

Binder's Pack Bar Code Label Standard

Updated January 2004



BOOK INDUSTRY
COMMUNICATION

ISBN 978-1- 873671-06-1

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Book Industry Communication
39-41 North Road
London N7 9DP

Book Industry Communication acknowledges with thanks the generous contribution of
W H Smith Ltd towards the compilation of this standard

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FOREWORD

Since 1981, individual books have carried EAN-13 bar codes which incorporate the ISBN. This system preserves established procedures for books and enables bar code scanning techniques to be adopted throughout the book industry. Until now, there was no standard method for applying bar codes to binder's packs.

This Binder's Pack Label Standard has been prepared for, and published by, Book Industry Communication which is responsible for the development and promotion of information standards in the United Kingdom book industry. It can be applied to any binder's pack containing any quantity of a single title.

The Standard allows for a number of combinations of eye readable and bar coded data to be required by individual publishers, yet enables a printer to use common equipment and software to provide labels for all publisher customers.

The use of the binder's pack label in scanning systems will improve efficiency, reduce costs and provide traceability to the batch or printing level. Although primarily intended for use between printers and publishers, the Standard can be used 'downstream' in the distribution chain by wholesalers and retailers. It may also be used in other countries and is generally compatible with a parallel development in North America.

1 SCOPE

This Binder's Pack Bar Code Label Standard sets out the requirements for the design of a bar code label to be affixed to binder's packs of printed books in the United Kingdom. **The standard shall only apply to binder's packs which contain books with an identical title and ISBN.** The data on the label shall be prescribed by the publisher (the owner of the book) from the options specified in this Standard. The label is intended to be applied by printers and binders prior to the books being despatched to the publisher. The label may also be suitable for use further on in the distribution chain.

2 REFERENCES

2.1 References for Data

A number of fields of data shall be used to create the eye readable and bar coded Binder's Pack Label. The data for the fields shall be extracted mainly from a database held by the printer, although the prime source for some data should be the publisher. The list of data and its prime source is provided in *Annex A*.

An additional reference is required to fully encode retail price data (see *Annex B*):

ISO 4217 Codes for the representation of currencies and funds

2.2 Application Identifier Standards

All of the information relevant to the binder's pack label has been reproduced in this Standard. It is based on existing standards relating to the structure and format of EAN Application Identifiers, and further information about these is available from GS1 UK, Staple Court, 11 Staple Inn Buildings, London WC1V 7QH, telephone 0808 178 8799, email Support@Gs1uk.org, or from Book Industry Communication.

2.3 Bar Code Standards

The bar code standards on which this Standard is based are taken from BS ISO/IEC 15417:2000 *Information technology. Automatic identification and data capture techniques. Bar code symbology specification. Code 128*. Available from BSI (www.bsi.org.uk).

3 DEFINITIONS

3.1 Book Industry Definitions

3.1.1 Binder's Pack

A pack of printed books, usually of the same title but sometimes to a pre-determined assortment, used in the distribution chain from the printer to the publisher and possibly to wholesalers and larger booksellers.

Note: This standard shall only apply to binder's packs containing identical books.

3.1.2 Customer Order Number

The purchase order number assigned by the publisher for the printing of books by the supplying printing company.

Note: If the binder's pack is to be distributed beyond the publisher's warehouse, the purchase order reference shall be changed to be that of the next customer in the supply chain.

3.1.3 ISBN

The International Standard Book Number (ISBN) is the established scheme for identifying book titles virtually worldwide. The ISBN is a 10 digit number consisting of four parts: the geographic or language group identifier, the publisher identifier, the title identifier, the check digit. The check digit is one digit long; the other parts are of varying lengths depending on the value of the group identifier and publisher identifier. As from 2007, the ISBN will be prefixed by a 3-digit 'book' identifier and will become a 13-digit number, bringing it into line with the existing EAN article numbering system.

3.2 Bar Code and Data-Related Definitions

3.2.1 Application Identifier

A form of data identifier, used exclusively in the EAN/UCC system to represent data in the EAN-128 subset of Code 128 bar codes.

3.2.2 Check Character

A character included in a code in order to perform a mathematical check that when a machine reading or human operation is carried out the code is correct. Its value is calculated from the other characters in the code.

3.2.3 Code 128

A bar code symbology which encodes the entire 128 ASCII character set, 4 non-data function characters, 4 code set selection characters, 3 start characters, and a stop character. Each of the 3 start characters identifies the code set being encoded; one allows all numeric data to be encoded at double density. Each character is made up of 11 modules arranged into 3 bar elements and 3 adjacent space elements. Each element is from 1 to 4 modules wide (where the width of a module is X). The entire ASCII character set is encodable by prefixing individual characters or blocks of

characters with one of the code set selection characters. Code 128 is a continuous code. Any length of data can be encoded.

3.2.4 Data Identifier

A character, or string of characters, used in a prefix position to uniquely identify the data which follows.

3.2.5 EAN-128

A subset of Code 128 symbology used to represent EAN/UCC application identifiers and their associated data.

3.2.6 Print Contrast Signal (PCS)

A measure of the relative difference between the reflectance of dark bars and the reflectance of light spaces.

3.2.7 Quiet Zone

The area that must precede the start character and follow the stop character of a bar code symbol.

3.2.8 Reflectance

1. The amount of light of a specified wavelength or range of wavelengths that is reflected from a substrate, ink, or other means to create the dark bars and light spaces of a bar code symbol.
2. (Sometimes called reflectance factor). Reflectance is measured on a scale of 0 to 1, at a wavelength or bandwidth of light (spectral response) specified in the particular application specification. Barium sulphate or magnesium oxide are used as 'near perfect' reference white standards (a perfect standard of pure white would have a reflectance of 1.00 at any wavelength of light). The absence of any light in a vacuum is used as reference black standard.

3.2.9 Symbology

Any of the standard systems of representing data in bar code form, each having its particular characteristics and rules of composition, such as Code 39, Code 128, Interleaved 2 of 5, EAN/UPC. The symbology specifies the character set, start and stop codes, length, etc.

3.2.10 X Dimension

The desired dimension of the narrowest bar and narrowest space in a bar code symbol.

4 DATA REQUIREMENTS

4.1 Data Elements to be Represented in Bar Code Format

There are two fields of data which shall be represented in bar code format. There are three additional fields which may be encoded. The fields are as defined in *Sections 4.1.1 to 4.1.5*.

4.1.1 Contents (i.e. the Reference to the EAN Article Number of the Book in the Binder's Pack)

This shall be a **mandatory** field of 14 digits length, equivalent to the EAN article number of the book contained within the binder's pack, prefixed with 0 (zero), to create a 14 digit number to conform to standard EAN formats.

If the 13 digit article number is not provided by the publisher, it shall be created from the ISBN. This shall be done in accordance with the rules originally set out in *Annex G* of this standard.

4.1.2 Quantity

This shall be a **mandatory** field to represent the precise numeric content of the binder's pack. The quantity shall be 4 digits long; and leading zeros shall be used when the quantity is less than 4 significant digits.

4.1.3 Retail Price

This optional field shall be used at the publisher's discretion to identify the retail price of the book. The retail price shall refer to one of the following.

1. The UK recommended retail price, including any value added tax (if this applies) at the date of printing.
2. The retail price appropriate in another country as printed on the book.

The retail price shall be represented as up to 5 significant digits, with the decimal point correctly inserted. The retail price shall be qualified by a currency code indicator as specified by ISO 4217, examples of which are given in *Annex B*.

It is not possible to encode price directly with an EAN application identifier because none has been directly assigned for this purpose. To encode price, the data as set out in *Annex B* (the numeric value plus the currency code) shall be preceded by the appropriate FACT data identifier **12Q**.

Example:

12Q10.95GBP represents the UK price of £10.95

The complete data string shall be 7 to 12 alphanumeric characters long, depending on the currency and the number of significant digits and decimal point in the retail price.

4.1.4 Batch Number

This **optional** field shall be used at the publisher's discretion to encode the batch number assigned by the publisher to the print run. The batch number shall be up to 8 alphanumeric characters long.

4.1.5 Publisher's Purchase Order Number

This **optional** field shall be used at the publisher's discretion. It may be up to 30 alphanumeric characters long.

4.2 Table 1: Application Identifiers and Formats for the Data Elements

Table 1 specifies the application identifiers which shall be used to precede the encoded data. The table also summarises other details already specified.

| Description of Data Element | Required | Application Identifier | Data Length | Format |
|-----------------------------------|----------|------------------------|-------------|--------|
| Contents | Yes | 02 | F 14 | n |
| Quantity ¹ | Yes | 37 | C 4 | n |
| Retail price ² | Optional | 90 | V...12 | a/n |
| Batch number | Optional | 10 | V...8 | a/n |
| Publisher's purchase order number | Optional | 400 | V...30 | a/n |

Where C = Constant length for this BIC standard, although variable length as defined by EAN rules.

F = Fixed length as defined by EAN rules.

V = Variable length as defined by EAN rules.
The maximum data length in this Binder's Pack Standard may be less than the EAN maximum.

Note 1: The quantity field has been set to a constant length to enable numeric compaction to be used in the EAN-128 symbol, otherwise shorter numbers would result in longer symbols.

Note 2: The retail price is encoded under AI = 90, which is used for mutually agreed definitions between trading partners. This Binder's Pack Standard adopts the preferred use of AI = 90 as defined by the UCC. AI = 90 is used as a prefix, or 'switch' to a FACT data identifier.

4.3 Structuring Rules

There are 8 combinations of data elements which can be encoded in EAN-128 bar code(s) on the Binder's Pack Label. The number of permutations is considerably greater and for this, **and other technical reasons**, the data shall be in a structured sequence.

One or two EAN-128 symbols shall be used to encode the data. **The publisher's purchase order number (AI = 400) shall be encoded in a separate (second) bar code symbol.** This is to enable the purchase order number bar code to be overlabeled, or otherwise replaced, by another more appropriate symbol for use further on in the distribution channel.

Note: If the original publisher's purchase order number is retained and scanned by, say, a wholesaler or retailer, the encoded data will not match that held in the wholesaler's or retailer's database. At best this will be a nuisance, at worst it could corrupt data or result in rejection of a delivery.

Sections 4.3.1 and 4.3.2 define overall constraints on the length of encoded/decoded data and physical symbol size. It will be seen (*see Section 4.3.4*) that these limits can only be exceeded in the first symbol when the batch number is encoded with the contents, quantity, etc. If the number of data characters or physical length is too great to encode in one symbol, the batch number (AI = 10):

- a. should be encoded with the purchase order number (AI = 400), if this is part of the encoded data, in a second symbol
- b. should be encoded separately in a second symbol

4.3.1 Maximum Number of Data Characters Per Symbol

The EAN/UCC Specification states that the maximum number of decoded characters shall be 48. This is to ensure that data can be abstracted from the EAN-128 bar code symbol and processed by decoding equipment. This data includes:

- * all data characters
- * all application identifiers (e.g. AI = 400 has 3 characters)
- * all field separators between variable data (represented as FNC1 symbol characters in the bar code symbol; and as character GS [ASCII value 29] in the data)

4.3.2 Maximum Length of Symbol

The EAN/UCC Specification states that the maximum length of an EAN-128 symbol shall be 165mm including its quiet zones. For this Binder's Pack Standard, the symbol length, excluding quiet zones, shall not exceed 138mm.

4.3.3 Label Formats

The data elements shall follow a pre-defined sequence. This is to conform to the EAN requirements of encoding fixed length data elements at the beginning (near the start character) of an EAN-128 symbol. It also enables the advantages of numeric compaction (see Section 5.1) to be fully utilised. This enables the symbol to be as short as possible, or enables as much data as possible to be encoded in one EAN-128 symbol.

The 8 combinations are identified by a numeric value (representing the number of data elements to be encoded) and a letter (to represent a specific combination set). These are set out in Table 2 which also defines the logical sequence of data elements.

| Label Format ID | Data Element | | | | |
|-----------------|--------------|----------|-------|--------------|--------------|
| | Content | Quantity | Price | Batch Number | Order Number |
| 2A | M | M | | | |
| 3A | M | M | — | | |
| 3B | M | M | | — | |
| 3C | M | M | | | — |
| 4A | M | M | — | — | |
| 4B | M | M | — | | — |
| 4C | M | M | | — | — |
| 5A | M | M | — | — | — |

Table 2: Label Formats and Required Data Elements

These label formats should be used to structure label designs and data handling and printing software.

4.3.4 The Need for Two EAN-128 Bar Code Symbols

Two bar code symbols shall be required for label formats: 3C, 4B, 4C and 5A, because of the requirements to have purchase order number in a separate symbol.

A second symbol may also be required for format 4A, depending on the length of data and the physical size of the symbol. If this is necessary, the second symbol shall encode the batch number only.

The second symbol may need to encode two data elements (batch number and purchase order number) depending on the length of data and the physical size of the symbol. This occurs for format 5A.

The variations in data length, use of numeric compaction and the range of permissible X dimension make it difficult to determine whether the batch number shall be encoded in the second symbol, on its own or with the purchase order number.

It is possible to determine this requirement based on the data content of each label, but this requires sophisticated software. Therefore, the following rules should be followed to determine in which bar code symbol the data element **batch number** shall be placed.

1. If batch number is not required, the need for a second symbol is determined solely by the need to encode purchase order number.
2. For label formats 3B and 4C, the batch number shall be encoded in the first symbol.
3. If the X dimension is 0.31mm or less, for label formats 4A and 5A, the batch number shall be encoded in the first symbol.
4. Otherwise, for label formats 4A and 5A, a more complex analysis of the data structure, numeric compaction and X dimension is required. This may be carried out experimentally to determine whether batch number should be encoded in the first or second symbol. Alternatively, a simpler solution is that batch number should be encoded in the second symbol.

Note: For the remainder of this standard, the simpler rule shall be assumed.

Note: The logic is that the earliest (lowest number) rule determines the need for two symbols and determines the symbol in which to encode the batch number; then the logical process ends.

4.3.5 Data Element Separators

The EAN/UCC Specification for application identifiers (AIs) allows fixed length data elements and their AIs to be abutted. The fixed structure enables a number of fields to be joined together or chained. It is also permissible to add one variable length data element to the end of the string in a similar manner.

Data separators shall only be used between variable length data elements. In databases used prior to the data being encoded into the bar code, any character may be used to represent the separator to suit the requirements of the database. In the EAN-128 bar code, the separator shall be encoded as the symbol character **Function Code 1 (FNC1)**. After decoding, the FNC1 separator shall be represented as ASCII character value 29, group separator (GS). This character shall not be used for any other purpose in the host database of the scanning system.

4.3.6 The Data Structure in the First Symbol

The first (and possibly only) bar code symbol shall be required for all label formats. The content, in terms of data characters, is defined in *Annex C*.

4.3.7 The Data Structure in the Second Symbol

The second bar code symbol shall be required for label formats 3C, 4B, 4C, 5A because of the need to encode the purchase order number. In addition, label format 4A and 5A may require the use of a second bar code to encode the batch number under certain conditions. The content, in terms of data characters, is defined in *Annex D*.

4.4 Eye Readable Information

The following eye readable information should be provided:

- * the publisher
- * the title of the book
- * the ISBN (*see Section 4.4.1 for further details*)
- * the printer's name
- * the retail price (*see Section 4.1.3, 4.4.2 for further details*)
- * the quantity, or number of copies of the title in the binder's pack
- * the weight of the pack (*see Section 4.4.3 for further details*)

4.4.1 The ISBN

The ISBN shall be presented in its standard format:

- * in its four constituent parts
- * a hyphen between each part
- * the check digit properly validated
- * prefixed by the letters ISBN

Example:

ISBN 0-85386-070-X

Note: In 2007, this will change to ISBN 978-0-85386-070-9 (*see Section 3.1.3*).

4.4.2 Retail Price

If the price is in £ Sterling, it shall be presented in the following manner:

£14.95

If the price is in another currency it shall be presented in the following manner:

General form: # nnnnn CCC

| | | | |
|-------|-------|---|-----------------|
| where | # | = | currency symbol |
| | nnnnn | = | retail price |
| | CCC | = | currency code |

Example:

\$19.95 CAD

If the book is unpriced, the text 'UNPRICED' may appear where the actual price would be shown in the eye readable text.

4.4.3 Weight of Pack

This shall be the gross weight of the binder's pack expressed in kilograms to 1 decimal place.

Note: It shall not be necessary to weigh individual binder's packs. It is accepted that the parcel weight may be calculated prior to packing. The entire Binder's Pack Bar Code Label contains standard information relating to a particular pack configuration of a binder's pack of a book title. Weight is related to the quantity packed and the packaging materials used.

5 BAR CODE REQUIREMENTS

5.1 Symbology

The bar code symbology shall be Code 128 (*see Section 2.3 for references to the symbology*).

Code 128 has three unique interpretations of its symbol characters when used under specified rules. One of these character subsets allows two numeric digits to be compacted into the symbol space normally taken to encode a single character. Standard rules are defined in the Code 128 standard to enable the shortest symbol to be generated for any given data. These rules shall apply for this Binder's Pack Label Standard.

5.2 Dimensional Parameters

5.2.1 X Dimension

The X dimension shall be within the range of 0.25mm to 0.38mm and shall be constant for a given bar code symbol. The X dimension shall be selected primarily on the capability of the bar code printing equipment or process to produce symbols which conform to the Code 128 specification and which conform to the Binder's Pack Label requirements.

A secondary consideration may be the requirements to scan a symbol at a given distance from the scanner. If this factor is taken into account, it should only be used to increase the size of the X dimension up to its maximum size.

5.2.2 Dimensional Tolerances

The tolerances in this section shall not apply to the testing of bar code symbol quality in accordance with the procedures described in *Section 5.3.4*, but may be used for alternative methods of assessment based on dimensional measurement.

There are three different tolerances which apply to Code 128. These are illustrated in *Figure 1* and are defined as follows:

- T_b** is the tolerance on bar and space widths (*'b'* in *Figure 1*)
- T_e** is the tolerance on abutting bars and spaces within a symbol character and illustrated as the four dimensions indicated *'e'* in *Figure 1*. These dimensions are measured from the leading edge of a bar to the leading edge of the following bar, or the trailing edge of a bar to the trailing edge of the following bar.
- T_p** is the tolerance applied to the total width of a symbol character (*shown as 'p'* in *figure 1.*)

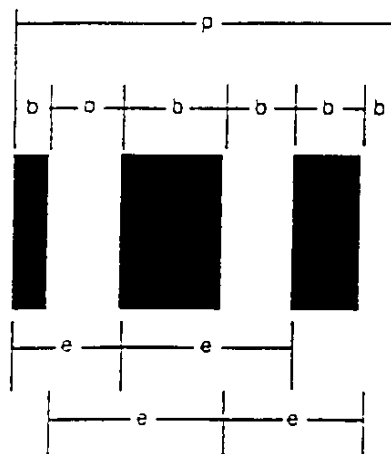


Figure 1: Tolerance Measurements

The values of tolerances **T_b**, **T_e**, and **T_p** are defined as:

$$T_b = \pm (0.40x - 0.013\text{mm})$$

$$T_e = \pm 0.20x$$

$$T_p = \pm 0.20x$$

where x is the x dimension

The stop character shall satisfy the tolerances when measured as a standard width symbol character consisting of the first three bars and first three spaces. In addition, it shall satisfy the tolerances when viewed in reverse with its last three bars and last three spaces regarded as a symbol character.

5.2.3 Quiet Zone

A quiet zone shall be maintained to the left and right of the Code 128 bar code symbol, clear of any other printing and the edges of the label. The quiet zone shall be a minimum of 5mm.

5.2.4 Bar Height

The height of the bars shall be a minimum of 20mm and a maximum of 25mm.

5.3 Optical Specification

5.3.1 Measurement Conditions

All optical measurements shall be made of the Binder's Pack Label in its final form.

5.3.2 Scanning Waveband

The peak response wavelength should be 633 nanometres. Peak response wavelengths from 620nm to 680nm shall be acceptable.

5.3.3 Traditional Methodologies of Measurement

At the time of publication of this Standard, methodologies for measuring bar code symbol quality are evolving. For the present, a traditional methodology based on the following parameters shall be the preferred method.

- a. The symbols shall be scanned at any single wavelength within the range of 620nm (minimum), 680nm (maximum) with a measuring aperture of 0.2mm diameter.
- b. The reflectance of the background label shall be at least 50 percent.
- c. The print contrast signal (PCS) between the bars and spaces shall be at least 0.75 where:

$$\text{PCS} = \frac{R_L - R_D}{R_L}$$

- where:
- | | | |
|-------|---|---|
| R_L | = | percentage reflectance of the substrate or spaces in the bar code |
| R_D | = | percentage reflectance of the printed bars |

This methodology is expected to run in parallel with that defined in *Section 5.3.4* for a number of years.

5.3.4 Scanning Reflectance Profile Methodology of Measurement

The new methodology for measuring bar code symbol quality is based on an analysis of the scan reflectance profiles. The scan reflectance profile is a plot of reflectance against linear distance across the symbol. The methodology is designed to maximise the consistency of both reflectivity and bar and space width measurements of bar code symbols on various substrates. This methodology is also intended to correlate with processes incorporated in bar code scanning hardware.

This methodology has been defined in European Standard EN 1635 and an International Standard ISO/IEC 15416.

Ultimately, the scanning reflectance profile shall be the preferred method to assess symbol quality for conformance to this Binder's Pack Label Standard.

6 LABEL DESIGN PARAMETERS

6.1 General Graphics

The design of the label is the responsibility of the printing company to meet the information requirements of the various publisher customers dealt with. An idealised format is specified in *Section 6.3*. The design shall take account of the following elements:

- a. The character set should be upper and lower case alphabetic plus numeric characters. If lower case alphabetic characters cannot be produced, all alphabetic data may be presented in upper case characters.
- b. Any eye readable font may be used.
- c. The font may be proportionally spaced or fixed pitch.
- d. The size of the characters may vary within a range specified in *Section 6.3*.
- e. Some degree of freedom shall be available in the placement of data elements into data areas (*see Section 6.3*).

6.2 Label Size

The label size shall be selected to conform to the graphics layout and the bar code parameters. The graphics layout allows the label to conform to an A6 label format (148mm wide by 105mm high), the preferred size. The label may be printed so that the long side or short side forms the printing width on particular equipment, so long as the bar code can be correctly printed in the chosen orientation.

If roll fed label material is used, there may be economic advantages in the label being orientated so that the shorter dimension forms the width of the label stock. There may be further advantages if this can be reduced to 100mm (approx 4 inches), because of the greater choice of equipment type.

The label may be curved, or square cut, at the corners.

6.3 Format

The Binder's Pack Label should be set out as detailed below. The data elements shall be set in three data areas:

Data Area 1: The eye readable information, which may be sub-divided vertically into two blocks

Data Area 2: The first bar code symbol and its interpretation

Data Area 3: The second bar code symbol and its interpretation

Ideally, these should be stacked vertically as defined in *Figure 2*. It may be necessary to modify the layout to accommodate particular requirements like longer titles. The areas devoted to bar coding should not be compromised.

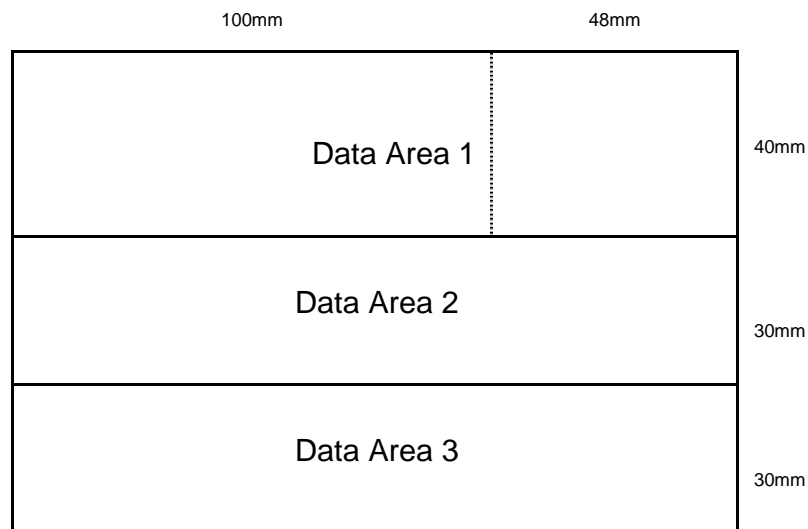


Figure 2: The Layout of the Data Areas

Complete bar code labels with all graphics conforming to this standard are illustrated in *Annex E* (to conform to *Label Format 4A*).

6.3.1 Data Area 1

This shall contain the eye readable information as defined in *Section 4.4*.

The data should be printed in upper and lower case alphabetic characters between 2mm and 5mm high.

6.3.2 Data Area 2

This shall contain the first bar code symbol as specified in *Section 4.3.6* and *Annex C* and its eye readable interpretation (see *Section 6.3.4*) which shall be printed below the bar code. The bar code shall conform to *Section 5*.

6.3.3 Data Area 3

This shall contain the second bar code symbol as specified in *Section 4.3.7* and *Annex D* and its eye readable interpretation (see *Section 6.3.4*) which shall be printed below the bar code. The bar code shall conform to *Section 5*.

If the label format does not require the use of the second bar code symbol, the base of the label may be 5mm from the bottom of the first (and only) bar code.

6.3.4 Eye Readable Interpretation Below the Bar Code

The eye readable interpretation shall be printed under the bar code in characters 2mm to 4mm high. Each data element shall be preceded by its application identifier in brackets

(). Adjacent data elements should be separated by a space. The brackets and spaces **shall not** be encoded in the bar code symbol and are only included in the eye readable interpretation for better human understanding.

Example:

(02)09780853860709 (37)0005

7 LABEL PRODUCTION

7.1 Acceptable Methods

7.1.1 Production of Individual Labels

As Binder's Pack Labels will only be required in relatively small quantities, on-demand printing methods may be used for labels printed on-site. The following print technologies are generally suitable:

- * Thermal Transfer
- * Laser Xerography
- * Other technologies capable of achieving the optical specification (see *Section 5.3*) and having a pixel size of 0.175mm or smaller. The dot matrix print technology should not be used.

Print quality should be monitored regularly when using on-demand print technologies.

7.1.2 Production Using Conventional Printing Technologies

Where the volumes justify the use of the process, batches of Binder's Pack Labels may be produced using conventional printing plates and wet inks. Special attention shall be placed on the effect of print gain on the dimensions of the bar code elements and the printed symbol shall conform to the tolerances defined in *Section 5.2.2*. The bar code shall also meet the optical specification (see *Section 5.3*).

7.1.3 Production by Bar Code Bureaux

Alternatively, a printing company may choose to purchase labels pre-printed to conform to all aspects of this specification. The bureau may use the on-demand printing technologies defined in *Section 7.1.1* or conventional printing technologies defined in *Section 7.1.2* or other technologies it considers suitable, so long as the finished label meets the dimensional tolerances (see *Section 5.2.2*) and optical specification (see *Section 5.3*).

Some statement of assurance of symbol quality should be offered by the bar code label bureau.

7.2 Materials

The Binder's Pack Label shall be scannable for a period of two years, and at the publisher's discretion this could be specified to extend up to five years. **Extending the lifespan beyond two years could require special consumable materials.** The labels shall normally be white with black printed information. The selection of the material shall take account of:

- a. The method of label printing and production.
- b. The preference for an A6 sized label.
- c. The bar code requirements, particularly for the dimensional specification (see *Section 5.2*) and optical specification (see *Section 5.3*).
- d. The preference of the printing and publishing companies for self adhesive labels or gummed labels.

8 LOCATION OF THE LABEL

8.1 Standard Location

The Binder's Pack Label shall be centrally affixed to both ends of the binder's pack as an end seal (see *Figure 3*). If this is not possible, the next section provides some alternatives.

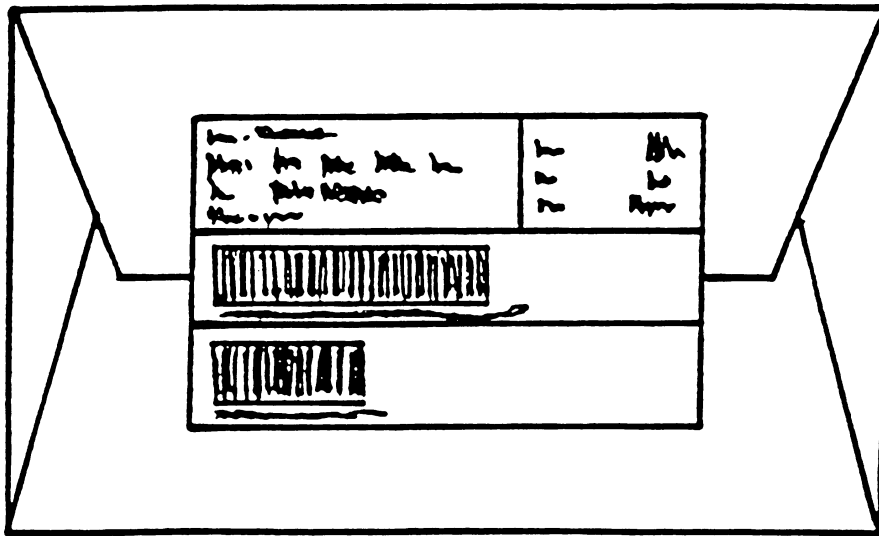


Figure 3: Standard location of Binder's pack label

8.2 Alternative Locations

Where the standard location cannot be used, printers should discuss with their publisher customers on the preferred label locations. Some examples follow:

- * If the end of the binder's pack is too small for the label to be affixed, labels should be affixed to two of the other faces.
- * If this is not possible, the label should be folded between the eye readable data area and the bar code data area. The label should be affixed over an edge of the binder's pack, the eye readable information on one face, the bar code(s) on another.

ANNEX A (Normative) LIST OF DATA REQUIREMENTS AND THEIR SOURCES

| Data | Source | Representation |
|-------------------------------------|---------------------|---------------------------|
| Publisher's name | Publisher | Eye readable |
| Printer's name | Printer | Eye readable |
| ISBN in its standard format | Publisher | Eye readable |
| EAN-13 article number | Derived from ISBN | Bar code |
| Book title | Publisher | Eye readable |
| Price | Publisher | Bar code and eye readable |
| Publisher's purchase order number | Publisher | Bar code |
| Batch number | Publisher | Bar code |
| Quantity (copies per binder's pack) | Printer (generally) | Bar code and eye readable |
| Weight of pack | Printer | Eye readable |

ANNEX B (Normative) CURRENCIES, THEIR REPRESENTATION AND CODES

| Currency | Representation Max Value | Currency Code |
|----------------------------------|-------------------------------------|--------------------------|
| Australian dollar (and cents) | 999.99 | AUD |
| Euros (and cents) | 999.99 | EUR |
| New Zealand dollar (and cents) | 999.99 | NZD |
| United Kingdom pound (and pence) | 999.99 | GBP |
| United States dollar (and cents) | 999.99 | USD |

Note: Annex B is based on ISO 4127 and the list may be extended in accordance with this international standard.

ANNEX C

(Normative) DATA STRUCTURE AND NUMBER OF DATA CHARACTERS IN THE FIRST SYMBOL

| Label Format | Data Sequence and Number of Data Characters | | | | | | | | | | Number of Data Characters | Note Ref | |
|--------------|---|---------|-------|----------|--------|-------|--------------|-------|-------|--------------|---------------------------|----------|------|
| | AI 02 | Content | AI 37 | Quantity | FN C 1 | AI 90 | Retail Price | FNC 1 | AI 10 | Batch Number | | | |
| 2A | 2 | 14 | 2 | 4 | | | | | | | | 22 | |
| 3A | 2 | 14 | 2 | 4 | 1 | 2 | 7-12 | | | | | 32-37 | |
| 3B | 2 | 14 | 2 | 4 | | | | 1 | 2 | 1-8 | | 26-33 | |
| 3C | 2 | 14 | 2 | 4 | | | | | | | | 22 | |
| 4A | 2 | 14 | 2 | 4 | 1 | 2 | 7-12 | 1 | 2 | 1-8 | | 36-48 | 1, 2 |
| | 2 | 14 | 2 | 4 | 1 | 2 | 7-12 | | | | | 32-37 | |
| 4B | 2 | 14 | 2 | 4 | 1 | 2 | 7-12 | | | | | 32-37 | |
| 4C | 2 | 14 | 2 | 4 | | | | 1 | 2 | 1-8 | | 26-33 | |
| 5A | 2 | 14 | 2 | 4 | 1 | 2 | 7-12 | 1 | 2 | 1-8 | | 36-48 | 1, 2 |
| | 2 | 14 | 2 | 4 | 1 | 2 | 7-12 | | | | | 32-37 | |

Note: 1. Batch number is encoded in 1st symbol if $X < 0.31$ mm

2. If $X \geq 0.31$ mm and the total number of symbol characters exceeds 33, batch number may need to be encoded in a second symbol. This can be determined by considering data length and the use of numeric compaction, or more simply to decide that batch number is to be encoded in the second symbol


ANNEX D (Normative) DATA STRUCTURE AND NUMBER OF DATA CHARACTERS IN THE SECOND SYMBOL

| Label Format | Data Sequence and Number of Characters | | | | | Number of Data Characters | Note Ref |
|--------------|--|--------------|-------|--------|----------------|---------------------------|----------|
| | AI 10 | Batch Number | FNC 1 | AI 400 | Purchase Order | | |
| 3C | | | | 3 | 1-30 | 4-33 | |
| 4A | 2 | 1-8 | | | | 3-10 | 1, 2 |
| 4B | | | | 3 | 1-30 | 4-33 | |
| 4C | | | | 3 | 1-30 | 4-33 | |
| 5A | | | | 3 | 1-30 | 4-33 | 1, 2 |
| | 2 | 1-8 | 1 | 3 | 1-30 | 8-44 | |


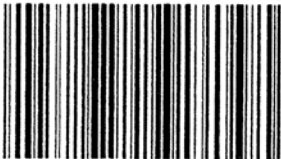
Note: 1 Batch number is encoded in 1st symbol if $X < 0.31\text{mm}$

- 2 If $X \geq 0.31\text{mm}$ and the total number of symbol characters exceeds 33, batch number may need to be encoded in a second symbol. This can be determined by considering data length and the use of numeric compaction, or more simply to decide that batch number is to be encoded in the second symbol.

**ANNEX E (Informative) EXAMPLE OF A LABEL TO CONFORM TO LABEL
FORMAT 4A**

| | |
|--|--|
| <p>BIC PUBLISHERS LTD Bar Coding of Binders Packs ISBN 0-85386-900-6 KARLAW Printers PLC</p> | <p>Price: £8.95 Qty: 80 Pack Wt: 12.3 Kg</p> |
|  <p>(02)09780853869009 (37)0080 (90)12Q8.95GBP (10)0101</p> | |
| | |

ANNEX E (Informative) EXAMPLE OF A LABEL TO CONFORM TO LABEL FORMAT 4A

| | |
|---|--|
| <p>BIC PUBLISHERS LTD Bar Coding of Binders Packs ISBN 0-85386-900-6 KARLAW Printers PLC</p> | <p>Price: £8.95 Qty: 80 Pack Wt: 12.3 Kg</p> |
|  <p>(02)09780853869009 (37)0080 (90)12Q8.95GBP</p> | |
|  <p>(400)28/123456</p> | |