



GS1net Timber Products Guideline  
Ordering & Pricing Scenarios

## Acknowledgments

This document was originally developed by GS1 NZ but has been extensively reworked after review and discussion at several TIEG (HIWG Timber Industry E-commerce Group) meetings in late 2008 and 2009.

The intention is to provide comprehensive timber (and building products) industry feedback so there is a clear understanding of timber (and building) trade items and how they are identified and could be described in GS1net.

## Document Version Control

Date	Version	Name	Change Description
05/07/2008	1.0	GS1 NZ	Original
07/09/2010	1.1	GS1 NZ	Update to Timber Examples to meet needs for HGAG
01/12/2010	1.2	GS1 NZ	Minor updates
07/06/2011	1.3	GS1NZ	General updates and fixing inconsistencies. Addition of key concept explanations. Removal of LDD attributes as per HGAG.
07/06/2011	1.4	GS1 NZ	Removed reference to Selling UOM to ensure GDSN compliance
17/07/2011	1.5	GS1 Australia	Revised according to previous discussions with key timber participants
20/07/2011	1.6	GS1 NZ	Minor adjustments and issues raised for discussion. Question difference between scenario A2 and B.

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## 1. Key Concepts

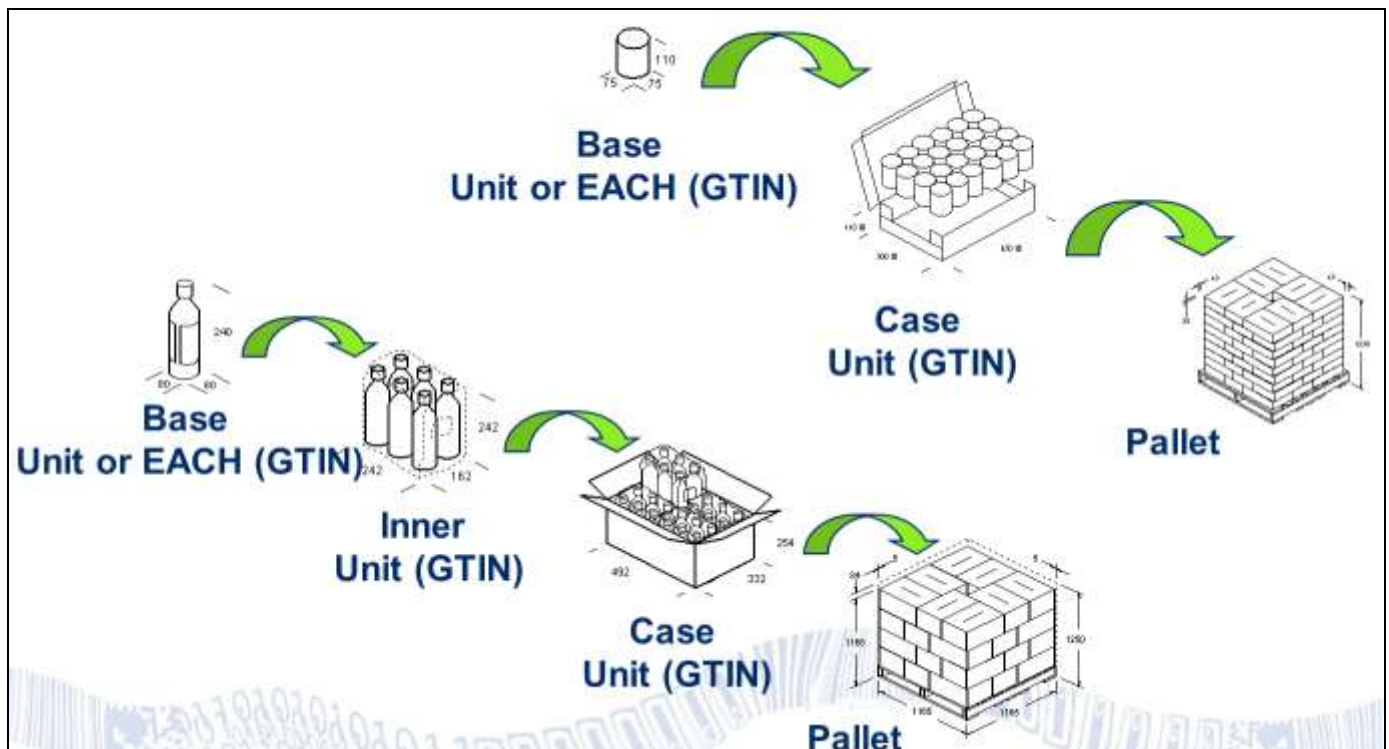
### Variable vs Random

Within the timber scenario in GS1net there is a fundamental difference between variable and random product attributes as described below:

1. When an attribute is deemed to be variable this indicates a targeted value is attempted however, potentially due to manufacturing processes, an exact value cannot be reliably achieved. If a product attribute is considered to be variable then that attribute is described as an average value.
2. When an attribute is deemed to be random this indicates that the value could be potentially anything and is far reaching. If a product attribute is considered to be random then this is defined by using the value 999999.

### Product Hierarchies

As per the below diagram each level of a product hierarchy is assigned a Unique GTIN.



### GTIN for Merchant/Retail Sale

Within GS1net it is possible to supply GTINs and applicable data for products that are sold by the merchant/retailer but not necessarily used in trade between yourselves and your merchant/retailer. Supplying this GTIN and its associated data to your merchant/retailer is optional and the requirement should be discussed between trading parties. Within this document the definitions for supplying this optional data are provided.

## Ordering Scenarios

A. Set Length Pack	A set length pack is a pack of timber containing pieces of timber, all having the same end section and length
A1. Standard Set Length Pack	A standard set length pack is a pack of timber containing pieces of timber, all having the same end section and length – with no pack size variability between mills (i.e. number of pieces within each pack is always the same).
A2. Generic Set Length Pack	A generic set length pack is the same as a set length pack except that the number of pieces in the pack is not pre-defined by the GTIN. Generic GTIN's are useful where the standard pack size varies from mill to mill. A generic GTIN is created that encompasses the fixed measure GTIN's assigned to each mill pack size. Use of a generic GTIN (for ordering and delivery, not for bar coding of individual packs) allows the supplier to deliver packs from any mill without the need for substitution of one GTIN for another.
B. Variable Set Length Pack	Variable set length pack trade items are set length pack items where the pack size varies from pack to pack. These should only be used for the situation where some packs are produced slightly under or over the standard number of pieces in a pack due to end-of-run processes in some mills.
C. Variable Cut to Length (CTL) Pack	This pack type is the same as a set length pack except that piece length is not pre-defined by the GTIN, but is specified at the time of ordering.
D. Random Length Pack	A random length pack is a pack of timber containing a selection of pieces of timber, but varying in length, with the mix of lengths varying from pack to pack. In some cases <b>random length packs can be classified as 'Long, 'Medium" or 'Short'</b> , determined by the piece length range in a pack.
E. Standard Mixed Length Pack (Multi Pack)	Standard mixed length pack refers to a pack similar to a random pack with a selection of timber all of the same end section and varying in length, with the difference that the mix of lengths is standard from pack to pack.
F. Bulk	It may be appropriate to regard some timber trade items as bulk product where packaging is irrelevant. Ordered in multiples of the base unit.

### 1B. Other Scenarios to Consider

X1. Standard Length Piece (Individual Piece)	The manufacturer sells most timber in packs. However, the individual pieces of timber in the packs also require identification, for retail purposes. Standard length piece trade items have predefined attributes, hence a GTIN can be created for these products.
X2. Variable Length Piece (Individual Piece) – Refer to Scenario G for more information	Timber pieces may be 'cut to length' for sale, a variable measure GTIN is required to identify these items. Agreement is required between trading partners as to who allocates the variable measure GTIN





The examples below are based on the same product (4x2 or 100x50) in all instances:

Order Scenario		Pack	Piece	Retailer Sells As	Comment
A1	Description	Standard set length 50 PCE pack	Standard 2.4 lm	Pack	Piece intended to be sold by the merchant/retailer as a fixed length piece with its own unique GTIN. Should the piece be cut down by the merchant/retailer for sale then refer to Scenario G
	Allocated GTIN	19421000001481	09421000001483	Standard Length	
A2	Description	Standard set length variable PCE pack	Standard 2.4 lm	Pack	Piece intended to be sold by the merchant/retailer as a fixed length piece with its own unique GTIN. Should the piece be cut down by the merchant/retailer for sale then refer to Scenario G
	Allocated GTIN	19421000001643	09421000001483	Standard Length	
B	Description	Variable Set Length pack	Standard 2.4 lm	Pack	Pack is variable by the number of units or pieces contained within the pack.
	Allocated GTIN	99421000001503	09421000001483	Standard Length	
C	Description	Variable Cut to Length (CTL) Pack	Variable	Pack	Pack is variable by the physical dimension of Depth. The piece is variable by length (Depth)
	Allocated GTIN	19421000001515	09421000001470		
D	Description	Random Length Pack	Variable	Variable	Need a new GTIN for pack due to now associating a variable child as the next lower level
	Allocated GTIN	19421000001527	09421000001470		
E	Description	Standard Mixed Length Pack	Standard 1.8 lm	Standard Length	Pack is essentially a multi pack containing a defined number of FIXED length pieces. Should the piece be cut down by the merchant/retailer for sale then refer to Scenario G
	Allocated GTIN	19421000001539	09421000001495		
	Description		Standard 2.1 lm	Standard Length	
	Allocated GTIN		09421000001467		
	Description		Standard 2.4 lm	Standard Length	
F	Description	Bulk		Variable	Bulk pack has no need for a Hierarchy
	Allocated GTIN	09421000001470			
G	Description	N/A	Variable		This is a variable length piece which is assigned a GTIN-13
	Allocated GTIN	N/A	09421000001470	Variable	

NOTE: A Supplier can also allocate a GTIN to Variable length pieces of timber giving the Retailer the ability to use this identifier in a shadow book environment

## 2. Timber Examples – Using GS1net Fields

### Scenario A1: Standard Set Length Pack

Ordering Scenario	A1. Standard Set Length Pack	X1. Standard Length Piece
A1. Standard Set Length Pack		
GTIN	19421000001480	09421000001483
Brand Name	John's	John's
Functional Name	Timber	Timber
Trade Item Description	John's Timber 100x50X2400 50 piece pack	John's Timber 100x50x2400
Trade Item Hierarchy Level	SETPACK	BASE_UNIT_OR_EACH
Is Trade Item the Lowest Level of the Hierarchy?	N	Y
Is Trade Item a Consumer Unit?	N	Y
Is Trade Item a Despatch Unit?	Y	N
Is Trade Item an Invoice Unit?	Y	N
Is Trade Item an Orderable Unit?	Y	N
Is Trade Item a Variable Unit?	N	N
Height	250	50
UOM	MM	MM
Width	1000	100
UOM	MM	MM
Depth	2400	2400
UOM	MM	MM
Child GTIN	09421000001483	
Child Quantity	50	
Net Content	50 or 1	1
Net Content UOM	PC or EA	EA

Pack Dimensions calculation: Pack Height = Piece Height x Number of pieces high = 50 x 5 = 250MM



Pack Width = Piece Width x Number of pieces wide = 100 x 10 = 1000MM

NOTE 1: Please refer to Scenario G if a variable measure GTIN is required by your merchant/retailer to represent a length of timber cut to measure in store.

NOTE 2: GTIN of the Setpack may be either a GTIN-13 or GTIN-14.



### Scenario A2: Generic Set Length Pack (Random Number of Pieces)

Ordering Scenario	A2. Generic Set Length Pack	X1. Standard Length Piece
A2. Generic Set Length Pack		
GTIN	19421000001643	09421000001483
Functional Name	Timber	Timber
Trade Item Description	John's Timber 100x50x2400 Approx 50 Pieces	John's Timber 100x50x2400
Trade Item Hierarchy Level	SETPACK	BASE_UNIT_OR_EACH
Is Trade Item the Lowest Level of the Hierarchy?	N	Y
Is Trade Item a Consumer Unit?	N	Y
Is Trade Item a Despatch Unit?	Y	N
Is Trade Item an Invoice Unit?	Y	N
Is Trade Item an Orderable Unit?	Y	N
Is Trade Item a Variable Unit?	Y	N
Height	250 (Average Value)	50
UOM	MM	MM
Width	1000 (Average Value)	100
UOM	MM	MM
Depth	2400	2400
UOM	MM	MM
Child GTIN	9421000001483	
Child Quantity	50	
Net Content	50 (Average Value) or 1	1
Net Content UOM	PC or EA	EA



\* Random with respect to number of pieces in a pack.

NOTE 1: Please refer to Scenario G if a variable measure GTIN is required by your merchant/retailer to represent a length of timber cut to measure in store.

NOTE 2: This method is not a best practice and goes against the principles of GS1 standards. Hence it should only be used in exceptional circumstances and when agreed upon between trading parties.

NOTE 3: Approximate values provided for Height, Width and Child Qty to assist with Ordering Processes


### Scenario B. Variable Set Length Pack

Ordering Scenario	B. Generic Set Length Pack	X1. Standard Length Piece
B. Variable Set Length Pack		
GTIN	99421000001503	09421000001483
Brand Name	John's	John's
Functional Name	Timber	Timber
Trade Item Description	John's Timber 100x50x2400 Variable Piece Pack	John's Timber 100x50x2400
Trade Item Hierarchy Level	SETPACK	BASE_UNIT_OR_EACH
Is Trade Item the Lowest Level of the Hierarchy?	N	Y
Is Trade Item a Consumer Unit?	N	Y
Is Trade Item a Despatch Unit?	Y	N
Is Trade Item an Invoice Unit?	Y	N
Is Trade Item an Orderable Unit?	Y	N
Is Trade Item a Variable Unit?	Y	N
Height	250 (Average Value)	50
UOM	MM	MM
Width	1000 (Average Value)	100
UOM	MM	MM
Depth	2400	2400
UOM	MM	MM
Child GTIN (NLL)	09421000001483	
Child Quantity	50 (Average Value)	
Net Content	50 (Average Value) or 1	1
Net Content UOM	PC or EA	EA

\* Variable with respect to number of pieces in a pack

NOTE 1: Please refer to Scenario G if a variable measure GTIN is required by your merchant/retailer to represent a length of timber cut to measure in store.


### Scenario C. Variable Cut to Length (CTL) Pack

Ordering Scenario	C. Variable CTL Pack
C. Variable Cut to Length (CTL) Pack	
GTIN	99421000001516
Brand Name	John's
Functional Name	Timber
Trade Item Description	John's Timber 100x50 50 Piece CTL Pack
Trade Item Hierarchy Level	SETPACK
Is Trade Item the Lowest Level of the Hierarchy?	N
Is Trade Item a Consumer Unit?	N
Is Trade Item a Despatch Unit?	Y
Is Trade Item an Invoice Unit?	Y
Is Trade Item an Orderable Unit?	Y
Is Trade Item a Variable Unit?	Y
Height	250
UOM	MM
Width	1000
UOM	MM
Depth	999999
UOM	MM
Child GTIN (NLL)	09421000001470
Child Quantity	50
Net Content	50 1
Net Content UOM	PC EA

\* Variable with respect to length of pieces in a pack (with length specified at the time of ordering).

NOTE 2: Commonly used lengths are defined as standard items i.e. the actual length is defined by the GTIN, Cut to Length packs may be fairly rare, depending on the supplier.

### Scenario D. Random Length Pack





Ordering Scenario	D. Random Length Pack
D. Random Length Pack	
GTIN	99421000001530
Brand Name	John's
Functional Name	Timber
Trade Item Description	John's Timber 100x50 Random Mixed Length Pack
Trade Item Hierarchy Level	SETPACK
Is Trade Item the Lowest Level of the Hierarchy?	N
Is Trade Item a Consumer Unit?	N
Is Trade Item a Despatch Unit?	Y
Is Trade Item an Invoice Unit?	Y
Is Trade Item an Orderable Unit?	Y
Is Trade Item a Variable Unit?	Y
Height	250
UOM	MM
Width	1000
UOM	MM
Depth	999999
UOM	MM
Child GTIN (NLL)	09421000001470
Child Quantity	999999
Net Content	999999
Net Content UOM	PC

\* Random with respect to mix of lengths in a pack and pieces per pack.

NOTE 1: This method is not a best practice and goes against the principles of GS1 standards. Hence it should only be used in exceptional circumstances and when agreed upon between trading parties.


NOTE 2: This method can utilize GTINs allocated to Short/Medium/Long lengths if these lengths are variable and a targeted average.

*Scenario E. Standard Mixed Length Pack (Multi Pack)*

Ordering Scenario	Scenario E. Standard Mixed Length Pack (Multi Pack)	X2. Variable Length Piece	X2. Variable Length Piece	X2. Variable Length Piece
E. Standard Mixed Length Pack (Multi Pack)				
GTIN	19421000001503	09421000001495	09421000001467	09421000001455
Brand Name	John's	John's	John's	John's
Functional Name	Timber	Timber	Timber	Timber
Trade Item Description	John's Timber 100x50 Piece Standard Mixed Length Pack	John's Timber 100x50x1800mm	John's Timber 100x50x2100mm	John's Timber 100x50x2400mm
Trade Item Hierarchy Level	SETPACK	BASE_UNIT_OR_EACH	BASE_UNIT_OR_EACH	BASE_UNIT_OR_EACH
Is Trade Item the Lowest Level of the Hierarchy?	N	Y	Y	Y
Is Trade Item a Consumer Unit?	N	Y	Y	Y
Is Trade Item a Despatch Unit?	Y	N	N	N
Is Trade Item an Invoice Unit?	Y	N	N	N
Is Trade Item an Orderable Unit?	Y	N	N	N
Is Trade Item a Variable Unit?	Y	Y	Y	Y
Height	250	50	50	50
UOM	MM	MM	MM	MM
Width	1000	100	100	100
UOM	MM	MM	MM	MM
Depth	2400	1800	2100	2400
UOM	MM	MM	MM	MM
Child GTIN (NLL)	09421000001495			
Child Quantity	20			
Child GTIN (NLL)	09421000001467			
Child Quantity	20			
Child GTIN (NLL)	09421000001455			
Child Quantity	10			
Net Content	50	1	1	1
Net Content UOM	PC	EA	EA	EA

NOTE 1: Please refer to Scenario G if a variable measure GTIN is required to represent a length of timber cut to measure in store.

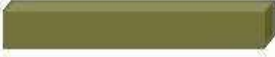
### Scenario F. Bulk

Ordering Scenario	F. Bulk
F. Bulk	
GTIN	09421000001495
Brand Name	John's
Functional Name	Timber
Trade Item Description	John's Timber 100x50 Bulk Order
Trade Item Hierarchy Level	SETPACK
Is Trade Item the Lowest Level of the Hierarchy?	Y
Is Trade Item a Consumer Unit?	Y
Is Trade Item a Despatch Unit?	Y
Is Trade Item an Invoice Unit?	Y
Is Trade Item an Orderable Unit?	Y
Is Trade Item a Variable Unit?	Y
Height	999999
UOM	MM
Width	999999
UOM	MM
Depth	999999
UOM	MM
Child GTIN	
Child Quantity	
Net Content	999999
Net Content UOM	CR

NOTE1: Could be defined using many different net content UOMs e.g: SM (square metre), CR (cubic metre) or LM (linear metre) etc.

### Scenario G. Variable Measure Piece

Timber pieces may be 'cut to length' for sale merchants/retailers, a variable measure GTIN is required to identify these items. Agreement is required between trading partners as to who allocates the variable measure GTIN.



Ordering Scenario	X2. Variable Length Piece (Optional)
G. Variable Measure Piece	
GTIN	09421000001470
Brand Name	John's
Functional Name	Timber
Trade Item Description	John's Timber 100x50 Variable Length
Trade Item Hierarchy Level	BASE_UNIT_OR_EACH
Is Trade Item the Lowest Level of the Hierarchy?	Y
Is Trade Item a Consumer Unit?	Y
Is Trade Item a Despatch Unit?	N
Is Trade Item an Invoice Unit?	N
Is Trade Item an Orderable Unit?	N
Is Trade Item a Variable Unit?	Y
Height	50
UOM	MM
Width	100
UOM	MM
Depth	999999
UOM	MM
Child GTIN	
Child Quantity	
Net Content	1
Net Content UOM	EA


Note 1: The GTIN assigned is indicated as a variable measure unit **however a '9' indicator digit is not used within the GTIN** due to the constraints of many POS systems to read GTIN-13 structures. Often the selling system will prompt the user to enter the length of timber sold.

### 3. Pricing Business Scenarios – Using Ordering UOM and Order Sizing Factor

Previously, Carter Holt Harvey and The HIWG identified the need for two additional fields in order to describe pricing scenarios for timber - the Trade Item UOM was originally mapped to the Selling UOM attribute in GS1net however this has now been mapped to the Ordering UOM to ensure GDSN compliance. Pricing Conversion Factor is mapped to the Order Sizing Factor attribute in GS1net. These fields in the item data, along with the order sizing factor, help the parties involved determine price as per the scenarios below.

*Scenario 1: The Ordering UOM is the same as the Price Basis Quantity UOM*


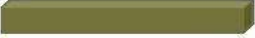
Ordering Scenario	A1. Standard Set Length Pack	X1. Standard Length Piece
GS1net Item Data		
GTIN	19421000001490	09421000001483
Brand Name	John's	John's
Functional Name	Timber	Timber
Trade Item Description	John's Timber 100x50x2400 50 piece pack	John's Timber 100x50x2400
Trade Item Hierarchy Level	SETPACK	BASE_UNIT_OR_EACH
Is Trade Item the Lowest Level of the Hierarchy?	N	Y
Is Trade Item a Consumer Unit?	N	Y
Is Trade Item a Despatch Unit?	Y	N
Is Trade Item an Invoice Unit?	Y	Y
Is Trade Item an Orderable Unit?	Y	N
Is Trade Item a Variable Unit?	N	N
Height	250	50
UOM	MM	MM
Width	1000	100
UOM	MM	MM
Depth	2400	2400
UOM	MM	MM
Child GTIN	09421000001483	
Child Quantity	50	
Net Content	50	1
Net Content UOM	PK	EA
Order Sizing Factor	Not Required	
Ordering UOM	EA	


Ordering Scenario	A1. Standard Set Length Pack
GS1net Price Data	
GTIN	19421000001490
Price Type ID	1199948-887554
Price Type	LIST_PRICE
Price Application Sequence	1
Price Basis Quantity	1
Price Basis Quantity / UOM	EA
Price Value	303.45
Effective Start Date	2008-08-01
Effective Start Date Context	FIRST_ORDER_DATE
Effective End Date	
Effective End Date Context	
Distribution Method	DSD
Reason for Price Action	NI

NOTE 1: Please note the following business rule: *If pricing is provided by length, volume or weight and the GTIN is NOT indicated as a variable unit, the Ordering UOM and the Order Sizing Factor attributes must be populated to allow calculations of price for each alternative UOM of the corresponding GTIN.*



### Scenario 2: The Ordering UOM is different from the Price Basis Quantity UOM

Ordering Scenario	A1. Standard Set Length Pack	X1. Standard Length Piece
GS1net Item Data		
GTIN	19421000001490	09421000001483
Brand Name	John's	John's
Functional Name	Timber	Timber
Trade Item Description	John's Timber 100x50x2400 50 piece pack	John's Timber 100x50x2400
Trade Item Hierarchy Level	SETPACK	BASE_UNIT_OR_EACH
Is Trade Item the Lowest Level of the Hierarchy?	N	Y
Is Trade Item a Consumer Unit?	N	Y
Is Trade Item a Despatch Unit?	Y	N
Is Trade Item an Invoice Unit?	Y	Y
Is Trade Item an Orderable Unit?	Y	N
Is Trade Item a Variable Unit?	N	N
Height	250	50
UOM	MM	MM
Width	1000	100
UOM	MM	MM
Depth	2400	2400
UOM	MM	MM
Child GTIN	09421000001483	
Child Quantity	50	
Net Content	50	1
Net Content UOM	PK	EA
Order Sizing Factor	120.00	
Ordering UOM	EA	

Ordering Scenario	A1. Standard Set Length Pack
GS1net Price Data	
GTIN	19421000001490
Price Type ID	1199948-887554
Price Type	LIST_PRICE
Price Application Sequence	1
Price Basis Quantity	1
Price Basis Quantity / UOM	LM
Price Value	2.53
Effective Start Date	2008-08-01
Effective Start Date Context	FIRST_ORDER_DATE
Effective End Date	
Effective End Date Context	
Distribution Method	DSD
Reason for Price Action	NI

Note 1: In this example the pack price is given as a lineal metre price which can be extrapolated to calculate the pack price. Could alternatively provide an each/EA price (e.g. \$2.53 x 2.4M = \$6.07).

The pack price can be calculated from the lineal metre price by using the Pricing Conversion Factor, i.e. \$2.53 x 120.00 = \$303.6 (not exactly the same price as in Scenario 1 due to rounding).

NOTE 2: This scenario results in the following business rule: *If pricing is provided by length, volume or weight and the GTIN is NOT marked as a variable unit, the Ordering UOM and the Order Sizing Factor attributes must be populated to allow calculations of price for each alternative UOM of the corresponding GTIN.*

## 4. Key Document Changes Log

This revised document contains a number of fundamental changes from previous versions which are explained below:

- Pricing Scenarios – Selling UOM and Ordering UOM Logic Revision
  - Originally this document detailed the use of selling UOM and ordering UOM within item data to illustrate when a product is priced and ordered in differing units of measure. Having reviewed the use of these attributes within GS1net it was deemed that the use case of selling UOM was not within the definition set out by the GDD (Global Data Dictionary). Furthermore the use of both the ordering UOM and selling UOM, as part of the item data, was to facilitate a validation rule within GS1net requiring that the order sizing factor be populated, when a simple business rule was deemed sufficient. By providing the ordering UOM and order sizing factor along with the Price Basis Quantity UOM we can achieve the same objective within the GDD specifications.
- Single Piece Variable GTIN (Scenario G)
  - In previous versions of this document Scenario G was detailed as an optional GTIN against all scenarios. Multiple sources of feedback illustrated this was confusing which resulted in Scenario G being detailed separately. This scenario would be used following the consultation between trade partners in order for a GTIN to be used in supporting in store CTL scenarios.
- Key Concept – Variable vs Random
  - This section was added to the key concepts to clearly define the difference between random and variable attributes. The use case of default values for expressing random attributes is also explained. Essentially variable is aiming for an average whereas random is any possible value.
- Standard Random Length Pack (Multi Pack)
  - This scenario is being described as '**Standard Mixed Length Pack (Multi Pack)**' due to the assumption this scenario is a setpack with standard lengths of timber and standard quantities.
- Product Item Data vs Pricing Scenarios
  - We have differentiated between product configurations in item data and pricing scenarios to ensure the two concepts are not confused. This resulted in a change to the document title.
- Emphasis of Variable Product Removed
  - We have removed the document emphasis on variable products as they only form a part of the guideline

