

# Section 3.0:

## Definitions of the Element Strings

### Table of Contents

<b>3.1 Introduction.....</b>	<b>6</b>
<b>3.2 UPC-A, UPC-E, and EAN-13 Bar Code Symbols .....</b>	<b>7</b>
<b>3.2.1 Identification of a Fixed Measure Trade Item (GTIN) .....</b>	<b>7</b>
<b>3.2.2 Identification of a Trade Item for Restricted Distribution - Fixed Measure .....</b>	<b>8</b>
<b>3.2.3 Identification of a Trade Item Within a Company - Fixed Measure.....</b>	<b>9</b>
<b>3.2.4 Short Identification Number with Price or Measure of a Trade Item for Restricted Distribution .....</b>	<b>10</b>
<b>3.2.5 Coupon Identification for Restricted Distribution.....</b>	<b>12</b>
<b>3.2.6 GS1 US Coupon Identification for Restricted Geographic Distribution..</b>	<b>13</b>
<b>3.2.7 Common Currency Coupon Code Identification for Restricted Distribution .....</b>	<b>14</b>
<b>3.2.8 Identification of Refund Receipts - Restricted Distribution .....</b>	<b>15</b>
<b>3.3 EAN-8 Bar Code Symbols .....</b>	<b>16</b>
<b>3.3.1 Identification of a Fixed Measure Trade Item (GTIN) .....</b>	<b>16</b>
<b>3.3.2 Identification of a Trade Item Within a Company - Fixed Measure.....</b>	<b>17</b>
<b>3.4 Two-Digit and Five-Digit Add-On Symbols.....</b>	<b>18</b>
<b>3.4.1 Serial Number for Serial Publications.....</b>	<b>18</b>
<b>3.4.2 Supplementary Information for Books, Paperbacks, and Serials .....</b>	<b>19</b>
<b>3.5 ITF-14 Symbols .....</b>	<b>20</b>
<b>3.5.1 EAN/UCC-13 Identification Number: Identification of a Fixed Measure Trade Item (GTIN).....</b>	<b>20</b>

<b>3.5.2 EAN/UCC-14 Identification Number: Identification of a Fixed Measure Trade Item (GTIN)</b> .....	<b>21</b>
<b>3.5.3 EAN/UCC-14 Identification of a Variable Measure Trade Item (GTIN)</b> .....	<b>22</b>
<b>3.6 GS1-128 Bar Code Symbols</b> .....	<b>23</b>
<b>3.6.1 Identification of a Logistic Unit: AI (00)</b> .....	<b>23</b>
<b>3.6.2 Identification of a Fixed Measure Trade Item (GTIN): AI (01)</b> .....	<b>24</b>
<b>3.6.3 Identification of a Variable Measure Trade Item (GTIN): AI (01)</b> .....	<b>25</b>
<b>3.6.4 Identification of Trade Items Contained in a Logistic Unit - Fixed Measure: AI (02)</b> .....	<b>26</b>
<b>3.6.5 Identification of Trade Items Contained in a Logistic Unit - Variable Measure: AI (02)</b> .....	<b>27</b>
<b>3.6.6 Batch or Lot Number: AI (10)</b> .....	<b>28</b>
<b>3.6.7 Production Date: AI (11)</b> .....	<b>29</b>
<b>3.6.8 Due Date for Amount on Payment Slip: AI (12)</b> .....	<b>30</b>
<b>3.6.9 Packaging Date: AI (13)</b> .....	<b>31</b>
<b>3.6.10 Best Before Date: AI (15)</b> .....	<b>32</b>
<b>3.6.11 Expiration Date : AI (17)</b> .....	<b>33</b>
<b>3.6.12 Product Variant: AI (20)</b> .....	<b>34</b>
<b>3.6.13 Serial Number: AI (21)</b> .....	<b>35</b>
<b>3.6.14 Secondary Data for Specific Health Industry Products: AI (22)</b> .....	<b>36</b>
<b>3.6.15 Additional Product Identification Assigned by the Manufacturer: AI (240)</b> .....	<b>37</b>
<b>3.6.16 Customer Part Number: AI (241)</b> .....	<b>38</b>
<b>3.6.17 Secondary Serial Number: AI (250)</b> .....	<b>39</b>
<b>3.6.18 Reference to Source Entity: AI (251)</b> .....	<b>40</b>
<b>3.6.19 Global Document Type Identifier (GDTI): AI (253)</b> .....	<b>41</b>
<b>3.6.19.1 GLN Extension Component: AI (254)</b> .....	<b>42</b>

<b>3.6.20 Variable Count: AI (30)</b> .....	<b>43</b>
<b>3.6.21 Trade Measures: AIs (31nn, 32nn, 35nn, 36nn)</b> .....	<b>44</b>
<b>3.6.22 Logistic Measures: AIs (33nn, 34nn, 35nn, 36nn)</b> .....	<b>46</b>
<b>3.6.23 Kilograms Per Square Metre: AI (337n)</b> .....	<b>48</b>
<b>3.6.24 Count of Trade Items Contained in a Logistic Unit: AI (37)</b> .....	<b>49</b>
<b>3.6.25 Amount Payable - Single Monetary Area: AI (390n)</b> .....	<b>50</b>
<b>3.6.26 Amount Payable and ISO Currency Code: AI (391n)</b> .....	<b>51</b>
<b>3.6.27 Amount Payable for a Variable Measure Trade Item – Single Monetary Area: AI (392n)</b> .....	<b>52</b>
<b>3.6.28 Amount Payable for a Variable Measure Trade Item and ISO Currency Code: AI (393n)</b> .....	<b>53</b>
<b>3.6.29 Customer's Purchase Order Number: AI (400)</b> .....	<b>54</b>
<b>3.6.30 Consignment Number: AI (401)</b> .....	<b>55</b>
<b>3.6.31 Shipment Identification Number: AI (402)</b> .....	<b>56</b>
<b>3.6.32 Routing Code: AI (403)</b> .....	<b>57</b>
<b>3.6.33 Ship to - Deliver to Global Location Number: AI (410)</b> .....	<b>58</b>
<b>3.6.34 Bill to - Invoice to Global Location Number: AI (411)</b> .....	<b>59</b>
<b>3.6.35 Purchased from Global Location Number: AI (412)</b> .....	<b>60</b>
<b>3.6.36 Ship for - Deliver for - Forward to Global Location Number: AI (413)</b> ...	<b>61</b>
<b>3.6.37 Identification of a Physical Location - Global Location Number: AI (414)</b> .....	<b>62</b>
<b>3.6.38 Global Location Number of the Invoicing Party: AI (415)</b> .....	<b>63</b>
<b>3.6.39 Ship to - Deliver to Postal Code Within a Single Postal Authority: AI (420)</b> .....	<b>64</b>
<b>3.6.40 Ship to - Deliver to Postal Code with Three-Digit ISO Country Code: AI (421)</b> .....	<b>65</b>
<b>3.6.41 Country of Origin of a Trade Item: AI (422)</b> .....	<b>66</b>
<b>3.6.42 Country of Initial Processing: AI (423)</b> .....	<b>67</b>

<b>3.6.43 Country of Processing: AI (424)</b> .....	<b>68</b>
<b>3.6.44 Country of Disassembly: AI (425)</b> .....	<b>69</b>
<b>3.6.45 Country Covering full Process Chain: AI (426)</b> .....	<b>70</b>
<b>3.6.46 Seventy Series AIs - Cautionary Note</b> .....	<b>71</b>
<b>3.6.46.1 NATO Stock Number (NSN): AI (7001)</b> .....	<b>71</b>
<b>3.6.46.2 UN/ECE Meat Carcasses and Cuts Classification: AI (7002)</b> .....	<b>72</b>
<b>3.6.46.3 Approval Number of Processor with Three-Digit ISO Country Code:     AI (703s)</b> .....	<b>73</b>
<b>3.6.47 Roll Products - Width, Length, Core Diameter, Direction, Splices: AI     (8001)</b> .....	<b>74</b>
<b>3.6.48 Cellular Mobile Telephone Identifier: AI (8002)</b> .....	<b>75</b>
<b>3.6.49 Global Returnable Asset Identifier (GRAI): AI (8003)</b> .....	<b>76</b>
<b>3.6.50 Global Individual Asset Identifier (GIAI): AI (8004)</b> .....	<b>77</b>
<b>3.6.51 Price Per Unit of Measure: AI (8005)</b> .....	<b>78</b>
<b>3.6.52 Identification of the Components of a Trade Item: AI (8006)</b> .....	<b>79</b>
<b>3.6.53 International Bank Account Number (IBAN): AI (8007)</b> .....	<b>80</b>
<b>3.6.54 Date and Time of Production: AI (8008)</b> .....	<b>81</b>
<b>3.6.55 Global Service Relation Number (GSRN): AI (8018)</b> .....	<b>82</b>
<b>3.6.56 Payment Slip Reference Number: AI (8020)</b> .....	<b>83</b>
<b>3.6.57 GS1-128 Coupon Extended Code: AIs (8100 - 8102)</b> .....	<b>84</b>
<b>3.6.58 Information Mutually Agreed Between Trading Partners (Including     FACT Data Identifiers): AI (90)</b> .....	<b>85</b>
<b>3.6.59 Company Internal Information: AIs (91 - 99)</b> .....	<b>86</b>
<b>3.7 Compatibility of EPCglobal Tag Data Standard and <i>GS1 General     Specifications</i></b> .....	<b>87</b>
<b>3.A.1 Appendix 1: Check Digit Calculations</b>	<b>93</b>
<b>3.A.1.1 Standard Check Digit Calculations for GS1 Data Structures</b>	<b>93</b>

---

<b>3.A.1.2 Check Digit Calculation for Price/Weight Fields</b>	<b>95</b>
<b>3.A.1.3 Check Digit Calculation for the Four-Digit Price Field</b>	<b>96</b>
<b>3.A.1.4 Check Digit Calculation for the Five-Digit Price Field</b>	<b>97</b>
<b>3.A.2 Appendix 2: UCC-12 Identification Numbers in a UPC-E Bar Code Symbol</b>	<b>98</b>
<b>3.A.3 Appendix 3: The International Standard ISO/IEC 646</b>	<b>101</b>
<b>3.A.4 Appendix 4: GS1 Data Titles</b>	<b>102</b>
<b>3.A.4.1 All Application Identifiers</b>	<b>102</b>
<b>3.A.4.2 Metric Trade Measures</b>	<b>105</b>
<b>3.A.4.4 Metric Logistic Measures</b>	<b>107</b>
<b>3.A.4.5 Non-Metric Logistic Measures</b>	<b>108</b>
<b>3.A.5 Appendix 5: Determination of Century in Dates</b>	<b>109</b>

### **3.1 Introduction**

This section describes the meaning, structure, and function of the GS1 System Element Strings so they can be correctly processed in users' application programmes.

Automatic processing of Element Strings in business applications requires information about the type of transaction to which the transferred data refers. See [Section 7.0](#) for an explanation of this process. [Section 4.0](#) provides details on associations between Element Strings. Element Strings are grouped according to their symbology identifier (see Section 5.0 for details on symbology identifiers)

### 3.2 UPC-A, UPC-E, and EAN-13 Bar Code Symbols

This section describes Element Strings that begin with symbology identifier ]E0.

#### 3.2.1 Identification of a Fixed Measure Trade Item (GTIN)

This Element String is based on the UCC-12 or EAN/UCC-13 Data Structure (see [Section 1.3](#)).

Figure 3.2.1 – 1

Format of the Element String														
	<div style="display: flex; justify-content: space-between; align-items: center;"> <span>GS1 Company Prefix →</span> <span>← Item Reference</span> </div>													
(EAN/UCC-13)	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>N<sub>1</sub></td><td>N<sub>2</sub></td><td>N<sub>3</sub></td><td>N<sub>4</sub></td><td>N<sub>5</sub></td><td>N<sub>6</sub></td><td>N<sub>7</sub></td><td>N<sub>8</sub></td><td>N<sub>9</sub></td><td>N<sub>10</sub></td><td>N<sub>11</sub></td><td>N<sub>12</sub></td><td>N<sub>13</sub></td> </tr> </table>	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>
N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>		
(UCC-12)	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>0</td><td>N<sub>1</sub></td><td>N<sub>2</sub></td><td>N<sub>3</sub></td><td>N<sub>4</sub></td><td>N<sub>5</sub></td><td>N<sub>6</sub></td><td>N<sub>7</sub></td><td>N<sub>8</sub></td><td>N<sub>9</sub></td><td>N<sub>10</sub></td><td>N<sub>11</sub></td><td>N<sub>12</sub></td> </tr> </table>	0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>
0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>		

The GS1 Company Prefix is allocated a GS1 Member Organisation to a system user. It makes the ID number unique worldwide but does not identify the origin of the item. GS1 Company Prefixes starting with GS1 Prefixes\* 000 to 019, 030 to 039, 060 to 099, 100 to 139, 300 to 969, or 977 to 979 in the first three digits are used in this Element String.

The Item Reference is assigned by the system user, who must observe the rules in [Section 2.1](#).

The Check Digit is explained in [Section 3.A.1](#). Its verification, carried out automatically by the bar code reader, ensures that the number is correctly composed.

The data carriers for this Element String are:

- UPC-A Bar Code Symbol (carrying a UCC-12 ID Number)
- UPC-E Bar Code Symbol\*\* (carrying a UCC-12 ID Number)
- EAN-13 Bar Code Symbol (carrying an EAN/UCC-13 ID Number)

The system recognises this Element String by the symbology identifier ]E0 and the GS1 Prefixes starting with 000 to 019, 030 to 039, 060 to 099, 100 to 139, 300 to 969, or 977 to 979.

The data transmitted from the bar code reader means that one Fixed Measure Trade Item with an EAN/UCC-13 ID Number has been captured.

	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>	T <sub>6</sub>	T <sub>7</sub>	T <sub>8</sub>	T <sub>9</sub>	T <sub>10</sub>	T <sub>11</sub>	T <sub>12</sub>	T <sub>13</sub>	T <sub>14</sub>
GTIN format*** of this number for	0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>
processing in a 14-digit field	0	0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>

\* Some GS1 Prefixes require Element Strings be constructed according to particular rules, which can be found in [Sections 3.2.4](#) and [2.1.2.1.3](#).

\*\*For information on representing an ID number in a UPC-E Bar Code Symbol, see [Section 3.A.2](#).

\*\*\* T represents the position of each individual digit in a computer file format, N represents the position of each individual digit in a given data structure, and 0 represents a filler digit.

### 3.2.2 Identification of a Trade Item for Restricted Distribution - Fixed Measure

Although this Element String is mainly used for the identification of trade items, it may be used for any purpose as long as it is kept within a restricted environment (see [Section 2.6.4.4](#)).

This Element String is for use within a GS1 Member Organisation's geographic region. The GS1 Member Organisation may assign a company a GS1 Prefix for use externally throughout a region or may assign the prefix for use internally within a region. The numbers are never unique if they leave the region and, if assigned for a company's internal use, are not unique if they leave the company or region.

Figure 3.2.2 – 1

Format of the Element String												
GS1 Prefix		Item Reference										Check Digit
2	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>

The GS1 Prefix must be in the series 20 to 29. A particular prefix may be assigned either for use on Fixed Measure Trade Items for restricted distribution, Variable Measure Trade Items (see [Section 3.2.4](#)), or for special applications (see [Section 2.6.4.4](#)).

The Item Reference is assigned by the company that uses the Element String. Positions N<sub>3</sub> to N<sub>12</sub> may contain any digit.

The Check Digit is explained in [Section 3.A.1](#). Its verification, carried out automatically by the bar code reader, ensures that the number is correctly composed.

The data carrier for this Element String is an EAN-13 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]E0 and the GS1 Prefix assigned by the relevant GS1 Member Organisation.

The data transmitted from the bar code reader means that one Fixed Measure Trade Item with an EAN/UCC-13 ID Number has been captured.

The format\* of this number for

processing in a 14-digit field

T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>	T <sub>6</sub>	T <sub>7</sub>	T <sub>8</sub>	T <sub>9</sub>	T <sub>10</sub>	T <sub>11</sub>	T <sub>12</sub>	T <sub>13</sub>	T <sub>14</sub>
0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>

\* T represents the position of each individual digit in a computer file format, N represents the position of each individual digit in a given data structure, and 0 represents a filler digit.



### 3.2.3 Identification of a Trade Item Within a Company - Fixed Measure

Although this Element String is mainly used for the identification of trade items, it may be used for any purpose as long as it is kept within a restricted environment (see [Section 2.6.4.4](#)).

This Element String is for a company's internal use. Because any company may use this Element String, it does not provide unique identification of a trade item if it leaves the company's premises.

Figure 3.2.3 – 1

Format of the Element String												
GS1 Prefix		Item Reference										Check Digit
0	4	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>
0	0	0	I <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>

The GS1 Prefix 04 is a system identifier showing that the identification number is under the sole control of the assigning company and that it is for internal trade item distribution. The same applies to GS1 Prefix 00 when I<sub>4</sub> has any value from 1 to 7.

The Item Reference is assigned by the company that uses the Element String. Positions N<sub>3</sub> to N<sub>12</sub> may contain any digit.

The Check Digit is explained in [Section 3.A.1](#). Its verification, carried out automatically by the bar code reader, ensures that the number is correctly composed.

The data carrier for this Element String is the UPC-A Bar Code Symbol.

The system recognises this Element String by the symbology identifier JE0 and GS1 Prefix 04 or 00 with the digits 01 to 07 in the next two positions.

The data transmitted from the bar code reader means that one Fixed Measure Trade Item with an EAN/UCC-13 ID Number has been captured.

The formats\* of these numbers for processing in a 14-digit field

T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>	T <sub>6</sub>	T <sub>7</sub>	T <sub>8</sub>	T <sub>9</sub>	T <sub>10</sub>	T <sub>11</sub>	T <sub>12</sub>	T <sub>13</sub>	T <sub>14</sub>
0	0	4	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>
0	0	0	0	I <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>

\* T represents the position of each individual digit in a computer file format, N represents the position of each individual digit in a given data structure, and 0 represents a filler digit.

### 3.2.4 Short Identification Number with Price or Measure of a Trade Item for Restricted Distribution

The first row in Figure 3.2.4 – 1 shows the structure specified by GS1 US for North America. The same structure is used by many other GS1 Member Organisations. The next two rows do not show predetermined structures. Examples of recommended structures are given in Figure 3.2.4 – 2. GS1 Member Organisations choose appropriate structures for use within their geographic area.

Figure 3.2.4 – 1

Format of the Element String

GS1 Prefix	Item Reference	Price Verifier-Digit	Item Price	Check Digit
0 2	N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub> N <sub>10</sub> N <sub>11</sub> N <sub>12</sub>	N <sub>13</sub>
0 2	N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub>	N <sub>8</sub> N <sub>9</sub>	N <sub>10</sub> N <sub>11</sub> N <sub>12</sub>	N <sub>13</sub>
2 N <sub>2</sub>	N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub>	N <sub>8</sub> N <sub>9</sub>	N <sub>10</sub> N <sub>11</sub> N <sub>12</sub>	N <sub>13</sub>

The GS1 Prefix must be 02 or 20 to 29. GS1 Prefixes 20 to 29 may be assigned for use on restricted distribution Variable Measure Trade Items with price or measure (see [Section 2.6.4](#)).

The Item Reference is usually assigned by the company that scans the Element String at its Point-of-Sale. However, some countries may specify their own standard numbering systems for variable measure products administered by their GS1 Member Organisation or by a trade association.

The price verifier-digit is the result of a special calculation, and its verification ensures correct reading of the price. For details, see [Section 3.A.1](#). Security of reading this Element String without a price verifier-digit depends on the Element String's Check Digit (see [Section 3.A.1](#)).

The item price is the price of the trade item in the relevant currency with an implied decimal point defined by the trading partners or the relevant GS1 Member Organisation. A different format is required for each position of the implied decimal point. Multiple formats require an unambiguous way to differentiate each format, and separate GS1 Prefixes may be assigned to accomplish this.

The Check Digit is explained in [Section 3.A.1](#). Its verification, carried out automatically by the bar code reader, ensures that the data corresponds with the verification rules.

Figure 3.2.4 – 2

Examples of Alternative Data Structures		
Item Reference	Price verifier-digit	Item price
Item Reference		Item price
Item Reference	Measure verifier-digit	Item measure
Item Reference		Item measure

When the price (or weight) of an item is encoded using this Element String, a price verifier-digit or a measure verifier-digit should be used. The measure verifier-digit is calculated from the digits in the item measure field in the same way that the price verifier-digit is calculated from the item price digits (see [Section 3.A.1](#)).

The item measure is a measurement of the trade item with a defined unit of measure and an implied decimal point position. The unit of measure and decimal point position are defined within the relevant geographic area for each GS1 Prefix and/or format code. The item measure may be weight only if local weights and measures regulations permit.

The data carriers for this Element String are:

- UPC-A Bar Code Symbols
- EAN-13 Bar Code Symbols

The system recognises this Element String by the symbology identifier J|E0, the GS1 Prefix 02 or 20 to 29, and the structure defined by the GS1 Member Organisation in which it is operating. Note that some of the prefixes 20 to 29 may have been assigned by GS1 Member Organisations to the Element String as described in [Section 3.2.2](#).

The data transmitted from the bar code reader means that data about a Variable Measure Trade Item has been captured. The bar code reader normally performs the price verifier-digit and the measure verifier-digit calculation. Failing this, the calculation must take place in the application software.

The formats\*\* of these numbers for processing in a 14-digit field

T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>	T <sub>6</sub>	T <sub>7</sub>	T <sub>8</sub>	T <sub>9</sub>	T <sub>10</sub>	T <sub>11</sub>	T <sub>12</sub>	T <sub>13</sub>	T <sub>14</sub>	
0	0	2	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	0	0	0	0	0	C *	
0	0	2	Item Reference								Zeros			C *
0	2	N <sub>2</sub>	Item Reference								Zeros			C *

\* The Check Digit is to be recalculated.

\*\* T represents the position of each individual digit in a computer file format, N represents the position of each individual digit in a given data structure, and 0 represents a filler digit.

### 3.2.5 Coupon Identification for Restricted Distribution

A coupon is a voucher with a cash value that is deducted at the Point-of-Sale. It is sometimes associated with a specific trade item. Coupon identification is organised on a national level and is therefore not unique worldwide. The specification of the coupon data structure in the Element String is the responsibility of each GS1 Member Organisation.

Figure 3.2.5 – 1

Format of the Element String		
GS1 Prefix	Coupon Data	Check Digit
9 9	N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub> N <sub>8</sub> N <sub>9</sub> N <sub>10</sub> N <sub>11</sub> N <sub>12</sub>	N <sub>13</sub>

The GS1 Prefix 99 denotes the Element String for GS1 coupon identification.

The structure of the coupon data field is determined according to the needs of a particular country. Mandatory components are the coupon issuer number and the coupon reference number. Other useful data are the redemption value in real or encoded format and codes for the decimal point or tax rates.

The Check Digit is explained in [Section 3.A.1](#). Its verification, carried out automatically by the bar code reader, ensures that the data corresponds with the verification rules.

The data carrier for this Element String is the EAN-13 Bar Code Symbol.

The system recognises this Element String by the symbology identifier JE0 and the GS1 Prefix.

The data transmitted from the bar code reader means that the data of a coupon has been captured. Processing of coupons at a Point-of-Sale usually consists of validity checks and deduction of its value.

### 3.2.6 GS1 US Coupon Identification for Restricted Geographic Distribution

GS1 US coupon identification consists of the actual coupon identification data and supplementary information represented in a GS1-128 Coupon Extended Code. The *Application Standard for UCC Coupon Codes* provides detailed information on data contents and applied codes.

Note: GS1 US coupon identification is used in the United States and Canada and cannot be used beyond their boundaries.

Figure 3.2.6 – 1

Format of the Element String				
UCC Prefix	Company Number	Family Code	Value Code	Check Digit
5	N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub>	N <sub>7</sub> N <sub>8</sub> N <sub>9</sub>	N <sub>10</sub> N <sub>11</sub>	N <sub>12</sub>

The UCC Prefix 5 denotes the Element String for GS1 US coupon identification.

The Company Number is that of the company issuing the coupon for redemption if a product symbol marked with the same Company Number in the item identification number has been purchased.

The Family Code is used to validate the coupon.

The Value Code is the redemption value of the coupon in encoded format.

The Check Digit is explained in [Section 3.A.1](#). Its verification, carried out automatically by the bar code reader, ensures that the data corresponds with the verification rules.

The data carrier for this Element String is the UPC-A Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]E0 and the UCC Prefix 5.

Note: The Company Number N<sub>2</sub> to N<sub>6</sub> uses the implied UCC Prefix 0 (zero). If the coupon is applicable to a Global Trade Item Number™ (GTIN™) beginning with a UCC Prefix other than zero, an AI (8100) to (8102) (GS1-128 Coupon Extended Code) must be present.

### 3.2.7 Common Currency Coupon Code Identification for Restricted Distribution

A coupon is a voucher with a cash value that is deducted at the Point-of-Sale. It is sometimes associated with a specific trade item. Coupon identification is normally organised on a national level using the GS1 Prefix 99. However, for a common currency area, coupon identification is organised between participating countries. Determining the coupon data structure in the Element String is the responsibility of all the GS1 Member Organisations in the common currency area.

Figure 3.2.7 – 1

Format of the Element String												
GS1 Prefix			Coupon Data									Check Digit
9	8	1	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>
9	8	2	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>

The GS1 Prefixes 981 and 982 denote the Element String for GS1 Common Currency Coupon Numbers.

The structure of the coupon data positions is determined according to the needs of a particular set of countries. Mandatory components are the coupon issuer number and the coupon reference number. Further useful data is the redemption value in real or encoded format and numbers for the decimal point or tax rates.

The Check Digit is explained in [Section 3.A.1](#). Its verification, carried out automatically by the bar code reader, ensures that the data corresponds with the verification rules.

The data carrier for this Element String is the EAN-13 Bar Code Symbol.

The system recognises this Element String by the symbology identifier JE0 and the GS1 Prefix. The data transmitted from the bar code reader means that the data of a common currency coupon has been captured. Processing of coupons at a Point-of-Sale usually consists of validity checks and deduction of its value.

The only application of GS1 Prefixes 981 and 982 are for the euro. The euro is a currency that began to replace the national currencies of some countries on 1 January 1999. A migration period of several years is planned, with notes and coins being introduced in 2002. Within the euro-areas, coupon issuer numbers are administered by:

EAN BELGIUM•LUXEMBOURG  
 Rue Royale 29, B-1000 Brussels, BELGIUM  
 Tel: + 32.2.229.18.80, Fax: + 32.2.217.43.47,  
 Email: [info@eanbelgilux.be](mailto:info@eanbelgilux.be)

### 3.2.8 Identification of Refund Receipts - Restricted Distribution

Refund Receipts are vouchers produced by equipment handling empty containers (bottles and crates), automatically. These receipts have a cash value that is refunded when the receipt is scanned at the Point-of-Sale.

Figure 3.2.8 – 1

Format of the Element String											
GS1 Prefix	Identification						Value				Check Digit
9 8 0	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	

The GS1 Prefix 980 denotes the Element String for the identification of Refund Receipts.

The identification and value positions contain an identification number and the value of the voucher. It may be structured by a particular system user to meet his needs or by the GS1 Member Organisation as a standard for its sphere of jurisdiction. The identification number may be of any structure and shall provide a certain protection against invalid redemption.

The Check Digit is explained in [Section 3.A.1](#). Its verification, carried out automatically by the bar code reader, ensures that the data corresponds with the verification rules.

The data carrier for this Element String is the EAN-13 Bar Code Symbol.

The system recognises this Element String by the symbology identifier JE0 and the GS1 Prefix 980.

The data transmitted from the bar code reader means that the data of a Refund Receipt has been captured.

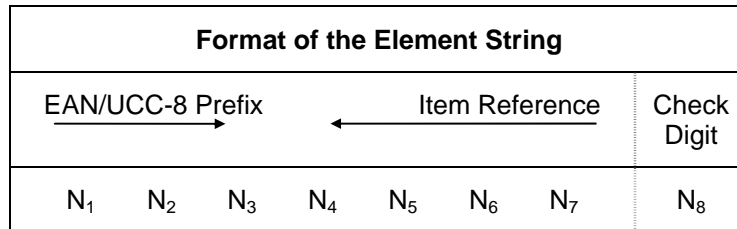
### 3.3 EAN-8 Bar Code Symbols

This section describes the full strings beginning with symbology identifier JE4 (EAN-8 Bar Code Symbol).

#### 3.3.1 Identification of a Fixed Measure Trade Item (GTIN)

This Element String is based on the EAN/UCC-8 Data Structure (see [Section 1.3](#)).

Figure 3.3.1 – 1



The EAN/UCC-8 Prefix is a one-, two-, or three-digit index number, administered by GS1 Global Office. It does not identify the origin of the item. GS1 Prefixes 100 to 139 and 300 to 969 in positions N<sub>1</sub> to N<sub>3</sub> are used in this Element String. Others may be added in the future.

The Item Reference is assigned by the GS1 Member Organisation. The GS1 Member Organisations provide procedures for obtaining EAN/UCC-8 Identification Numbers.

The Check Digit is explained in [Section 3.A.1](#). Its verification, carried out automatically by the bar code reader, ensures that the number is correctly composed.

The data carrier for this Element String is the EAN-8 Bar Code Symbol.

The system recognises this Element String by the symbology identifier JE4 and by N<sub>1</sub> not being 0 or 2.

The data transmitted from the bar code reader means that one Fixed Measure Trade Item with an EAN/UCC-8 ID Number has been captured.

GTIN format\* of this number for processing in a 14-digit field

T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>	T <sub>6</sub>	T <sub>7</sub>	T <sub>8</sub>	T <sub>9</sub>	T <sub>10</sub>	T <sub>11</sub>	T <sub>12</sub>	T <sub>13</sub>	T <sub>14</sub>
0	0	0	0	0	0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>

\* T represents the position of each individual digit in a computer file format, N represents the position of each individual digit in a given data structure, and 0 represents a filler digit.



### 3.3.2 Identification of a Trade Item Within a Company - Fixed Measure

Although this Element String is mainly used for identifying trade items, it may be used for any purpose as long as it is kept within a restricted environment (see [Section 2.6.4.4](#)).

This Element String is for internal use in a company. The numbers are assigned by individual companies and do not provide unique identification if they leave the company premises.

Figure 3.3.2 – 1

Format of the Element String							
EAN/UCC-8 Prefix	Item Reference						Check Digit
N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>

The EAN/UCC-8 Prefixes 0 or 2 are system identifiers that show that the item identification number is under the sole control of the assigning company and that it is for internal item distribution.

The Item Reference is allocated by the company that uses the Element String. The positions N<sub>2</sub> to N<sub>7</sub> may contain any digit.

The Check Digit is explained in [Section 3.A.1](#). Its verification, carried out automatically by the bar code reader, ensures that the number is correctly composed.

The data carrier for this Element String is the EAN-8 Bar Code Symbol.

The system recognises this Element String by the symbology identifier JE4 and by N<sub>1</sub> being 0 or 2.

The data transmitted from the bar code reader means that one Fixed Measure Trade Item with an EAN/UCC-8 ID Number has been captured.

The format\* of this number for processing in a 14-digit field

T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>	T <sub>6</sub>	T <sub>7</sub>	T <sub>8</sub>	T <sub>9</sub>	T <sub>10</sub>	T <sub>11</sub>	T <sub>12</sub>	T <sub>13</sub>	T <sub>14</sub>
0	0	0	0	0	0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>

\* T represents the position of each individual digit in a computer file format, N represents the position of each individual digit in a given data structure, and 0 represents a filler digit.

### 3.4 Two-Digit and Five-Digit Add-On Symbols

This section describes the full strings beginning with symbology identifier JE1 (two-digit Add-On Symbol) and JE2 (five-digit Add-On Symbol).

These Element Strings may be transmitted with the data normally following the symbology identifier JE0, in which case the symbology identifier JE1 (two-digit Add-On Symbol) or JE2 (five-digit Add-On Symbol) is required. A single full string with the symbology identifier JE3 is followed by the data from the main symbol and the Add-On Symbol (see [Section 5.0](#)).

#### 3.4.1 Serial Number for Serial Publications

A serial publication is identified by a trade item number as described in [Section 2.1.2.1.5.5](#). Together the item identification number and serial number identify a particular issue of a particular serial publication.

Figure 3.4.1 – 1

Format of the Element String	
Serial Number for Serial Publications	
N <sub>1</sub>	N <sub>2</sub>

The serial number for serial publications always refers to the corresponding item identification number and has meaning as described in Figure 3.4.1 – 2.

Figure 3.4.1 – 2

Appearance	Applied Serial Numbers
Daily	Number of the week (01 - 53)
Weekly	Number of the week (01 - 53)
Bi-weekly	Number of the first week of the covered period (01 - 53)
Monthly	Number of the month (01 - 12)
Bi-monthly	Number of the first month of the covered period (01 - 12)
Quarterly	Number of the first month of the covered period (01 - 12)
Seasonally	N <sub>1</sub> = last digit of the year N <sub>2</sub> = 1 summer, 2 autumn, 3 winter, 4 spring
Bi-annually	N <sub>1</sub> = last digit of the year N <sub>2</sub> = number of the first season of the covered period
Annually	N <sub>1</sub> = last digit of the year N <sub>2</sub> = digit 5
Special intervals	Consecutively numbered from 01 - 99

The data carrier for this Element String is the two-digit Add-On Symbol.

The system recognises this Element String by the symbology identifier JE1. The two-digit Add-On Symbol must be jointly used with a UPC-A, UPC-E, or EAN-13 Bar Code Symbol. It is never scanned alone, and the data from both bar code symbols can be used together for processing.

### 3.4.2 Supplementary Information for Books, Paperbacks, and Serials

Books, paperbacks, and serial publications are identified by a Global Trade Item Number™ (GTIN™) as described in Section 2.1.2.1.5. This Element String provides more information about a particular publication of the printed item, but it is not required for the identification of the title itself.

Figure 3.4.2 – 1

Format of the Element String				
Supplementary Information				
N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>

The supplementary information consists of numeric data of any structure and meaning. It is the publisher's responsibility to define the numbering scheme.

The data carrier for this Element String is the five-digit Add-On Symbol.

The system recognises this Element String by the symbology identifier JE2. The five-digit Add-On Symbol must be jointly used with a UPC-A, UPC-E or EAN-13 Bar Code Symbol. It is never scanned alone, and the data from both bar code symbols can be used together for processing.

### 3.5 ITF-14 Symbols

This section describes the full strings beginning with symbology identifier ]I1.

The ]I1 symbology identifier not only indicates that an ITF-14 Symbol has been scanned but that the bar code reader has verified the Check Digit. If the bar code reader has not been set to verify the Check Digit, the symbology identifier will be ]I0. If this is the case, Check Digit verification must be carried out in the application programme.

#### 3.5.1 EAN/UCC-13 Identification Number: Identification of a Fixed Measure Trade Item (GTIN)

This Element String is based on the UCC-12 or EAN/UCC-13 Data Structure (see [Section 1.3](#)).

Figure 3.5.1 – 1

Format of the Element String														
GS1 Company Prefix and Item Reference													Check Digit	
(EAN/UCC-13)	0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>
(UCC-12)	0	0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>

The GS1 Company Prefix is allocated by GS1 Member Organisations to a system user. The Item Reference is assigned by the system user, who must observe the rules in [Section 2.1](#). Leading zeros are used to create a 14-digit number, which is required by the data carrier.

The Check Digit is explained in [Section 3.A.1](#). Its verification, usually carried out automatically by the bar code reader, ensures that the number is correctly composed. The symbology identifier shows whether or not the Check Digit has been validated. If it has not, the Check Digit verification must be programmed in the application software.

The data carrier for this Element String is the ITF-14 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]I1 and the number of the decoded digits (14). This Element String might not be supported at the Point-of-Sale.

The data transmitted from the bar code reader means that one Fixed Measure Trade Item with either an EAN/UCC-13 ID Number or a UCC-12 ID Number has been captured.

GTIN format\* of this number for processing in a 14-digit field

T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>	T <sub>6</sub>	T <sub>7</sub>	T <sub>8</sub>	T <sub>9</sub>	T <sub>10</sub>	T <sub>11</sub>	T <sub>12</sub>	T <sub>13</sub>	T <sub>14</sub>
0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>
0	0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>

\* T represents the position of each individual digit in a computer file format, N represents the position of each individual digit in a given data structure, and 0 represents a filler digit.

### 3.5.2 EAN/UCC-14 Identification Number: Identification of a Fixed Measure Trade Item (GTIN)

This Element String is based on the EAN/UCC-14 Data Structure (see [Section 1.3](#)). It may only be used for the identification of trade items that contain two or more trade items that share the same identification number.

Figure 3.5.2 – 1

Format of the Element String														
Global Trade Item Number™ (GTIN™)														
	Indicator	GTIN of Contained Trade Items (Without Check Digit)											Check Digit	
(EAN/UCC-8)	N <sub>1</sub>	0	0	0	0	0	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	N <sub>14</sub>
(UCC-12)	N <sub>1</sub>	0	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	N <sub>14</sub>
(EAN/UCC-13)	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	N <sub>14</sub>

The Indicator is a digit with a value of 1 to 8. It is assigned as required by the company that constructs the identification number. It can provide up to eight separate EAN/UCC-14 Identification Numbers to identify groupings of trade items.

The GTIN of the trade items contained must always be the EAN/UCC-13, UCC-12, or EAN/UCC-8 Identification Number of the relevant level of packaging contained, usually the lowest level. GTINs for restricted distribution must not be used in this Element String.

The Check Digit is explained in [Section 3.A.1](#). Its verification, usually carried out automatically by the bar code reader, ensures that the number is correctly composed. The symbology identifier shows whether or not the Check Digit has been validated. If it has not, the Check Digit calculation must be programmed in the application software.

The data carrier for this Element String is the ITF-14 Bar Code Symbol.

The system recognises this Element String by the symbology identifier J11 and the number of digits decoded (14). This Element String might not be supported at the Point-of-Sale.

The data transmitted from the bar code reader means that one Fixed Measure Trade Item with a GTIN has been captured. It is important that the EAN/UCC-14 Identification Number is always processed in its entirety.

GTIN format* of this number for	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>	T <sub>6</sub>	T <sub>7</sub>	T <sub>8</sub>	T <sub>9</sub>	T <sub>10</sub>	T <sub>11</sub>	T <sub>12</sub>	T <sub>13</sub>	T <sub>14</sub>
processing in a 14-digit field	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	N <sub>14</sub>

\* T represents the position of each individual digit in a computer file format, N represents the position of each individual digit in a given data structure.

### 3.5.3 EAN/UCC-14 Identification of a Variable Measure Trade Item (GTIN)

The identification of a Variable Measure Trade Item is usually represented in Element Strings using Application Identifiers as described in Sections 3.6.3, 3.6.20, and 3.6.21.

The Element String described in this section is an alternative that may be adequate in circumstances where an ITF-14 Symbol must be used to represent the identification number of the trade item.

Figure 3.5.3 – 1

Format of the Element String	
Global Trade Item Number™ (GTIN™)	
Indicator	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">                     GS1 Company Prefix                      →                 </div> <div style="text-align: center;">                     ←                      Item Reference                 </div> <div style="text-align: center;">                     Check digit                 </div> </div>
(UCC-12)	9    0   N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub> N <sub>8</sub> N <sub>9</sub> N <sub>10</sub> N <sub>11</sub> N <sub>12</sub> N <sub>13</sub> N <sub>14</sub>
(EAN/UCC-13)	9    N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub> N <sub>8</sub> N <sub>9</sub> N <sub>10</sub> N <sub>11</sub> N <sub>12</sub> N <sub>13</sub> N <sub>14</sub>

The digit 9 in the Indicator position indicates that the identification number is for a Variable Measure Trade Item.

The GS1 Company Prefix and the Item Reference are applied as described in Section 3.2.1. When the trade item contained is identified by an EAN/UCC-8 Identification Number and this product is sold in bulk, these two fields may be replaced by the EAN/UCC-8 Identification Number padded with five leading zeros without the Check Digit.

The Check Digit is explained in Section 3.A.1. Its verification, usually carried out automatically by the bar code reader, ensures that the number is correctly composed. The symbology identifier shows whether or not the Check Digit has been validated. If it has not, the Check Digit verification must be programmed in the application software.

The data carrier for this Element String is the ITF-14 Bar Code Symbol.

The system recognises this Element String by the symbology identifier J|1, the number of digits decoded (14), and the digit 9 in the Indicator position. This Element String might not be supported at the Point-of-Sale.

The data transmitted from the bar code reader means that the EAN/UCC-14 Identification Number of a Variable Measure Trade Item has been captured. To complete the item identification, the corresponding variable information must be present at the same time (see Sections 3.6.20 and 3.6.21).

GTIN format* of this number for	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>	T <sub>6</sub>	T <sub>7</sub>	T <sub>8</sub>	T <sub>9</sub>	T <sub>10</sub>	T <sub>11</sub>	T <sub>12</sub>	T <sub>13</sub>	T <sub>14</sub>
processing in a 14-digit field	9	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	N <sub>14</sub>

\* T represents the position of each individual digit in a computer file format, N represents the position of each individual digit in a given data structure.

### 3.6 GS1-128 Bar Code Symbols

This section describes the full strings beginning with symbology identifier ]C1

The sub-sections for the Element Strings are in order of Application Identifier. When the full string is made up from concatenated Element Strings, each Element String must be processed separately in association with the symbology identifier ]C1 from the full string.

#### 3.6.1 Identification of a Logistic Unit: AI (00)

Figure 3.6.1 – 1

Format of the Element String						
SSCC (Serial Shipping Container Code)						
Application Identifier	Extension Digit	GS1 Company Prefix      Serial Reference ←-----→      ←-----→				Check Digit
0 0	N <sub>1</sub>	N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub> N <sub>8</sub> N <sub>9</sub> N <sub>10</sub> N <sub>11</sub> N <sub>12</sub> N <sub>13</sub> N <sub>14</sub> N <sub>15</sub> N <sub>16</sub> N <sub>17</sub>			N <sub>18</sub>	
(UCC) 0 0	N <sub>1</sub>	0 N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub> N <sub>8</sub> N <sub>9</sub> N <sub>10</sub> N <sub>11</sub> N <sub>12</sub> N <sub>13</sub> N <sub>14</sub> N <sub>15</sub> N <sub>16</sub> N <sub>17</sub>			N <sub>18</sub>	

The Application Identifier (00) indicates that the data field contains an SSCC.

The Extension digit is used to increase the capacity of the Serial Reference within the SSCC. It is assigned by the company that constructs the SSCC.

The GS1 Company Prefix is allocated by GS1 Member Organisations to a system user (see [Section 1.2](#)). It makes the SSCC unique worldwide but does not identify the origin of the unit.

The structure and content of the Serial Reference is at the discretion of the system user responsible for its assignment.

The Check Digit is explained in [Section 3.A.1](#). Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the identification number of a logistic unit has been captured.

### 3.6.2 Identification of a Fixed Measure Trade Item (GTIN): AI (01)

This Element String is based on the UCC-12, EAN/UCC-8, EAN/UCC-13, or EAN/UCC-14 Data Structure (see [Section 1.3](#)).

Figure 3.6.2 – 1

Format of the Element String	
Application Identifier	Global Trade Item Number™ (GTIN™)   Check Digit
(EAN/UCC-8)	0 1   0 0 0 0 0 0 N <sub>1</sub> N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub>   N <sub>8</sub>
(UCC-12)	0 1   0 0 N <sub>1</sub> N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub> N <sub>8</sub> N <sub>9</sub> N <sub>10</sub> N <sub>11</sub>   N <sub>12</sub>
(EAN/UCC-13)	0 1   0 N <sub>1</sub> N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub> N <sub>8</sub> N <sub>9</sub> N <sub>10</sub> N <sub>11</sub> N <sub>12</sub>   N <sub>13</sub>
(EAN/UCC-14)	0 1   N <sub>1</sub> N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub> N <sub>8</sub> N <sub>9</sub> N <sub>10</sub> N <sub>11</sub> N <sub>12</sub> N <sub>13</sub>   N <sub>14</sub>

The Application Identifier (01) indicates that the data field contains a GTIN.

The GTIN can include an EAN/UCC-8, UCC-12, or EAN/UCC-13 Identification Number (described in [Sections 3.2.1](#) and [3.3.1](#)) or an EAN/UCC-14 Identification Number (described in [Section 3.5.2](#)).

The Check Digit is explained in [Section 3.A.1](#). Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the identification number of a Fixed Measure Trade Item has been captured

	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>	T <sub>6</sub>	T <sub>7</sub>	T <sub>8</sub>	T <sub>9</sub>	T <sub>10</sub>	T <sub>11</sub>	T <sub>12</sub>	T <sub>13</sub>	T <sub>14</sub>
GTIN format* of these numbers for	0	0	0	0	0	0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>
processing in a 14-digit field	0	0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>
	0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>
	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	N <sub>14</sub>

\* T represents the position of each individual digit in a computer file format, N represents the position of each individual digit in a given data structure, and 0 represents a filler digit.



### 3.6.3 Identification of a Variable Measure Trade Item (GTIN): AI (01)

This Element String is a special application of the EAN/UCC-14 Data Structure.

Figure 3.6.3 – 1

Format of the Element String															
Application Identifier	Global Trade Item Number™ (GTIN™)														
	Indicator	GS1 Company Prefix						Item Reference					Check Digit		
(UCC-12)	0 1	9	0	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	N <sub>14</sub>
(EAN/UCC-13)	0 1	9	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	N <sub>14</sub>

The Application Identifier (01) indicates that the data field contains a GTIN.

The digit 9 in the Indicator position indicates that the item identified is a Variable Measure Trade Item.

The GS1 Company Prefix and the Item Reference are described in [Section 3.2.1](#). When the trade item contained is identified by an EAN/UCC-8 Identification Number and this product is sold in bulk, these two fields may be replaced by the EAN/UCC-8 Identification Number padded with five leading zeros without the Check Digit.

The Check Digit is explained in [Section 3.A.1](#). Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier JC1, the Application Identifier, and the digit 9 in the Indicator position.

The data transmitted from the bar code reader means that the EAN/UCC-14 Identification Number of a Variable Measure Trade Item has been captured. To complete the item identification, the variable information must be present at the same time (see [Sections 3.6.20](#) and [3.6.21](#)).

GTIN format* of this number for	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>	T <sub>6</sub>	T <sub>7</sub>	T <sub>8</sub>	T <sub>9</sub>	T <sub>10</sub>	T <sub>11</sub>	T <sub>12</sub>	T <sub>13</sub>	T <sub>14</sub>
processing in a 14-digit field	9	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	N <sub>14</sub>

\* T represents the position of each individual digit in a computer file format, N represents the position of each individual digit in a given data structure.

### 3.6.4 Identification of Trade Items Contained in a Logistic Unit - Fixed Measure: AI (02)

Note: This Element String may be used only on a logistic unit that is not itself a trade item and if all trade items that are contained at the same level have the same Global Trade Item Number™ (GTIN™).

Figure 3.6.4 – 1

Format of the Element String														
Application Identifier	GTIN of the Contained Trade Items													Check Digit
0 2	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	N <sub>14</sub>

The Application Identifier (02) indicates that the data field includes the GTIN of the contained trade items.

The GTIN of the trade items contained represents the identification number of the highest level of trade item contained in the logistic unit.

The Check Digit is explained in [Section 3.A.1](#). Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The data carrier of this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the identification number of Fixed Measure Trade Items contained in a logistic unit has been captured. It must be processed together with Element String AI (37) that must appear on the same unit (see [Section 3.6.24](#)).

### 3.6.5 Identification of Trade Items Contained in a Logistic Unit - Variable Measure: AI (02)

Note: This Element String may be used only on a logistic unit that is not itself a trade item and if all trade items that are contained at the same level have the same Global Trade Item Number™ (GTIN™). If the trade items are variable measure retail items, then this GTIN will be the implied item number that does not appear on the items contained.

Figure 3.6.5 – 1

Format of the Element String														
Application Identifier	GTIN of the Contained Trade Item													Check Digit
0 2	9	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	N <sub>14</sub>

The Application Identifier (02) indicates that the data field includes the GTIN of the contained trade items.

The GTIN of the trade items contained represents the identification number of the highest level of items contained in the logistic unit.

The Check Digit is explained in Section 3.A.1. Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the EAN/UCC-14 Identification Number of a Variable Measure Trade Item contained in a logistic unit has been captured. It must be processed with Element String AI (37) and a valid trade measure that must appear on the same unit (see Sections 3.6.20, 3.6.21, and 3.6.24).

### 3.6.6 Batch or Lot Number: AI (10)

Figure 3.6.6 – 1

Format of the Element String	
Application Identifier	Batch or Lot Number
1 0	X <sub>1</sub> ————— variable length —————> X <sub>20</sub>

The Application Identifier (10) indicates that the data field contains a batch or lot number.

The batch or lot number gives whatever information the manufacturer (the party with responsibility for traceability of the trade item) considers relevant to the trade item to which the Element String is applied. The data may refer to the trade item itself or to items contained. The number may be, for example, a production lot number, a shift number, a machine number, a time, or an internal production code. The data is alphanumeric and may include all characters contained in [Figure 3.A.3 – 1](#).

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted by the bar code reader means that the Element String denoting a batch or lot number has been captured. As it is an attribute of a particular item, the batch or lot number should not be processed on its own, but together with the Global Trade Item Number™ (GTIN™) of the trade item to which it relates.

Note: The batch or lot number is not part of the unique identification of a trade item.

### 3.6.7 Production Date: AI (11)

Figure 3.6.7 – 1

Format of the Element String			
Application Identifier	Production Date		
	Year	Month	Day
1 1	N <sub>1</sub> N <sub>2</sub>	N <sub>3</sub> N <sub>4</sub>	N <sub>5</sub> N <sub>6</sub>

The Application Identifier (11) indicates that the data fields contain a production date.

The production date is the production or assembly date determined by the manufacturer. The date may refer to the trade item itself or to items contained.

The structure is:

Year: the tens and units of the year (e.g., 2003 = 03), which is mandatory.

Month: the number of the month (e.g., January = 01), which is mandatory.

Day: the number of the day of the relevant month (e.g., second day = 02); if it is not necessary to specify the day, the field must be filled with two zeros

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String denoting a production date has been captured. As it is an attribute of a trade item, the production date should not be processed on its own, but together with the Global Trade Item Number™ (GTIN™) of the trade item to which it relates.

Note: This Element String can only specify dates ranging from 49 years in the past to 50 years in the future. Determination of the correct century is explained in [Section 3.A.5](#).

### 3.6.8 Due Date for Amount on Payment Slip: AI (12)

Figure 3.6.8 – 1

Format of the Element String			
Application Identifier	Due Date		
	Year	Month	Day
1 2	N <sub>1</sub> N <sub>2</sub>	N <sub>3</sub> N <sub>4</sub>	N <sub>5</sub> N <sub>6</sub>

The Application Identifier (12) indicates that the data fields contain the date by which an invoice should be paid.

The structure is:

Year: the tens and units of the year (e.g., 1998 = 98), which is mandatory.

Month: the number of the month (e.g., January = 01), which is mandatory.

Day: the number of the day of the relevant month (e.g., second day = 02); if it is not necessary to specify the day, the field must be filled with two zeros

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that a due date has been captured. Since this data element represents an attribute of a Payment Slip Reference Number, AI (8020), and a Global Location Number (GLN) of the invoicing party, it should not be processed on its own.

Note: This Element String can only specify dates ranging from 49 years in the past to 50 years in the future. Determination of the correct century is explained in [Section 3.A.5](#).

### 3.6.9 Packaging Date: AI (13)

Figure 3.6.9 – 1

Format of the Element String			
Application Identifier	Packaging Date		
	Year	Month	Day
1 3	N <sub>1</sub> N <sub>2</sub>	N <sub>3</sub> N <sub>4</sub>	N <sub>5</sub> N <sub>6</sub>

The Application Identifier (13) indicates that the data fields contain a packaging date.

The packaging date is the date when the goods were packed as determined by the packager. The date may refer to the trade item itself or to items contained.

The structure is:

Year: the tens and units of the year (e.g., 2003 = 03), which is mandatory.

Month: the number of the month (e.g., January = 01), which is mandatory.

Day: the number of the day of the relevant month (e.g., second day = 02); if it is not necessary to specify the day, the field must be filled with two zeros

The data carrier of this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String denoting a packaging date has been captured. As it is an attribute of a trade item, the packaging date should not be processed on its own, but together with the Global Trade Item Number™ (GTIN™) of the trade item to which it relates.

Note: This Element String can only specify dates ranging from 49 years in the past to 50 years in the future. Determination of the correct century is explained in [Section 3.A.5](#).

**3.6.10 Best Before Date: AI (15)**

Figure 3.6.10 – 1

Format of the Element String			
Application Identifier	Best Before Date		
	Year	Month	Day
1 5	N <sub>1</sub> N <sub>2</sub>	N <sub>3</sub> N <sub>4</sub>	N <sub>5</sub> N <sub>6</sub>

The Application Identifier (15) indicates that the data fields contain a best before date.

The best before date indicates the ideal consumption or best effective use date of a product. It is a statement about quality. It is often referred to as a sell by date or a minimum durability date.

The structure is:

Year: the tens and units of the year (e.g., 2003 = 03), which is mandatory.

Month: the number of the month (e.g., January = 01), which is mandatory.

Day: the number of the day of the relevant month (e.g., second day = 02); if it is not necessary to specify the day, the field must be filled with two zeros

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String denoting best before date has been captured. As it is an attribute of a trade item, the best before date should not be processed on its own, but together with the Global Trade Item Number™ (GTIN™) of the trade item to which it relates.

Note: This Element String can only specify dates ranging from 49 years in the past to 50 years in the future. Determination of the correct century is explained in [Section 3.A.5](#).



**3.6.11 Expiration Date : AI (17)**

Figure 3.6.11 – 1

Format of the Element String			
Application Identifier	Expiration Date		
	Year	Month	Day
1 7	N <sub>1</sub> N <sub>2</sub>	N <sub>3</sub> N <sub>4</sub>	N <sub>5</sub> N <sub>6</sub>

The Application Identifier (17) indicates that the data fields contain an expiration date.

The expiration date is the date that determines the limit of consumption or use of a product. Its meaning is determined based on the trade item context (e.g., for food the date will indicate the possibility of a direct health risk resulting from use of the product after the date, for pharmaceutical products it will indicate the possibility of an indirect health risk resulting from the ineffectiveness of the product after the date). It is often referred to as "use by date" or "maximum durability date."

The structure is:

Year: the tens and units of the year (e.g., 2003 = 03), which is mandatory.

Month: the number of the month (e.g., January = 01), which is mandatory.

Day: the number of the day of the relevant month (e.g., second day = 02); if it is not necessary to specify the day, the field must be filled with two zeros

The data carrier of the Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String denoting expiration date has been captured. Since the Element String represents an attribute of a trade item, the expiration date should not be processed on its own, but together with the Global Trade Item Number™ (GTIN™) of the trade item to which it relates.

Note: This Element String can only specify dates ranging from 49 years in the past to 50 years in the future. Determination of the correct century is explained in [Section 3.A.5](#).

### 3.6.12 Product Variant: AI (20)

This Element String is used to distinguish a variant from the standard item if the variation is not sufficiently significant to require a separate Global Trade Item Number™ (GTIN™) and if the difference is relevant only to the manufacturer.

The product variant is only for use by the manufacturer, and not for the dealings with business partners.. Although the Element String will not have meaning outside the company who issued it, the Element String may remain on the item throughout distribution.

Figure 3.6.12 – 1

Format of the Element String	
Application Identifier	Variant Number
2 0	N <sub>1</sub> N <sub>2</sub>

The Application Identifier (20) indicates that the data field contains a variant number.

The variant number is assigned by the user of the Element String. It forms a subsidiary numbering facility that can be used in addition to the item's identification number and allows the creation of 100 variants of a particular item.

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String denoting a product variant has been captured. The product variant must always be decoded and processed together with the GTIN from the same item. Outside of the applying company, it is decoded and ignored.

### 3.6.13 Serial Number: AI (21)

Figure 3.6.13 – 1

Format of the Element String	
Application Identifier	Serial Number
2 1	$X_1$ ————— variable length ————— $X_{20}$

The Application Identifier (21) indicates that the data field contains a serial number.

A serial number is assigned to an entity for its lifetime. When combined with a Global Trade Item Number™ (GTIN™), a serial number uniquely identifies an individual item. The serial number field is alphanumeric and may include all characters contained in [Figure 3.A.3 – 1](#). The manufacturer determines the serial number.

The data carrier of this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String denoting a serial number has been captured. The Element String represents an attribute of a trade item and, therefore, the serial number should not be processed on its own, but together with the identification number of the trade item to which it relates.

### 3.6.14 Secondary Data for Specific Health Industry Products: AI (22)

Figure 3.6.14 – 1

Format of the Element String	
Application Identifier	Secondary Data Fields
2 2	X <sub>1</sub> ————— variable length —————> X <sub>29</sub>

The Application Identifier (22) indicates that the data field contains the secondary data for specific health industry products (quantity, expiration date, and lot number). The secondary data fields are described in [Section 7.8](#).

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

Note: This Element String was developed to accommodate an existing, non-GS1 System, standard used for specific healthcare products. The Element String is not recommended for new applications or other industries. The use of the Element Strings denoting expiration date and lot number are recommended instead.

### 3.6.15 Additional Product Identification Assigned by the Manufacturer: AI (240)

The purpose of this Element String is to enable identification data other than the Global Trade Item Number™ (GTIN™) to be represented in a GS1 System data carrier. It is a cross-reference to previously used catalogue numbers. The additional item identification is considered an attribute of the GTIN (e.g., it facilitates migration to the GS1 System during a transitional period). However, it must not be used to replace the GTIN.

Figure 3.6.15 – 1

Format of the Element String	
Application Identifier	Additional Item Identification
2 4 0	X <sub>1</sub> ————— variable length —————> X <sub>30</sub>

The Application Identifier (240) indicates that the data field contains additional item identification.

The additional item identification field is alphanumeric and may include all characters contained in [Figure 3.A.3 – 1](#). Its content and structure are at the discretion of the company applying the Element String.

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String denoting an additional item identification has been captured.

### 3.6.16 Customer Part Number: AI (241)

The purpose of this Element String is to enable identification data other than the Global Trade Item Number™ (GTIN™) to be represented in a GS1 System data carrier. The Element String should only be used between trading partners that are currently using the customer part number for ordering and who have agreed on a timetable to convert to the GTIN for their business purposes. Therefore, the use of the GTIN and the AI (241) on trade items is for transitional use during the conversion. The customer part number must not be used in place of the GTIN.

Figure 3.6.16 – 1

Format of the Element String	
Application Identifier	Customer Part Number
2 4 1	X <sub>1</sub> ————— variable length —————> X <sub>30</sub>

The Application Identifier (241) indicates that the data field contains a customer part number.

The customer part number field is alphanumeric and may include all characters contained in [Figure 3.A.3 – 1](#).

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String denoting a customer part number has been captured.

### 3.6.17 Secondary Serial Number: AI (250)

While the Element String using AI (21) (see [Section 3.6.13](#)) contains the serial number of the trade item, the Element String denoting a secondary serial number represents the serial number of a component of that item. The company applying the Element String determines which component the Element String refers to for a given trade item. The recognition of the meaning of the secondary serial number is accomplished via the Global Trade Item Number™ (GTIN™) and information provided by the issuer regarding the component to which the secondary serial number refers.

If this Element String is being used, the trade item must be symbol marked with the following Element Strings:

- AI (01): representing the GTIN of the trade item
- AI (21): representing the serial number of the trade item
- AI (250): representing the serial number of a component of the trade item

Only one Element String with AI (250) may be associated with a particular GTIN.

Figure 3.6.17 – 1

Format of the Element String	
Application Identifier	Secondary Serial Number
2 5 0	X <sub>1</sub> ————— variable length —————> X <sub>30</sub>

The Application Identifier (250) indicates that the data field contains a secondary serial number.

The secondary serial number field is alphanumeric and may include all characters contained in [Figure 3.A.3 – 1](#). The number and to what component it relates is determined by the issuer.

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String denoting a secondary serial number has been captured.

### 3.6.18 Reference to Source Entity: AI (251)

Reference to source entity is an attribute of a trade item used to refer to the original item from which the trade item was derived. The issuer of the trade item must indicate through other means the source entity to which the data refers.

For example, the original item could be an animal from which a carcass of beef is derived. This Element String would enable reference to the original animal, so that, if the animal was found to be contaminated, all derived products could be isolated. In addition, it could also be used for regulatory compliance when recycling parts from various white goods, such as refrigerators, where it is necessary to refer to the original appliance.

Figure 3.6.18 – 1

Format of the Element String	
Application Identifier	Reference to Source Entity
2 5 1	X <sub>1</sub> ————— variable length —————> X <sub>30</sub>

The Application Identifier (251) indicates that the data field consists of a reference to the original item.

The reference to the source entity field is alphanumeric and may include all characters contained in [Figure 3.A.3 – 1](#).

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by symbology identifier JC1 and the Application Identifier.

The data transmitted by the bar code reader means that the Element String denoting a reference to source entity has been captured. Since this Element String represents an attribute of a Global Trade Item Number™ (GTIN™), the reference to the source entity should not be processed on its own.



### 3.6.19 Global Document Type Identifier (GDTI): AI (253)

This Element String is based on the EAN/UCC-13 or UCC-12 Data Structure (see [Section 1.3](#)).

Figure 3.6.19 – 1

Format of the Element String					
	Application Identifier	Global Document Type Identifier (GDTI)			Serial Component (Optional)
		GS1 Company Prefix →	Document Type ←	Check Digit	
(UCC-12)	2 5 3	0 N <sub>1</sub> N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub> N <sub>8</sub> N <sub>9</sub> N <sub>10</sub> N <sub>11</sub>		N <sub>12</sub>	N <sub>1</sub> — variable → N <sub>17</sub>
(EAN/UCC-13)	2 5 3	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub> N <sub>8</sub> N <sub>9</sub> N <sub>10</sub> N <sub>11</sub> N <sub>12</sub>		N <sub>13</sub>	N <sub>1</sub> — variable → N <sub>17</sub>

The Application Identifier (253) indicates that the data field contains the Global Document Type Identifier.

The GS1 Company Prefix is the GS1 Company Prefix of the document issuer (see [Section 1.2](#)). It makes the number unique worldwide.

The Document Type Reference is assigned by the document issuer.

The Check Digit is explained in [Section 3.A.1](#). Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The optional serial component is assigned to a single document for its lifetime. When combined with a Global Document Type Identifier it uniquely identifies an individual document. The serial component field is numeric and may contain up to seventeen digits. The issuer of the document determines the serial component.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the Global Document Type Identifier has been captured. It may be processed according to the particular application requirements.

### 3.6.19.1 GLN Extension Component: AI (254)

Figure 3.6.19.1 – 1

Format of the Element String	
Application Identifier	GLN Extension component
254	A/N <sub>1</sub> — variable length —> A/N <sub>20</sub>

The Application Identifier (254) indicates that the data field contains an extension component of a Global Location Number (GLN). The use of AI (254) is optional, but when used it must be in conjunction with AI (414) Identification of a physical location.

The GS1 Company Prefix owner determines the extension component. Once determined, it is unchanged for the life of the associated GLN.

The data carrier of this Element String is the EPC Tag, a GS1-128 or an RSS Bar Code Symbol.

The data transmitted from the reader means that the Element String denoting an extension component of a GLN has been captured. The Element String represents an attribute of a GLN and therefore, the extension component should not be processed alone, but with the identification number of the GLN to which it relates.

### 3.6.20 Variable Count: AI (30)

This Element String is used to complete the identification of a Variable Measure Trade Item. It contains the number of items contained in such a unit and, therefore, should never be applied in isolation.

Figure 3.6.20 – 1

Format of the Element String	
Application Identifier	Count of Items
3 0	N <sub>1</sub> — variable length —> N <sub>8</sub>

The Application Identifier (30) indicates that the data field contains the number of items contained in a Variable Measure Trade Item.

The count of items field represents the quantity contained in the respective trade item. It is of variable length and may have up to eight digits.

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier. The data transmitted from the bar code reader means that the quantity (count of items), which can be considered part of the identification of a Variable Measure Trade Item, has been captured. The variable count must be processed with the Global Trade Item Number™ (GTIN™) of the trade item to which it relates.

Note: This Element String must not be used to indicate the contained quantity of a Fixed Measure Trade Item. However, if this Element String appears on a Fixed Measure Trade Item (in error) it should not invalidate the item identification but should be treated as redundant data.

### 3.6.21 Trade Measures: AIs (31nn, 32nn, 35nn, 36nn)

These Element Strings are used to complete the identification of a Variable Measure Trade Item. They contain information such as the weight, size, volume, or dimension of a variable measure trade item and, therefore, should never be applied alone. Several Element Strings are possible if the variables required are dimensions or weights expressed in kilograms and pounds.

Figure 3.6.21 – 1

Format of the Element String	
Application Identifier	Applicable Value
A <sub>1</sub> A <sub>2</sub> A <sub>3</sub> A <sub>4</sub>	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub>

The Application Identifier digits (A<sub>1</sub> to A<sub>3</sub>) (see [Figure 3.6.21 – 2](#)) indicate that the data field contains the quantity or dimension of a Variable Measure Trade Item. It also denotes the unit of measure.

The Application Identifier digit A<sub>4</sub> indicates the implied decimal point position, where, for example, the digit 0 means that there is no decimal point, and the digit 1 means that the decimal point is between N<sub>5</sub> and N<sub>6</sub>.

The Application Identifiers used with this Element String are shown in [Figure 3.6.21 – 2](#).

Figure 3.6.21 – 2

A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	Trade Measure	Unit of Measure
3	1	0	Net weight	Kilograms
3	1	1	Length or first dimension	Metres
3	1	2	Width, diameter, or second dimension	Metres
3	1	3	Depth, thickness, height, or third dimension	Metres
3	1	4	Area	Square metres
3	1	5	Net volume	Litres
3	1	6	Net volume	Cubic metres
3	2	0	Net weight	Pounds
3	2	1	Length or first dimension	Inches
3	2	2	Length or first dimension	Feet
3	2	3	Length or first dimension	Yards
3	2	4	Width, diameter, or second dimension	Inches
3	2	5	Width, diameter, or second dimension	Feet
3	2	6	Width, diameter, or second dimension	Yards
3	2	7	Depth, thickness, height, or third dimension	Inches
3	2	8	Depth, thickness, height, or third dimension	Feet
3	2	9	Depth, thickness, height, or third dimension	Yards
3	5	0	Area	Square inches
3	5	1	Area	Square feet
3	5	2	Area	Square yards
3	5	6	Net weight	Troy ounces
3	5	7	Net weight (or volume)	Ounces
3	6	0	Net volume	Quarts
3	6	1	Net volume	Gallons (U.S.)
3	6	4	Net volume	Cubic inches
3	6	5	Net volume	Cubic feet
3	6	6	Net volume	Cubic yards

The applicable value field contains the variable measure that applies to the respective trade item.

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the quantity, which can be considered part of the identification of a Variable Measure Trade Item, has been captured. It must be processed with the Global Trade Item Number™ (GTIN™) of the trade item to which it relates.

Note: Other values of AI (3nnn) specify gross measures and logistic measures.

Note: The approval number of processor is usually assigned by a national or pluri-national authority.

### 3.6.22 Logistic Measures: AIs (33nn, 34nn, 35nn, 36nn)

Note: The GS1 System provides standards for logistic weights and measures in metric and other units of measure. In principle, a particular logistic measure should be applied in only one unit of measure on a given logistic unit. However, application of the same attribute in several units of measure does not impede the correct processing of the transmitted data.

Figure 3.6.22 – 1

Format of the Element String	
Application Identifier	Applicable Value
A <sub>1</sub> A <sub>2</sub> A <sub>3</sub> A <sub>4</sub>	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub>

The Application Identifier digits (A<sub>1</sub> to A<sub>3</sub>) (see [Figure 3.6.22 – 2](#)) indicate that the data field contains the logistic quantity or dimension of a Logistic Unit or a Variable Measure Trade Item. It also denotes the unit of measure.

The Application Identifier digit A<sub>4</sub> indicates the implied decimal point position, where, for example, the digit 0 means that there is no decimal point, and the digit 1 means that the decimal point is between N<sub>5</sub> and N<sub>6</sub>.

The Application Identifiers used with this Element String are shown in [Figure 3.6.22 – 2](#).

Figure 3.6.22 – 2

A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	Definition of Logistic Measures	Unit of Measure
3	3	0	Logistic weight	Kilograms
3	3	1	Length or first dimension	Metres
3	3	2	Width, diameter, or second dimension	Metres
3	3	3	Depth, thickness, height, or third dimension	Metres
3	3	4	Area	Square metres
3	3	5	Logistic volume	Litres
3	3	6	Logistic volume	Cubic metres
3	4	0	Logistic weight	Pounds
3	4	1	Length or first dimension	Inches
3	4	2	Length or first dimension	Feet
3	4	3	Length or first dimension	Yards
3	4	4	Width, diameter, or second dimension	Inches
3	4	5	Width, diameter, or second dimension	Feet
3	4	6	Width, diameter, or second dimension	Yards
3	4	7	Depth, thickness, height, or third dimension	Inches
3	4	8	Depth, thickness, height, or third dimension	Feet
3	4	9	Depth, thickness, height, or third dimension	Yards
3	5	3	Area	Square inches
3	5	4	Area	Square feet
3	5	5	Area	Square yards
3	6	2	Logistic volume	Quarts
3	6	3	Logistic volume	Gallons (U.S.)
3	6	7	Logistic volume	Cubic inches
3	6	8	Logistic volume	Cubic feet
3	6	9	Logistic volume	Cubic yards

The applicable value field represents the measures of the respective unit.

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that a logistic measure has been captured. It must be processed with the SSCC or the Global Trade Item Number™ (GTIN™) of the Variable Measure Trade Item appearing on the same unit.

### 3.6.23 Kilograms Per Square Metre: AI (337n)

This Element String is used to indicate the exact weight per square metre of a particular trade item.

Figure 3.6.23 – 1

Format of the Element String						
Application Identifier	Kilograms Per Square Metre					
3 3 7 n	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>

The Application Identifier digits (337) indicate that the data field contains kilograms per square metre.

The Application Identifier digit shown as “n” indicates the implied decimal point position, where, for example, the digit 0 means that there is no decimal point, and the digit 1 means that the decimal point is between N<sub>5</sub> and N<sub>6</sub>.

The kilograms per square metre field contains the weight per area of the respective trade item. The unit of measure is kilograms.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String denoting kilograms per square metre has been captured. Since the Element String represents an attribute of a trade item, it should not be processed on its own, but together with the Global Trade Item Number™ (GTIN™) of the trade item to which it relates.



### 3.6.24 Count of Trade Items Contained in a Logistic Unit: AI (37)

This Element String is a mandatory completion of the identification described in Sections [3.6.4](#) and [3.6.5](#).

Figure 3.6.24 – 1

Format of the Element String	
Application Identifier	Count of Trade Items
3 7	$N_1$ ——— variable length ———→ $N_8$

The Application Identifier (37) indicates that the data field contains the number of trade items contained in a logistic unit.

The count of trade items field contains the number of trade items contained in the respective logistic unit. This information refers to the identification number of the contained trade items.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the number of trade items contained in a logistic unit has been captured. This number must be processed with the identification number represented in AI (02) (see Sections [3.6.4](#) and [3.6.5](#)) appearing on the same logistic unit.

### 3.6.25 Amount Payable - Single Monetary Area: AI (390n)

Note: To aid unambiguous processing AI (391n), described in [Section 3.6.26](#), should be used to indicate the currency in which the amount is expressed.

Figure 3.6.25 – 1

Format of the Element String	
Application Identifier	Applicable Amount Payable
3 9 0 n	N <sub>1</sub> ————— variable length —————> N <sub>15</sub>

The Application Identifier digits(390) indicate that the data field contains the amount payable of a payment slip.

The Application Identifier digit shown as “n” indicates the implied decimal point position, where the digit 0 means that there is no decimal point, and the digit 1 means that the decimal point is before the last position of the amount payable. See examples in [Figure 3.6.25 – 2](#).

The applicable amount payable contains the sum to be paid with the respective payment slip.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data string transmitted from the bar code reader means that the amount payable of a payment slip has been captured. Since this Element String represents an attribute of a Payment Slip Reference Number and a Global Location Number (GLN) of the invoicing party, the amount payable should not be processed on its own.

See [Figure 3.6.25 – 2](#) for an example of the decimal point indication.

Figure 3.6.25 – 2

Application Identifier	Encoded Value	Actual Value
3 9 0 2	1 2 3 4 5 6 7	1 2 3 4 5 . 6 7
3 9 0 1	1 2 3 4 5 6 7	1 2 3 4 5 6 . 7 0
3 9 0 0	1 2 3 4 5	1 2 3 4 5 . 0 0

### 3.6.26 Amount Payable and ISO Currency Code: AI (391n)

Figure 3.6.26 – 1

Format of the Element String		
Application Identifier	ISO Currency Code	Applicable Amount Payable
3 9 1 n	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub>	N <sub>4</sub> ——— variable length ———> N <sub>18</sub>

The Application Identifier digits (391) indicate that the data fields consist of an ISO currency code and an applicable amount payable.

The Application Identifier digit shown as “n” indicates the implied decimal point position in the applicable amount payable field, where the digit 0 means that there is no decimal point, and the digit 1 means that the decimal point is before the last position of the amount payable. See examples in [Figure 3.6.26 – 2](#).

The ISO country code field contains the three-digit currency number of the numerical international standard ISO 4217 (data readily available on the Internet) and indicates the currency in which the amount payable is expressed.

The applicable amount payable contains the sum to be paid with the respective payment slip.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data string transmitted from the bar code reader means that the amount payable has been captured. Since this Element String represents an attribute of a Payment Slip Reference Number and a Global Location Number (GLN) of the invoicing party, it should not be processed on its own.

See [Figure 3.6.26 – 2](#) for an example of the decimal point indication. [Figure 3.6.26 – 2](#)

Application Identifier	ISO Currency Code	Encoded Value	Actual Value
3 9 1 2	7 1 0*	1 2 3 0	1 2 . 3 0
3 9 1 1	7 1 0*	1 2 3 0	1 2 3 . 0 0
3 9 1 0	9 7 8**	1 2 3	1 2 3 . 0 0

\* South African rand

\*\* Euro

**3.6.27 Amount Payable for a Variable Measure Trade Item – Single Monetary Area: AI (392n)**

The amount payable refers to an item identified by the Global Trade Item Number™ (GTIN™) of a Variable Measure Trade Item and is expressed in local currency. This AI is an attribute of the GTIN and is always used in conjunction with it.

Figure 3.6.27 – 1

Format of the Element String	
Application Identifier	Applicable Amount Payable
3 9 2 n	N <sub>1</sub> ————— variable length —————> N <sub>15</sub>

The Application Identifier digits (392) indicate that the data field contains the amount payable for a Variable Measure Trade Item.

The Application Identifier digit shown as “n” indicates the implied decimal point position, where the digit 0 means that there is no decimal point, and the digit 1 means that the decimal point is before the last position of the amount payable.

The applicable amount payable contains the total to be paid for the Variable Measure Trade Item.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted by the bar code reader means that the Element String denoting amount payable of a Variable Measure Trade Item has been captured. Since this Element String represents an attribute of a GTIN, the amount payable should not be processed on its own.

See Figure 3.6.27 – 2 for an example of the decimal point indication.

Figure 3.6.27 – 2

Application Identifier	Encoded Value	Actual Value
3 9 2 2	1 2 3 4 5 6 7	1 2 3 4 5 . 6 7
3 9 2 1	1 2 3 4 5 6 7	1 2 3 4 5 6 . 7 0
3 9 2 0	1 2 3 4 5	1 2 3 4 5 . 0 0

**3.6.28 Amount Payable for a Variable Measure Trade Item and ISO Currency Code: AI (393n)**

The amount payable refers to an item identified with the Global Trade Item Number™ (GTIN™) of a Variable Measure Trade Item and is expressed in the indicated currency. This AI is an attribute of the GTIN and is always expressed in conjunction with it.

Figure 3.6.28 – 1

Format of the Element String		
Application Identifier	ISO Currency Code	Applicable Amount Payable
3 9 3 n	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub>	N <sub>4</sub> ——— variable length ———> N <sub>18</sub>

The Application Identifier (393) indicates that the data field consists of an ISO currency code and an applicable amount payable.

The Application Identifier digit shown as “n” indicates the implied decimal point in the applicable amount payable field, where the digit 0 means that there is no decimal point, and the digit 1 means that the decimal point is before the last position of the amount payable.

The ISO currency code field contains the three-digit currency number of the numerical international standard ISO/IEC 4217 (data readily available on the Internet) and indicates the currency in which the amount payable is expressed.

The applicable amount payable field contains the sum to be paid for the Variable Measure Trade Item.

The data carrier of this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted by the bar code reader means that the Element String denoting amount payable of a Variable Measure Trade Item has been captured. Since this Element String represents an attribute of a GTIN, the amount payable should not be processed on its own.

See Figure 3.6.28 – 2 for an example of the decimal point indication.

Figure 3.6.28 – 2

Application Identifier	ISO Currency Code	Encoded Value	Actual Value
3 9 3 2	7 1 0*	1 2 3 0	1 2 . 3 0
3 9 3 1	7 1 0*	1 2 3 0	1 2 3 . 0 0
3 9 3 0	9 7 8**	1 2 3	1 2 3 . 0 0

\*South African rand

\*\*Euro

### 3.6.29 Customer's Purchase Order Number: AI (400)

Figure 3.6.29 – 1

Format of the Element String	
Application Identifier	Customer's Purchase Order Number
4 0 0	X <sub>1</sub> ← variable length → X <sub>30</sub>

The Application Identifier (400) indicates that the data field contains the customer's purchase order number, restricted for use between two trading partners.

The customer's purchase order number field is alphanumeric and may include all characters contained in [Figure 3.A.3 – 1](#). It contains the number of the purchase order assigned by the company that issued the order. The composition and content of the order number is left to the discretion of the customer. For example, the purchase order number may include release and line numbers.

The data carrier of this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted by the bar code reader means that the Element String denoting a customer's purchase order number has been captured. It may be processed as stand-alone information where applicable or processed with the identification data of the same unit.

Warning: This Element String must be removed from the unit before the unit leaves the premises of the customer.

### 3.6.30 Consignment Number: AI (401)

The consignment number identifies a logical grouping of goods (one or more physical entities) that has been consigned to a freight forwarder and is intended to be transported as a whole. The consignment number must be allocated by a freight forwarder (or carriers acting as a freight forwarder) or a consignor, but only if the prior agreement of the freight forwarder is given. Typically AI (401) encodes a House Way Bill (HWB) number.

A freight forwarder (as per *Multi Industry Scenario for Transport – MIST*) is a party that arranges the carriage of goods including connected services and/or associated formalities on behalf of a shipper or consignee.

A carrier (as per *MIST*) is a party that undertakes the transportation of goods from one point to another.

A consignor (as per *MIST*) is the party that sends the goods.

Figure 3.6.30 – 1

Format of the Element String	
Application Identifier	Consignment Number
	GS1 Company Prefix      Consignment Information 
4 0 1	$N_1 \dots N_i$ $X_{i+1} \dots$ variable length $X_j (j \leq 30)$

The Application Identifier (401) indicates that the data field contains a consignment number.

The consignment number is composed of the GS1 Company Prefix of the carrier and the actual consignment information. The structure of the consignment information following the GS1 Company Prefix is left to the discretion of the user of the Element String. It may contain all characters contained in [Figure 3.A.3 – 1](#).

The data carrier of this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier J1 and the Application Identifier.

The data transmitted by the bar code reader means that the Element String denoting a consignment number has been captured. The consignment number may be processed as stand-alone information where applicable or with other identification data appearing on the same unit.

Note: If a new consignment is created, previously bar coded consignment number Element Strings must be removed from the physical units.

### 3.6.31 Shipment Identification Number: AI (402)

The Shipment Identification Number (Bill of Lading) is a number assigned by a consignor. It provides a globally unique number that identifies a logical grouping of physical units for the purpose of a transport shipment. It may be used by all parties in the transport chain as a communication reference, for example, in Electronic Data Interchange (EDI) messages where it can be used as a shipment reference and/or a consignor's loading list.

Figure 3.6.31 – 1

Format of the Element String			
Application Identifier	Shipment Identification Number		
	GS1 Company Prefix	Shipper Reference	Check Digit
4 0 2	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub> N <sub>8</sub> N <sub>9</sub> N <sub>10</sub> N <sub>11</sub> N <sub>12</sub> N <sub>13</sub> N <sub>14</sub> N <sub>15</sub> N <sub>16</sub>		N <sub>17</sub>

The Application Identifier (402) indicates that the data field contains a Shipment Identification Number.

The GS1 Company Prefix in this Element String is the GS1 Company Prefix of the consignor (see [Section 1.2](#))

The shipper reference is assigned by the consignor.

The Check Digit is explained in [Section 3.A.1](#). Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted by the bar code reader means that the Element String denoting a Shipment Identification Number has been captured. The Shipment Identification Number may be processed as stand-alone information where applicable or with other identification data appearing on the same unit.

Note: Numbers should be sequentially allocated.



### 3.6.32 Routing Code: AI (403)

The routing code is assigned by the parcel carrier and is an attribute of the SSCC (Serial Shipping Container Code). It is intended to provide a migration path to the adoption of a yet-to-be-defined international, multi-modal solution. The routing code must not be used to encode information for which other Element Strings have been created (such as a ship to postal code).

Figure 3.6.32 – 1

Format of the Element String	
Application Identifier	Routing Code
4 0 3	X <sub>1</sub> ————— variable length —————> X <sub>30</sub>

The Application Identifier (403) indicates that the data field contains a routing code.

The routing code field is alphanumeric and may include all characters contained in [Figure 3.A.3 – 1](#). Its content and structure are at the discretion of the parcel carrier issuing the code. If parcel carriers wish to enter co-operative agreements with other parcel carriers, then a mutually agreed indicator is required to designate the structure of the routing code.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String denoting a routing code has been captured. The routing code must be processed with the SSCC appearing on the same unit.

### 3.6.33 Ship to - Deliver to Global Location Number: AI (410)

This Element String is based on the EAN/UCC-13 Data Structure (see [Section 1.3](#)).

Figure 3.6.33 – 1

Format of the Element String													
Application Identifier	GS1 Company Prefix						Location Reference						Check Digit
4 1 0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>

The Application Identifier (410) indicates that the data field contains the Global Location Number (GLN) of the consignee.

The GS1 Company Prefix is the GS1 Company Prefix of the addressee (see [Section 1.2](#)). It makes the number unique worldwide.

The Location Reference is assigned by the addressee's company.

The Check Digit is explained in [Section 3.A.1](#). Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the GLN of the consignee of a physical item has been captured. The GLN may be processed independently or together with related identifications.

### 3.6.34 Bill to - Invoice to Global Location Number: AI (411)

This Element String is based on the EAN/UCC-13 Data Structure (see [Section 1.3](#)).

Figure 3.6.34 – 1

Format of the Element String													
Application Identifier	GS1 Company Prefix						Location Reference						Check Digit
4 1 1	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>

The Application Identifier (411) indicates that the data field contains the Global Location Number (GLN) of the addressee of an invoice.

The GS1 Company Prefix is the GS1 Company Prefix of the addressee (see [Section 1.2](#)). It makes the number unique worldwide.

The Location Reference is assigned by the addressee's company.

The Check Digit is explained in [Section 3.A.1](#). Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier J C 1 and the Application Identifier.

The data transmitted from the bar code reader means that the GLN of the addressee of an invoice has been captured.

### 3.6.35 Purchased from Global Location Number: AI (412)

This Element String is based on the EAN/UCC-13 Data Structure (see [Section 1.3](#)).

Figure 3.6.35 – 1

Format of the Element String													
Application Identifier	GS1 Company Prefix						Location Reference						Check Digit
4 1 2	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>

The Application Identifier (412) indicates that the data field contains the Global Location Number (GLN) of the company from which the respective trade item has been purchased.

The GS1 Company Prefix is the GS1 Company Prefix of the supplier (see [Section 1.2](#)). It makes the number unique worldwide.

The Location Reference is assigned by the company supplying the trade item.

The Check Digit is explained in [Section 3.A.1](#). Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the GLN of the company that supplied the trade item has been captured. The GLN may be processed independently or together with related identifications.

### 3.6.36 Ship for - Deliver for - Forward to Global Location Number: AI (413)

This Element String is based on the EAN/UCC-13 Data Structure (see [Section 1.3](#)).

Figure 3.6.36 – 1

Format of the Element String													
Application Identifier	GS1 Company Prefix						Location Reference						Check Digit
4 1 3	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>

The Application Identifier (413) indicates that the data field contains the Global Location Number (GLN) of the internal or subsequent final destination.

The GS1 Company Prefix is the GS1 Company Prefix of the final recipient (see [Section 1.2](#)). It makes the number unique worldwide.

The Location Reference is assigned by the final recipient's company.

The Check Digit is explained in [Section 3.A.1](#). Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the GLN of the final recipient of a physical item has been captured. The GLN may be processed independently or together with related identifications.

Note: This Element String is for the internal use of the consignee and is not to be used by the carrier.

### 3.6.37 Identification of a Physical Location - Global Location Number: AI (414)

This Element String is based on the EAN/UCC-13 Data Structure (see [Section 1.3](#)).

Figure 3.6.37 – 1

Format of the Element String													
Application Identifier	GS1 Company Prefix						Location Reference						Check Digit
4 1 4	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>

The Application Identifier (414) indicates that the data field contains the Global Location Number (GLN) of a physical location.

The GS1 Company Prefix is the prefix of the holder of the location (see [Section 1.2](#)). It makes the number unique worldwide.

The Location Reference is assigned by the owner or user of the physical location.

The Check Digit is explained in [Section 3.A.1](#). Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the GLN of a physical location has been captured from the location itself. The GLN may be processed according to the particular application requirements.

### 3.6.38 Global Location Number of the Invoicing Party: AI (415)

This Element String is based on the EAN/UCC-13 Data Structure (see [Section 1.3](#)).

Note: This Element String is mandatory on a payment slip. Together with the Payment Slip Reference Number, AI (8020), it uniquely identifies a payment slip.

Figure 3.6.38 – 1

Format of the Element String													
Application Identifier	GS1 Company Prefix						Location Reference						Check Digit
4 1 5	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>

The Application Identifier (415) indicates that the data field contains the Global Location Number (GLN) of the invoicing party.

The GS1 Company Prefix is the GS1 Company Prefix of the invoicing party (see [Section 1.2](#)). It makes the number unique worldwide.

The Location Reference is assigned by the invoicing party.

The Check Digit is explained in [Section 3.A.1](#). Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the GLN of the invoicing party has been captured. The GLN must be processed together with the Payment Slip Reference Number, AI (8020), on the same payment slip.

**3.6.39 Ship to - Deliver to Postal Code Within a Single Postal Authority: AI (420)**

Figure 3.6.39 – 1

Format of the Element String	
Application Identifier	Postal Code
4 2 0	X <sub>1</sub> — variable length → X <sub>20</sub>

The Application Identifier (420) indicates that the data field contains the postal code of the addressee (national format).

The postal code field contains the postal code of the addressee as defined by the appropriate postal authority. It is left justified and must not contain any fill characters.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the national version of a postal code of the addressee of the consignment has been captured. The postal code is normally processed independently.



### 3.6.40 Ship to - Deliver to Postal Code with Three-Digit ISO Country Code: AI (421)

Figure 3.6.40 – 1

Format of the Element String		
Application Identifier	ISO Country Code	Postal Code
4 2 1	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub>	X <sub>4</sub> — variable length → X <sub>12</sub>

The Application Identifier (421) indicates that the data fields contain the postal code of the addressee (international format).

The ISO country code field contains the three-digit country number of the numerical international standard ISO 3166 (data readily available on the Internet) that relates to the national postal code that follows.

The national postal code field contains the postal code of the addressee as defined by the appropriate postal authority. It is left justified and must not contain any fill characters.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the international version of a postal code of the addressee of the consignment has been captured. The postal code is normally processed independently.

### 3.6.41 Country of Origin of a Trade Item: AI (422)

Figure 3.6.41 – 1

Format of the Element String	
Application Identifier	ISO Country Code
4 2 2	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub>

The Application Identifier (422) indicates that the data field contains the ISO country code of the country of origin of the trade item.

The ISO country code field contains the three-digit country number of the numerical international standard ISO 3166 that is the country of origin (data readily available on the Internet).

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the ISO country code denoting the country of origin of the respective trade item has been captured.

Note: The country of origin is normally the country in which the trade item has been produced or manufactured. However, due to a wide range of definitions for country of origin, which were created for different purposes, it is the manufacturer's responsibility to assign the correct country of origin.

### 3.6.42 Country of Initial Processing: AI (423)

Figure 3.6.42 – 1

Format of the Element String	
Application Identifier	ISO Country Code(s)
4 2 3	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub> ... N <sub>15</sub>

The Application Identifier (423) indicates that the data field contains the ISO country code(s) of the country or countries of initial processing of the trade item.

The ISO country code field contains the three-digit country code(s) from the numerical international standard ISO 3166 that indicates the country or countries of initial processing (data readily available on the Internet).

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the ISO country code(s) denoting the country or countries of initial processing of the respective trade item has been captured.

Note: The country of initial processing is normally the country in which the trade item has been produced or manufactured. However, in certain applications, such as livestock fattening, the country of initial processing may include up to five different countries, all of which should be indicated. It is the responsibility of the supplier to allocate the correct country code(s).

### 3.6.43 Country of Processing: AI (424)

Figure 3.6.43 – 1

Format of the Element String	
Application Identifier	ISO Country Code
4 2 4	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub>

The Application Identifier (424) indicates that the data field contains the ISO country code of the country of processing of the trade item.

The ISO country code field contains the three-digit country code of the numerical international standard ISO 3166 that is the country of processing (data readily available on the Internet).

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the ISO country code denoting the country of processing of the respective trade item has been captured.

Note: It is the responsibility of the processor of the trade item to allocate the correct country code.

### 3.6.44 Country of Disassembly: AI (425)

Figure 3.6.44 – 1

Format of the Element String	
Application Identifier	ISO Country Code
4 2 5	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub>

The Application Identifier (425) indicates that the data field contains the ISO country code of the country of disassembly of the trade item.

The ISO country code field contains the three-digit country code of the numerical international standard ISO 3166 that is the country of disassembly (data readily available on the Internet).

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the ISO country code denoting the country of disassembly of the respective trade item has been captured.

Note: It is the responsibility of the party doing the disassembly of the trade item to allocate the correct country code.

### 3.6.45 Country Covering full Process Chain: AI (426)

Figure 3.6.45 – 1

Format of the Element String	
Application Identifier	ISO Country Code
4 2 6	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub>

The Application Identifier (426) indicates that the data field contains the ISO country code of the country where all the processing of the trade item took place.

The ISO country code field contains the three-digit country code of the numerical international standard ISO 3166 that is the country of full processing (data readily available on the Internet).

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the ISO country code denoting the country of full processing of the trade item has been captured.

**Note:** If this AI is used, the full processing of a trade item must have taken place in a single country. This is particularly important in certain applications, such as livestock (where it would cover things such as the animal's birth, fattening, and slaughter), where processing could take place in different countries. In situations like this, AI (426) may not be used. It is the responsibility of the supplier to allocate the correct country code.

### 3.6.46 Seventy Series AIs - Cautionary Note

Application Identifiers issued under the 70 series are assigned when an Application Identifier request meets all the normal criteria except one of the following:

- The application is not multi-sectoral.
- The application is restricted to a country or a region (e.g., is not global).

#### 3.6.46.1 NATO Stock Number (NSN): AI (7001)

Figure 3.6.46.1 – 1

	Format of the Element String		
Application Identifier	NATO Supply Classification —————→	Assigning Country —————→	Sequential Number —————→
7001	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub> N <sub>4</sub>	N <sub>5</sub> N <sub>6</sub>	N <sub>7</sub> N <sub>8</sub> N <sub>9</sub> N <sub>10</sub> N <sub>11</sub> N <sub>12</sub> N <sub>13</sub>

The Application Identifier (7001) indicates that the data field contains a NATO stock number.

The NATO stock number is the number allocated to any item of supply in the NATO Alliance. It is the responsibility of the country that manufactures or controls the design of the item to allocate the number.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier J C1 and the Application Identifier. As it is an attribute of a trade item, the NATO stock number should not be processed on its own, but together with the Global Trade Item Number™ (GTIN™) of the trade item to which it relates.

The data transmitted from the bar code reader means that the Element String denoting a NATO stock number has been captured

Note: This Element String is only for use within the context of the supply within the NATO Alliance. Use of it is subject to the rules and regulations of the Allied Committee 135 (AC/135), the NATO Group of National Directors on Codification.

**3.6.46.2 UN/ECE Meat Carcasses and Cuts Classification: AI (7002)**

Figure 3.6.46.2 – 1

Format of the Element String	
Application Identifier	UN/ECE Product Classification
7 0 0 2	X <sub>1</sub> ————— variable length —————> X <sub>30</sub>

The Application Identifier (7002) indicates that the data field contains a UN/ECE meat carcasses and cuts classification code.

The UN/ECE meat carcasses and cuts code is an attribute of a Global Trade Item Number™ (GTIN™) that denotes the trade description of the product. It is an alphanumeric, variable length code up to 30 characters.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier. As it is an attribute of a trade item, the UN/ECE meat carcasses and cuts code should not be processed on its own, but together with the Global Trade Item Number™ (GTIN™) of the trade item to which it relates.

The data transmitted from the bar code reader means that the Element String denoting a UN/ECE meat carcasses and cuts code has been captured.

Note: This Element String is only for use within the context of UN/ECE standards for the quality of meat carcasses and cuts (bovine, porcine, ovine, and caprine).



### 3.6.46.3 Approval Number of Processor with Three-Digit ISO Country Code: AI (703s)

Figure 3.6.46.3 – 1

Format of the Element String		
Application Identifier	ISO Country Code	Approval Number of Processor
7 0 3 s	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub>	AN <sub>4</sub> ——— variable length —————> X <sub>30</sub>

The Application Identifier (703s) indicates that the data field contains the ISO country code and approval number of the processor of a trade item. As many processors may be involved, each with an individual approval number, the fourth digit of the AI (s in Figure 3.6.46.3 – 1) indicates the sequence of the processors. For a typical meat supply chain, the following sequence would be used:

- 7030: slaughterhouse
- 7031: first deboning/cutting hall
- 7032 to 7039: second through ninth processing location (cutting hall)

The ISO country code contains the three-digit country number of the numerical international standard ISO 3166 that relates to the following approval number of processor (data readily available on the Internet).

The approval number of processor is an attribute to a Global Trade Item Number™ (GTIN™). It designates the approval number of the company who did the processing.

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this element string by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String for ISO country code and approval number of processor has been captured. As it is an attribute of a trade item, the ISO country code and approval number of processor should not be processed on its own, but together with the Global Trade Item Number™ (GTIN™) of the trade item to which it relates.

Note: The approval number is usually assigned by a national or pluri-national authority to processors in the food-supply chain. These authorities may use Global Location Number (see Section 1.3) for this purpose. The approval number (GLN) then remains with the item regardless of whether or not it changes ownership or function.

### 3.6.47 Roll Products - Width, Length, Core Diameter, Direction, Splices: AI (8001)

Owing to the method of production, some roll products cannot be numbered according to standard criteria which have been determined in advance. They are, therefore, classified as variable items. For those products where the standard trade measures are not sufficient, the following guidelines should be used.

The identification of a roll product consists of the Global Trade Item Number™ (GTIN™) and the variable attributes. The basic product (e.g., a certain type of paper) is included as data in the EAN/UCC-14 ID Number (see [Section 3.6.3](#)), and the variables contain information about the special features of the particular item that has been produced.

Figure 3.6.47 – 1

Format of the Element String				
Application Identifier	Variable Values of a Roll Product			
8 0 0 1	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub> N <sub>4</sub>	N <sub>5</sub> N <sub>6</sub> N <sub>7</sub> N <sub>8</sub> N <sub>9</sub>	N <sub>10</sub> N <sub>11</sub> N <sub>12</sub>	N <sub>13</sub> N <sub>14</sub>

The Application Identifier (8001) indicates that the data fields contain the variable attributes of a roll product.

The variable values of a roll product, N<sub>1</sub> to N<sub>14</sub>, consist of the following data:

- N<sub>1</sub> to N<sub>4</sub>: slit width in millimetres (width of the roll)
- N<sub>5</sub> to N<sub>9</sub>: actual length in metres
- N<sub>10</sub> to N<sub>12</sub>: internal core diameter in millimetres
- N<sub>13</sub>: winding direction (face out 0, face in 1, undefined 9)
- N<sub>14</sub>: number of splices (0 to 8 = actual number, 9 = number unknown)

The data carrier for this Element String is the GS1-128 Bar Code Symbol.

The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data transmitted from the bar code reader means that the variable attributes of the identification of a roll product trade item have been captured. The variable attributes may be processed together with the simultaneously required GTIN of that trade item (see [Section 3.6.3](#)).

### 3.6.48 Cellular Mobile Telephone Identifier: AI (8002)

Figure 3.6.48 – 1

Format of the Element String	
Application Identifier	Serial Number
8 0 0 2	X <sub>1</sub> ————— variable —————> X <sub>20</sub>

The Application Identifier (8002) indicates that the data field contains the serial number of a cellular mobile telephone.

The serial number field is alphanumeric and may contain all characters contained in [Figure 3.A.3 – 1](#). A national or pluri-national authority usually assigns the number. It uniquely identifies each mobile telephone within a given authority for special control purposes. It is not considered as an attribute of the identification of the telephone as a trade item.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String denoting an electronic serial identifier of a cellular mobile telephone has been captured. The electronic serial identifier may be processed according to the particular application requirements.

### 3.6.49 Global Returnable Asset Identifier (GRAI): AI (8003)

The Global Returnable Asset Identifier (GRAI) is based on the EAN/UCC-13 or UCC-12 Data Structure (see [Section 1.3](#)).

Figure 3.6.49 – 1

Format of the Element String																
	Application Identifier	Global Returnable Asset Identifier (GRAI)										Check Digit	Serial Number (Optional)			
		GS1 Company Prefix					Asset Type									
(UCC-12)	8 0 0 3	0	0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	X <sub>1</sub> — variable → X <sub>16</sub>
(EAN/UCC-13)	8 0 0 3	0	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	X <sub>1</sub> — variable → X <sub>16</sub>

The Application Identifier (8003) indicates that the data fields contain the GRAI.

The GS1 Company Prefix is the one allocated to the owner of the asset (see [Section 1.2](#)). It makes the number unique worldwide. The zero in the leftmost position is added to generate 14 digits in the asset identification number field.

The Asset Type is a number assigned by the owner of the asset to uniquely identify each type of asset.

The Check Digit is explained in [Section 3.A.1](#). Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The optional serial number is assigned by the owner of the asset. It identifies an Individual Asset within a given Asset Type. The field is alphanumeric and may contain all characters contained in [Figure 3.A.3 – 1](#).

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1, by the Application Identifier and by the length of the transmitted data.

The data transmitted from the bar code reader means that the GRAI has been captured. It may be processed according to the particular application requirements.

### 3.6.50 Global Individual Asset Identifier (GIAI): AI (8004)

This Element String may be used for the unique identification of assets to provide a means to store relevant data.

Note: This Element String must never be used to identify the entity as a trade item or logistic unit. If an asset is transferred between parties, the Global Individual Asset Identifier (GIAI) cannot be used for ordering the asset. However, asset identification may be exchanged between parties for the purpose of traceability.

Figure 3.6.50 – 1

Format of the Element String	
Application Identifier	Global Individual Asset Identifier (GIAI)
	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <p>GS1 Company Prefix</p> <p>→</p> </div> <div style="text-align: center;"> <p>Individual Asset Reference</p> <p>→</p> </div> </div>
8 0 0 4	$N_1 \dots N_i$ $X_{i+1} \dots$ variable length $X_j (j \leq 30)$

The Application Identifier (8004) indicates that the data field contains a GIAI.

The GIAI uses the GS1 Company Prefix of the company assigning the Individual Asset Reference. The structure and numbering of the individual asset reference is determined by the holder of the GS1 Company Prefix. It may contain all characters contained in [Figure 3.A.3 – 1](#).

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String of a GIAI has been captured. It may be processed according to the particular application requirements.

### 3.6.51 Price Per Unit of Measure: AI (8005)

This Element String is used to indicate the price per unit of measure of price marked goods on a Variable Measure Trade Item to discriminate price variants of the same item. It is considered as an attribute of the respective trade item and not as part of its identification.

Figure 3.6.51 – 1

Format of the Element String						
Application Identifier	Price Per Unit of Measure					
8 0 0 5	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>

The Application Identifier (8005) indicates that the data field contains a price per unit of measure.

Content and structure of the price per unit of measure field are left to the discretion of the trading partners.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String denoting the price per unit of measure has been captured. This Element String must always be decoded and processed together with the Global Trade Item Number™ (GTIN™) from the same item.

**3.6.52 Identification of the Components of a Trade Item: AI (8006)**

Figure 3.6.52 – 1

Format of the Element String			
Application Identifier	Global Trade Item Number™ (GTIN™)	Relative Number of the Component Within the Assembly	Total Number of Components in the Assembly
8 0 0 6	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub> ..... N <sub>11</sub> N <sub>13</sub> N <sub>14</sub>	N <sub>15</sub> N <sub>16</sub>	N <sub>17</sub> N <sub>18</sub>

The Application Identifier (8006) indicates that the data fields contain the identification of the trade item and the enumeration of its components.

The GTIN is the item number under which the whole item is traded. For the structures of the GTIN, see [Section 1.3](#).

The relative number field shows the consecutive number of a particular component within the assembly. A component of a given trade item must always be identical for the respective trade item.

The total number field shows the total number of components of the trade item.

The Check Digit is explained in [Section 3.A.1](#). Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the identification of a component of a trade item has been captured. Components may be processed according to the particular application requirements.

### 3.6.53 International Bank Account Number (IBAN): AI (8007)

Figure 3.6.53 – 1

Format of the Element String	
Application Identifier	International Bank Account Number
8 0 0 7	X <sub>1</sub> ————— variable —————> X <sub>30</sub>

The Application Identifier (8007) indicates that the data field contains the international bank account identifier.

The International Bank Account Number (IBAN), AI (8007), defined as *ISO 13616*, indicates to which account the amount of the respective payment slip is to be transferred. The invoicing party determines the applicable bank account number. The data field is alphanumeric and may contain all characters contained in [Figure 3.A.3 – 1](#).

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier ]C1 and the Application Identifier.

The data string transmitted by the bar code reader means that an IBAN has been captured. The IBAN must be processed together with the Payment Slip Reference Number, AI (8020), and the Global Location Number (GLN) of the invoicing party that is captured from the same payment slip.



### 3.6.54 Date and Time of Production: AI (8008)

Figure 3.6.54 – 1

Format of the Data Element						
Application Identifier	Date and Time of Production					
	YY	MM	DD	HH	MM	SS
8008	N <sub>1</sub> N <sub>2</sub>	N <sub>3</sub> N <sub>4</sub>	N <sub>5</sub> N <sub>6</sub>	N <sub>7</sub> N <sub>8</sub>	N <sub>9</sub> N <sub>10</sub>	N <sub>11</sub> N <sub>12</sub>

The Application Identifier (8008) indicates that the data fields contain a date and time of production.

The date and time of production is the date and time of production or assembly determined by the manufacturer. The date and time may refer to the trade item itself or to the items contained.

The structure is:

Year: the tens and units of the year (e.g., 2000 = 00), which is mandatory

Month: the number of the month (e.g., January = 01), which is mandatory

Day: the number of the day of the relevant month (e.g., second day = 02), which is mandatory.

Hour: the number of the hour based on local time (e.g., 2 p.m. = 14), which is mandatory

Minutes: may be dropped if not required

Seconds: may be dropped if not required

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier J C1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String denoting date and time of production has been captured. As it is an attribute of a trade item, the date and time of production should not be processed on its own, but together with the Global Trade Item Number™ (GTIN™) of the trade item to which it relates.

Note: This Element String can only specify dates in the range from 49 years in the past to 50 years in the future. Determination of the correct century is explained in [Section 3.A.5](#).

### 3.6.55 Global Service Relation Number (GSRN): AI (8018)

This Element String may be used to identify the recipient of services in the context of a service relationship. It provides a means for the service provider to store data relevant to services provided to the recipient.

Figure 3.6.55 – 1

Format of the Element String			
Application Identifier	Global Service Relation Number (GSRN)		
	GS1 Company Prefix →	← Service Reference	Check Digit
8 0 1 8	N <sub>1</sub> N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub> N <sub>8</sub> N <sub>9</sub> N <sub>10</sub> N <sub>11</sub> N <sub>12</sub> N <sub>13</sub> N <sub>14</sub> N <sub>15</sub> N <sub>16</sub> N <sub>17</sub>		N <sub>18</sub>

The Application Identifier (8018) indicates that the data field contains a GSRN.

The GS1 Company Prefix is the one allocated to the service provider (see [Section 1.2](#)). It makes the number unique worldwide.

The Service Reference is assigned by the service provider. The structure and content of the Service Reference is at the discretion of the particular service provider.

The Check Digit is explained in [Section 3.A.1](#). Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String for a GSRN has been captured. It may be processed according to the particular application requirements.

**3.6.56 Payment Slip Reference Number: AI (8020)**

Figure 3.6.56 – 1

Format of the Element String	
Application Identifier	Payment Slip Reference Number
8 0 2 0	X <sub>1</sub> ————— variable —————> X <sub>25</sub>

The Application Identifier (8020) indicates that the data field contains a Payment Slip Reference Number.

The Payment Slip Reference Number, assigned by the invoicing party, identifies a payment slip within a given Global Location Number (GLN) of an invoicing party. Together with the GLN of the invoicing party, the Payment Slip Reference Number uniquely identifies a payment slip. The data field is alphanumeric and may contain all characters contained in [Figure 3.A.3 – 1](#).

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data string transmitted from the bar code reader means that a Payment Slip Reference Number has been captured. It must be processed together with the GLN of the invoicing party that is captured from the same payment slip.

**3.6.57 GS1-128 Coupon Extended Code: AIs (8100 - 8102)**

Figure 3.6.57 – 1

Formats of the Element Strings				
Application Identifier	Filler Digit	UCC Prefix	Offer Code	Expiration Date (Month + Year)
8 1 0 0		N <sub>1</sub>	N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub>	
8 1 0 1		N <sub>1</sub>	N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub>	N <sub>7</sub> N <sub>8</sub> N <sub>9</sub> N <sub>10</sub>
8 1 0 2	0	N <sub>2</sub>		

The Application Identifiers (8100) to (8102) indicate that the data fields contain data supplementary to a GS1 US coupon identification.

The filler digit 0 is used in AI (8102) to generate an even number of digits in the Element String.

The UCC Prefix is the digit that is preceded by a zero and followed by a Company Number to form the GS1 Company Prefix. The Offer Code is assigned by the issuer and identifies a particular promotion.

The expiration date indicates the end of the redemption period of the coupon.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the respective Application Identifier.

### 3.6.58 Information Mutually Agreed Between Trading Partners (Including FACT Data Identifiers): AI (90)

Figure 3.6.58 – 1

Format of the Element String	
Application Identifier	Data Field
9 0	X <sub>1</sub> ————— variable length —————> X <sub>30</sub>

The Application Identifier (90) indicates that the data field contains any information mutually agreed between trading partners.

The data field shows the information agreed between the two trading partners. The field is alphanumeric and may contain all characters contained in [Figure 3.A.3 – 1](#). It may also be used to incorporate data preceded by FACT Data Identifiers.

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier J1C and the Application Identifier.

The data transmitted from the bar code reader means that the Element String AI (90) has been captured. As the data field may contain any information, processing is subject to prior agreement between trading partners.

Warning: The bar code symbol carrying this Element String should be removed from any item that leaves the jurisdiction of the trading partners.

### 3.6.59 Company Internal Information: AIs (91 - 99)

Figure 3.6.59 – 1

Format of the Element String	
Application Identifier	Data Field
A <sub>1</sub> A <sub>2</sub>	X <sub>1</sub> ————— variable length —————> X <sub>30</sub>

The Application Identifier (A<sub>1</sub> A<sub>2</sub>) assigned to this Element String is AI (91 to 99).

The data field may contain any company internal information. The field is alphanumeric and may show all characters contained in [Figure 3.A.3 – 1](#).

The data carrier for this Element String is the GS1-128 Bar Code Symbol. The system recognises this Element String by the symbology identifier JC1 and the Application Identifier.

The data transmitted from the bar code reader means that the Element String containing company internal information has been captured. Processing is to be organised by the using company.

Warning: This Element String should be removed from any item that leaves the jurisdiction of the company.

### 3.7 Compatibility of EPCglobal Tag Data Standard and GS1 General Specifications

This section describes how GS1 is linked to EPCglobal Inc<sup>®</sup> and how the GS1 System can be used in the EPCglobal Tag Data Standard and vice versa.

**EPCglobal Inc<sup>®</sup>**, a subsidiary of GS1, is a not-for-profit organisation entrusted by industry to establish and support the EPCglobal Network<sup>™</sup> as the global standard for real-time, automatic identification of information in the supply chain of any company, anywhere in the world. EPCglobal is a neutral, consensus-based, not-for-profit standards organisation.

The EPCglobal Network combines radio frequency identification (RFID) technology, existing communications network infrastructure, and the Electronic Product Code<sup>™</sup> (a number for uniquely identifying an item) to enable accurate, cost-efficient visibility of information in the supply chain. The end result helps organisations be more efficient, flexible, and responsive to customer needs.

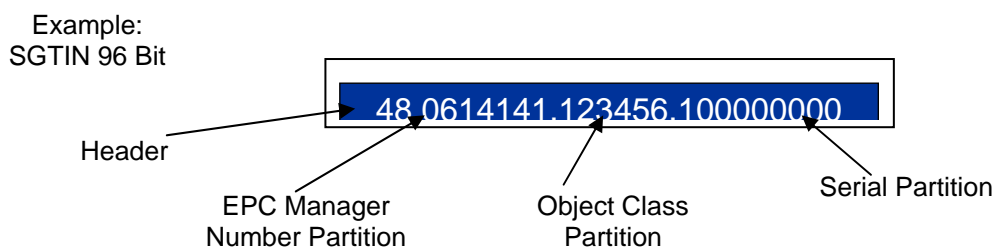
For more information contact: EPCglobal Inc<sup>®</sup>  
www.EPCglobalinc.org

The mission is to make organisations more efficient by enabling true visibility of information about items in the supply chain.

The **EPCglobal Network** is a framework that enables immediate, automatic identification and sharing of information on items in the supply chain. In that way, the EPCglobal Network will make organisations more effective by enabling true visibility of information about items in the supply chain. Using a combination of technologies and harnessing the power of current information systems, the EPCglobal Network will provide for immediate, automatic, and accurate identification and location of any item in the supply chain of any company, in any industry, anywhere in the world.

The **Electronic Product Code<sup>™</sup> (EPC<sup>™</sup>)** is an identification scheme for universally identifying physical objects via Radio Frequency Identification (RFID) tags and other means. The standardised EPC data consists of an EPC that uniquely identifies an individual object. In addition to this standardised data, certain Classes of EPC tags will allow user-defined data. The EPC Tag Data Standards will define the length and position of this data, without defining its content.

An EPC has the following structure:



Because of the structure of EPC, there are some restrictions for the implementation of the Identification Numbers of the GS1 System and also for the implementation of an EPC in the data structures of the GS1 System. Companies should use the GS1 specifications to define the applicable fields in databases and other ICT-systems.

This section provides GS1 approval of the version of the EPCglobal<sup>®</sup> Tag Data Standard with the following GS1 Application Identifier definition restrictions:

For GS1 use of EPC 64-bit tags, the following applies:

In the 64-bit EPC, the limited number of bits prohibits a literal embedding of the GS1 Company Prefix. As a partial solution, a Company Prefix Index is used. This Index, which can accommodate up to 16,384 codes, is assigned to companies that need to use the 64 bit tags, in addition to their existing Company Prefixes. The Index is encoded on the tag instead of the Company Prefix, and is subsequently translated to the Company Prefix at low levels of the EPC system components (i.e. the Reader or Middleware). While this means a limited number of Company Prefixes can be represented in the 64-bit tag, this is a transitional step to full accommodation in 96-bit and additional encoding schemes.

- **AI (00) SSCC:** No restrictions for using the GS1 System in the SSCC-64. To avoid out-of-specification serial references, the Serial Reference field in the EPC SSCC-64 Tag must not exceed the capacity specified in the *GS1 General Specifications*, which are (inclusive of the extension digit) 9,999 for Company Prefixes of 12 digits up to 9,999,999,999 for Company Prefixes of 6 digits.

The Physical Technical Requirement Group has approved the following Filter Values for use with the SSCC as defined in the EPC Tag Data Standard (refer to Section 3.5, EPC Tag Data Standards, Version 1.1, Rev. 1.27).

- 001 = undefined
  - 010 = logistical / shipping unit (E.G. 48 unit case of tissues)
  - 011 = reserved
  - 100 = reserved
  - 101 = reserved
  - 110 = reserved
  - 111 = reserved
  - 000 = all other (default value, always used by readers)
- **AI (01) GTIN + AI (21) Serial Number:** If the Serial Number of an EPC defined in the EPC Tag Data Standard will be used in the GS1 System, the Serial Number in AI (21), defined in Section 3.6.13 of this *GS1 General Specification*, can be used with the restriction to permit assignment of 33.554.431 numeric-only serial numbers for the serial part in the EPC.

The Physical Technical Requirement Group has approved the following Filter Values for use with the SGTIN as defined in the EPC Tag Data Standard (refer to Section 3.4, EPC Tag Data Standards, Version 1.1, Rev. 1.27).

- 001 = Retail Consumer Trade Item (E.G. Single package of tissues)
- 010 = Standard Trade Item Grouping (E.G. 48 unit case of tissues)
- 011 = Single Shipping/Consumer Trade Item (E.G. TV, Bike)
- 100 = reserved
- 101 = reserved
- 110 = reserved



- 111 = reserved
- 000 = all other (default value, always used by readers)
- **AI (414) GLN + AI (XX) Serial Number:** The EPC Tag Data Standard is approved from the EPCglobal Board, but has a complete restriction on GLN with a Serial Number in the GS1 System. At the moment there is no serialisation of a GLN in the GS1 System, so it is not defined and not possible to use.

The Physical Technical Requirement Group has approved the following Filter Values for use with the SGLN as defined in the EPC Tag Data Standard (refer to Section 3.6, EPC Tag Data Standards, Version 1.1, Rev. 1.27).

- 001 = reserved
- 010 = reserved
- 011 = reserved
- 100 = reserved
- 101 = reserved
- 110 = reserved
- 111 = reserved
- 000 = all other (default value, always used by readers)
- **AI (8003) GRAI:** The *GS1 General Specifications* definition of Global Returnable Asset Identifier in Section 3.6.49 has an integrated optional Serial Number defined as alphanumeric. For the use of the GRAI in the EPC Tag Data Standard, the Serial Component is restricted to permit assignment of 524,288 numeric-only serial numbers and is mandatory.

The Physical Technical Requirement Group has approved the following Filter Values for use with the GRAI as defined in the EPC Tag Data Standard (refer to Section 3.7, EPC Tag Data Standards, Version 1.1, Rev. 1.27).

- 001 = reserved
- 010 = reserved
- 011 = reserved
- 100 = reserved
- 101 = reserved
- 110 = reserved
- 111 = reserved
- 000 = all other (default value, always used by readers)

- **AI (8004) GIAI:** The *GS1 General Specifications* definition of Global Individual Asset Identifier in Section 3.6.50 has a required integrated Individual Asset Reference number defined as alphanumeric. In the EPC Tag Data Standard, the Global Individual Asset Identifier is restricted to permit assignment of 549.755.813.888 numeric-only serial numbers.

The Physical Technical Requirement Group has approved the following Filter Values for use with the GIAI as defined in the EPC Tag Data Standard (refer to Section 3.8, EPC Tag Data Standards, Version 1.1, Rev. 1.27).

- 001 = reserved
- 010 = reserved
- 011 = reserved
- 100 = reserved
- 101 = reserved
- 110 = reserved
- 111 = reserved
- 000 = all other (default value, always used by readers)

For GS1 use of EPC 96-bit tags, the following applies:

- **AI (00) SSCC** No restrictions for using the GS1 System in the SSCC-96. To avoid out-of-specification serial references, the Serial Reference field must not exceed the capacity specified in the *GS1 General Specifications*, which are (inclusive of the extension digit) 9,999 for Company Prefixes of 12 digits up to 9,999,999,999 for Company Prefixes of 6 digits.

The Physical Technical Requirement Group has approved the following Filter Values for use with the SSCC as defined in the EPC Tag Data Standard (refer to Section 3.5, EPC Tag Data Standards, Version 1.1, Rev. 1.27).

- 001 = undefined
- 010 = logistical / shipping unit (E.G. 48 unit case of tissues)
- 011 = reserved
- 100 = reserved
- 101 = reserved
- 110 = reserved
- 111 = reserved
- 000 = all other (default value, always used by readers)

- **AI (01) GTIN + AI (21) Serial Number:** If the Serial Number of an EPC defined in the EPC Tag Data Standard will be used in the GS1 System, the Serial Number in AI (21) defined in Section 3.6.13 of this *GS1 General Specification* can be used with the restriction to permit assignment of 274.877.906.943 numeric-only serial numbers for the serial part in the EPC.

The Physical Technical Requirement Group has approved the following Filter Values for use with the SGTIN as defined in the EPC Tag Data Standard (refer to Section 3.4, EPC Tag Data Standards, Version 1.1, Rev. 1.27).

- 001 = Retail Consumer Trade Item (E.G. Single package of tissues)
  - 010 = Standard Trade Item Grouping (E.G. 48 unit case of tissues)
  - 011 = Single Shipping/Consumer Trade Item (E.G. TV, Bike)
  - 100 = reserved
  - 101 = reserved
  - 110 = reserved
  - 111 = reserved
  - 000 = all other (default value, always used by readers)
- **AI (414 GLN) + AI (254) GLN Extension Component:** The Tag Data Standard V1.1 R1.27 is approved for the use of GLN Extension with the restrictions specified in Section 2.4.4.2.2 of the GS1 General Specifications.

The Physical Technical Requirement Group has approved the following Filter Values for use with the SGLN as defined in the EPC Tag Data Standard (refer to Section 3.6, EPC Tag Data Standards, Version 1.1, Rev. 1.27).

- 001 = reserved
- 010 = reserved
- 011 = reserved
- 100 = reserved
- 101 = reserved
- 110 = reserved
- 111 = reserved
- 000 = all other (default value, always used by readers)

- **AI (8003) GRAI:** The *GS1 General Specifications* definition of Global Returnable Asset Identifier in Section 3.6.49 has an integrated optional Serial Number defined as alphanumeric. For the use of the GRAI in the EPC Tag Data Standard, the Serial Component is restricted to permit assignment of 274,877,906,943 numeric-only serial numbers and is mandatory.

The Physical Technical Requirement Group has approved the following Filter Values for use with the GRAI as defined in the EPC Tag Data Standard (refer to Section 3.7, EPC Tag Data Standards, Version 1.1, Rev. 1.27).

- 001 = reserved
  - 010 = reserved
  - 011 = reserved
  - 100 = reserved
  - 101 = reserved
  - 110 = reserved
  - 111 = reserved
  - 000 = all other (default value, always used by readers)
- **AI (8004) GIAI:** The *GS1 General Specifications* definition of Global Individual Asset Identifier in Section 3.6.50 has a required integrated Individual Asset Reference number defined as alphanumeric. In the EPC Tag Data Standard, the Individual Asset Identifier is restricted to permit assignment of 4,611,686,018,427,387,904 numeric-only serial numbers.

The Physical Technical Requirement Group has approved the following Filter Values for use with the GIAI as defined in the EPC Tag Data Standard (refer to Section 3.8, EPC Tag Data Standards, Version 1.1, Rev. 1.27).

- 001 = reserved
- 010 = reserved
- 011 = reserved
- 100 = reserved
- 101 = reserved
- 110 = reserved
- 111 = reserved
- 000 = all other (default value, always used by readers)

For further details or more information for the use of the GS1 System in the EPC Tag Data Standard, read the latest version of the EPC Data Standard. To get the latest version, ask your national GS1 Organisation or directly at EPCglobal Inc.®.

### 3.A.1 Appendix 1: Check Digit Calculations

#### 3.A.1.1 Standard Check Digit Calculations for GS1 Data Structures

This algorithm is identical for all fixed length numeric GS1 Data Structures that require a Check Digit.

Figure 3.A.1.1 – 1

	Digit Positions																		
EAN/ UCC-8												N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>
UCC-12							N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	
EAN/ UCC-13						N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	
EAN/ UCC-14					N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	N <sub>14</sub>	
17 digits		N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	N <sub>14</sub>	N <sub>15</sub>	N <sub>16</sub>	N <sub>17</sub>	
18 digits	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	N <sub>14</sub>	N <sub>15</sub>	N <sub>16</sub>	N <sub>17</sub>	N <sub>18</sub>	
	Multiply value of each position by																		
	x3	x1	x3	x1	x3	x1	x3	x1	x3	x1	x3	x1	x3	x1	x3	x1	x3		
	Accumulated results = sum																		
	Subtract sum from nearest equal or higher multiple of ten = Check Digit →																		

Figure 3.A.1.1 – 2

Example of a Check Digit Calculation for the 18-Digit Field																		
Positions	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	N <sub>13</sub>	N <sub>14</sub>	N <sub>15</sub>	N <sub>16</sub>	N <sub>17</sub>	N <sub>18</sub>
Number without Check Digit	3	7	6	1	0	4	2	5	0	0	2	1	2	3	4	5	6	
Step 1: multiply by	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	
Step 2: add up	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	
results to sum	9	7	18	1	0	4	6	5	0	0	6	1	6	3	12	5	18	= 101
Step 3: Subtract sum from nearest equal or higher multiple of ten (110) = Check Digit (9)																		
Number with Check Digit	3	7	6	1	0	4	2	5	0	0	2	1	2	3	4	5	6	9

### 3.A.1.2 Check Digit Calculation for Price/Weight Fields

To increase the security of reading a price or weight from a bar code symbol, the Check Digit for these fields is not only calculated according to the methods described in the previous section, but also according to the procedure described in this section.

The basic principle of the Check Digit calculation is that each digit position in a price/weight field is assigned a weighting factor. Weighting factors are 2-, 3, 5+, and 5-. Each weighting factor affects the particular calculation for the position concerned. The result of such a calculation is called a weighted product.

The figures below show the weighted products of the various weighting factors.

Figure 3.A.1.2 – 1

<b>Weighting Factor 2-</b>										
Calculation rule: The digit is multiplied by 2. If the result has two digits, the tens digit is subtracted from the units digit. The units digit resulting is the weighted product.										
Digit	0	1	2	3	4	5	6	7	8	9
Weighted product	0	2	4	6	8	9	1	3	5	7

Figure 3.A.1.2 – 2

<b>Weighting Factor 3</b>										
Calculation rule: The digit is multiplied by 3. The units digit of the result is the weighted product.										
Digit	0	1	2	3	4	5	6	7	8	9
Weighted product	0	3	6	9	2	5	8	1	4	7

Figure 3.A.1.2 – 3

<b>Weighting Factor 5+</b>										
Calculation rule: The digit is multiplied by 5. The units digit and the tens digit of the result are added together. The result of this sum is the weighted product.										
Digit	0	1	2	3	4	5	6	7	8	9
Weighted product	0	5	1	6	2	7	3	8	4	9

Figure 3.A.1.2 – 4

Weighting Factor 5-										
Calculation rule: The digit is multiplied by 5. The tens digit of the result is subtracted from the result. The units digit of the result of this subtraction is the weighted product.										
Digit	0	1	2	3	4	5	6	7	8	9
Weighted product	0	5	9	4	8	3	7	2	6	1

### 3.A.1.3 Check Digit Calculation for the Four-Digit Price Field

Figure 3.A.1.3 – 1

Assigned Weighting Factors				
Digit position	1	2	3	4
Weighting factor	2-	2-	3	5-

Calculation step 1: Determine the weighted product for each number in Positions one to four according to the assigned weighting factors.

Calculation step 2: Add the products of step 1.

Calculation step 3: Multiply the result of step 2 by the factor 3. The units digit of the result is the Check Digit.

Figure 3.A.1.3 – 2

Example of a Check Digit Calculation				
Position of price field	1	2	3	4
Assigned weighting factor	2-	2-	3	5-
Amount	2	8	7	5
Step 1: weighted product according to figure	4	5	1	3
Step 2: sum	+	+	+	+
Step 3: multiply by 3				

Unit position is the Check Digit





### 3.A.1.4 Check Digit Calculation for the Five-Digit Price Field

Figure 3.A.1.4 – 1

Assigned Weighting Factors					
Digit positions	1	2	3	4	5
Weighting factor	5+	2-	5-	5+	2-

Calculation step 1: Determine the weighted product for each number in Positions one to five according to the assigned weighting factors.

Calculation step 2: Add the products of step 1.

Calculation step 3: Subtract the result from the nearest equal or higher multiple of 10.

Calculation step 4: Take the result and search for the same number in the weighted product row of [Figure 3.A.1.2 – 4](#). The Check Digit is the number in the digit row of the same column.

Figure 3.A.1.4 – 2

Example of a Check Digit Calculation						
Price field positions	1	2	3	4	5	
Assigned weighting factor	5+	2-	5-	5+	2-	
Amount	1	4	6	8	5	
Step 1: weighted product according to figure	5	8	7	4	9	
Step 2: sum	+	+	+	+	+	= 33
Step 3: result of subtraction (40 - 33)						= 7
Step 4: weighted product 7 in the figure weighting factor 5- shows number 6 to be the Check Digit.						

### 3.A.2 Appendix 2: UCC-12 Identification Numbers in a UPC-E Bar Code Symbol

Some UCC-12 Identification Numbers beginning with the UCC Prefix 0 may be represented in a small symbol called the UPC-E Bar Code Symbol. The UCC-12 ID Number is condensed into a bar code symbol consisting of six symbol character positions. For application processing, the UCC-12 ID Number must be transformed into its full length by the bar code reader software or by the application software. There is no six-digit UPC-E Bar Code Symbol.

Figure 3.A.2 – 1

UPC-E Bar Code Symbol Option for the Identification of Global Trade Item Numbers™ (GTINs™)

UCC-12 Identification Number of Trade Item												Represented in UPC-E Symbol Positions						
UCC Company Prefix						Item Reference					Check Digit							
N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	1	2	3	4	5	6	
(0)	0	0	0	0	0	1	0	0	0	0	5	4	0	0	0	0	1	'5'
(0)	0	9	9	9	9	9	0	0	0	0	9	2	9	9	9	9	9	'9'
= 5 UPC-E Bar Code Symbol Applications																		
(0)	0	0	0	0	1	0	0	0	0	0	0	7	0	0	0	1	0	'4'
(0)	0	9	9	9	9	0	0	0	0	0	9	1	9	9	9	9	9	'4'
= 10 UPC-E Bar Code Symbol Applications																		
(0)	0	0	0	3	0	0	0	0	0	0	0	7	0	0	3	0	0	'3'
(0)	0	9	9	9	0	0	0	0	0	9	9	5	9	9	9	9	9	'3'
= 100 UPC-E Bar Code Symbol Applications																		
(0)	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	'0'
(0)	0	9	9	2	0	0	0	0	9	9	9	9	9	9	9	9	9	'2'
= 1000 UPC-E Bar Code Symbol Applications																		

Company Prefixes showing 000000 and 001000 to 007999 in positions N<sub>1</sub> to N<sub>6</sub> are not available in the UPC-E Bar Code Symbol option (see [Figure 3.A.2 – 2](#)).

Figure 3.A.2 – 2  
 UPC-E Bar Code Symbol Option  
 for the Identification of GTINs for Company Internal Distribution

UCC-12 Identification Number of Trade Item											Check Digit	Represented in UPC-E Symbol Positions						
N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	N <sub>6</sub>	N <sub>7</sub>	N <sub>8</sub>	N <sub>9</sub>	N <sub>10</sub>	N <sub>11</sub>	N <sub>12</sub>	1	2	3	4	5	6	
(0)	0	0	1	0	0	0	0	0	0	5	2	0	1	0	0	0	'5'	
(0)	0	<u>0</u>	<u>7</u>	<u>9</u>	<u>9</u>	<u>9</u>	0	0	0	<u>9</u>	7	<u>0</u>	<u>7</u>	<u>9</u>	<u>9</u>	<u>9</u>	'9'	
LAC version = 35000 UPC-E Bar Code Symbol Applications																		
(0)	0	0	1	0	0	0	0	0	1	0	0	4	0	1	1	0	0	'0'
(0)	0	<u>0</u>	<u>5</u>	<u>0</u>	0	0	0	0	<u>9</u>	<u>9</u>	<u>9</u>	2	<u>0</u>	<u>5</u>	<u>9</u>	<u>9</u>	<u>9</u>	'0'
RZSC version = 4500 UPC-E Bar Code Symbol Applications																		
(0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	'0'
(0)	0	<u>0</u>	<u>0</u>	<u>0</u>	0	0	0	0	<u>9</u>	<u>9</u>	<u>9</u>	7	<u>0</u>	<u>0</u>	<u>9</u>	<u>9</u>	<u>9</u>	'0'
Velocity version = 1000 UPC-E Bar Code Symbol Applications																		

Figure 3.A.2 – 2 shows the construction principle of the UPC-E Bar Code Symbol for trade item numbering for restricted distribution (company internal). These UCC-12 Identification Numbers are not unambiguous when leaving the applying company.

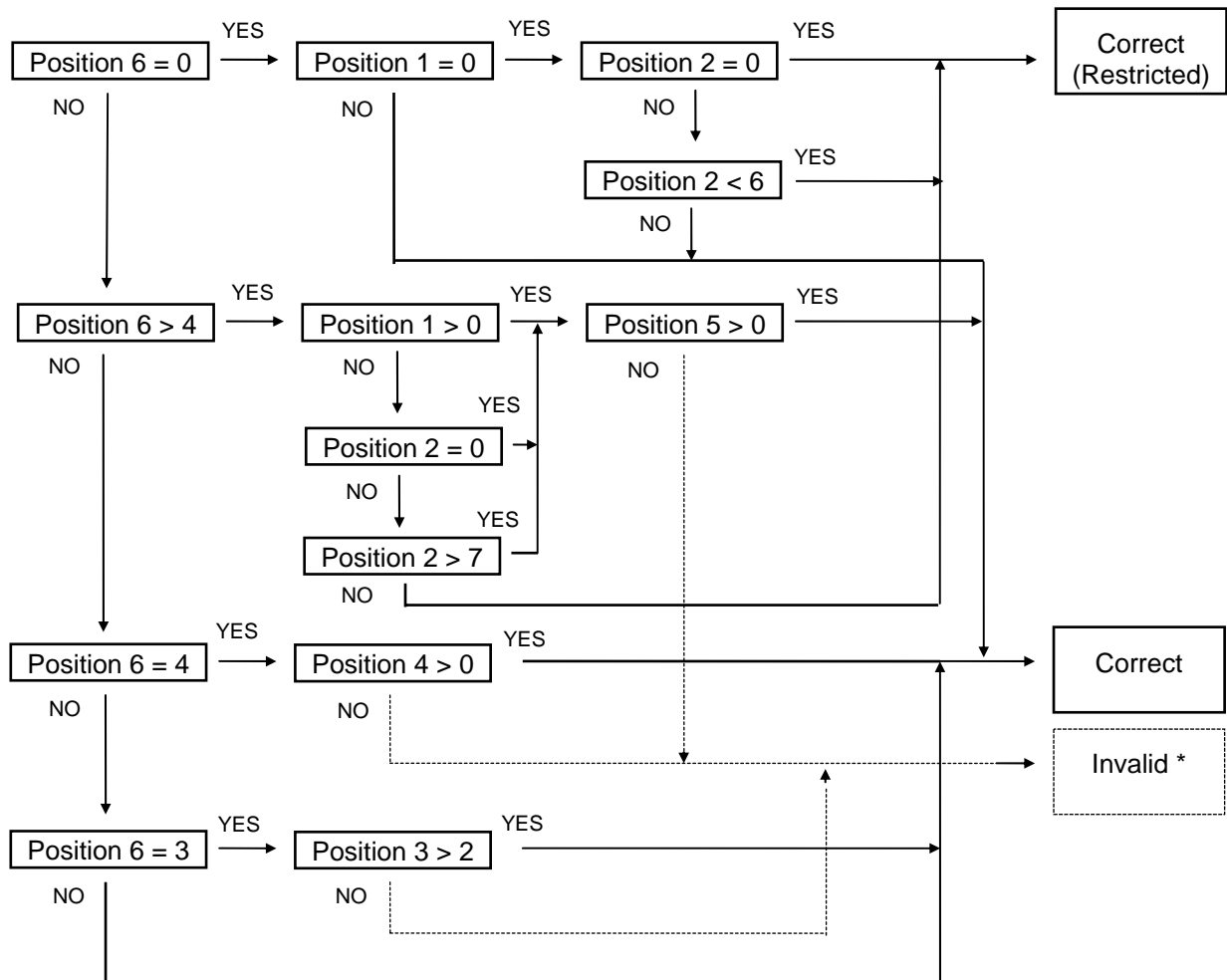
In Figures 3.A.2 – 1 and 3.A.2 – 2, each number position must only contain the digits shown in the upper and lower lines of each section and those in-between. On decoding, the extension to full length is determined by the value of the number in single quotes in the column represented in UPC-E Bar Code Symbol positions.

The Check Digit, calculated as described in Section 3.A.1, applies to the entire length of the UCC-12 Identification Number. In the UPC-E Bar Code Symbol, it is implicitly represented by the parity combination of the six symbol characters that are actually encoded.

It is possible to create false UPC-E Bar Code Symbols if the encodation rules are not properly observed. Whether the digits represented in a UPC-E Bar Code Symbol can be expanded correctly to a UCC-12 Identification Number may be verified by the following tests.

Test 1: Verify the digits encoded in Positions 1 to 6 of the UPC-E Bar Code Symbol according to the diagram in Figure 3.A.2 – 3.

Figure 3.A.2 – 3



Note: These UPC-E Bar Code Symbols were valid in previous specifications. Provision for accepting them must be made during decoding only.

Test 2: Expand the digits encoded in the UPC-E Bar Code Symbol to the first 11 digits of the full length UCC-12 Identification Number, calculate the Check Digit, and compare it with the Check Digit decoded from the UPC-E Bar Code Symbol. If they do not match, it signifies an invalid symbol.

### 3.A.3 Appendix 3: The International Standard ISO/IEC 646

Figure 3.A.3 – 1

#### Unique Graphic Character Allocations

Graphic Symbol	Name	Coded Representation	Graphic Symbol	Name	Coded Representation
!	Exclamation mark	2/1	M	Capital letter M	4/13
"	Quotation mark	2/2	N	Capital letter N	4/14
%	Percent sign	2/5	O	Capital letter O	4/15
&	Ampersand	2/6	P	Capital letter P	5/0
'	Apostrophe	2/7	Q	Capital letter Q	5/1
(	Left parenthesis	2/8	R	Capital letter R	5/2
)	Right parenthesis	2/9	S	Capital letter S	5/3
*	Asterisk	2/10	T	Capital letter T	5/4
+	Plus sign	2/11	U	Capital letter U	5/5
,	Comma	2/12	V	Capital letter V	5/6
-	Hyphen/Minus	2/13	W	Capital letter W	5/7
.	Full stop	2/14	X	Capital letter X	5/8
/	Solidus	2/15	Y	Capital letter Y	5/9
0	Digit zero	3/0	Z	Capital letter Z	5/10
1	Digit one	3/1	_	Low line	5/15
2	Digit two	3/2	a	Small letter a	6/1
3	Digit three	3/3	b	Small letter b	6/2
4	Digit four	3/4	c	Small letter c	6/3
5	Digit five	3/5	d	Small letter d	6/4
6	Digit six	3/6	e	Small letter e	6/5
7	Digit seven	3/7	f	Small letter f	6/6
8	Digit eight	3/8	g	Small letter g	6/7
9	Digit nine	3/9	h	Small letter h	6/8
:	Colon	3/10	i	Small letter i	6/9
;	Semicolon	3/11	j	Small letter j	6/10
<	Less-than sign	3/12	k	Small letter k	6/11
=	Equals sign	3/13	l	Small letter l	6/12
>	Greater-than sign	3/14	m	Small letter m	6/13
?	Question mark	3/15	n	Small letter n	6/14
A	Capital letter A	4/1	o	Small letter o	6/15
B	Capital letter B	4/2	p	Small letter p	7/0
C	Capital letter C	4/3	q	Small letter q	7/1
D	Capital letter D	4/4	r	Small letter r	7/2
E	Capital letter E	4/5	s	Small letter s	7/3
F	Capital letter F	4/6	t	Small letter t	7/4
G	Capital letter G	4/7	u	Small letter u	7/5
H	Capital letter H	4/8	v	Small letter v	7/6
I	Capital letter I	4/9	w	Small letter w	7/7
J	Capital letter J	4/10	x	Small letter x	7/8
K	Capital letter K	4/11	y	Small letter y	7/9
L	Capital letter L	4/12	z	Small letter z	7/10

### 3.A.4 Appendix 4: GS1 Data Titles

#### 3.A.4.1 All Application Identifiers

Figure 3.A.4.1 – 1

AI	Full Title	Format	Data Title
00	SSCC (Serial Shipping Container Code)	n2+n18	SSCC
01	Global Trade Item Number™	n2+n14	GTIN™
02	GTIN of Trade Items Contained in a logistic unit	n2+n14	CONTENT
10	Batch or lot number	n2+an..20	BATCH/LOT
11*	Production date (YYMMDD)	n2+n6	PROD DATE
12*	Due date (YYMMDD)	n2+n6	DUE DATE
13*	Packaging date (YYMMDD)	n2+n6	PACK DATE
15*	Best before date (YYMMDD)	n2+n6	BEST BEFORE or SELL BY
17*	Expiration date (YYMMDD)	n2+n6	USE BY OR EXPIRY
20	Product variant	n2+n2	VARIANT
21	Serial number	n2+an..20	SERIAL
22	Secondary data for specific health industry products	n2+an..29	QTY/DATE/BATCH
240	Additional product identification assigned by the manufacturer	n3+an..30	ADDITIONAL ID
241	Customer part number	n3+an..30	CUST. PART NO.
250**	Secondary serial number	n3+an..30	SECONDARY SERIAL
251**	Reference to source entity	n3+an..30	REF. TO SOURCE
253	Global Document Type Identifier	n3+n13+n..17	DOC. ID
254	GLN Extension component	n3+an..20	GLN EXTENSION
30	Variable count	n2+n..8	VAR. COUNT

\* When only year and month are required, DD must be filled with "00".

\*\* The actual data title may be specified by the issuer of the data.

**All Application Identifiers (*continued*)**

<b>AI</b>	<b>Full Title</b>	<b>Format</b>	<b>Data Title</b>
310n-369n	(Trade and logistic measurements)	n4+n6	
337n	Kilograms per square metre	n4+n6	KG PER m <sup>2</sup>
37	Count of trade items contained in a logistic unit	n2+n..8	COUNT
390(n)	Amount payable – single monetary area	n4+n..15	AMOUNT
391(n)	Amount payable – with ISO currency code	n4+n3+n..15	AMOUNT
392(n)	Amount payable for a Variable Measure Trade Item – single monetary unit	n4+n..15	PRICE
393(n)	Amount payable for a Variable Measure Trade Item – with ISO currency code	n4+n3+n..15	PRICE
400	Customer's purchase order number	n3+an..30	ORDER NUMBER
401	Consignment number	n3+an..30	CONSIGNMENT
402	Shipment Identification Number	n3+n17	SHIPMENT NO.
403	Routing code	n3+an..30	ROUTE
410	Ship to - deliver to Global Location Number	n3+n13	SHIP TO LOC
411	Bill to - invoice to Global Location Number	n3+n13	BILL TO
412	Purchased from Global Location Number	n3+n13	PURCHASE FROM
413	Ship for - deliver for - forward to Global Location Number	n3+n13	SHIP FOR LOC
414	Identification of a physical location Global Location Number	n3+n13	LOC No
415	Global Location Number of the Invoicing Party	n3+n13	PAY TO

**All Application Identifiers (continued)**

AI	Full Title	Format	Data Title
420	Ship to - deliver to postal code within a single postal authority	n3+an..20	SHIP TO POST
421	Ship to - deliver to postal code with Three-Digit ISO country code	n3+n3+an..9	SHIP TO POST
422	Country of origin of a trade item	n3+n3	ORIGIN
423	Country of initial processing	n3+n3+n..12	COUNTRY - INITIAL PROCESS.
424	Country of processing	n3+n3	COUNTRY - PROCESS.
425	Country of disassembly	n3+n3	COUNTRY - DISASSEMBLY
426	Country covering full process chain	n3+n3	COUNTRY – FULL PROCESS
7001	NATO stock number	n4+n13	NSN
7002	UN/ECE meat carcasses and cuts classification	n4+an..30	MEAT CUT
703(s)***	Approval number of processor with ISO country code	n4+n3+an..27	PROCESSOR # s <sup>4</sup>
8001	Roll products - width, length, core diameter, direction, and splices	n4+n14	DIMENSIONS
8002	Electronic serial identifier for cellular mobile telephones	n4+an..20	CMT No
8003	Global Returnable Asset Identifier	n4+n14+an..16	GRAI
8004	Global Individual Asset Identifier	n4+an..30	GIAI
8005	Price per unit of measure	n4+n6	PRICE PER UNIT
8006	Identification of the component of a trade item	n4+n14+n2+n2	GCTIN
8007	International Bank Account Number	n4+an..30	IBAN
8008	Date and time of production	n4+n8+n..4	PROD TIME
8018	Global Service Relation Number	n4+n18	GSRN
8020	Payment Slip Reference Number	n4+an..25	REF No
8100	GS1-128 Coupon Extended Code - NSC + Offer Code	n4+n1+n5	-
8101	GS1-128 Coupon Extended Code - NSC + Offer Code + end of offer code	n4+n1+n5+n4	-
8102	GS1-128 Coupon Extended Code – NSC	n4+n1+n1	-
90**	Information mutually agreed between trading partners (including FACT DIs)	n2+an..30	INTERNAL
91-99**	Company internal information	n2+an..30	INTERNAL

\* When only year and month are required, DD must be filled with "00".

\*\* The actual data title may be specified by the issuer of the data.

\*\*\* The fourth digit of this AI, "s," indicates the sequence of the processors in the supply chain (see Section 3.6.46).



**3.A.4.2 Metric Trade Measures**

Figure 3.A.4.2 – 1

<b>AI</b>	<b>Full Title</b>	<b>Unit of Measure</b>	<b>Data Title</b>
	Data Format n6		
310 (n)*	Net weight	Kilograms	NET WEIGHT (kg)
311 (n)	Length or first dimension, trade	Metres	LENGTH (m)
312 (n)	Width, diameter, or second dimension, trade	Metres	WIDTH (m)
313 (n)	Depth, thickness, height, or third dimension, trade	Metres	HEIGHT (m)
314 (n)	Area, trade	Square metres	AREA (m <sup>2</sup> )
315 (n)	Net volume	Litres	NET VOLUME (l)
316 (n)	Net volume	Cubic metres	NET VOLUME (m <sup>3</sup> )

\*(n) indicates the decimal point position outlined in [Section 7.5](#).

**3.A.4.3 Non-Metric Trade Measures**

Figure 3.A.4.3 – 1

<b>AI</b>	<b>Full Title</b>	<b>Unit of Measure</b>	<b>Data Title</b>
	Data Format n6		
320 (n)*	Net weight	Pounds	NET WEIGHT (lb)
321 (n)	Length or first dimension, trade	Inches	LENGTH (i)
322 (n)	Length or first dimension, trade	Feet	LENGTH (f)
323 (n)	Length or first dimension, trade	Yards	LENGTH (y)
324 (n)	Width, diameter, or second dimension, trade	Inches	WIDTH (i)
325 (n)	Width, diameter, or second dimension, trade	Feet	WIDTH (f)
326 (n)	Width, diameter, or second dimension, trade	Yards	WIDTH (y)
327 (n)	Depth, thickness, height, or third dimension, trade	Inches	HEIGHT (i)
328 (n)	Depth, thickness, height, or third dimension, trade	Feet	HEIGHT (f)
329 (n)	Depth, thickness, height, or third dimension, trade	Yards	HEIGHT (y)
350 (n)	Area, trade	Square inches	AREA (i <sup>2</sup> )
351 (n)	Area, trade	Square feet	AREA (f <sup>2</sup> )
352 (n)	Area, trade	Square yards	AREA (y <sup>2</sup> )
356 (n)	Net weight	Troy ounces	NET WEIGHT (t)
357 (n)	Net volume (or weight)	Ounces (U.S.)	NET VOLUME (oz)
360 (n)	Net volume	Quarts	NET VOLUME (q)
361 (n)	Net volume	Gallons (U.S.)	NET VOLUME (g)
364 (n)	Net volume	Cubic inches	NET VOLUME (i <sup>3</sup> )
365 (n)	Net volume	Cubic feet	NET VOLUME (f <sup>3</sup> )
366 (n)	Net volume	Cubic yards	NET VOLUME (y <sup>3</sup> )

\*(n) indicates the decimal point position outlined in [Section 7.5](#).

### 3.A.4.4 Metric Logistic Measures

Figure 3.A.4.4 – 1

AI	Full Title	Unit of Measure	Data Title
	Data Format n6		
330 (n)*	Gross weight	Kilograms	GROSS WEIGHT (kg)
331 (n)	Length or first dimension, logistics	Metres	LENGTH (m), log
332 (n)	Width, diameter, or second dimension, logistics	Metres	WIDTH (m), log
333 (n)	Depth, thickness, height, or third dimension, logistics	Metres	HEIGHT (m), log
334 (n)	Area, logistics	Square metres	AREA (m <sup>2</sup> ), log
335 (n)	Gross volume	Litres	VOLUME (l), log
336 (n)	Gross volume	Cubic metres	VOLUME (m <sup>3</sup> ), log

\*(n) indicates the decimal point position outlined in [Section 7.5](#).

### 3.A.4.5 Non-Metric Logistic Measures

Figure 3.A.4.5 – 1

AI	Full Title	Unit of Measure	Data Title
	Data Format n6		
340 (n)*	Gross weight	Pounds	GROSS WEIGHT (lb)
341 (n)	Length or first dimension, logistics	Inches	LENGTH (i), log
342 (n)	Length or first dimension, logistics	Feet	LENGTH (f), log
343 (n)	Length or first dimension, logistics	Yards	LENGTH (y), log
344 (n)	Width, diameter, or second dimension, logistics	Inches	WIDTH (i), log
345 (n)	Width, diameter, or second dimension, logistics	Feet	WIDTH (f), log
346 (n)	Width, diameter, or second dimension, logistics	Yards	WIDTH (y), log
347 (n)	Depth, thickness, height, or third dimension, logistics	Inches	HEIGHT (i), log
348 (n)	Depth, thickness, height, or third dimension, logistics	Feet	HEIGHT (f), log
349 (n)	Depth, thickness, height, or third dimension, logistics	Yards	HEIGHT (y), log
353 (n)	Area, logistics	Square inches	AREA (i <sup>2</sup> ), log
354 (n)	Area, logistics	Square feet	AREA (f <sup>2</sup> ), log
355 (n)	Area, logistics	Square yards	AREA (y <sup>2</sup> ), log
362 (n)	Gross volume	Quarts	VOLUME (q), log
363 (n)	Gross volume	Gallons (U.S.)	VOLUME (g), log
367 (n)	Gross volume	Cubic inches	VOLUME (i <sup>3</sup> ), log
368 (n)	Gross volume	Cubic feet	VOLUME (f <sup>3</sup> ), log
369 (n)	Gross volume	Cubic yards	VOLUME (y <sup>3</sup> ), log

\*(n) indicates the decimal point position outlined in [Section 7.5](#).

### 3.A.5 Appendix 5: Determination of Century in Dates

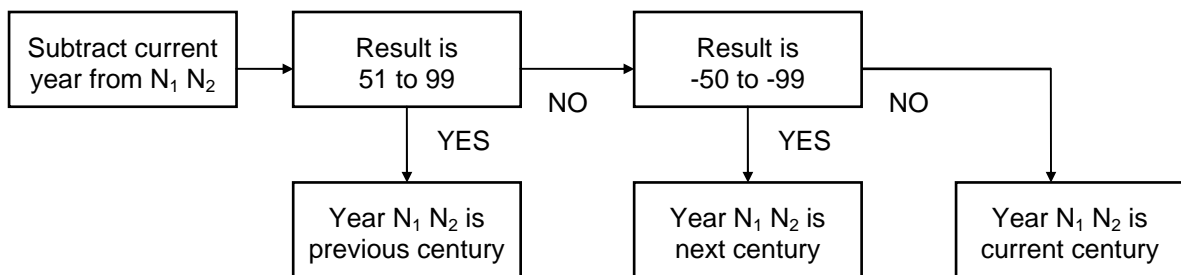
Element Strings are available for the following types of dates:

- Production date: AI (11)
- Due date: AI (12)
- Packaging date: AI (13)
- Best before date (quality): AI (15)
- Expiration date (safety): AI (17)
- Date and time of production: AI (8008)

It is left to the discretion of the user to interpret a particular date type in the sense of his business practices. Such interpretation may change according to the product range for which a date is being applied

Since the year data field consists of two positions, the century is established by following the procedure in Figure 3.A.5 – 1.

Figure 3.A.5 – 1



Note: The Element String can only specify a date in the range from 49 years in the past to 50 years in the future of the current year.