each delegated act.:

- 215 ■ For production batches, Lot/Batch Number, AI (10)
- 216 ■ For production instances within a batch, Serial Number, AI (21)
- 217 ■ For fixed product configurations, Made-to-Order Variation Number, AI (242)

### 218 **Optional**

219 For all the GS1 Application Identifiers (AI) that can be used with a GTIN, see section 3.

### 220 **Rules**

- 221 ■ When an additional barcode is required to support another application, the GTIN and attributes in both  
222 data carriers SHALL be the same value per section 4.15.
- 223 ■ Product versions, lot/batch, serial numbers may be unique to a given GTIN (not across all GTINs) to  
224 permit decentralised allocation and shorter identifiers.
- 225 ■ Where GTIN change is not required by GTIN allocation rules, communications regarding product or  
226 packaging changes that impact DPP data sharing, could be identified with a version no. All rules for  
227 trade item variants are described in section 4.2.2.3.
- 228 ■ Independent of the ESPR, once a GTIN is assigned to a product it SHALL not be reused per GS1  
229 standards.
- 230 ■ Per delegated act requirements for identification granularity the entire identifier, inclusive of GTIN and  
231 its' key qualifier, SHALL not be reused for the life-cycle of the product as it pertains to the ESPR.

### 232 **Human readable interpretation**

233 For human readable interpretation rules see section 4.14.

### 234 **Data carrier specification**

#### 235 **Carrier choices**

- 236 ■ QR Code with GS1 Digital Link URI syntax
- 237 ■ Data Matrix with GS1 Digital Link URI syntax
- 238 ■ Option in addition to the barcode: EPC/RFID, GS1 expects the barcode as the minimum requirement for  
239 DPP, however EPC/RFID is an approved AIDC carrier which can be deployed in addition to the barcode.

240 **Note:** This standard does not supersede the AIDC carrier choices within existing trade item application  
241 standards (see section 2.1). If one of the 2D barcodes above are not included in an existing trade item  
242 application standard, it SHALL be used in addition to the existing AIDC carrier until one of the 2D



243 barcodes above is added as an alternative choice per Policy B11. If one of the barcodes above is already  
244 an option permitted as a choice in an existing trade item application standard, then best practice would  
245 be to use one of the choices above. Doing so will allow one 2D barcode to support multiple applications  
246 (e.g. scanning at POS and/or in general distribution, access to DPP information, and consumer  
247 engagement). For trade items scanned at Point-of-Sale see "agreement on conformant data carriers in  
248 the future" in sections 8.2, 8.3, 8.4, and 8.5.

251 **ACTION:**

252 The ID/AIDC SMG is already considering two additional ASPs, one for Fixed Measure Trade Items Scanned in  
253 General Distribution and one for Variable Measure Trade Items Scanned in General Distribution. Technical  
254 industry MSWG participants (construction and rail) require these to allow for the possibility that one AIDC  
255 carrier encoding GS1 Digital Link URI syntax can work with existing value chain applications as well as smart  
256 devices, therefore DPP. Once these ASPs are approved per Policy B11, the following words will be added to the  
257 Note above: *For trade items scanned in general distribution see "agreement on conformant data carriers in the  
258 future" [BR 20, DA 42].*

260 The Circularity/DPP MSWG, on behalf of its Technical industry participants, will submit a Work Request to the  
261 ID/AIDC SMG to add QR Code and Data Matrix with GS1 Digital Link URI syntax and EPC/RFID as AIDC carriers  
262 permitted in addition to the existing (mandatory) choices for the following application standards:

- 263 • Section 2.1.7.1 Identification of a trade item that is a single product
- 264 • Section 2.1.10 Variable measure trade items scanned in general distribution
- 265 • Section 2.6.8 Custom Trade Items
- 266 • Identification of Components and Parts in the Rail Industry - Application Standard

268 **Note:** Data Matrix encoding GS1 Digital Link URI, based upon its aspect ratio (can be a rectangle) and size,  
269 may be required for small cylindrical products.

271 **Note:** Data carrier choices allowed per product category will be defined in delegated acts. See section 2.1.16.6  
272 for already known requirements.

273 **Symbol X-dimensions, minimum symbol height and minimum symbol quality**

- 274 ■ For fixed measure trade items scanned at POS, see 5.12.3.1, GS1 symbol specification table 1,  
275 addendum 2.
- 276 ■ For fixed measure trade items scanned in general distribution and at retail POS, see 5.12.3.3, GS1  
277 symbol specification table 3.
- 278 ■ For fixed measure trade items scanned in general distribution, see 5.12.3.2, GS1 symbol specification  
279 table 2.
- 280 ■ For variable measure trade items scanned in general distribution, see 5.12.3.2, GS1 symbol  
281 specification table 2.
- 282 ■ For variable measure trade items scanned at retail POS, see 5.12.3.1, GS1 symbol specification table 1,  
283 addendum 2.
- 284 ■ For Direct part marking (all industries) see 5.12.3.7, GS1 symbol specification table 7.
- 285 ■ For packaged components and parts in the rail industry see 5.12.3.4, GS1 symbol specification table 4

287 **ACTION:**

288 The Circularity/DPP MSWG will submit a Work Request to the ID/AIDC SMG to add a note in GenSpecs Section  
289 2.1.13.1 GS1 Digital Link URI syntax for extended packaging applications for trade items similar to the one in  
290 the DPP application standard which states, "This standard does not supersede the AIDC carrier choices or  
291 Symbol Specification Table selections within existing trade item application standards (see section 2.1). If one  
292 of the 2D barcodes above are not included in an existing trade item application standard, it SHALL be used in  
293 addition to the existing AIDC carrier until one of the 2D barcodes above is permitted as an alternative choice  
294 per Policy B11. If one of the barcodes above is already an option permitted as a choice in an existing trade item  
295 application standard, then best practice would be to use one of the choices above. Doing so will allow one 2D  
296 barcode to support multiple applications (e.g. scanning at POS and/or in general distribution, access to DPP  
297 information, and consumer engagement)."

298 **Symbol placement**

299 The data carrier shall be placed on the product itself or, if not possible, on its packaging or documentation  
300 accompanying it.



301 If multiple barcodes are needed on one product for different applications, see section 4.15.1 non-adjacent  
302 placement rule.

303 If the data carriers defined in this application standard can be used simultaneously to cover another existing  
304 application standards (e.g. fixed measure trade items scanned at retail POS), then symbol placement rules of  
305 the existing application standards take precedence, see section 6.

### 306 **Unique application processing requirements**

307 For a description of processing requirements, see section 7.  
308

#### 309 **2.1.16.2 Trade item components, parts or subassemblies, not covered by ESPR, that support** 310 **gathering of ESPR relevant information**

311 This section is applicable for trade item components (including packaging components), parts or subassemblies  
312 that are not subject to ESPR themselves, that are traded between business partners but may not have had a  
313 need for globally unique identification in the open value chain before ESPR. This needs arise as they are used to  
314 produce a product, subject to the ESPR, where data about them contributes to required DPP data required for  
315 their parent product.  
316

317 **Note:** For a part, component, or subassembly that is not traded between business partners (internally produced  
318 and not sold in the aftermarket), this section may be considered but internal numbering may be  
319 sufficient.

320 **Note:** For packaging components used in the production of a product that are not themselves traded products  
321 (produced internally), see section 2.6.11.

### 322 **GS1 key**

#### 323 **Required**

324 The key formats allowed for this application are:

- 325 ■ GTIN-8
- 326 ■ GTIN-12
- 327 ■ GTIN-13
- 328 ■ GTIN-14

329 For made-to-order products, AI 03 is used to encode the compound GTIN in a data carrier.

330 **Note:** AI 03 is not for use in retail fulfilment.

#### 331 **Rules**

332 All the GTIN rules described in section 4 apply to GTINs with AI (01).

333 GTIN allocation rules for made-to-order GTINs are established at the application standard or product type  
334 within an application standard level. AI (03) is required to signal this GTIN requires an additional key qualifier  
335 to provide the unique identification of the physical entity.

### 336 **Attributes**

#### 337 **Required**

338 As these entities are not subject to ESPR, there is no required attributes.

339 For AI (03) one of the following AIs is mandatory independent of DPP:

- 340 ■ For production batches, Lot/Batch Number, AI (10)
- 341 ■ For production instances within a batch, Serial Number, AI (21)
- 342 ■ For fixed product configurations, Made-to-Order Variation Number, AI (242)

343 **Optional**

344 For all the GS1 Application Identifiers (AI) that can be used with a GTIN, see section 3.

345 **Rules**

- 346 ■ Batch or serial numbers may be unique to a given GTIN (not across all GTINs) to permit decentralised  
347 allocation and shorter identifiers.

348 **Data carrier specification**

349 **Carrier choices**

350 Refer to Section 2.1.7.1 and 2.1.10

351 **Symbol X-dimensions, minimum symbol height and minimum symbol quality**

352 Refer to Section 2.1.7.1 and 2.1.10

353 **Symbol placement**

354 All the symbol placement guidelines defined in section 6.

355 **Unique application processing requirements**

356

357 **2.1.16.3 Second-hand product identification per ESPR (referred to as non-new trade item**  
358 **identification by GS1)**

359 Second-hand products (e.g., used, repurposed, refurbished, second life) are explicitly out of scope. The  
360 requirement for a DPP per ESPR only applies to new products. Nevertheless, a new product carrying an ESPR  
361 compliant identification and data carrier according to section 2.1.16.1, Product identification per ESPR, becomes  
362 a non-new trade item after its first use or customer purchase.  
363

364 See section 2.1.15 for allocation rules when a non-new trade item will use the pre-existing GTIN (used when  
365 first placed on the market) or where a new GTIN is required and see section 6.9 for barcode placement.  
366

367 **2.1.16.4 Unique operator identification per ESPR (referred to as party identification by GS1)**

368 This section is applicable for manufacturers/brand owners, authorised representatives, importers, distributors,  
369 dealers and fulfilment service providers dealing with products that are subject to the ESPR. A unique operator  
370 identifier is required for the registration process of the product in the EU registry before placing it on the EU  
371 market and it is part of data of the DPP.

372 **GS1 key**

373 **Required**

- 374 ■ Party GLN

375 **Note:** If Party GLN were required by a delegated act within the AIDC carrier, but only for the party that is  
376 responsible for the DPP, then the Party GLN AI (417) would be used.



377 **Rules**

378 All the GLN rules described in section 4.5.

379 **Attributes**

380 **Required**

381 Not applicable

382 **Optional**

383 Not applicable

384

385 **2.1.16.5 Unique facility identification per ESPR (referred to as physical location identification by GS1)**

387  
388 This section is applicable for locations or buildings involved in the value chain of a product that is subject to  
389 ESPR. These locations or buildings require a unique facility identifier as per ESPR.

390 **GS1 key**

391 **Required**

- 392 ■ GLN of a physical location

393 **Rules**

394 All the GLN rules described in section 4.5.

395 **Attributes**

396 **Required**

397 Not applicable

398 **Optional**

399 Not applicable

400

401 **2.1.16.6 Overview of identification and data carrier specifications per product category**

402 For following product categories there exist already regulations specifying the required granularity level and data  
403 carrier in order to access relevant digital product information. With more regulations and EU delegated acts  
404 coming up in future this section will be continuously updated.

405

Product category	Required granularity level	Required data carrier options	Regulation
LMT batteries, industrial batteries with a capacity greater than 2 kWh and electric vehicle batteries	GTIN + serial number	QR Code	<a href="#">EU 2023/1542</a>
Construction products	TBD	TBD	<a href="#">EU 2024/3110</a>

406



407 **ACTION:**  
 408 Public Policy experts to complete the Product Category column then review and check available requirements as  
 409 well.

410

411 **5.12.3.1 Symbol specification Table 1 - Trade items scanned in general retail POS and not general**  
 412 **distribution**

413 Existing section, no change

414 **Figure 5.12.3.1-3. Symbol specification table 1 addendum 2 for 2D barcodes**

Symbol(s) specified	X-dimension mm (inches)			Minimum symbol height for given X mm (inches)			Quiet Zone		Minimum quality specification
	Minimum	Target	Maximum	For minimum X-dimension	For target X-dimension	For maximum X-dimension	Surrounding Symbol		
GS1 DataMatrix (ECC 200) (*)	0.396 (0.0150")	0.495 (0.0195")	0.990 (0.0390")	Height is determined by X-dimension and data that is encoded			1X on all four sides		1.5/12/660
Data Matrix (GS1 Digital Link URI) (ECC 200) (*) (**)	0.396 (0.0150")	0.495 (0.0195")	0.990 (0.0390")	Height is determined by X-dimension and data that is encoded			1X on all four sides		1.5/12/660
QR Code (GS1 Digital Link URI) (*) (**)	0.396 (0.0150")	0.495 (0.0195")	0.990 (0.0390")	Height is determined by X-dimension and data that is encoded			4X on all four sides		1.5/12/660

415

416 **5.12.3.2 Symbol specification table 2 - Trade items scanned in general distribution only**

417 **ACTION:**  
 418 Application Standard Profiles (ASPs) for use of QR Code and Data Matrix with GS1 Digital Link for trade items  
 419 scanned in General Distribution only will be developed via WR 24-207.

420 Text in grey is existing text, text in black is new.

421

422 **Figure 5.12.3.2-1. GS1 symbol specification table 2**

Symbol(s) specified	(*) X-dimension mm (inches)			(**) Minimum symbol height for given X mm (inches)			Quiet Zone		(***) Minimum quality specification
	Minimum	Target	Maximum	For minimum X-dimension	For target X-dimension	For maximum X-dimension	Left	Right	
EAN-13	0.495 (0.0195")	0.660 (0.0260")	0.660 (0.0260")	34.28 (1.350")	45.70 (1.800")	45.70 (1.800")	11X	7X	1.5/10/660
UPC-A	0.495 (0.0195")	0.660 (0.0260")	0.660 (0.0260")	34.28 (1.350")	45.70 (1.800")	45.70 (1.800")	9X	9X	1.5/10/660
UPC-E	0.495 (0.0195")	0.660 (0.0260")	0.660 (0.0260")	34.28 (1.350")	45.70 (1.800")	45.70 (1.800")	9X	7X	1.5/10/660
ITF-14	0.495 (0.0195")	0.495 (0.0195")	1.016 (0.0400")	31.75 (1.250")	31.75 (1.250")	31.75 (1.250")	10X	10X	1.5/10/660
GS1-128	0.495 (0.0195")	0.495 (0.0195")	1.016 (0.0400")	31.75 (1.250")	31.75 (1.250")	31.75 (1.250")	10X	10X	1.5/10/660
GS1 DataBar Omni-directional	0.495 (0.0195")	0.660 (0.0260")	0.660 (0.0260")	16.34 (0.644")	21.78 (0.858")	21.78 (0.858")	None	None	1.5/10/660
GS1 DataBar Stacked Omni-directional	0.495 (0.0195")	0.660 (0.0260")	0.660 (0.0260")	34.16 (1.346")	45.54 (1.794")	45.54 (1.794")	None	None	1.5/10/660



GS1 DataBar Expanded	0.495 (0.0195")	0.660 (0.0260")	0.660 (0.0260")	16.83 (0.663")	22.44 (0.884")	22.44 (0.884")	None	None	1.5/10/660
GS1 DataBar Expanded Stacked	0.495 (0.0195")	0.660 (0.0260")	0.660 (0.0260")	35.15 (1.385")	46.86 (1.846")	46.86 (1.846")	None	None	1.5/10/660
GS1 DataBar Stacked	0.495 (0.0195")	0.660 (0.0260")	0.660 (0.0260")	6.44 (0.254")	8.58 (0.338")	8.58 (0.338")	None	None	1.5/10/660
GS1 DataBar Limited	0.495 (0.0195")	0.660 (0.0260")	0.660 (0.0260")	4.95 (0.195")	6.60 (0.260")	6.60 (0.260")	None	None	1.5/10/660
GS1 DataBar Truncated	0.495 (0.0195")	0.660 (0.0260")	0.660 (0.0260")	6.44 (0.254")	8.58 (0.338")	8.58 (0.338")	None	None	1.5/10/660
GS1 DataMatrix (ECC 200) (***)	0.743 (0.0292)	0.743 (0.0292)	1.50 (0.0591)	Height is determined by X-dimension and data that is encoded			1X on all four sides		1.5/20/660
GS1 QR Code (***)	0.743 (0.0292)	0.743 (0.0292)	1.50 (0.0591)	Height is determined by X-dimension and data that is encoded			4X on all four sides		1.5/20/660
QR Code (GS1 Digital Link URI) (*)	0.743 (0.0292)	0.743 (0.0292)	1.50 (0.0591)	Height is determined by X-dimension and data that is encoded			4X on all four sides		1.5/20/660
Data Matrix (GS1 Digital Link URI) (ECC 200) (*)	0.743 (0.0292)	0.743 (0.0292)	1.50 (0.0591)	Height is determined by X-dimension and data that is encoded			1X on all four sides		1.5/20/660

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(\*) GS1 Digital Link URI syntax SHALL use the uncompressed form.

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425 **5.12.3.3 Symbol specification table 3 - Trade items scanned at general retail POS and general**  
 426 **distribution**

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Existing section, no change

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**Figure 5.12.3.3-2. Symbol specification table 3 addendum 1 for 2D barcodes**

Symbol(s) specified	X-dimension mm (inches)			Minimum symbol height for given X mm (inches)			Quiet Zone Surrounding Symbol	Minimum quality specification
	Minimum	Target	Maximum	For minimum X-dimension	For target X-dimension	For maximum X-dimension		
GS1 DataMatrix (ECC 200) (*)	0.743 (0.0292)	0.990 (0.0390")	0.990 (0.0390")	Height is determined by X-dimension and data that is encoded			1X on all four sides	1.5/20/660
Data Matrix (GS1 Digital Link URI) (ECC 200) (**)	0.743 (0.0292)	0.990 (0.0390")	0.990 (0.0390")	Height is determined by X-dimension and data that is encoded			1X on all four sides	1.5/20/660
QR Code (GS1 Digital Link URI) (*) (**)	0.743 (0.0292)	0.990 (0.0390")	0.990 (0.0390")	Height is determined by X-dimension and data that is encoded			4X on all four sides	1.5/20/660
(*) 2D X-dimension - Optical effects in the image capture process require that the Data Matrix and QR Code symbols be printed at 1.5 times the equivalent X-dimension allowed for linear symbols.								
(**) GS1 Digital Link URI syntax SHALL use the uncompressed form.								

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431 **5.12.3.3 Symbol specification table 4 - Trade items not scanned at POS or general retail - also not**  
 432 **scanned in general distribution or regulated healthcare (retail or non-retail)**



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**ACTION:**  
Work request is needed to update this section.  
Text in grey is existing text, text in black is new.

**Figure 5.12.3.4-1. GS1 symbol specification table 4**

Symbol(s) specified	(*) X-dimension mm (inches)			(**) Minimum symbol height for given X mm (inches)			Quiet Zone		Minimum quality specification
	Minimum	Target	Maximum	For minimum X-dimension	For target X-dimension	For maximum X-dimension	Left	Right	
GS1 DataMatrix (ECC 200)	0.380 (0.0150")	0.380 (0.0150")	0.495 (0.0195")	Height is determined by X-dimension and data that is encoded			1X	on all four sides	1.5/08/660
GS1 QR Code	0.380 (0.0150")	0.380 (0.0150")	0.495 (0.0195")	Height is determined by X-dimension and data that is encoded			4X	on all four sides	1.5/08/660
Data Matrix (GS1 Digital Link URI) (ECC 200) (****)	0.380 (0.0150")	0.380 (0.0150")	0.495 (0.0195")	Height is determined by X-dimension and data that is encoded			1X	on all four sides	1.5/08/660
QR Code (GS1 Digital Link URI) (****)	0.380 (0.0150")	0.380 (0.0150")	0.495 (0.0195")	Height is determined by X-dimension and data that is encoded			4X	on all four sides	1.5/08/660

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(\*\*\*\*) GS1 Digital Link URI syntax SHALL use the uncompressed form.

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**5.12.3.7 Symbol Specification Table 7 - Direct part marking**

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**ACTION:**  
Work request is needed to update this section.  
Text in grey is existing text, text in black is new.

**Figure 5.12.3.7-1. GS1 symbol specification table 7**

Symbol(s) specified	X-dimension mm (inches) Note 1 Note 4			Minimum symbol height for given X mm (inches)	Quiet Zone	Minimum quality specification	
	Minimum	Target	Maximum				
GS1 DataMatrix	0.254 (0.0100")	0.300 (0.0118")	0.615 (0.0242")	Height is determined by X-dimension and data that is encoded	1X on all four sides	1.5/06/660 <b>Note 3</b>	For direct marking of items other than medical devices
GS1 QR Code	0.254 (0.0100")	0.300 (0.0118")	0.615 (0.0242")	Height is determined by X-dimension and data that is encoded	4X on all four sides	1.5/06/660 <b>Note 3</b>	For direct marking of items other than medical devices
GS1 DataMatrix Ink Based direct part marking	0.254 (0.0100")	0.300 (0.0118")	0.615 (0.0242")	Height is determined by X-dimension and data that is encoded	1X on all four sides	1.5/08/660 <b>Note 3</b>	For direct marking of medical devices such as small medical/surgical instruments
GS1 DataMatrix direct part marking - A <b>Note 2</b>	0.100 (0.0039")	0.200 (0.0079")	0.300 (0.0118")	Height is determined by X-dimension and data that is encoded	1X on all four sides	DPM1.5/04-12/650/(45Q 30Q 30T 30S 90) <b>Note 5</b>	For direct marking of medical devices such as small medical/surgical instruments



GS1 DataMatrix direct part marking - B <b>Note 2</b>	0.200 (0.0079")	0.300 (0.0118")	0.495 (0.0195")	Height is determined by X-dimension and data that is encoded	1X on all four sides	DPM1.5/08-20/650/(45Q 30Q 30T 30S 90) <b>Note 5</b>	For direct marking of small medical/surgical instruments
QR Code (GS1 Digital Link URI) (*)	0.254 (0.0100")	0.300 (0.0118")	0.615 (0.0242")	Height is determined by X-dimension and data that is encoded	4X on all four sides	1.5/06/660 <b>Note 3</b>	For direct marking of items other than medical devices
Data Matrix (GS1 Digital Link URI) (ECC 200) (*)	0.254 (0.0100")	0.300 (0.0118")	0.615 (0.0242")	Height is determined by X-dimension and data that is encoded	1X on all four sides	1.5/06/660 <b>Note 3</b>	For direct marking of items other than medical devices

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(\*) GS1 Digital Link URI syntax SHALL use the uncompressed form.

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449 **Note 3:** The effective aperture for GS1 DataMatrix and GS1 QR Code quality measurements SHOULD be taken at  
 450 80 percent of the minimum X-dimension allowed for the application. For direct part marking - A this would equate to  
 451 an aperture of 3; for direct part marking – B this would equate to an aperture of 6 and for general healthcare label  
 452 printing, an aperture of 8. See ISO/IEC 15415 and ISO/IEC TR 29158.

453 **9.1 GS1 glossary of terms and definitions**

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**ACTION:**  
 455 Work request needed to change existing definitions.  
 456 Text in black is new; text in red represents changes in existing definitions.

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Term	Definition
batch/lot	Associates an item with information the manufacturer considers relevant for traceability of the trade item. a subset of a specific trade item associated with a production run, e.g. a specific manufacturing plant, specific date(s) and time(s).
brand owner authorised representative	any natural or legal person established in a geopolitical area who has received a written mandate from the brand owner to act on its behalf in relation to specified tasks with regard to the manufacturer's obligations (i.e., under a regulation)
circular supply chain	all upstream and downstream activities and processes of the value chain of the product, beyond the point where the product reaches the customer up to end-of life
<del>component/part</del> trade item component/part	<del>an item that is intended to undergo at least one further transformation process to create finished goods for the purpose of downstream consumption.</del> A trade item intended to be incorporated into another trade item without any transformation (see intermediary product)
consumer	A person who buys, hires or receives a product for own use (e.g., retail shopper, online shopper).
<del>consumer product variant</del> product version	An alphanumeric attribute of a GTIN assigned to a <del>retail consumer</del> trade item variant <b>version</b> for its lifetime.
customer	The party that receives, buys, or consumes an item or service (e.g., trading partner, consumer).
delegated act	adopted by the European Commission to supplement or amend certain elements of a legislative act. For example, a delegated act related to the ESPR (EU) 2024/1781 will specify the granularity level of the unique product identification and data requirements for the DPP for a specific product category.
digital product passport	a set of data specific to a product that includes the information specified by regulation or industry and that is accessible via electronic means through an AIDC data carrier that links to the information about a product through its lifecycle.
distance selling	offer for sale of trade items, online or through other means of distance sales, whereby the potential customer cannot physically access the product



Term	Definition
distributor	any natural or legal person in the supply chain, other than the manufacturer or the importer, who makes a product available on the market
economic operator	<b>An economic operator is a business or other organisation which supplies goods, works or services within the context of market operations</b> <del>Per EU 2018/574, related to requirement for EOID for each country in which a party operates a facility.</del>
economic operator identifier (EOID)	used as per regulation (EU) 2018/574
facility	<b>Locations (e.g., building, kiosk) involved in the value chain or used by actors involved in the value chain.</b> <del>Per EU 2018/574, any location, building or vending machine where tobacco products are manufactured, stored or placed on the market.</del>
facility identifier (FID)	used as per regulation (EU) 2018/574
granularity level of identification	Category, version, batch or serial level of an identification key, where serial level is the most granular level.
GS1 key qualifier	A key qualifier is an additional attribute that is designated for use as part of a compound key (e.g., GTIN + serial number is a compound key, with the serial number being a key qualifier for the GTIN)
importer	any natural or legal person established in a geopolitical area who places a product from outside the geopolitical area on the market
intermediary product [BRAD: intermediary trade item]	A trade item that requires further manufacturing or transformation such as mixing, coating or assembling to make it suitable for customers.
life cycle	the consecutive and interlinked stages of a product's life, which includes for example raw material acquisition or generation from natural resources, pre-processing, manufacturing, storage, distribution, installation, use, maintenance, repair, upgrading, refurbishment and re-use
made-to-Order (MtO) trade item	A bespoke (e.g., customised, personalised, configurable) product or service where the GTIN, allocated per application specific rules rather than the GTIN Management Standard, plus a compound key data element (made-to-order variant, lot number, serial number) is required to distinguish whenever any of the trade item declarations are different in any way that is relevant to the trading process.
made-to-Stock (Mts) trade item	A product or service where a separate, unique GTIN, allocated per the GTIN Management Standard, is required to distinguish whenever any of the trade item declarations are different in any way that is relevant to the trading process.
non-new trade item	a trade item that is being made available for sale or use after its first use or <del>consumer</del> <b>customer</b> purchase (e.g., used, repurposed, refurbished, second life). [GenSpecs section 2.1.1.4]
product category [BRAD: trade item category]	trade items that serve similar purposes and are similar in terms of use, or have similar functional properties, and are similar in terms of consumer/customer perception (e.g., apparel, consumer electronics, food and beverage, technical industries, construction)
recycling	any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes
refurbishment	actions carried out to prepare, clean, test, service and, where necessary repair a non-new trade item in order to restore its performance or functionality within the intended use
remanufacturing	a process in which a new trade item is produced from existing trade items and in which at least one change is made that substantially affects the performance, purpose or type of the trade item
repair	actions carried out to return a defective or waste trade item to a condition where it fulfils its intended use
responsible economic operator	A party who has the responsibility for provision of DPP information.
second-hand product	tangible movable product that is suitable for further use as it is or after repair or refurbishment.
supply chain	all upstream and downstream activities and processes of the value chain of the product, up to the point where the product reaches the customer
trade item instance	An individual trade item, e.g. a specific can of soup.
trading partner	The party (e.g., manufacturer, retailer, distributor, merchant, importer) within a value chain relationship (e.g., sell/buy, produce/consume, ship/receive).

Term	Definition
unique facility identifier	used as per regulation (EU) 2024/1781
unique operator identifier	used as per regulation (EU) 2024/1781
unique product identifier	used as per regulation (EU) 2024/1781
value chain	all activities and processes that are part of the life cycle of a product, as well as its possible remanufacturing

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461 **9.3 GS1 abbreviations**

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Abbreviation	Term
DPP	Digital Product Passport
ESPR	Ecodesign for Sustainable Product Regulation

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