EUROPEAN COMMITTEE FOR BANKING STANDARDS

INTERNATIONAL PAYMENT INSTRUCTION (IPI) STANDARD

EBS206 V3.1 – February 2003

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Comments or enquiries on the document may be addressed to the Secretary General at the above address.

Contents

1. Introduction

This ECBS standard provides a paper form for credit transfer instructions to be combined with cross-border invoices in order to facilitate automated cross-border credit transfers through the:

- compulsory pre-printing of credit-side information by the beneficiary,
- use of the International Bank Account Number (IBAN) as the standard for the beneficiary's account number,
- scanning capabilities of the document.

The International Payment Instruction (IPI) is pre-personalised by the beneficiary who sends it to the ordering customer together with or referring to an invoice.

The ordering customer completes information concerning the debit-side of the payment. The ordering customer will then use the IPI, or the information on the IPI, to request their bank to effect the credit transfer.

2. Scope

This standard describes a payment form, which refers to an invoice.

This standard allows amounts up to 999.999,99 to be paid using an IPI.

Reporting procedures are considered as outside the scope of this standard.

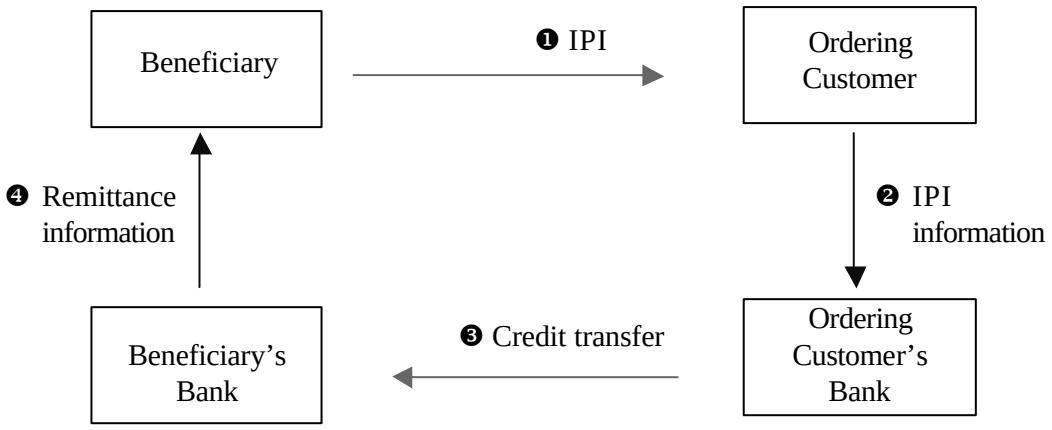
The form described in this standard is designed for making cross border payments between bank accounts held in ECBS member countries.

Although it should be emphasised that this standard complies with the current EBS specifications [EBS 200 and 207] concerning a ECBS standard credit transfer, inter bank cross-border credit transfer processing connected with this form is outside the scope of this standard.

This standard takes into account the current state of the art in terms of scanning and intelligent recognition technologies.

A counterfoil for retention by the ordering customer may be provided as an integral part of the invoice, however the counterfoil is considered to be outside the scope of this standard.

The flows associated with the International Payment Instruction (IPI) are illustrated in the diagram below. It describes the logical flows of information, but not their method of communication. The numbering shows the sequence of the flows.



3. Normative References

ISO 3166	Codes for the representation of countries
ISO 4217	Currency codes
EBS 204	IBAN; International Bank Account Number
EBS 200	European Banking Standard and Implementation Guide For Credit Transfers
EBS 207	European Cross Border Credit Transfer; Basic Level
ISO 9362	BIC
ISO 7064	Check digit algorithm
ISO 1073-2	Character set OCR-B. Shapes and dimensions of the printed image.
ISO/IEC FCD 15438	Bar Coding
SIG 203	IBAN Standard Implementation Guidelines
SIG 208	Standard Implementation Guideline for the IPI
TR 202	Technical Report, Country Specific Requirements and Specifications for the IPI

4. Definitions

Bank	This is a synonym for the ECBS term Financial Institution.
BIC	ISO bank identifier code
Beneficiary	The party to be credited as a result of a transfer.
Account Number	Bank and account identifier(s) of the account to be credited or debited.
Data elements	The items of variable information printed by the beneficiary or supplied by the ordering customer
Data element descriptions	The text that describes each data element on the IPI form
DPI	Dots per inch
IBAN	International Bank Account Number
Ordering customer	The initiator of a funds transfer instruction. The term Ordering Customer is used as a synonym for the ECBS term Originator

PDF417	Two-dimensional bar code: Portable Data File 417

5. Physical Characteristics

5.1 Size of cut sheet

The dimensions of the form shall be as follows:

1. Width 210 mm (A4)
2.1 Height / Length: 99 mm (1/3 A4)
2.2 Height / Length 101,6 mm (4 inch) permitted if produced on endless paper rolls.
The additional 2,6 mm white space must be positioned at the top of the form.

The cut sheet shall be within 1 mm of the specified dimensions (see Annex D).

5.2 Paper specification

Un-recycled, white, non-reflecting 90g/m^2 paper shall be used that is suitable for Intelligent Character Recognition [ICR] scanning machines.

5.3 Perforations, attachment to other forms, and fold lines

Any longitudinal or lateral perforation along the edge of the form (e.g. where the IPI is an integrated part of an invoice) shall be performed as micro perforations or as cut perforations of 2 - 4 mm in length with 1 mm between cuts. The body of the IPI shall not contain perforations, holes or any other incisions.

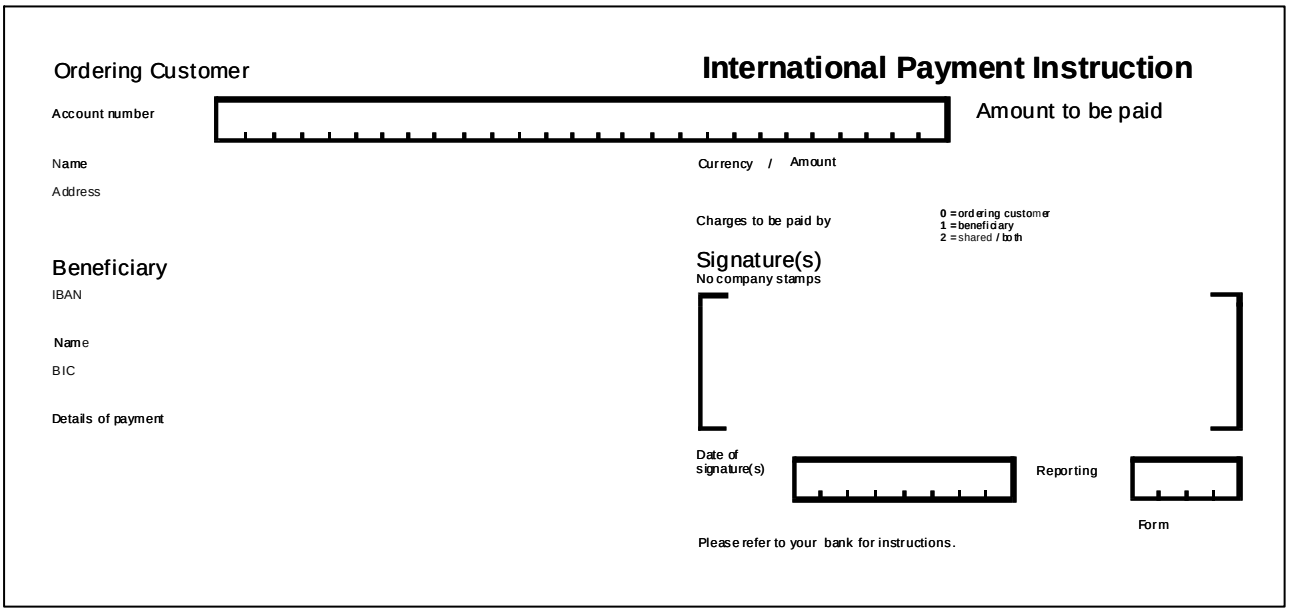
The IPI shall not be folded. Any folds that may be necessary for despatch of the IPI form, (e.g. where IPI is an integrated part of an invoice), shall be arranged outside the IPI dimensions.

6. Layout of the IPI

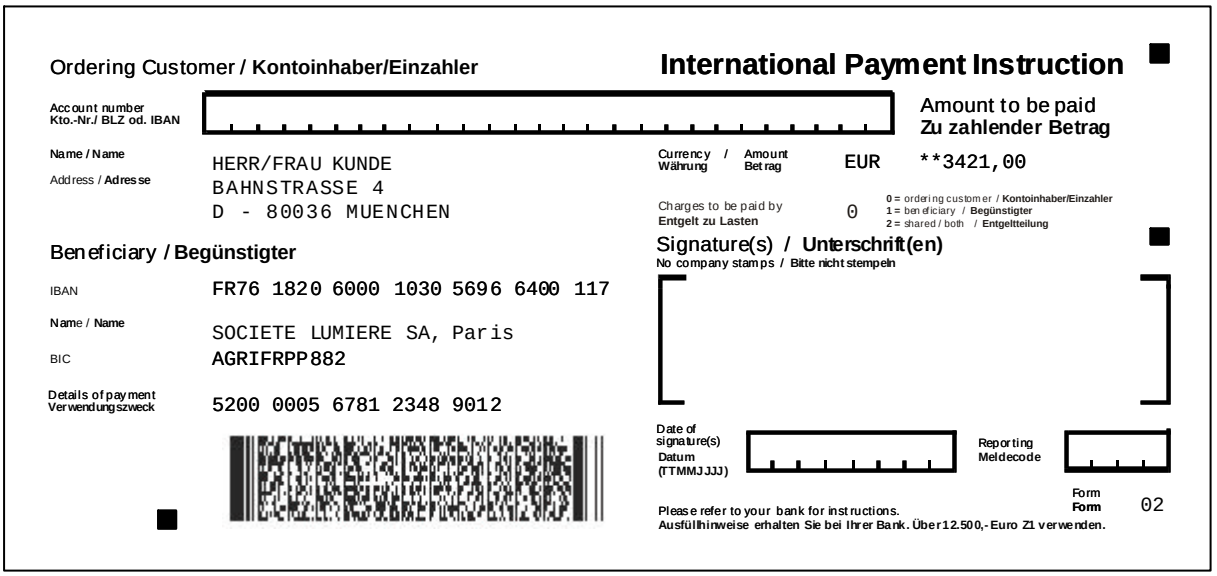
6.1 Sample forms

The examples show the IPI in its various stages of completion. However, the examples are for illustrative purposes only; for full details of the options, ink colours and dimensions see section 7 and Annex D.

Example 1: Blank form prior to the printing of the IPI information by the beneficiary.



Example 2: The same form, as it would appear after printing by the beneficiary in the scenario where a French company has supplied goods to a German customer.



Example 3: The same form after completion by the ordering customer.

6.2 General Rules

6.2.1 Printed information

The IPI shall contain all text, lines, and marks specified in section 6.3 and illustrated in section 6.1. The IPI shall contain only the specified information, all of which shall appear on the front of the form. Some examples of forbidden marks, information, etc. are given below:

1. No details may be indicated on the form by embossing or perforation.
2. Inside the read zones for the data elements, there must be no ink spots, splatters or other dirt.
3. There must be no advertising on the IPI.
4. There must be no logos on the IPI.
5. The form must be protected against damage and dirt to ensure that the form can be captured electronically by ICR.
6. Clear areas and read zones are to be kept free of further imprints, printings or stamps not applied in the permitted inks.
7. Reading, processing and checking of the international payment instruction must not be impaired by embellishments, vignettes, guilloches and other representations.

The reverse side of the form shall be blank and cannot be used to print notes, explanations etc.

6.2.2 Fonts and character sets

Data elements printed by the beneficiary shall be printed as follows:-

1. The font shall be non-proportional OCR-B as per ISO 1073-2 or Courier New.
2. The character pitch shall be 10 point so that capitals will be a maximum of 2,5 mm high and characters will be printed 12 characters per inch.
3. Characters shall be left justified, upper case, non-italic, and unemboldened.
4. Only the characters specified in Annex A are permitted, national symbols and accents are forbidden e.g. é Å ö.
5. There will be 2 mm of white space above and below each line of text. When data elements are printed on successive lines, there shall be 2 mm of white space between lines. There will be 3 mm of white space at the start and end [left and right] of each data element line.

All other text shall be printed as follows:

A. The font shall be non-italicised Arial or Helvetica.

B. The size of the different types of text specified in section 6.3 will be as follows:-
   - form title [i.e. the text ”International Payment Instruction”]: 14 point so that capitals will be a maximum of 3,5 mm high,
   - ”zone” headings [i.e. the texts ”Ordering Customer”, ”Beneficiary”, ”Amount to be Paid”, ”Signature(s)”] : 10 point so that capitals will be a maximum of 2,5 mm high,
   - charging options [i.e. the texts ”0 = ordering customer”, ”1 = beneficiary”, ”2 = shared”] : 5 point so that capitals will be a maximum of 1,2 mm high,

- all other text [i.e. data element descriptions and the explanatory text "Please refer to your bank for instructions"] : 6 point so that capitals will be a maximum of 1,75 mm high.

C. If data element descriptions and labels are printed only in English, the text should be emboldened. If they are printed in English and with a national translation, the national translation should be emboldened and the English text should be unemboldened.

6.3 Data Elements

The IPI will contain the English data element descriptions specified in Section 6.1. Data elements will be printed as described in the sections below and must be printed in the exact positions on the form specified in Annex D subject to the tolerances specified in section 7. The data elements are described below, grouped as they appear on the IPI. Details of the data elements are summarised in Annex C.

6.3.1 Ordering Customer

6.3.1.1 Account Number

This data element specifies the bank account that the ordering customer requires his / her bank to debit in making the credit transfer. It is recommended that the beneficiary will print a blank box for hand-written completion by the ordering customer. However, with the ordering customer's agreement, the beneficiary may print the account number, in which case no box should be printed. There are various options for the way in which the box may be printed which are specified in section 7.The ordering customer's account number will be alphanumeric and may be up to 27 characters in length.

6.3.1.2 Name and Address

These data elements may by supplied in one of two ways:

1. Printed by the beneficiary
2. Supplied by the ordering customer.

If the beneficiary chooses to print the information, which is the recommended method, a box shall not be printed.

If the information is to be supplied by the ordering customer, the beneficiary shall print a blank box with horizontal lines for handwritten completion by the ordering customer. There are various options for the way in which this box for the name and the address of ordering customer may be printed, which are specified in section 7.

The name of the ordering customer will be alphanumeric, and may be up to 35 characters in length, for example "HERR/FRAU KUNDE".

The address of the ordering customer will consist of two lines of 35 alphanumeric characters, i.e.

1. The first line will be the street, for example "BAHNSTRASSE 4", or the post office box number "PO BOX 1234".
2. The second line will be for the City, Country and the postal or zipcode, for example "D-80036 MUENCHEN, GERMANY

6.3.2 Beneficiary

6.3.2.1 IBAN

This is the account to which payment shall be made. It will be printed by the beneficiary, may be up to 28 characters in length, and will be an IBAN conforming to EBS, for example ”FR76 1820 6000 1030 5696 6400 117”.

6.3.2.2 Name

This information allows the beneficiary’s bank to check that the beneficiary’s account number and name match in order to meet national and international (money laundering) regulations. It will be printed by the beneficiary, will be alphanumeric, and may be up to 35 characters in length, for example ”SOCIETE LUMIERE SA, PARIS”.

6.3.2.3 BIC

The beneficiary will print the BIC of the bank where the account is held. The BIC conforms to ISO 9362 and may be in either the 11- or 8-character format, for example “AGRIFRPP882”.

6.3.2.4 Details of Payment

This data enables the beneficiary to identify and reconcile the credit transfer upon receipt. It is an optional field for the beneficiary to print. The ordering customer is forbidden to complete it. If printed, it will be in one of the following formats i.e.

1. Structured

   It will be a fixed length field of 20 alphanumeric characters, made up of 2 check digits followed by 18 characters of remittance information, and will be printed in the following format 4ane4ane4ane4ane4an, for example ”5200 0005 6781 2348 9012”. The check digit algorithm to be used will be the same as that used to secure the IBAN and will conform to ISO 7064 and is described in Annex B.

2. Unstructured, free format text:

   The remittance information will be alphanumeric and may be up to 35 characters in length.

The recommended format is structured numeric because this will produce the best scanning results.

It should be noted that some payment systems in some countries are only able to carry a limited number of characters of remittance information to the beneficiary’s bank. Therefore beneficiaries should limit the length of remittance information to the number of characters that can be carried by their national payment systems.

The form code should be set according to whether the information is printed in the structured or unstructured form as specified in section 7.

6.3.3 Amount to be paid

6.3.3.1 Currency and Amount

The currency and amount may be supplied in one of two ways i.e.

1. Printed by the beneficiary
2. Supplied by the ordering customer

If the beneficiary chooses to print the information, which is the recommended method, both fields shall be printed and boxes shall not be printed. If the information is to be supplied by the ordering customer, the beneficiary shall print blank boxes for hand written completion by the ordering customer. Where a blank amount box is printed then a comma will be printed to delimit the two positions for "cents".

There are various options for the way in which the currency and amount boxes may be printed, which are specified in section 7.

The currency of the payment will be one of the 3 character ISO 4217 currency codes, for example "EUR".

The amount that the beneficiary has requested to be transferred may be up to 8 digits in length. It will be right justified and numeric. If the amount is printed by the beneficiary the following will apply:

1. Full stops to denote the "thousands" should not be printed.
2. If there are no fractions of the currency unit, zeros should be printed.
3. Where the amount is less than 8 digits, empty print positions to the left of the amount will be printed as asterisks.

The following example illustrates these rules:

```
* * 3 4 2 1 , 0 0
```

6.3.3.2 Charges to be paid by

This field defines which parties will pay the charges. The beneficiary should agree who will pay the charges as part of the contract with the ordering customer. It may be printed by the beneficiary or completed by the ordering customer and will be a one digit numeric field with only one of the following values:-

0 = ordering customer
1 = beneficiary
2 = shared

The above text will be printed by the beneficiary to the right of the field and the data element description will be printed on the left.

6.3.4 Signature

6.3.4.1 Signature(s)

The ordering customer may be required to sign the IPI before presenting it to his / her bank for payment. The signature will not be part of the cross border payment order, but it may be required by the ordering customer's bank for archiving, verification and authorisation purposes. The beneficiary will print lines to delimit the area for the signature as specified in Annex D.

6.3.4.2 Date of Signature(s)

The beneficiary will print a blank box for hand-written completion by the ordering customer according to national rules. There are options for the way in which the blank box may be printed which are specified in section 7, but in all cases, the beneficiary is forbidden to print the date itself. The data element will be 8 numeric digits.

6.3.4.3 Form

This code identifies the standards version to which the IPI conforms, the printing option used, and the remittance information format. The various values are specified in section 7. The code will be printed by the beneficiary and will be a 2 digit numeric field. It should be noted that codes containing alpha characters will be reserved for domestic use.

6.3.4.4 Reporting

The information is required to allow automated regulatory reporting by the ordering customer's bank to the relevant authorities. The beneficiary will print a blank box for hand-written completion by the ordering customer according to national rules. There are options for the way in which the blank box may be printed which are specified in section 7, but in all cases, the beneficiary is forbidden to print the code itself. The code will be numeric and may be up to 4 digits in length.

6.4 Headings and explanatory text

Various pieces of additional text must be printed on every IPI in the position specified in Annex D subject to the tolerances specified in section 7 i.e.

1. The title, which must be printed on the top right of the form, will be "International Payment Instruction".
2. Related data elements will be grouped together into four "zones", each of which has a title, i.e. "Beneficiary", "Ordering Customer", "Amount to be Paid", and "Signature(s)". It should be noted that the "Amount to be paid" title text is included to inform the bank of the ordering customer that the form is an instruction.
3. The explanatory text "Please refer to your bank for instructions".

6.5 Text Translations

The basic language of the form will be English. To make the form more understandable for the ordering customer, the beneficiary may print (and in some cases is obliged to print) all text, except the form title, in another language in addition to English. If so, one of the approved translations given in the ECBS publication National Specifications for the International Payment Instruction, document TR202, must be used. All of the approved translations will fit the available space. The text must be printed in the positions specified in Annex D subject to the tolerances specified in section 7. It should be noted that some translations are printed to the side of the English text and some underneath as shown in Annex D.1.

6.6 Registration Marks

Registration marks to enable optical scanners to determine the orientation of the form will be printed in three places on the form as specified in Annex D subject to the tolerances specified in section 7.

6.7 Bar Code

The IPI should include a bar code following the PDF417 specifications (ISO/IEC FCD 15438). Position, layout and content of the bar code is detailed in Annex D and E.

7. Printing options

The IPI is designed to be printed by printing companies capable of printing documents suitable for image capture. The standard also permits the printing of the form on laser printers enabling beneficiaries to produce the form entirely "in-house".

7.1 Rules applicable to all options

7.1.1 Printed information

The following will apply for all methods of printing:

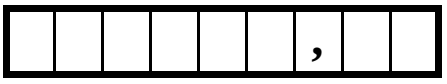
1. There will be no background colour printed. The form will consist of the required text, boxes, marks etc. on a white background.
2. All marks and boxes shall be printed in the same positions, as specified in Annex D, irrespective of the method used to print the IPI.
3. All text, marks and boxes on the IPI shall be printed within 1 mm of the position specified in Annex D. The relationship between the printed data elements and the registration marks is critical for scanning machines. Therefore there will be zero tolerance between the registration marks and data elements if the form is printed as a single operation on a laser printer and a 1 mm tolerance if the form is printed by a printing company with the beneficiary subsequently printing the data elements. It is optional to print the national translation of the data element labels in black or in blind colour.
4. The account number of the ordering customer, the amount and currency fields may be pre-printed by the beneficiary or hand written by the ordering customer. Where the beneficiary chooses to pre-print the data, the delimiting boxes should not be printed, where these fields are left blank for ordering customer completion, the delimiting boxes shall be printed. The currency and amount shall both be pre-printed or hand-written. It shall not be permitted to pre-print the amount but not the currency or vice versa.
5. Where a blank amount box is printed then a comma will be printed to delimit the two positions for "cents".
6. Data elements must be printed in the centre of their respective print areas as specified in Annex D.
7. All lines shall be continuous, lines constructed from a number of dashes [e.g. -----] are not permitted.

7.1.2 Printers

Dot matrix and ink jet printers shall not be used to print the IPI.
Printers must be capable of printing to within 7 mm of the edge of the form.
It is recommended that laser printers used to print the data elements use a resolution of 600 x 600 dpi.

However, host laser printers are allowed to use a minimum resolution of 200 x 200 dpi.

7.2 Printing company "blind colour" option



Ordering customer's name and address box and the signature box will be printed without any character delimiter. All other boxes for hand written information will be printed with character delimiters indicated by vertical lines as specified in Annex D. An example showing the amount field, which is not drawn to scale, is shown.

Apart from the data elements and the registration marks, all printing (see Section 6.1) shall be in "blind colour" ink that conforms to the following requirements:

1. The spectral range shall be 580 to 820 nanometers.
2. The colour shall be red Warm Red Pantone or an equivalent e.g. HKS 12 E.
3. The Print Contrast Signal (PCS) shall be less than 0,1.

The registration marks specified in section 6.6 and the data elements specified in section 6.3 shall be printed in non reflecting black ink suitable for scanning with a PCS of more than 0,6. The national translation of the data element lables shall be printed in "blind colour" ink as discribed above, or non reflecting black ink.

The form code values to be used with this option will be as follows: -
"00" : denotes that the remittance information is in the structured form;
"01" : denotes that the remittance information is unstructured free text.

7.3 Laser produced "black" option

Ordering customer's name and address box and the signature box will be printed without any character delimiters. All other boxes for hand written information will be printed with character delimiters indicated by small vertical lines as specified in Annex D. An example showing the amount field, which is not drawn to scale, is shown.

All printing will be in non-reflecting black ink suitable for scanning with a PCS of more than 0,6.

The form code values to be used with this option will be as follows: -
"02" : denotes that the remittance information is in the structured form;
"03" : denotes that the remittance information is unstructured free text.

8. Operational Rules

To ensure all forms fully conform to the standard, companies that plan to use the IPI to collect payments from customers in other countries shall work with and gain the approval of their bank or another authorised organisation for their design of the IPI before starting to use it.

Printing companies that produce the IPI on behalf of beneficiaries shall comply with this standard.

Implementation issues concerning the IPI are covered in the Standard Implementation Guidelines; ECBS publication SIG 208. Details of country specific information are described in ECBS publication TR202.

Annex A: Data Element Character set

Data elements shall only contain the following characters:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

0 1 2 3 4 5 6 7 8 9

/ - ? : ( ) . , ' +

space

It will not be permitted to print these characters in lower case or to use national characters, e.g. Å.

It should be noted when the Amount is pre-printed by the beneficiary, leading empty print positions will be printed as asterisks [see section 6.3.3.1]. These asterisks are printed on the IPI as filler characters, they should not be considered as part of the data element.

Annex B: Calculation and verification of structured "details of payment"

B.1 The format

B.1.1. The electronic format

The element "details of payment" consists of 20 alphanumeric characters (fixed length) containing the following consecutive components:

a) check digits: 2 digits calculated as specified in B.2 below;
b) information for beneficiary: 18 alphanumeric characters.

B.1.2. The paper format

In the paper representation of the element "details of payment" the information shall be split up into 5 groups of 4 numeric digits separated by a space.

B.1.3. Examples

	Structure
Information for beneficiary (variable length)	567812F48K012
Information for beneficiary (fixed length)	00000567812F48K012
Electronic "details of payment"	5400000567812F48K012
Paper "details of payment"	5400 0005 6781 2F48 K012

B.2 Calculation of the check digit

B.2.1. Preliminary step

Add leading zeros if the "information for beneficiary" is less than the 18 digits. Information for beneficiary 567812F48K012 becomes 00000567812F48K012. Create an artificial "details of payment" composed of "00" and the information for beneficiary (fixed length).

"Details of payment" 00000567812F48K012 becomes 0000000567812F48K012

B.2.2. Step 1

Move the first 2 digits of the "details of payment" to the right of the number.
Result = 00000567812F48K01200

B.2.3. Step 2

Convert the letters into numeric in accordance with the conversion table under B.4

Result = 0000056781215482001200

B.2.4. Step 3

Apply MOD 97-10 (see ISO 7064)

Calculate the modulo 97 and subtract the reminder from 98. If the result is one digit, then insert a leading zero.

98 - 44 = 54 so details of payment = 5400000567812F48K012

B.3 Validation of the check digit

B.3.1. Preliminary step

If the "details of payment" is in paper format, convert to basic format by deleting all space separators. "Details of payment" 5400 0005 6781 2F48 K012 becomes 5400000567812F48K012

B.3.2. Step 1

Move first 2 digits to the right of the number.

Result = 00000567812F48K01254

B.3.3. Step 2

Convert the letters into numeric in accordance with the conversion table under B.4

Result = 0000056781215482001254

B.3.4. Step 3

Apply MOD 97-10 (see ISO 7064). For the check digits to be correct, the remainder after calculating the modulus 97 must be 1.

The remainder of the division of 0000056781215482001254 by 97 = 1

B.4 Alpha to numeric conversion table

A = 10	G = 16	M = 22	S = 28	Y = 34
B = 11	H = 17	N = 23	T = 29	Z = 35
C = 12	I = 18	O = 24	U = 30	
D = 13	J = 19	P = 25	V = 31	
E = 14	K = 20	Q = 26	W = 32	
F = 15	L = 21	R = 27	X = 33	

Note: Implementation note for modulo 97 calculations

For reasons of precision, the use of integers instead of floating point numbers is recommended. If the number is too long for the software implementation of integers (a (signed) integer of 32 bits or 64 bits represents a maximum of 9 or 18 digits), then the calculation can be split up into consecutive remainder calculations on integers with a maximum length of 9 or 18 digits.

1. Calculate the modulo 97 of the first 9 (or 18) digits of the number.

   modulo 97 of 000005678 = 52

2. Construct the next integer of 9 (or 18) digits from the remainder, followed by the next 7/8 (or 16/17) digits of the number. Calculate the modulo 97.

   modulo 97 of 521215482 = 47

3. Repeat step 2.

modulo 97 of 47001254 = 1

Annex C: Data element summary

Name	Length [Note 1]	Type [Note 2]	Printed by beneficiary [Note 3]	Supplied by ordering customer [Note 3, 4]
Ordering customer				
– Account Number	27	an	N	C
– Name	35	an	R	C
– Address - line 1	35	an	R	C
- line 2	35	an	R	C
– Reporting	4	n	F	P
Beneficiary				
– IBAN	28	4ane4ane...4an	M	
– Name	35	an	M	
– BIC			M	
– Option 1A : BIC code	11	6a5an		
– Option 1B : BIC code	8	6a2an		
– Details of payment				F
– Option 1 : structured format	20	4ane4ane4ane4ane4an	R	
– Option 2 : unstructured, free text	35	an	N	
Amount to be paid				
– Currency	3	a	R	C
– Amount	8	n	R	C
– Charges to be paid by	1	n	R	C
Signature				
– Signature	~	Image	F	P
– Date of Signature	8	n	F	P
– Form	2	n	M	

Notes

1. Specifies the maximum length, but underline denotes fixed length
2. a = alpha, n = numeric, an = alphanumeric, e = space, underline denotes fixed length.
3. M = mandatory, R = recommended, F = forbidden, N = not recommended, P = provided by the ordering customer, but may not be on the form itself according to national or bank specific rules, C = provided by the ordering customer when not printed by the beneficiary, ~ = not applicable.
4. National or banks specific rules will specify the way in which ordering customers will be permitted to supply information to their bank (e.g. on the IPI itself, on a separate form, electronically, etc.).

Annex D: Dimensions of the IPI

This annex provides precise measurements for all aspects of the IPI as follows:

D.1 IPI examples

D.1.1 with just the mandatory boxes

D.1.2 with account number box

D.1.3 with boxes for account number, and for currency and amount

D.1.4 with all boxes for hand written completion

D.2 Overall dimensions of the IPI

D.2.1 with all boxes

D.2.2 with just mandatory boxes

D.2.3 without currency and amount boxes, adjusted for production on endless paper rolls

D.3 Fields for hand-written completion

D.3.1 Amount

D.3.1.1 Box design [for blind colour printing]

D.3.1.2 Box design [for black laser printing]

D.3.2 Signature(s)

D.3.3 Name and Address of Ordering Customer,
Box design for all print options

D.4 Registration marks

D.5 Print and Read areas

D.5.1 Left side

D.5.1.1 Name and Address printed by the beneficiary

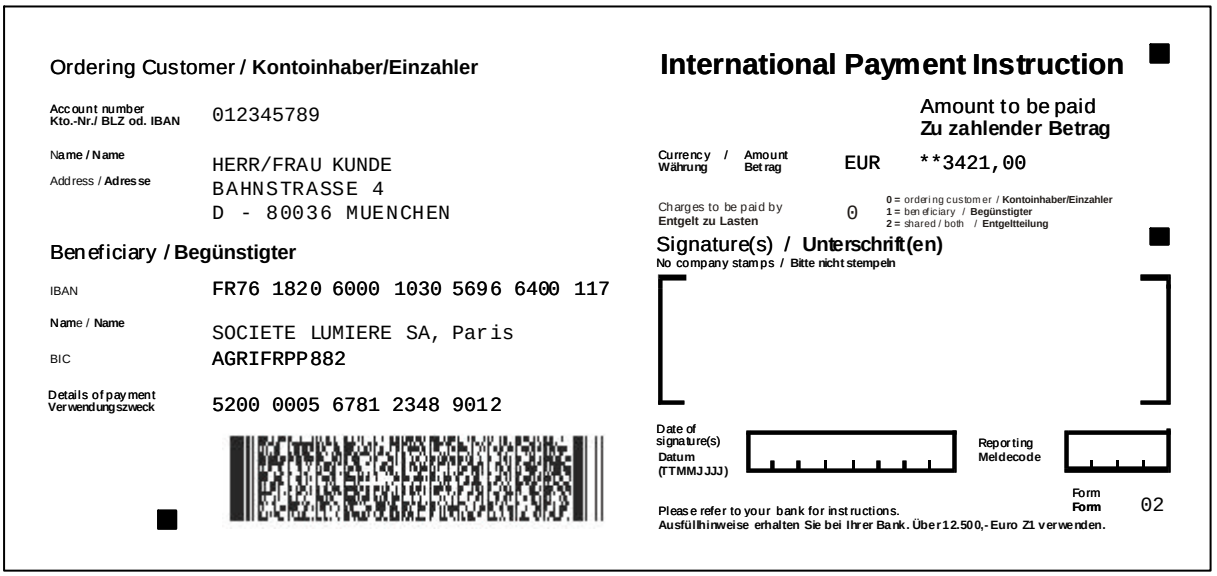
D.5.1.2 Name and Address completed by the ordering customer

D.5.2 Right side

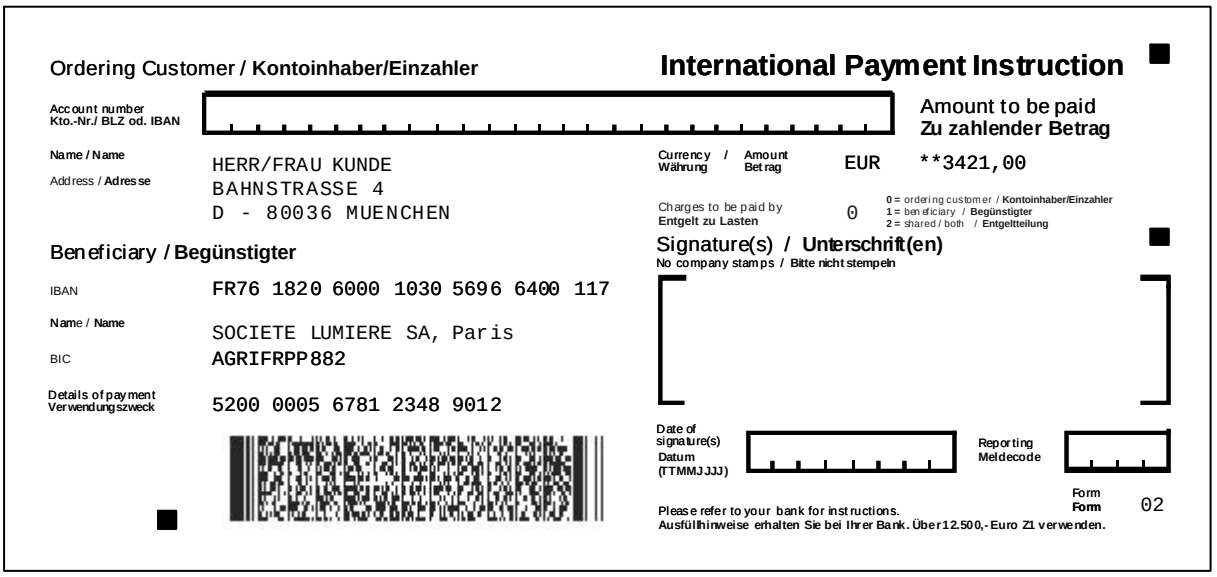
D.6 2D PDF 417 bar code

D.1 IPI examples

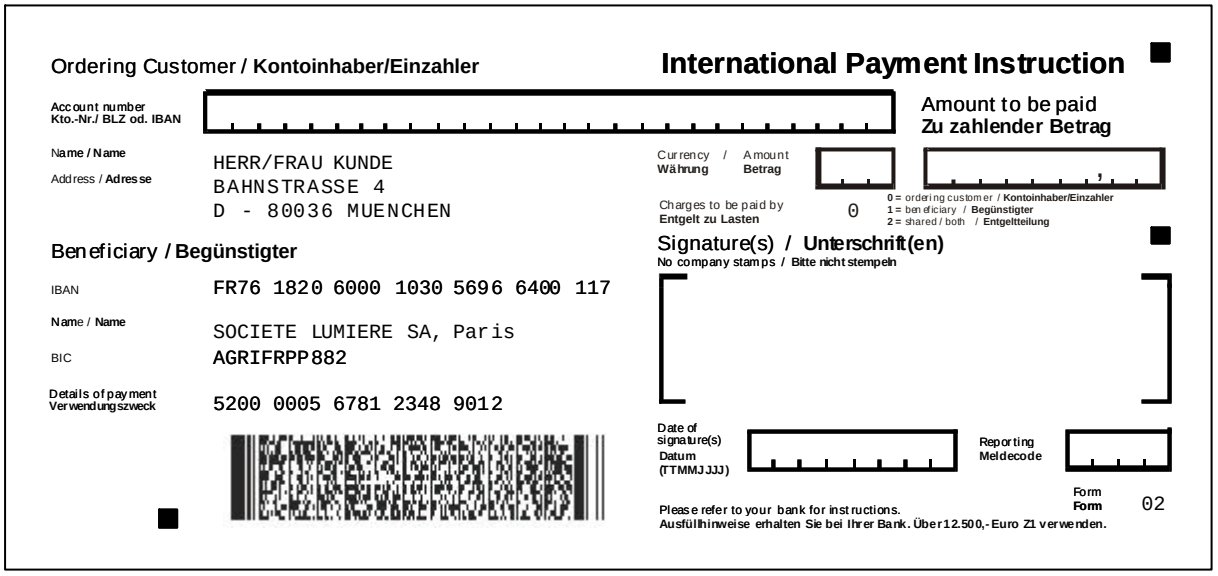
D.1.1 IPI example: with just the mandatory boxes



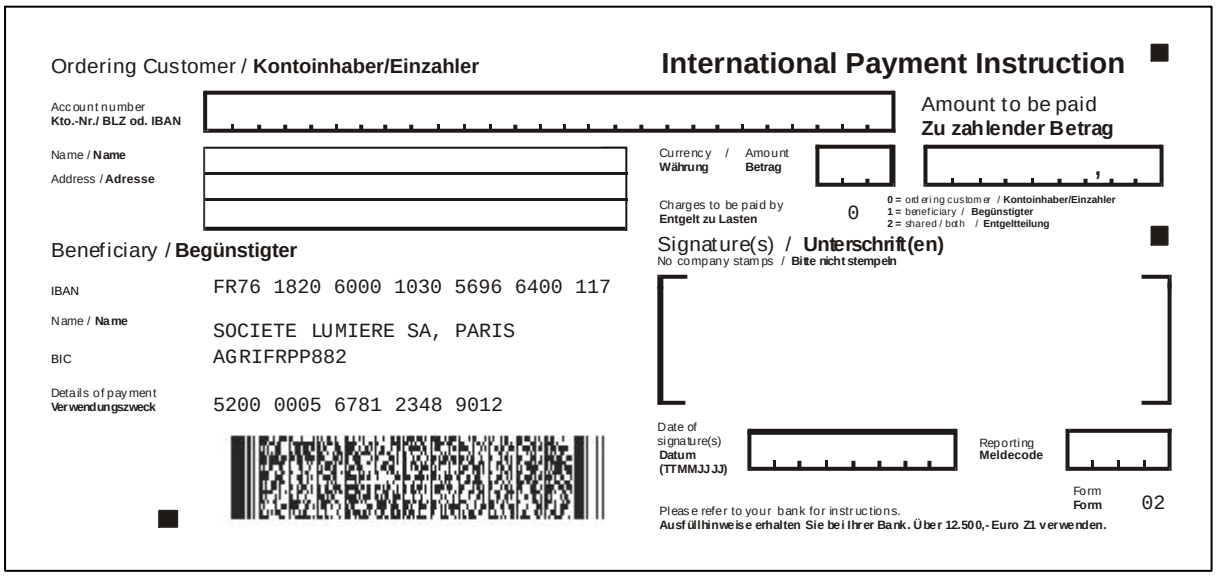
D.1.2 IPI example: with account number box



D.1.3 IPI example: with boxes for account number, and for currency and amount



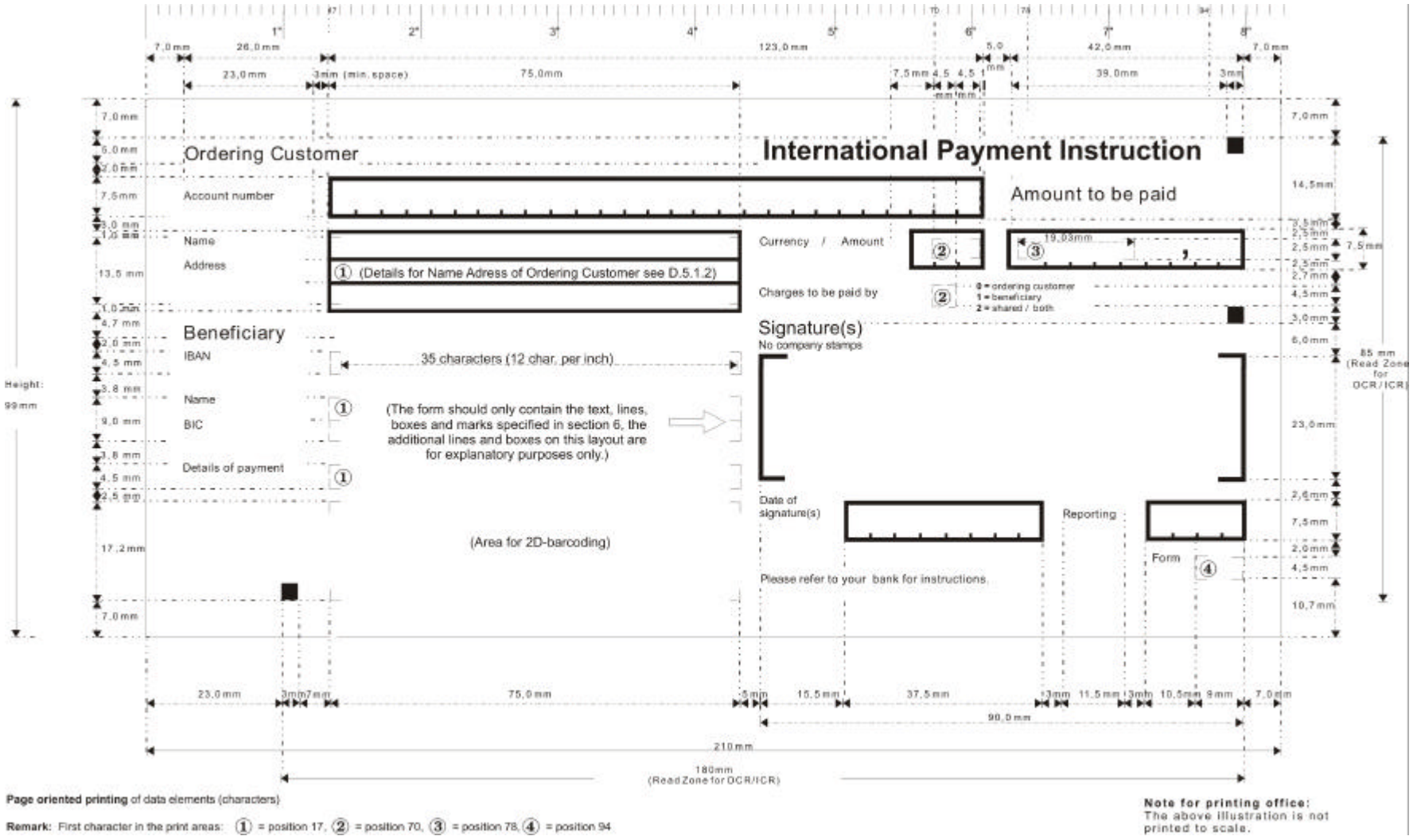
D.1.4 IPI example: with all boxes for hand written completion



D.2 Overall dimensions of the IPI

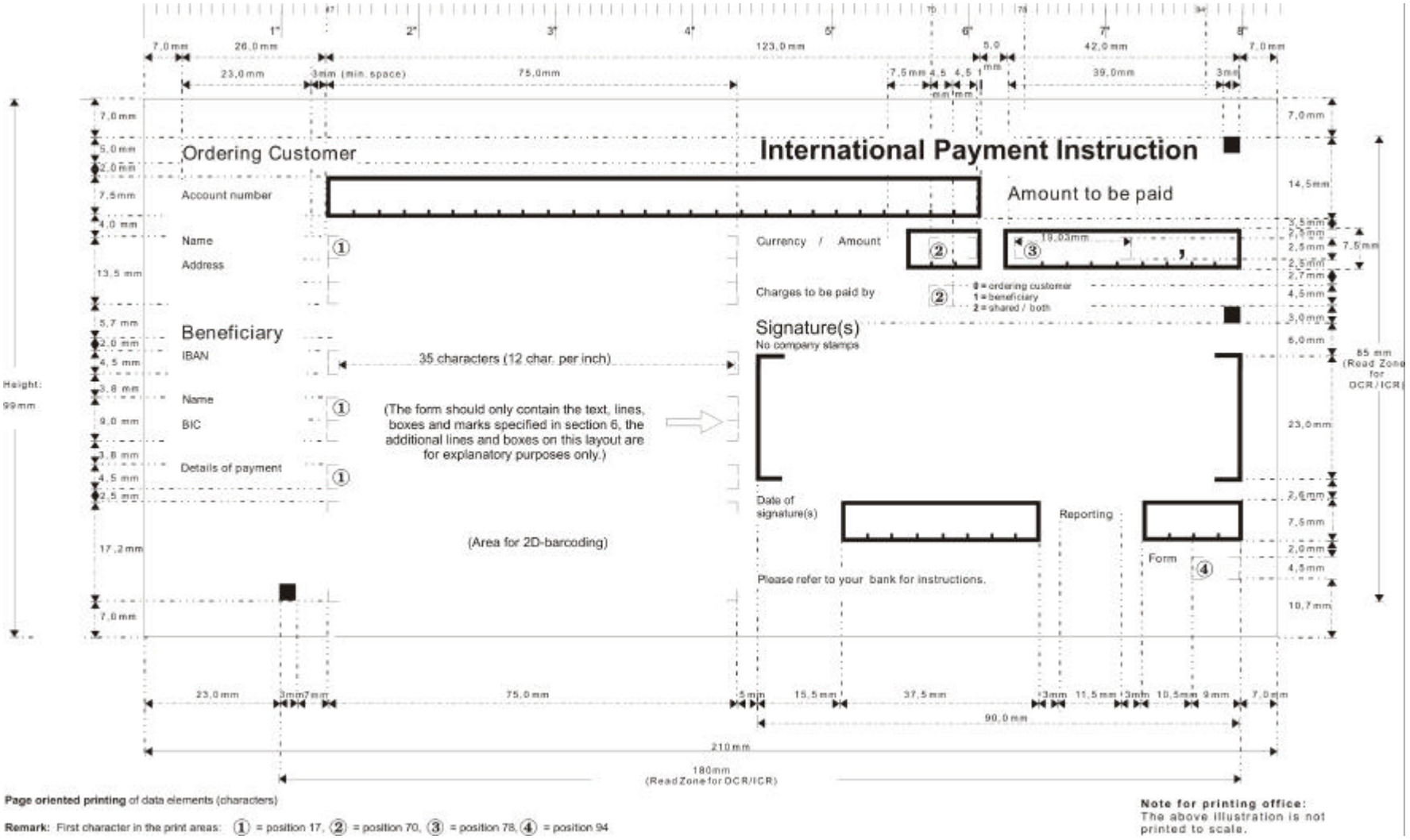
D.2.1 with all boxes

Note that the dimensions and positions for all print options are identical and there is a nominal 7 mm unprinted border around all sides of the IPI.


International Payment Instruction
Ordering Customer
Account number
Name
Address
① (Details for Name Adress of Ordering Customer see D.5.1.2)
Beneficiary
IBAN
35 characters (12 char. per inch)
Name
BIC
Details of payment
(The form should only contain the text, lines, boxes and marks specified in section 6, the additional lines and boxes on this layout are for explanatory purposes only.)
(Area for 2D-barcoding)
Amount to be paid
Currency / Amount
Charges to be paid by
0 = ordering customer
1 = beneficiary
2 = shared / both
Signature(s)
No company stamps
Date of signature(s)
Reporting
Form
Please refer to your bank for instructions.
Height: 99mm
85 mm (Read Zone for OCR/ICR)
210mm
180mm (Read Zone for OCR/ICR)
Page oriented printing of data elements (characters)
Remark: First character in the print areas: ① = position 17, ② = position 70, ③ = position 78, ④ = position 94
Note for printing office:
The above illustration is not printed to scale.

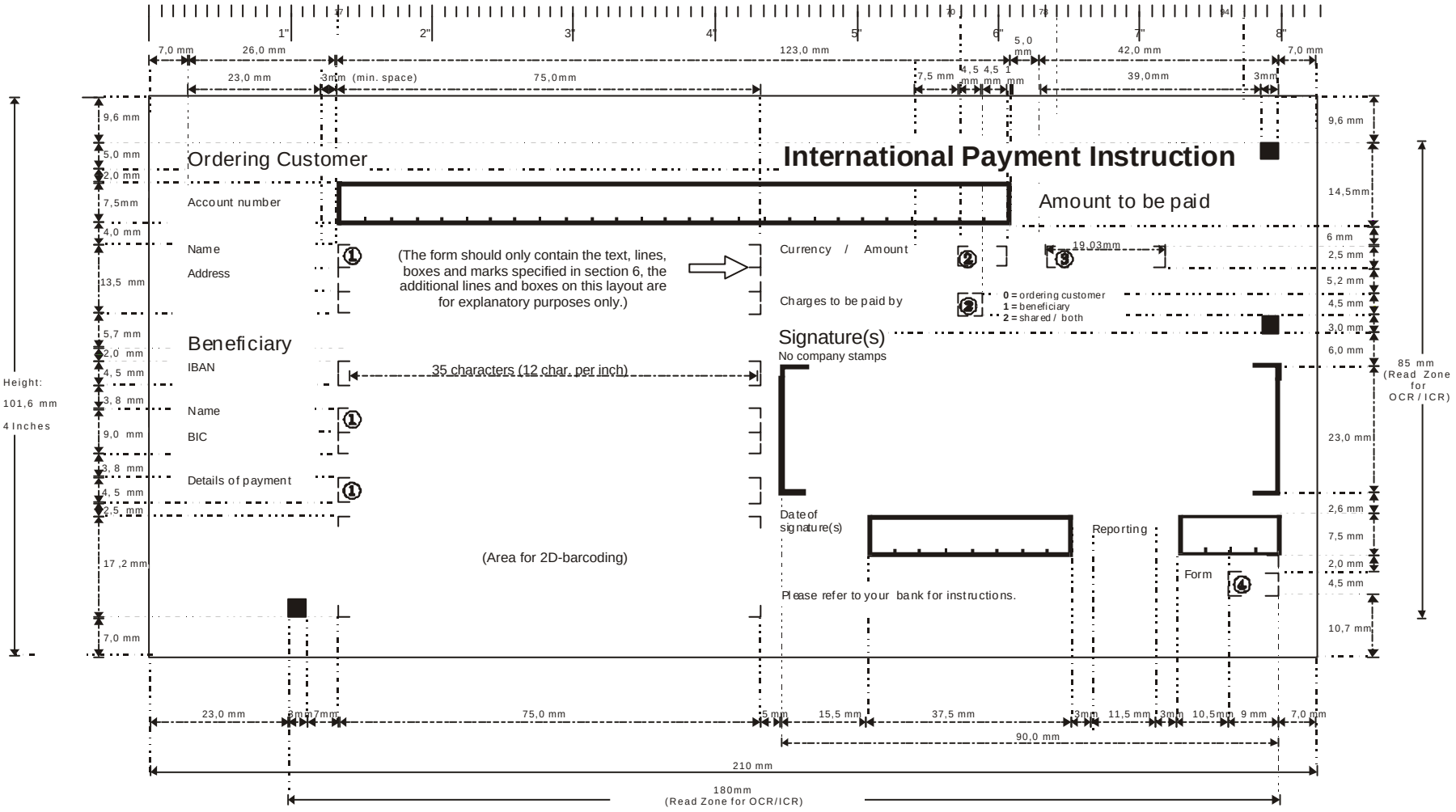
D.2.2 with boxes for account number, and for currency and amount

Note that the dimensions and positions for all print options are identical and there is a nominal 7 mm unprinted border around all sides of the IPI.



D.2.3 without currency and amount boxes, adjusted for production on endless paper rolls

Note that the dimensions and positions for all print options are identical and there is a nominal 7 mm unprinted border around all sides of the IPI.



Page oriented printing of data elements (characters)

Remark: First character in the print areas: ① = position 17, ② = position 70, ③ = position 78, ④ = position 94

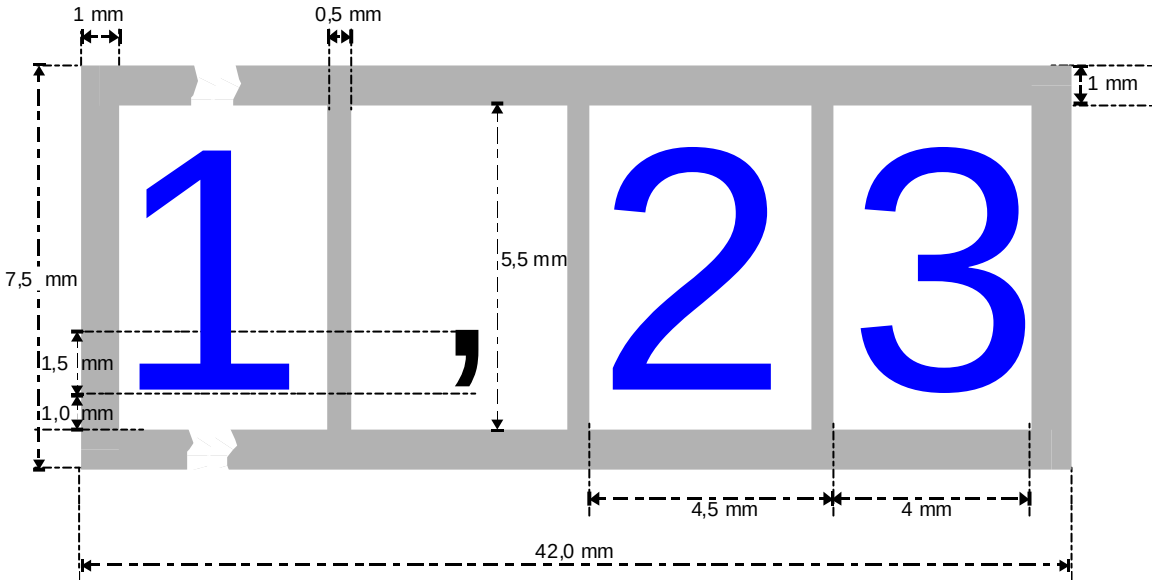
Noteforprintingoffice: The above illustration is not printed to scale.

D.3 Fields for hand-written completion

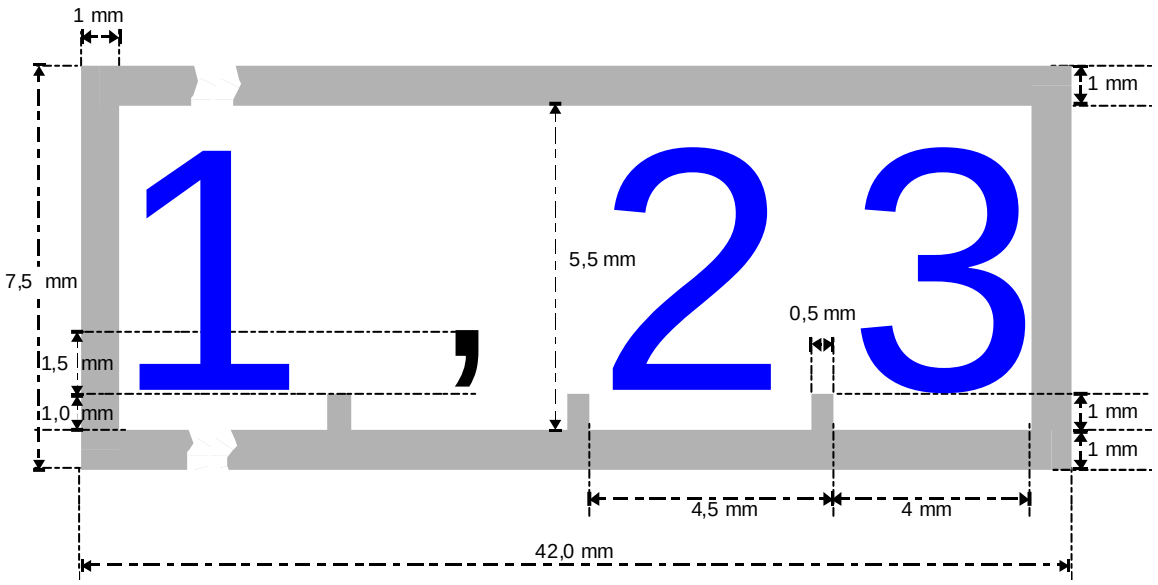
D.3.1 "Amount"

The designs below show the Amount field. However, the same box design will also be used for Account Number, Currency, Reporting and Date of Signature, although these data elements are of different lengths.

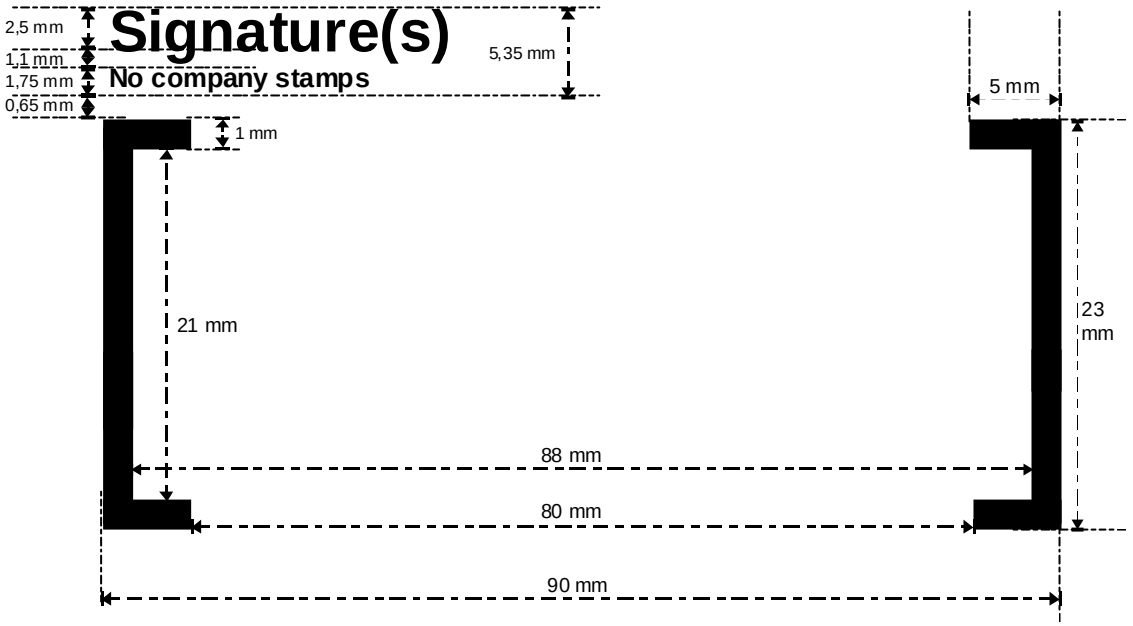
D.3.1.1 Box design (for blind colour printing)



D.3.1.2 Box design (for black laser printing)

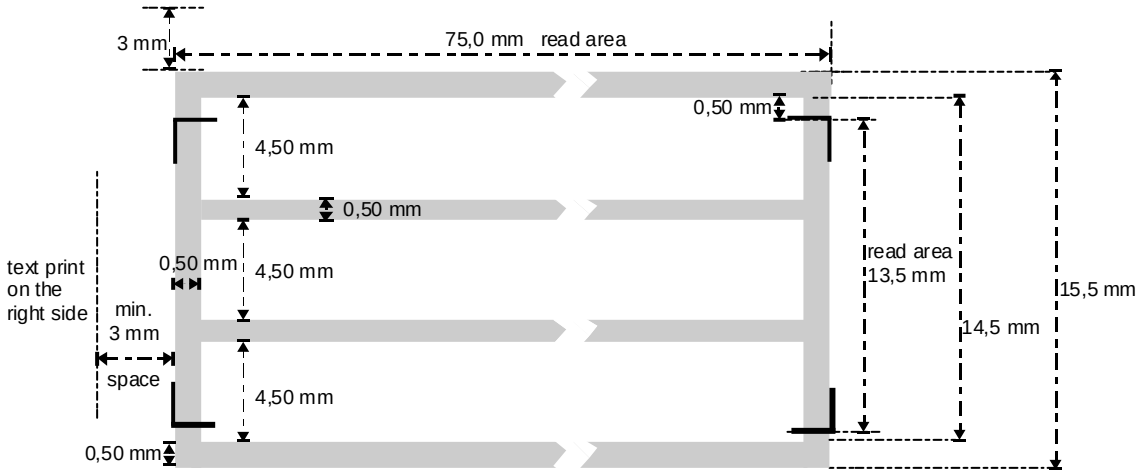


D.3.2 "Signature(s)"



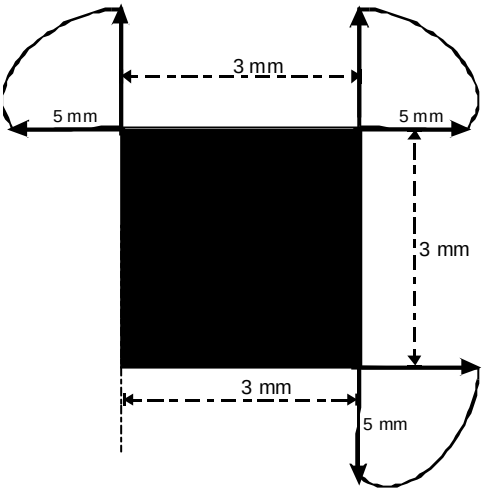
D.3.3 Name and Address of Ordering Customer, Box design for all print options

(see D.5.1.2)



D.4 Registration marks

The three registration marks are square black boxes. It is recommended that the registration marks are printed at the same time as the data elements. There must be a minimum of 5,0 mm unprinted space around all edges of the three marks. The dimensions for all three marks will be identical.

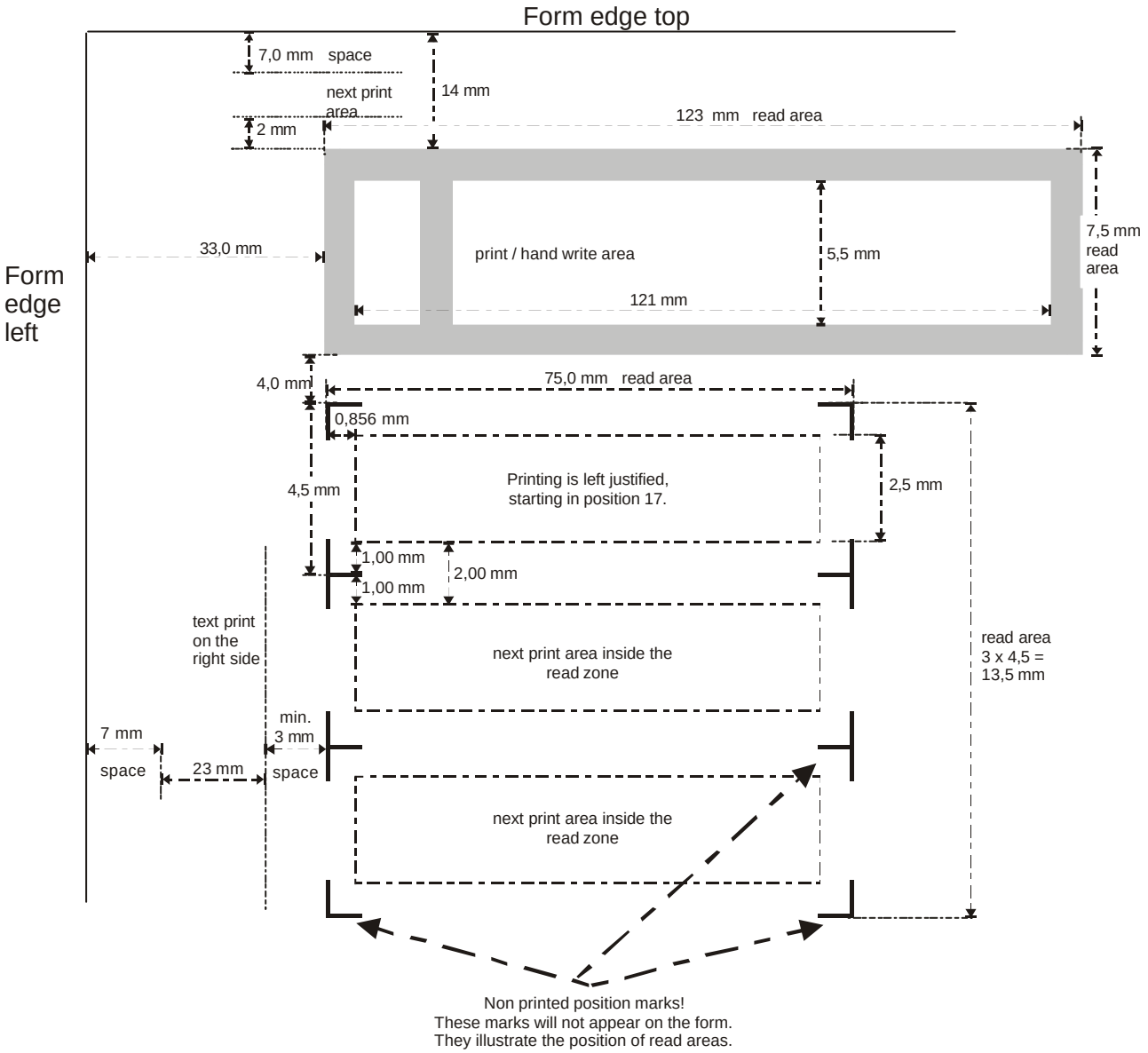


D.5 Print and read areas

D.5.1 Left side

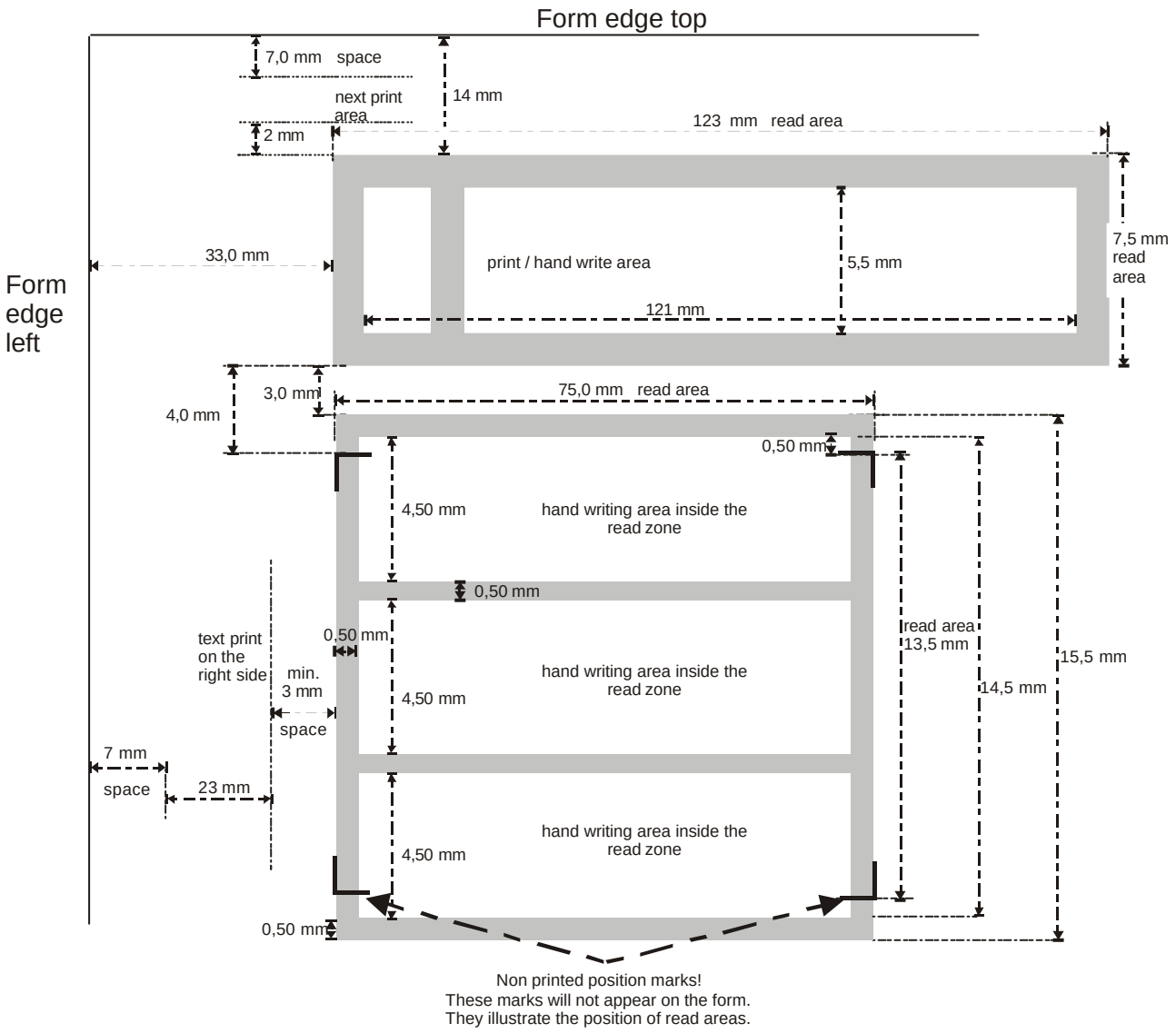
This diagram provides more details about the various "print areas" and ”read areas” on the left side of the form. See the diagram in D.2 for details of the position of this information on the overall form. Note that each „print area“ will be in the centre of each „read area“.

D.5.1.1 Name and Address printed by the beneficiary



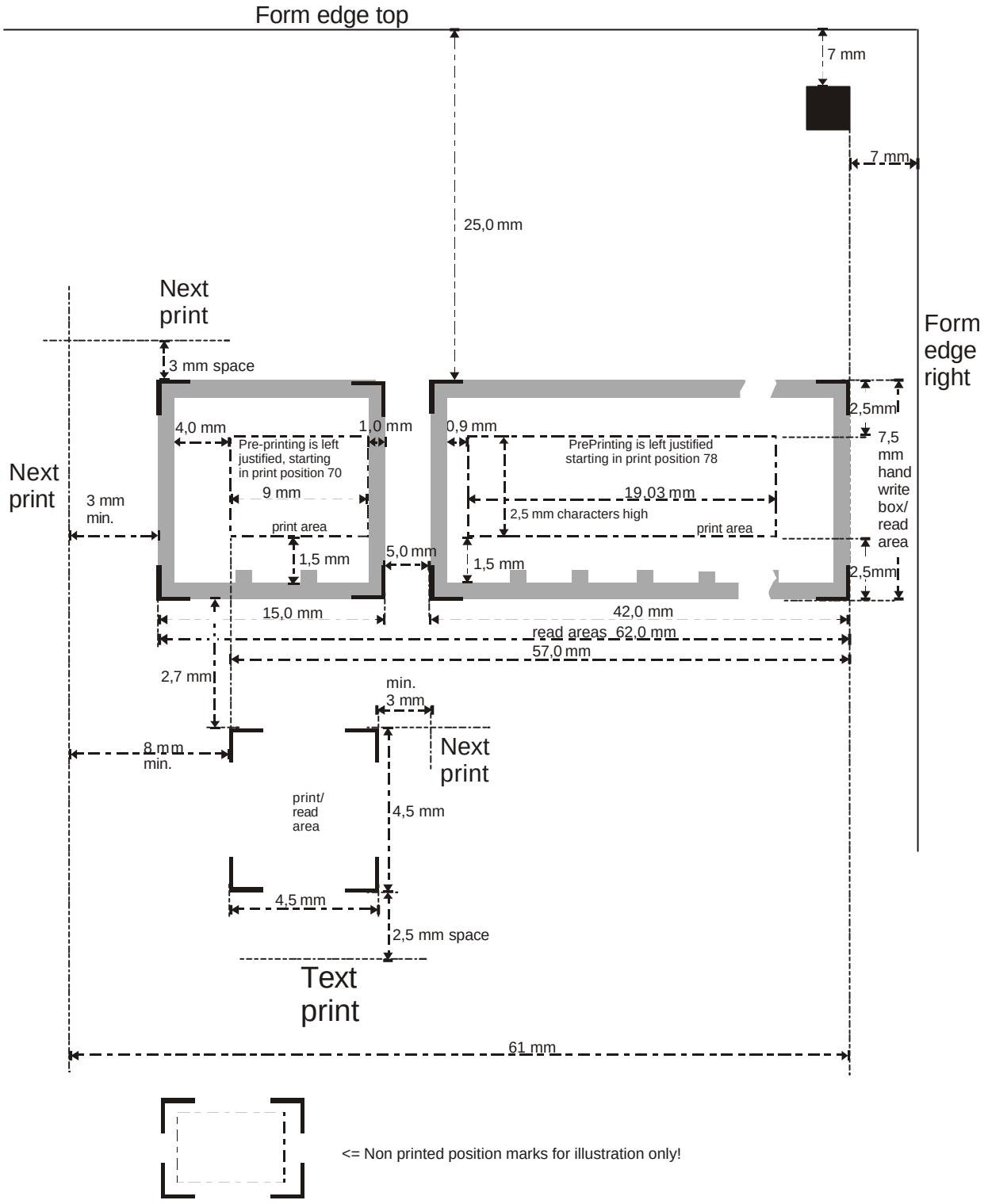
D.5.1.2 Name and address completed by the ordering customer

This diagram provides more details about the various "hand writing areas" on the left side of the form. The beneficiary is not permitted to preprint the name and address of the ordering customer. See the diagram in D.2 for details of the position of this information on the overall form



D.5.2 Right side

This diagram provides more details about the various "print areas" and "read areas" on the right side of the form. See the diagram in D.2 for details of the position of this information on the overall form. Note that each "print area" will be in the centre of each „read area".



D.6 2D PDF417 bar code

The area on the bottom left side of the IPI, located 7,0 mm from the bottom edge and 33,00 mm from the left edge, is reserved for the PDF417 bar code. The dimension of this area is 17,2 mm high and 75,00 mm wide (excl. quiet zone). The minimum size of the bar code print should be 72 mm x 16 mm (For printing and technical specifications of the bar code see annex E). If the space available on the form is not fully used by the bar code print, the bar code shall be centered within the space available.. The exact position of this field on the IPI form is shown in measurement diagram in D.2.

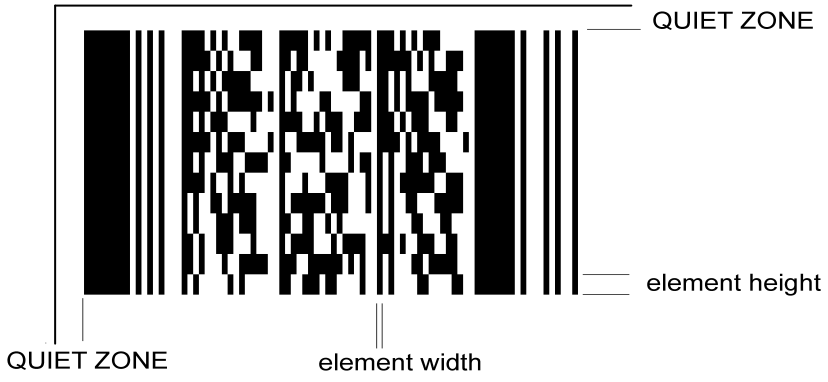
Annex E 2D Bar Code PDF 417

E.1 Technical specifications

E.1.1 Fundamentals of the 2D Bar Code PDF 417

PDF417 is a two-dimensional bar code in which several lines are arranged over each other. The PDF417 symbology is defined in ISO/IEC FCD 15438. A PDF 417 symbol consists of 3 – 90 lines, and may also vary in width. The maximum capacity of a PDF 417 symbol is 1850 alphanumeric characters; 2710 digits or 1108 bytes. It is possible to print PDF 417 symbols with various line widths so that it can be adapted to the printer and scanner resolution.

The following diagram shows a PDF 417 symbol and explains a number of terms which are important for an understanding of PDF 417.



QUIET_ZONE	a "white" frame has to be created around the actual symbol. The specification includes a QUIET_ZONE of at least twice the line width (= element width).
element width	is the line thickness of a single (narrow) line in the symbol. The element width is used to indicate the print size. The expression "module width" is also used to characterise the narrowest line thickness occurring in a symbol. Note: the unit **mil** that is frequently used in discussions about PDF stands for 1/1000 inch; 10 mil is therefore another way of saying 10/1000 inch, approx. 250 µm.
element height	is the height of a line in the PDF 417 symbol. The element height is always a multiple of the element width.

The PDF417 standard also sets out an error correction procedure. This means that it is also possible to read symbols which are partly damaged (e.g. dirty, or print coming off, etc.). For this reason, a certain degree of redundancy is included in the code symbol for actual information. It is possible to choose between different levels of error correction.

E.1.2 2D PDF 417 on the IPI

The PDF 417 on the IPI has to meet the following requirements:

1. The element width used to print the bar code is 12 mil (12/1000 inch).
2. The height/width ratio is 3:1.
3. The error correction level used is 4.

E.1.3 Structure and order of the data elements in the Bar Code

The single data elements contained in the bar code have a fixed field length, "blank" is used as filling character.

Order Nr	Name of data element	Length	Type	Presence in bar code, if not present: blank	Alignment	Remarks
1	application	3	an	mandatory	left	constant IPI
2	IBAN of beneficiary	34	an	mandatory	left	
3	name of beneficiary	35	an	mandatory	left	
4	bank of beneficiary (BIC)	35	an	mandatory	left	
5	name of ordering customer	35	an	optional	left	
6	account number of ordering customer	27	an	optional	left	
7	details of payment	35	an	optional	left	
8	currency	3	a	optional	left	
9	amount	9	n	optional	right	comma and fraction must be used
10	form	2	n	mandatory	left	
11	charges to be paid by	1	n	optional	left	
12	reporting	4	n	optional	left	for future need
Total information characters contained in bar code		**223**				

E.1.4 Example

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1	I	P	I																																
2	F	R	7	6	1	8	2	0	6	0	0	0	1	0	3	0	5	6	9	6	6	4	0	0	1	1	7								
3	S	O	C	I	E	T	E		L	U	M	I	E	R	E		S	A	,		P	A	R	I	S										
4	A	G	R	I	F	R	P	P	8	8	2																								
5	H	E	R	R	/	F	R	A	U		K	U	N	D	E																				
6	0	1	2	3	4	5	6	7	8	9																									
7	5	2	0	0	0	0	0	5	6	7	8	1	2	3	4	8	9	0	1	2															
8	E	U	R																																
9			3	4	2	1	,	0	0																										
10	0	2																																	
11	0																																		
12																																			

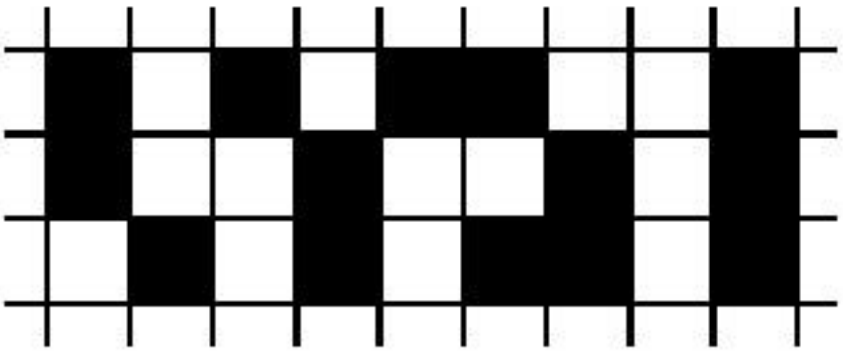
Bar code representation

Note: Control line feed (CRLF) in this example is used for visualizing data only.
Data contained in the bar code element does not contain CRLF.

E.2 Printing requirements

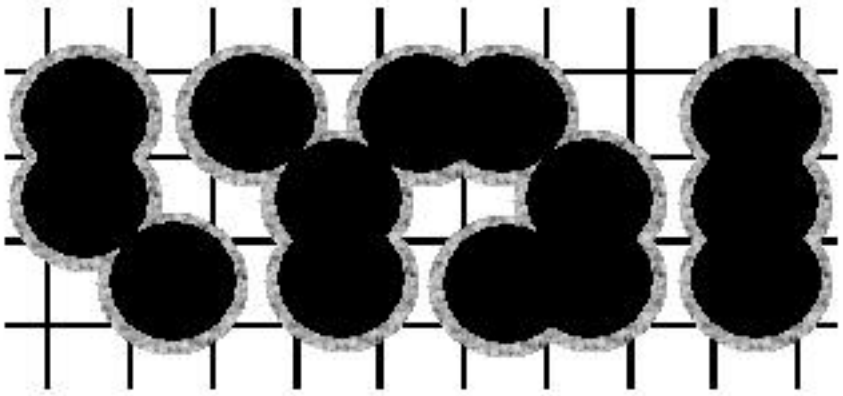
Printing the fine structures which occur in PDF417 symbols requires laser printers in page oriented printing mode. Errors in the production process cannot be reversed by any scanner.

The printer resolution must be selected in a way that the module width (= width of the narrowest line in a symbol) can be generated by an integer multiple of the pixel size of the printer. The problem that occurs in practice is the limited sharpness of the individual pixels of a printer. On the assumption that a pixel is a perfect square, the printer resolution could be selected the same as the module width.



Idealised print image. The smallest printable structures correspond to the printer resolution. Black and white structures have the same width and height.

Print images, however do not come up to this ideal. Around the core of the pixel there is a "transition zone" in which the intensity of the black colour decreases the further away the place studied is from the middle of the pixel. For this reason, black and white structures appear on the paper with different widths. (The illustration is very under-emphasised; a zone which is defined with the printer resolution theoretically with a black and white chess board will appear completely black in normal circumstances.) For this reason, the printer resolution for printing PDF417 symbols must be selected as much higher than the required module width of the PDF417 symbol.



E.3 Scanning requirements

Symbols that are printed with a line thickness of around 300 µm (corresponding to 12 mil) can be decoded with today's standard scanners if a scanner resolution of at least 200 dpi and a suitable binarization process are used.