

医疗保健行业条码 (HIBC) Health Industry Barcode

对医疗保健产品的唯一识别 Unique identification of Medical products

简易格式规范
Short form specification

- 以字母数字表示的产品代码的惟一数据结构
Unique data structure for alpha numeric product codes
- 符号按由大到小的顺序排列
Symbologies from large to smallest
- 参考ISO及其互用性
ISO references and Interoperability
- 条码与二维符号的一般特征
Common features for Barcode and 2-dimensional symbologies



- 从线性条码发展到二维码
Trend from linear Barcode to 2D

ISO标准下RFID独立标识规范
ISO powered RFID see separate specification

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Health Care Barcode (HIBC)

简介

Introduction

HIBC 是一种对医疗保健产品进行惟一标识的经过压缩的数据结构，被ISO 22742推荐，与EAN和工业ASC

编码结构共同成为全球范围内的产品包装贴标标准。HIBC制订于1986年，当时，UCC还未建立起追溯标准体系。当 EAN/UCC 把 EAN 128加入到 EAN13(JAN13)编码结构时，HIBC已被广泛使用。

HIBC is a compressed data structure for unique marking Health Care products. It is recommended by ISO 22742 for labeling product packages on a worldwide basis in conjunction with EAN and Industries ASC structure. HIBC was invented 1986, when UCC did not have a traceability feature yet. HIBC become popular the second time when EAN/UCC add the EAN 128 structure to EAN13 (JAN13).

➤ 适用于5位以上数字和字母数字型的产品编码

EAN的数字编码能力是限制的，HIBC的产品编码能力是可扩展的，超过了5位的限制，拥有1-13位字母数字作为产品代码。HIBC作为一种推荐性的惟一识别与追溯编码结构，建议产品原始代码超过5位字符的医疗产品选择使用。

➤ For more than 5 digit and alpha numeric product codes.

Where EAN kept the limited numeric code capacity HIBC maintained the extended capacity for product codes of more than 5 digits long, which is 1 to 13 alphanumeric for the row product code. HIBC is recommended for all Medical products, where original product codes of more than 5 characters shall enable unique identification and traceability.

➤ 自动识别

系统标识符中的 "+" 代表 HIBC 供应商标签代码，以及 "FNC1" 代表 EAN 代码，系统标识符都放于产品数字编码之前。根据 ISO/IEC 15418 的规定，同一个系统下，HIBC 与 EAN 具有互用性。

➤ Automatic recognition

The system identifiers "+" for the HIBC structure and the "FNC1" for EAN, which are positioned prior to the data, grant interoperability within the same system according to ISO/IEC 15418.

医疗条码 (HIBC) 编码结构

HIBC 的强制标识部分包含公司 ID、包装索引和产品代码；次级代码包含可变的追溯码——过期时间、生产序列号/批次号、可选择标示的系统标识符产品数量（见表一）。设计 HIBC 编码的初衷就是为了便于将其融合到一维、二维条码和 RFID 标签中。

The structure of the Health Care Barcode (HIBC)

HIBC consist of the mandatory part with Company ID, packaging index and product number. Variable traceability data are located in the secondary code: Expiry data, Lot/Serial number and optional quantity (see table 1). HIBC is designed to be carried by Barcode, 2D and RFID.

HIBC 原始代码和次级代码由 “/” 进行连接的示意图：

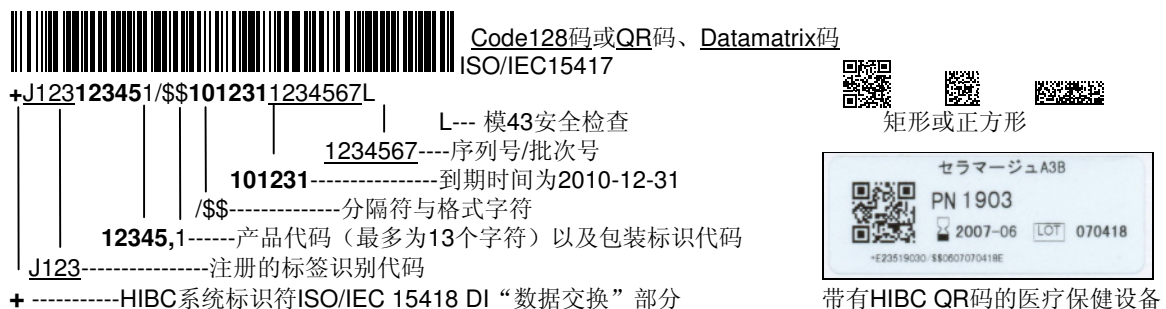


表1) 次级代码包含不同格式的追溯数据（引自HIBC编码规范10.4）

Table 1) Secondary code stores traceability data in different formats (excerpt of HIBC spec. chapter 10.4)

#	HIBC 数量标识	格式 字符	数量 格式	到期时间 标识	到期时间 格式	批号 字段	链接 字符	模43 校验字符	示例数据
1	+				YYJJJ	LOT	L	C	+952713C001LG
2	+\$					LOT	L	C	+\$3C001LV
3	+\$				MMYY	LOT	L	C	+\$09953C001L7
4	+\$			2	MMDDYY	LOT	L	C	+\$20928953C001LJ
5	+\$			3	YYMMDD	LOT	L	C	+\$39509283C001LK
6	+\$			4	YYMMDDHH	LOT	L	C	+\$4950928223C001LP
7	+\$			5	YYJJJ	LOT	L	C	+\$5952713C001LD
8	+\$			6	YYJJJHH	LOT	L	C	+\$695271223C001LI
9	+\$			7		LOT	L	C	+\$73C001LY
10	+\$	8	QQ		MMYY	LOT	L	C	+\$82409953C001LL
11	+\$	8	QQ	2	MMDDYY	LOT	L	C	+\$82420928953C001LX
12	+\$	8	QQ	3	YYMMDD	LOT	L	C	+\$82439509283C001LY
13	+\$	8	QQ	4	YYMMDDHH	LOT	L	C	+\$8244950928223C001LS
14	+\$	8	QQ	5	YYJJJ	LOT	L	C	+\$8245952713C001LR
15	+\$	8	QQ	6	YYJJJHH	LOT	L	C	+\$824695271223C001LW
16	+\$	8	QQ	7		LOT	L	C	+\$82473C001L5
17	+\$	8	QQ			LOT	L	C	+\$824LP
18	+\$	9	QQQQ		MMYY	LOT	L	C	+\$90010009953C001LH

HIBC次级代码可单独使用。本案例中，次级代码以“+”开头，若与原始数据相连接，则用“/”隔开
 Secondary Code can stay alone. In this case it starts with “+”. If concatenated with Primary data, the “+” is replaced by separator “/”

注意：完整版本的HIBC指南可从www.asicon-tokyo.jp和www.HIBC.de网站下载。

Note: The complete HIBC Guidelines you will find under www.asicon-tokyo.com, www.HIBC.de

医疗保健产品 – HIBC标识示例

Medical products - Examples marked uniquely by Health Industry Barcode (HIBC)



ISO/IEC 18004 QR码中含有HIBC代码
 HIBC carried by QR Code ISO/IEC 18004



Code 39码中包含HIBC代码
 HIBC carried by Code 39



Code 128码中含有HIBC代码
 HIBC carried by stacked Code 128

HIBC可与任何ISO字符和RFID编码配合使用。
 HIBC is capable for any ISO symbology and RFID.

适用于小型医疗保健设备（如手术器械、药剂瓶等）标识的小包装HIBC符号示例：

HIBC的唯一识别标识(UIM)

数据结构在表示本体标识(DPM)时，可以与其他行业（如电子业、航空业和精密机械行业等）进行数据共享。

Reduced Space HIBC for smallest Medical Device Marking (*Instruments, Vials, etc.*)

The following schematic illustrates the data structure of a the “Unique Identification Mark (UIM) solution shared with other industries for Direct Product Marking (DPM) such as Electronic, Air Craft, Precision Mechanics, etc.

Code 128码、ISO/IEC 15417中包含的惟一数据或QR码、Datamatrix 码中包含的相同数据
Unique data in Code 128, ISO/IEC 15417 or same data carried by QR or Datamatrix



25SLHJ1231234567

1234567---Serial number alpha numeric 字母数字型序列号

J123---Registered Labeler Identification Code 注册的标签识别代码

LH---*发行机构：保健业事业交流委员会 (EHIBCC)，发行机构代码见ISO/IEC 15459第二部分

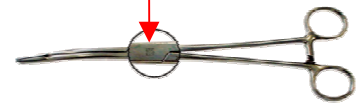
*Issuing Agency Code Health Care (EHIBCC) ISO/IEC 15459

25S---ISO/IEC15418 part DI Data Identifier for Unique Serial Numbers

ISO/IEC15418数据标识符DI 为唯一序列号



矩形或正方形



A HIBC Unique Identification Mark (UIM) fulfills the requirement for world

HIBC 唯一标识标志 (UIM) 实现世界的唯一性

wide uniqueness. DIN V66401 specifies the application in detail.

DIN V66401 标准有详细地叙述。

*Issuing Agency Codes – see ISO/IEC 15459 part 2, list under: www2.nen.nl/nen/servlet/dispatcher.Dispatcher?id=167677

*发行机构代码 – 参见ISO/IEC 15459第二部分: www2.nen.nl/nen/servlet/dispatcher.Dispatcher?id=167677

附录 ISO: 一个标准, 一种方案 - 不同的数字

目前，医疗保健行业正在使用多种不同的数据结构方案，用以自动数据采集（ADC）和文件处理。在全球产品标识方面，广泛使用的有三种主要的数据结构：EAN（主要用于消费领域）、HIBC（主要用于医疗保健行业）和工业上使用的ASC。上述三种数据结构方案都被收入ISO“用于产品包装的一维与二维条码码制-ISO 22742”标准中。该标准被与ISO TC

122包装技术委员会相关的各国标准化委员会出版发行，旨在通过公共规范避免重复标识和追溯数据限制，以取得最优效果。







ISO 22742 EAN、HIBC、ASC码的主数据结构普遍特征和差别见示意图：

Appendix ISO: One standard, one solution – different numbers

In Health Care different data structures are in use for automatic data capture (ADC) and documentation. For product marking 3 major data structures are common on a world wide bases, the EAN structure, coming from consumers area, HIBC developed for Health Care and ASC of the industries. All 3 are considered with the ISO standard “Product Packaging – linear and two dimensional symbols for product packaging - ISO 22742”. This standard was published by all National Standards Institutions connected to ISO TC 122 Packaging. The purpose of this standard is to achieve an optimum of efficiency by public available specifications and to avoid re-labeling and limitations for traceability data. The chart below shall illustrate common features and differences.

表2) ISO 22742 EAN, HIBC, ASC码主数据结构普遍特征和差别比较

Table 2) Common features, differences between key structures of ISO 22742 EAN, HIBC, ASC

Feature特征	EAN(GS1)	HIBC	ASC
Capacity for product numbers 产品代码字符容量	5字符 (平均)	1-13字符	1-20字符
System identifiers for 系统标识符	FNC1	+	Syntax 15434
Interoperable 可共操作性	是	是	是
ISO 22742 for product packages ISO 22742产品包装标准	是	是	是
ISO/IEC 15417 Code 128 ISO/IEC 15417 128码	是	是	是
2D Code 二维码	RSS, Composite	任何ISO字符	任何ISO字符
RFID	是	是	是
ISO/IEC 18004 QR Code JIS X0510 ISO/IEC 18004 QR码 JIS X0510	不	是	是
ISO/IEC 15418 Application Data Identifiers ISO/IEC 15418 应用标识符	是	是	是
ISO 22742 Product labeling ISO 22742 产品标识标签	是	是	是
Capacity for world wide tracing 全球通用性	是	是	是
For consumers area (POS) 用于消费领域 (POS机)	是	不	不
For world wide tracing medical products 用于全球医疗保健产品追溯	是	是	医疗保健器具
Sample Code 128 with same data content 128码示例 相同数据内容	EAN  011123456712345210123456717101231		HIBC  +J123123451/\$\$1012311234567L
Sample 2D 二维码示例	RSS Composite A	RSS Composite B	HIBC QR DATAMATRIX
printed same resolution, dot size 0,25mm 相同的印刷精度, 网点打 印尺寸为0.25 毫米			 

Global support international
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