Product Quality

papiNet Standard - Version 2.31

Documentation

Global Standard for the Paper and Forest Products Supply Chain

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ProductQuality Documentation

An Overview of the ProductQuality Message

The ProductQuality message assumes that a previous agreement between buyer and seller has taken place.

Prior to implementing business processes that require a ProductQuality message, it is necessary for the parties involved to have opened a dialogue and reached a collaborative agreement including such items as:

- frequency of messages,
- form of detail, whether by period, purchase order, or shipment.
- content detail, such as
  - the particular quality properties to be sent,
  - which statistical values associated with the properties will be sent,
  - level of aggregation, whether summary and/or detailed information
- rules for arriving at measurement values,
- rules for replacing and cancelling messages, and
- units of measure.

A Supplier sends a ProductQuality message to another trading partner on a frequency or event basis agreed between them, or in response to an electronic request using the papiNet InfoRequest message.

The degree of detail and extent of the information exchanged will vary between Suppliers and their trading partners. The ProductQuality message has been designed to support aggregated information at the period, purchase order, or shipment level, as well as, optionally, details of the items involved.

It is anticipated there will be increased demand for suppliers to provide individual item quality data as the spread of more sophisticated warehousing, process control and database systems increases. Such systems exist already; some attempting to utilise the paper test information to optimise performance of the product on a press, others to group like products in automated warehouses.

The ProductQuality message fully supports providing quality data for individual items. The agreed properties of the product that are exchanged can include statistical values such as minimum and maximum, standard deviation, sample size, two sigma (lower-limit, upper-limit).

Purpose of the ProductQuality Message

The purpose of the ProductQuality Message is to provide Suppliers with a means to send product quality information to other trading partners, most typically to the end user.

Trading partners will require that the ProductQuality message satisfies

different business purposes. It may be used to verify that a product conforms to a contract specification, to provide data for input to a production process that consumes the product, or to provide data to an automated warehouse system that groups similar products together to minimise variation between items consumed in production. Combining the ProductQuality message with the ProductPerformance message provides a rich source of data for trend and problem analysis.

The Scope of ProductQuality Message

The ProductQuality message must include:

- Sender and at least one Receiver of the message
- Context of the data in the message, i.e. whether for a period, purchase order or shipment.
- the Product for which the data applies.

The ProductQuality message can optionally include:

- The supplier party.
- The buyer party.
- The production facility.
- Product specification as part of the Product definition. (Please refer to the “Additional Information for ProductQuality Message” section.)

Multiple periods, purchase orders, shipments, products, ship to parties, end user parties, and production locations by repeating ProductQualityPeriod, ProductQualityPurchaseOrder, or ProductQualityShipment.

Message Types

This e-business document has no special types associated with it.

Business Rules for ProductQuality

General Business Rules

The following table lists the general ProductQuality business rules that apply to the ProductQuality message.

Identifier	Business Rule
PQ001	The frequency of ProductQuality messages is determined by agreement between trading partners.
PQ002	The message is sent between a sender and one or more receivers. • If more than one receiver is required, the Sender issues the same message to each

Identifier	Business Rule
	Receiver. The role of each Receiver is indicated in the CommunicationRole attribute associated with NameAddress.
PQ003	When sending a replacement message a ProductQualityReference of OriginalProductQualityMessageNumber type must be specified. • The replacement message is requesting that all data associated with the original message number be deleted and the data in the replacement message be processed instead. • It is permitted to use the original message number for the replacement message number.
PQ004	When Cancelling a message, only the ProductQualityHeader is required. • ProductQualityReference/ OriginalProductQuality¬MessageNumber must be specified, and the cancel message is requesting all data associated with that original message number be deleted. • It is permitted to use the original message number for the cancel message number.
PQ005	A ProductQuality message can refer to one or many periods, purchase orders or shipments, and within each of these to one or many products, ship to parties and/or end user parties. • Some parties will require that a ProductQuality message refer to only one of these combinations in each message. This is an implementation decision fully supported by the message structure.
PQ006	Messages with ProductQualityStatusType of “Replaced” or “Cancelled”, must include the original message number in ProductQualityReference in the ProductQualityHeader.

Processing the ProductQuality Message

The ProductQuality message has an attribute to indicate if the message is an original, a replacement, or a cancellation.

In the case of the ProductQuality message, the order of processing is not relevant. ProductQuality message types of Original are independent of each other. Further, the transaction rate for this message is expected to be extremely low, hence occurrences of replaced or cancelled messages arriving before the original message are not expected to occur.

However, should a replacement arrive before an original, it is safe to process the replacement (treating it as the original) provided subsequent messages referring to the same message number are discarded if they have an older ProductQualityIssueDate.

Status Values Used When Processing the ProductQuality Message

Message processing depends on the value in the ProductQualityStatusType field at the message level. The message can be sent with one of three values in the status field.

ProductQuality status types used when processing the ProductQuality Message:

- Original – Indicates that this is the first transmission of the message.
- Replaced – Indicates that the sender of the message wishes to replace a previously sent message. The previous message is identified using a ProductQualityReference of OriginalProductQualityMessageNumber.
- Cancelled – Indicates that the sender of the Original message wishes to cancel a previously sent message. The previous message is identified using a ProductQualityReference of OriginalProductQualityMessageNumber.

No special status values or messages are used to communicate acceptance of the ProductQuality message. This would normally be done using a BusinessAcknowledgement message.

Product Property Specifications

In addition to communicating the results of tests conducted on the manufactured product, trading partners may also agree to include the specification, or targets that apply to the product, such as may be agreed in a supply contract or agreement. The ProductQuality message accommodates this requirement in the Product structure through the use of PaperCharacteristics or PulpCharacteristics which allows the specification or target values to be included in the message.

Support for multiple periods, purchase orders, and shipments.

The message structure has been designed to support repeating Period, PurchaseOrder and Shipment instances in the one ProductQuality message.

This has two purposes:

- First, to support the different aggregation levels discussed above, for example, one period broken down by the end users that received the product.
- Second, to support more than one period, purchase order or shipment in the one message. The User is cautioned that the use of the message in this manner may result in very large messages that may cause processing or transmission difficulties. It is strongly recommended that a study be conducted to determine the volume of data that could be sent in order to determine the appropriate basis on which to generate and send the messages.

Use of PaperCharacteristics, PulpCharacteristics, and RecoveredPaperProductAttributes

A typical paper attribute is shown below, illustrating the structure used for the majority of attributes.

The four optional attributes associated with of each test gives the context of the value in DetailValue.

- TestMethod and TestAgency specify the test regime from which the data was generated.
- SampleType indicates from where in the product the samples were collected.
- ResultSource indicates the means by which the data was gathered.

Although all attributes are optional, it is strongly recommended that trading partners use all that are appropriate for their operations. These attributes are important for the correct interpretation of the data that is exchanged.

The trading partners will agree which, if any, of the optional statistical measures are included with each test reported.

Each of the quality attributes (XML elements) in PaperCharacteristics, PulpCharacteristics and RecoveredPaperProductAttributes may be repeated. This provides support for including more than one TestMethod, or ResultSource, or SampleType for an attribute.

Roughness is an example of this. The first occurrence could specify SampleType=“Top”, the second could specify SampleType=“Bottom”, and the third occurrence could specify SampleType=“Average”.

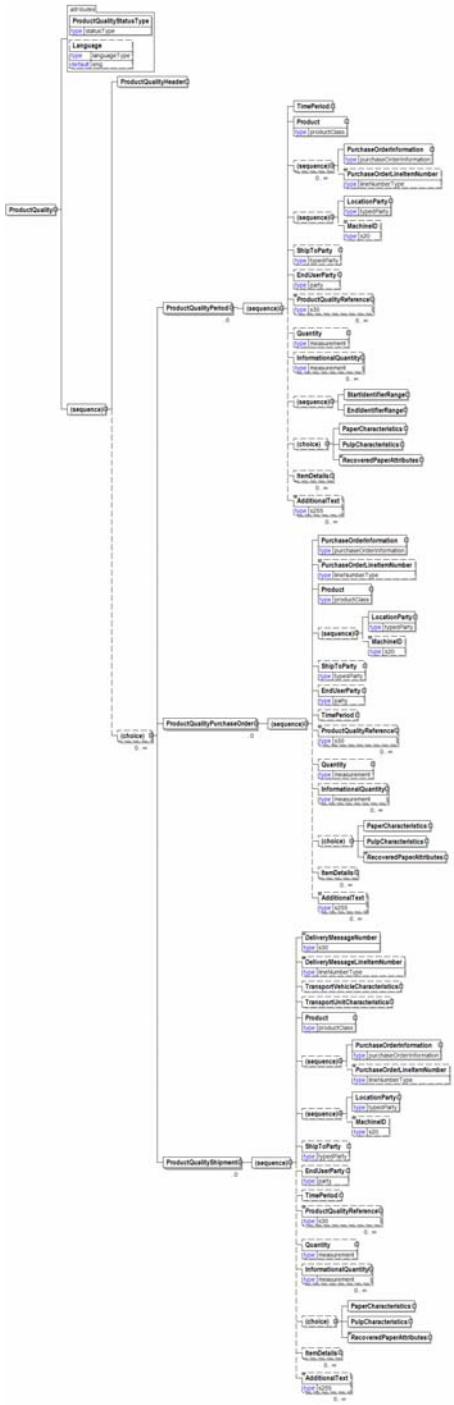
Use of ProductQualityReference for Vessel information

The information supplied in the ProductQuality message can be aggregated at different levels depending on the particular combinations of Product, LocationParty, ShipToParty, EndUserParty and ProductQualityReference. The particular combinations used will be defined by the Trading Partner Agreement.

In the case where aggregated data was required for a vessel, recommended use of the message would be to:

- Supply the voyage number in ProductQualityHeader/ProductQualityReference
- Use the ProductQualityPeriod option with DateTimeRange = sailing date of the vessel, or another similar date
- Repeat the ProductQualityPeriod structure with the same DateTimeRange for each combination of Product, LocationParty, ShipToParty, EndUserParty, and ProductQualityReference that is required.

ProductQuality Structure



Understanding the Diagrams and Content

This section provides a graphical view of the schema structures, a discussion of the item's children. You can find additional information about papiNet and the standard at www.papiNet.org.

The graphics contain content model indicators, cardinality indicators, and data type information.

Associated with each graphic are the definitions for the parent item and any associated child items. All attributes are listed first, followed by the elements.

The following information should help you interpret and understand this standard. Please note the following:

- Content Model and Cardinality operate together to determine if the element or attribute are required in the instance document.
- The same attribute can never appear multiple times in the same element so, you will never see a multiple cardinality indicator.

Content model indicators:

There are three possible types of content: “sequence”, “choice”, and “all”. The papiNet standard currently does not use the “all” construct.

- (sequence)

  The sequence of the items to the right of the graphic (or below the text) is required.
- (choice)

  A choice of the items to the right of the graphic (or below the text) is permitted.
- (all)

  All the items to the right of the graphic are required.

Cardinality indicators:

- Dotted line around element or attribute.

  A single instance of the item can optionally exist.
- Dotted line around item with range indicated below.

  Multiple instances of the item can optionally exist.
- Solid line around item.

  A single instance of the item must exist.
- Solid line around item with range indicated below

  At least one instance must exist; multiple instances can optionally exist.

Datatype indication:

When a data type is assigned to an element (either a simple type or complex type the name of the data type is presented beneath the item name in the graphic.

- In some cases additional information about the data type is presented (the default value).

Elements can either have content that is textual/numeric in nature or content that is made up of additional elements and/or attributes.

- When the content is textual/numeric in nature “three straight horizontal lines” will appear in the upper left-hand corner of the graphic. Pay attention to these elements because they are where you will be entering

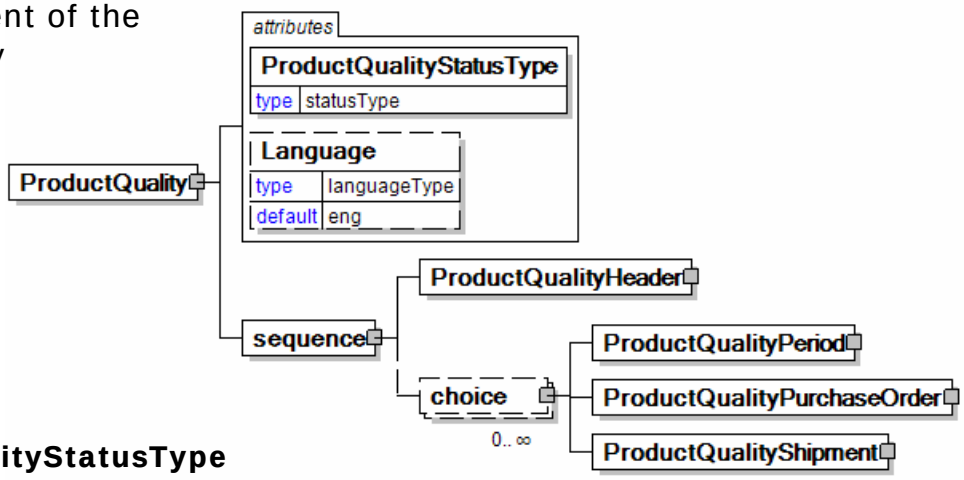
your information.

- When the content is made up of additional elements and/or attributes a “gray-box” will appear on the right-hand side of the graphic.
- If the graphic shows both the horizontal lines and the gray-box then, in the papiNet standard, the content below the element are attributes.

Product Quality Root Element

ProductQuality

The root element of the Product Quality message.



ProductQualityStatusType [attribute]

ProductQualityStatusType is mandatory. A single instance is required.

Communicates the status of the ProductQuality message

This item is restricted to the following list.

Cancelled

The supplied information is cancelled. Items that have been cancelled are not included in totals on the summary levels of the message.

Original

The message information is the first version of that information.

Replaced

The supplied information is replacing earlier supplied information. The receiver should revalidate the information in their system based upon the entire information received.

Language [attribute]

Language is optional. A single instance might exist.

XML has embraced 2 and 3 digit language codes through the application of an addendum to the standard.

Information on the content of this attribute is available at http://www.loc.gov/standards/iso639-2/ this is the official site of the ISO 639-2 Registration Authority.

- http://www.w3.org/International/O-HTML-tags.html provides an explanation of the errata updating XML.
- http://www.ietf.org/rfc/rfc3066.txt is the key document that is referenced in the above errata.

(sequence)

The contents of (sequence) are mandatory. A single instance is required.

ProductQualityHeader

ProductQualityHeader is mandatory. A single instance is required.

Information the common to all items on the Product Quality message.

(choice)

The contents of (choice) are optional. Multiple instances might exist.

ProductQualityPeriod

ProductQualityPeriod is mandatory. A single instance is required.

ProductQualityPeriod

ProductQualityPurchaseOrder

ProductQualityPurchaseOrder is mandatory. A single instance is required.

Multiple instances of purchase order information is allowed to support a list of purchase orders manufactured during the indicated period. Alternatively, ProductQualityPeriod may be repeated with the same TimePeriod for each purchase order if the quality data is available at this level of detail.

ProductQualityShipment

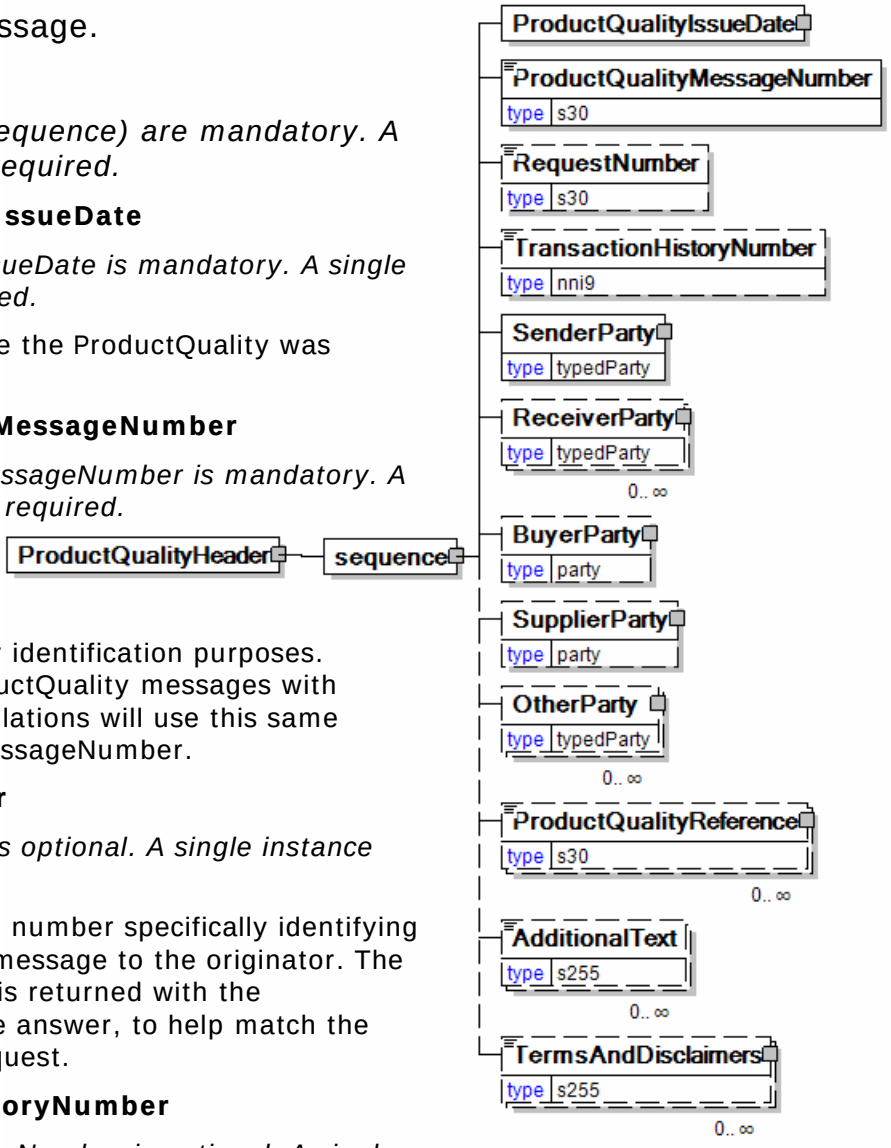
ProductQualityShipment is mandatory. A single instance is required.

Product quality information communicated by shipment.

Primary Elements

ProductQualityHeader

Information the common to all items on the Product Quality message.



(sequence)

The contents of (sequence) are mandatory. A single instance is required.

ProductQualityIssueDate

ProductQualityIssueDate is mandatory. A single instance is required.

The date and time the ProductQuality was issued.

ProductQualityMessageNumber

ProductQualityMessageNumber is mandatory. A single instance is required.

A unique identifier assigned to each message for identification purposes. Subsequent ProductQuality messages with updates or cancellations will use this same ProductQualityMessageNumber.

RequestNumber

RequestNumber is optional. A single instance might exist.

A unique tracking number specifically identifying the InfoRequest message to the originator. The tracking number is returned with the "information", the answer, to help match the answer to the request.

TransactionHistoryNumber

TransactionHistoryNumber is optional. A single instance might exist.

A sequential number that keeps track of the version of a document being sent by the document originator except in the case where TransactionHistoryConfirmation is used, in which case the TransactionHistoryNumber refers to the trigger transaction for which the confirmation is being sent.

SenderParty

SenderParty is mandatory. A single instance is required.

The business entity issuing the business document, the source of the document.

- This is the same entity as the "From" party in the ebXML message service envelope. The entity responsible for the content. If the sender party has out

sourced the transmission function to a third party the sender party is the original party not the party performing the transmission service.

ReceiverParty

ReceiverParty is optional. Multiple instances might exist.

The business entity for whom the business document is intended, the destination of the document.

- This is the same entity as the “To” party in the ebXML message service envelop. The entity interested in the content. If the receiver party has outsourced the message receipt function to a third party the receiver party is the intended party not the party performing the receiving process.

BuyerParty

BuyerParty is optional. A single instance might exist.

The legal entity to which the product is sold. Also commonly referred to as the sold-to party or customer. If no OtherParty is defined as the Payer, the Buyer is the Payer.

SupplierParty

SupplierParty is optional. A single instance might exist.

The organisation or business entity responsible for providing the product. SupplierParty is also the seller of the product, if Seller is not specified as OtherParty = Seller.

OtherParty

OtherParty is optional. Multiple instances might exist.

An organisation or business entity other than those specifically detailed within a business document.

ProductQualityReference

ProductQualityReference is optional. Multiple instances might exist.

An element detailing relevant references pertaining to the ProductQuality.

AdditionalText

AdditionalText is optional. Multiple instances might exist.

A text field that is used to communicate information not previously defined or for special instructions. To be used only for circumstances not covered by specific elements.

TermsAndDisclaimers

TermsAndDisclaimers is optional. Multiple instances might exist.

An element that contains legal information with an indication of what the Language is.

ProductQualityPeriod

ProductQualityPeriod

(sequence)

The contents of (sequence) are mandatory. A single instance is required.

TimePeriod

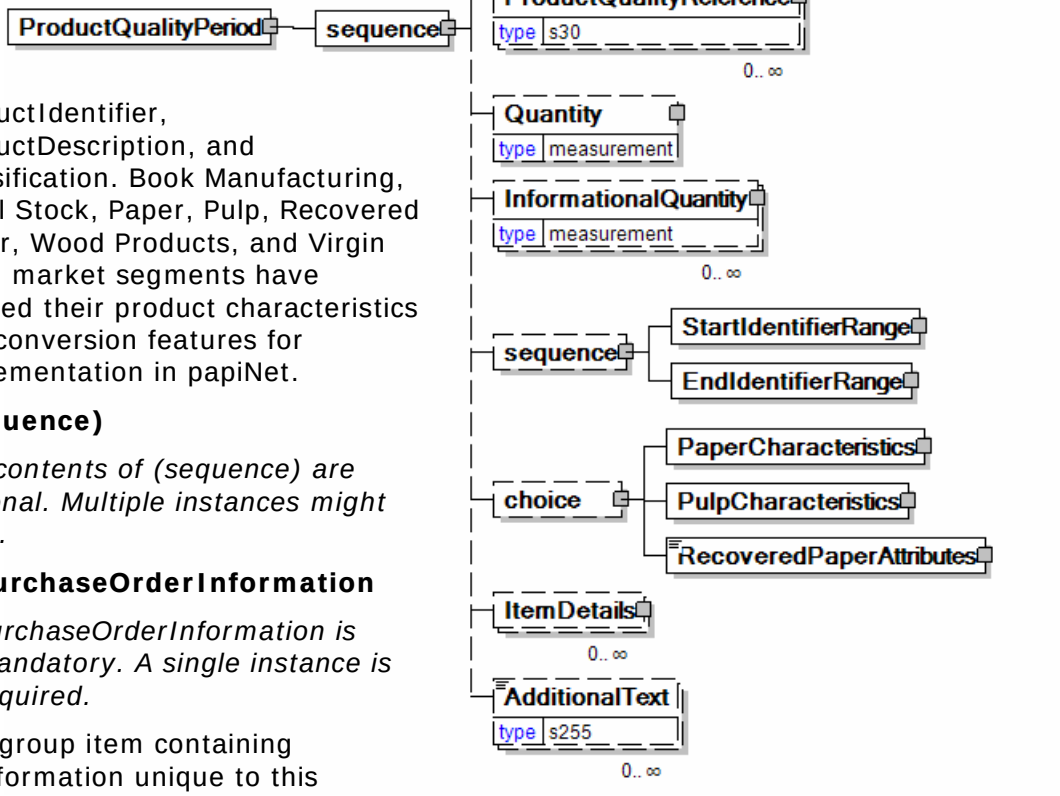
TimePeriod is mandatory. A single instance is required.

The TimePeriod element is used to communicate a duration period of time as indicated in PeriodType.

Product

Product is mandatory. A single instance is required.

Product is a group item defining the article and its characteristics. Product is used to specify product characteristics organized by



ProductIdentifier, ProductDescription, and Classification. Book Manufacturing, Label Stock, Paper, Pulp, Recovered Paper, Wood Products, and Virgin Fibre market segments have defined their product characteristics and conversion features for implementation in papiNet.

(sequence)

The contents of (sequence) are optional. Multiple instances might exist.

PurchaseOrderInformation

PurchaseOrderInformation is mandatory. A single instance is required.

A group item containing information unique to this purchase order, which is provided by the buyer. PurchaseOrderInformation can be optional in the supply chain. Invoices are created without having a Purchase Order in Vendor Managed

Inventory. Freight invoices also will not have a Purchase Order number.

PurchaseOrderLineItemNumber

PurchaseOrderLineItemNumber is optional. A single instance might exist.

The sequential number that uniquely identifies the purchase order line item.

(sequence)

The contents of (sequence) are optional. A single instance might exist.

LocationParty

LocationParty is mandatory. A single instance is required.

The organization or business entity where the business event took place or will take place.

MachineID

MachineID is optional. A single instance might exist.

An identifier assigned to the particular machine being referenced. For example, a machine could be a paper machine, an off-line coater, a sheeter, or a printing press. The particular machine being referenced will be determined by the business event being supported.

ShipToParty

ShipToParty is optional. A single instance might exist.

The name and/or address to which the goods should be delivered with the party type indicated by the PartyType attribute.

EndUserParty

EndUserParty is optional. A single instance might exist.

The party using, consuming, or converting the product. For example, a printer using paper reels for a print job for a publisher. The final ShipTo destination for a product is normally to the end user's facilities.

ProductQualityReference

ProductQualityReference is optional. Multiple instances might exist.

An element detailing relevant references pertaining to the ProductQuality.

Quantity

Quantity is optional. A single instance might exist.

The Quantity element contains attributes that provide information about the type of quantity that is being communicated, the context in which the particular quantity is to be viewed, and (if the quantity represents an adjustment) an adjustment type.

The Quantity element contains three child elements that enable you to communicate a range of values for the quantity and a target or actual value. It is at this level (Value, RangeMin, and RangeMax) that the unit of measure is specified. This permits the range to be specified in a different unit of measure than the target.

InformationalQuantity

InformationalQuantity is optional. Multiple instances might exist.

A quantity given in a valid UOM used for information purposes only (not for calculation). For example, an ordered quantity was 100 reels as opposed to the invoice quantity of 20,000 pounds.

(sequence)

The contents of (sequence) are optional. A single instance might exist.

StartIdentifierRange

StartIdentifierRange is mandatory. A single instance is required.

An element that identifies the starting item identifier in the range of items that contributed to the aggregated measurements for the range.

EndIdentifierRange

EndIdentifierRange is mandatory. A single instance is required.

A group element that identifies the ending item identifier in the range of items that contributed to the aggregated measurements for the range.

(choice)

The contents of (choice) are optional. A single instance might exist.

PaperCharacteristics

PaperCharacteristics is mandatory. A single instance is required.

The identifying characteristics of paper most important to the ordering of the item. These are the characteristics that, when associated with a given grade, allow the manufacturer to produce but not convert or package, the paper.

PulpCharacteristics

PulpCharacteristics is mandatory. A single instance is required.

The physical and chemical characteristics of the pulp product regardless of the form that it is taking.

RecoveredPaperAttributes

RecoveredPaperAttributes is mandatory. A single instance is required.

The attributes of Recovered Paper.

ItemDetails

ItemDetails is optional. Multiple instances might exist.

A group element that identifies a specific item and measured attribute values for that item.

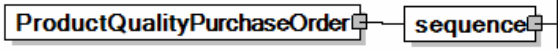
AdditionalText

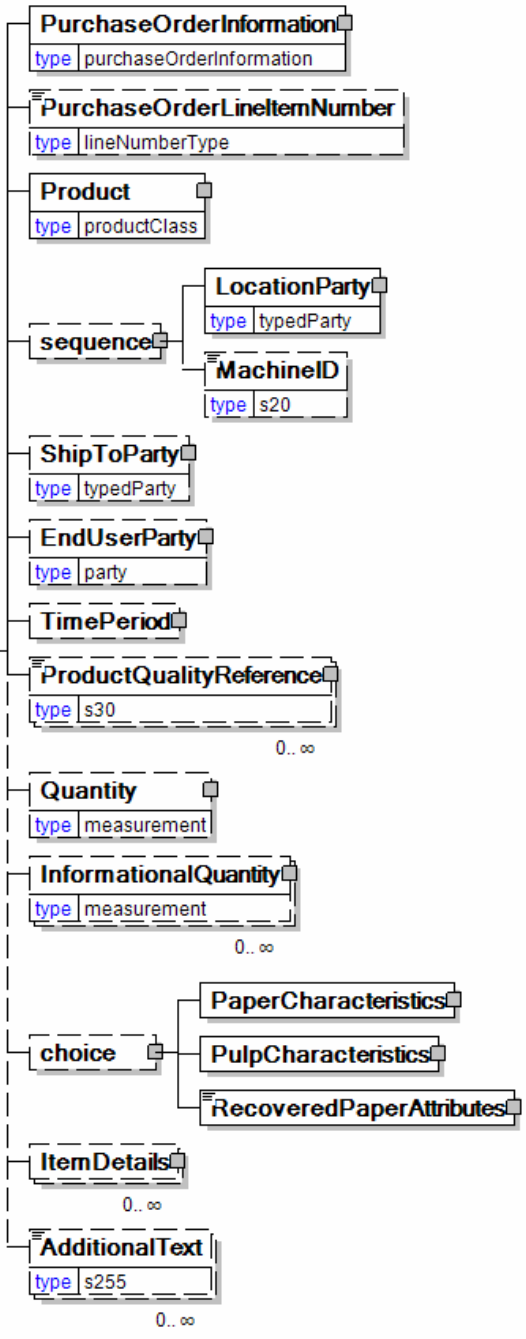
AdditionalText is optional. Multiple instances might exist.

A text field that is used to communicate information not previously defined or for special instructions. To be used only for circumstances not covered by specific elements.

ProductQualityPurchaseOrder

Multiple instances of purchase order information is allowed to support a list of purchase orders manufactured during the indicated period. Alternatively, ProductQualityPeriod may be repeated with the same TimePeriod for each purchase order if the quality data is available at this level of detail.





(sequence)

The contents of (sequence) are mandatory. A single instance is required.

PurchaseOrderInformation

PurchaseOrderInformation is mandatory. A single instance is required.

A group item containing information unique to this purchase order, which is provided by the buyer. PurchaseOrderInformation can be optional in the supply chain. Invoices are created without having a Purchase Order in Vendor Managed Inventory. Freight invoices also will not have a Purchase Order number.

PurchaseOrderLineItemNumber

PurchaseOrderLineItemNumber is optional. A single instance might exist.

The sequential number that uniquely identifies the purchase order line item.

Product

Product is mandatory. A single instance is required.

Product is a group item defining the article and its characteristics. Product is used to specify product characteristics organized by ProductIdentifier, ProductDescription, and Classification. Book Manufacturing, Label Stock, Paper, Pulp, Recovered Paper, Wood Products, and Virgin Fibre market segments have defined their product characteristics and conversion features for implementation in papiNet.

(sequence)

The contents of (sequence) are optional. A single instance might exist.

LocationParty

LocationParty is mandatory. A single instance is required.

The organization or business entity where the business event took place or will take place.

MachineID

MachineID is optional. A single instance might exist.

An identifier assigned to the particular machine being referenced. For example, a machine could be a paper machine, an off-line coater, a sheeter, or a printing press. The particular machine being referenced will be determined by the business event being supported.

ShipToParty

ShipToParty is optional. A single instance might exist.

The name and/or address to which the goods should be delivered with the party type indicated by the PartyType attribute.

EndUserParty

EndUserParty is optional. A single instance might exist.

The party using, consuming, or converting the product. For example, a printer using paper reels for a print job for a publisher. The final ShipTo destination for a product is normally to the end user's facilities.

TimePeriod

TimePeriod is optional. A single instance might exist.

The TimePeriod element is used to communicate a duration period of time as indicated in PeriodType.

ProductQualityReference

ProductQualityReference is optional. Multiple instances might exist.

An element detailing relevant references pertaining to the ProductQuality.

Quantity

Quantity is optional. A single instance might exist.

The Quantity element contains attributes that provide information about the type of quantity that is being communicated, the context in which the particular quantity is to be viewed, and (if the quantity represents an adjustment) an adjustment type.

The Quantity element contains three child elements that enable you to communicate a range of values for the quantity and a target or actual value. It is at this level (Value, RangeMin, and RangeMax) that the unit of measure is specified. This permits the range to be specified in a different unit of measure than the target.

InformationalQuantity

InformationalQuantity is optional. Multiple instances might exist.

A quantity given in a valid UOM used for information purposes only (not for calculation). For example, an ordered quantity was 100 reels as opposed to the invoice quantity of 20,000 pounds.

(choice)

The contents of (choice) are optional. A single instance might exist.

PaperCharacteristics

PaperCharacteristics is mandatory. A single instance is required.

The identifying characteristics of paper most important to the ordering of the item. These are the characteristics that, when associated with a given grade, allow the manufacturer to produce but not convert or package, the paper.

PulpCharacteristics

PulpCharacteristics is mandatory. A single instance is required.

The physical and chemical characteristics of the pulp product regardless of the form that it is taking.

RecoveredPaperAttributes

RecoveredPaperAttributes is mandatory. A single instance is required.

The attributes of Recovered Paper.

ItemDetails

ItemDetails is optional. Multiple instances might exist.

A group element that identifies a specific item and measured attribute values for that item.

AdditionalText

AdditionalText is optional. Multiple instances might exist.

A text field that is used to communicate information not previously defined or for special instructions. To be used only for circumstances not covered by specific elements.

ProductQualityShipment

Product quality information communicated by shipment.

(sequence)

The contents of (sequence) are mandatory. A single instance is required.

DeliveryMessageNumber

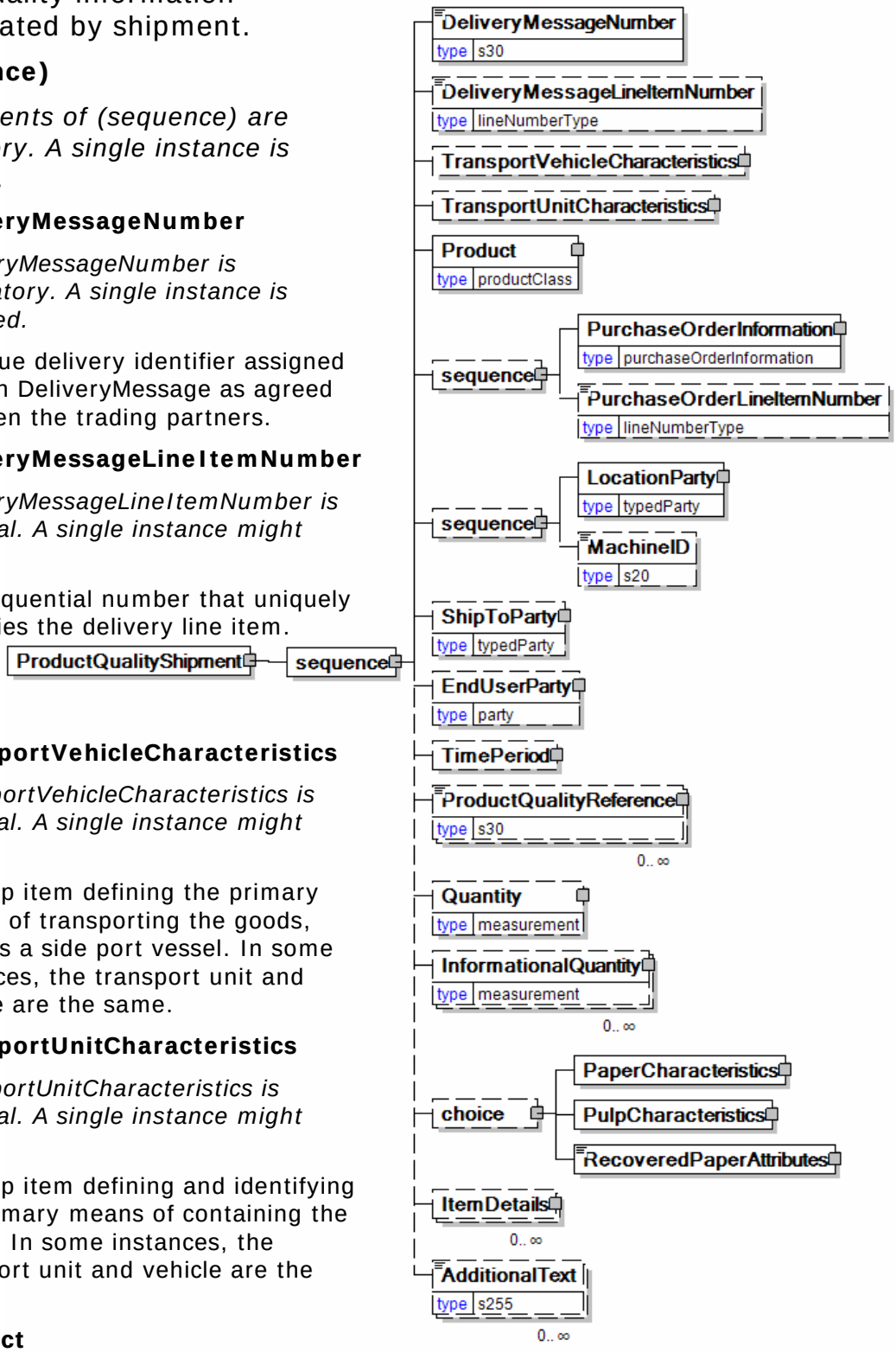
DeliveryMessageNumber is mandatory. A single instance is required.

A unique delivery identifier assigned to each DeliveryMessage as agreed between the trading partners.

DeliveryMessageLineItemNumber

DeliveryMessageLineItemNumber is optional. A single instance might exist.

The sequential number that uniquely identifies the delivery line item.



TransportVehicleCharacteristics

TransportVehicleCharacteristics is optional. A single instance might exist.

A group item defining the primary means of transporting the goods, such as a side port vessel. In some instances, the transport unit and vehicle are the same.

TransportUnitCharacteristics

TransportUnitCharacteristics is optional. A single instance might exist.

A group item defining and identifying the primary means of containing the goods. In some instances, the transport unit and vehicle are the same.

Product

Product is mandatory. A single instance is required.

Product is a group item defining the article and its characteristics. Product is used to specify product characteristics organized by ProductIdentifier, ProductDescription, and Classification. Book Manufacturing, Label Stock, Paper, Pulp, Recovered Paper, Wood Products, and Virgin Fibre market segments have defined their product characteristics and conversion features for implementation in papiNet.

(sequence)

The contents of (sequence) are optional. A single instance might exist.

PurchaseOrderInformation

PurchaseOrderInformation is mandatory. A single instance is required.

A group item containing information unique to this purchase order, which is provided by the buyer. PurchaseOrderInformation can be optional in the supply chain. Invoices are created without having a Purchase Order in Vendor Managed Inventory. Freight invoices also will not have a Purchase Order number.

PurchaseOrderLineItemNumber

PurchaseOrderLineItemNumber is optional. A single instance might exist.

The sequential number that uniquely identifies the purchase order line item.

(sequence)

The contents of (sequence) are optional. A single instance might exist.

LocationParty

LocationParty is mandatory. A single instance is required.

The organization or business entity where the business event took place or will take place.

MachineID

MachineID is optional. A single instance might exist.

An identifier assigned to the particular machine being referenced. For example, a machine could be a paper machine, an off-line coater, a sheeter, or a printing press. The particular machine being referenced will be determined by the business event being supported.

ShipToParty

ShipToParty is optional. A single instance might exist.

The name and/or address to which the goods should be delivered with the party type indicated by the PartyType attribute.

EndUserParty

EndUserParty is optional. A single instance might exist.

The party using, consuming, or converting the product. For example, a printer using paper reels for a print job for a publisher. The final ShipTo destination for a product is normally to the end user's facilities.

TimePeriod

TimePeriod is optional. A single instance might exist.

The TimePeriod element is used to communicate a duration period of time as indicated in PeriodType.

ProductQualityReference

ProductQualityReference is optional. Multiple instances might exist.

An element detailing relevant references pertaining to the ProductQuality.

Quantity

Quantity is optional. A single instance might exist.

The Quantity element contains attributes that provide information about the type of quantity that is being communicated, the context in which the particular quantity is to be viewed, and (if the quantity represents an adjustment) an adjustment type.

The Quantity element contains three child elements that enable you to communicate a range of values for the quantity and a target or actual value. It is at this level (Value, RangeMin, and RangeMax) that the unit of measure is specified. This permits the range to be specified in a different unit of measure than the target.

InformationalQuantity

InformationalQuantity is optional. Multiple instances might exist.

A quantity given in a valid UOM used for information purposes only (not for calculation). For example, an ordered quantity was 100 reels as opposed to the invoice quantity of 20,000 pounds.

(choice)

The contents of (choice) are optional. A single instance might exist.

PaperCharacteristics

PaperCharacteristics is mandatory. A single instance is required.

The identifying characteristics of paper most important to the ordering of the item. These are the characteristics that, when associated with a given grade, allow the manufacturer to produce but not convert or package, the paper.

PulpCharacteristics

PulpCharacteristics is mandatory. A single instance is required.

The physical and chemical characteristics of the pulp product regardless of the form that it is taking.

RecoveredPaperAttributes

RecoveredPaperAttributes is mandatory. A single instance is required.

The attributes of Recovered Paper.

ItemDetails

ItemDetails is optional. Multiple instances might exist.

A group element that identifies a specific item and measured attribute values for that item.

AdditionalText

AdditionalText is optional. Multiple instances might exist.

A text field that is used to communicate information not previously defined or for special instructions. To be used only for circumstances not covered by specific elements.

ProductQuality Business Scenarios

ProductQuality Scenario Listing

Scenario A	ProductQuality message sent from a Supplier to an EndUser for paper reels in a single rail car. • Data aggregated at the shipment level, and individual reel data required.
Scenario B	ProductQuality message sent from the Supplier to the Buyer for paper reels supplied against a single PurchaseOrder. • Data aggregated at the purchase order level for each ShipToParty, no individual reel data required. • A Replaced message is sent.
Scenario C	ProductQuality message sent from the Supplier to the ShipToParty for pulp units shipped during one month. • Data aggregated at the period level by LotIdentifier, no individual pulp unit data required.
Scenario D	ProductQuality message sent from a Supplier to a Publisher data on a Period basis, for two products, aggregated at the Tambour level, reel item details required.

Scenario A

Message	ProductQuality
Scenario	ProductQuality message sent from a Supplier to an EndUser for paper reels in a single rail car. Data aggregated at the shipment level, and individual reel data required.
Outcome	ProductQuality data for reels in the shipment are updated into the EndUser(s) system.
Initiator	Supplier
Receiver	EndUser
Preconditions	This Use Case assumes the Customer and

	Supplier have previously agreed the context and content of the message: • context of the data is for a single load shipped to the Customer content includes aggregated paper test information for the shipment, detail paper test information for each item shipped, statistical properties of the paper tests (e.g. standard deviation is included or not?), imperial or metric units of measure and so on.
XML File	ProductQuality_ScenarioA.xml
Trigger	A shipment for this EndUser is despatched from the Suppliers mill.
Step 1.	Supplier sends a ProductQuality message to the EndUser customer. Statuses sent within the message: • ProductQualityStatusType = “Original”
Step 2.	Customer processes the data contained in the message into their information systems.
Step 3.	The Customer may respond to the Supplier with a BusinessAcknowledgement message informing the Supplier that the ProductQuality message was successfully processed.

Scenario B

Message	ProductQuality
Scenario	ProductQuality message sent from the Supplier to the Buyer for paper reels supplied against a single PurchaseOrder that was specified in an InfoRequest message. Data aggregated at the purchase order level for each ShipToParty, no individual reel data required. A Replaced message is sent.
Outcome	Product test data averaged at the PurchaseOrder and ShipTo level is processed into the Buyer’s system.
Initiator	Supplier

Receiver	Buyer
Preconditions	This Use Case assumes the Buyer and Supplier have previously agreed the context and content of the message. That is, context of the data is for all products shipped against the Buyer's PurchaseOrderNumber, and summarised by each ShipTo. In addition, the Supplier and Buyer will have agreed on which paper test attributes and statistical properties of the paper tests will be exchanged. (That is, StandardDeviation is included or not, imperial or metric UOM(s) and so on.)
XML File	ProductQuality_ScenarioB.xml • For Step 4.
Trigger	An InfoRequest message is received by the Supplier from the Buyer that requests a ProductQuality message for the specified PurchaseOrderNumber and all ShipTo(s).
Step 1.	Supplier sends a ProductQuality message to the Buyer. Statuses sent within the message: • ProductQualityStatusType = "Original"
Step 2.	Buyer processes the data contained in the message into their information systems.
Step 3.	The Buyer may respond to the Supplier with a BusinessAcknowledgement message informing the Supplier that the ProductQuality message was successfully processed.
Trigger	The Supplier discovers an error in the source data for the message. The Supplier issues a replacement message with the correct data. The same message number is used in the replacement message.
Step 4.	Supplier sends a replacement ProductQuality

	message to the Buyer. Statuses sent within the message: • ProductQualityStatusType = “Replaced”
Step 5.	Buyer deletes the data associated with the OriginalProductQualityMessageNumber. processes the data contained in the message into their information systems.
Step 6.	The Buyer processes the new data into their information system.
Step 7.	Supplier responds to Customer with a BusinessAcknowledgement message informing the Customer that the ProductQuality Message was successfully processed.

Scenario C

Message	ProductQuality
Scenario	A ProductQuality message is sent from the Supplier to the ShipToParty for pulp units shipped during one month. Data aggregated at the period level by LotIdentifier, no individual pulp unit data required.
Outcome	Product test data averaged at the PurchaseOrder and ShipTo level is processed into the Buyers system.
Initiator	Supplier
Receiver	Ship To
Preconditions	This Use Case assumes the ShipTo and Supplier have previously agreed the context and content of the message: • context of the data is for all product shipped in periods of 1 month and summarised by each LotIdentifier. In addition, the Supplier and Buyer will have agreed on which pulp test attributes and

	statistical properties of the pulp tests will be exchanged. (That is, StandardDeviation is included or not, imperial or metric UOM and so on.)
XML File	ProductQuality_ScenarioC.xml • For Step 2.
Trigger	Either an automatic or a manual timer causes a ProductQuality message to be sent to the Ship To.
Step 1.	Supplier sends a ProductQuality message to the Ship To. Statuses sent within the message: • ProductQualityStatusType = “Original” • Significant data: • ProductQualityReference for LotIdentifier(s).
Step 2.	Ship To processes the data contained in the message into their information systems.
Step 3.	The ShipTo may respond to the Supplier with a BusinessAcknowledgement message informing the Supplier that the ProductQuality message was successfully processed.

Scenario D

Message	ProductQuality
Scenario	ProductQuality message sent from a Supplier to a Publisher with data on a Period basis, for two products, aggregated at the Tambour level.
Outcome	Product test data at the Tambour level is processed into the Publishers system for the period concerned..
Initiator	Supplier
Receiver	Publisher
Preconditions	This Use Case assumes the Publisher and Supplier have previously agreed the context and content of the message:

	• context of the data is for all products shipped in periods of 1 week and reported at the Tambour level. In addition, the Supplier and Publisher will have agreed on which paper test attributes and statistical properties of the paper tests will be exchanged. (That is, StandardDeviation is included or not, imperial or metric UOM(s) and so on.)
XML File	ProductQuality_ScenarioD.xml • For Step 2.
Trigger	Either an automatic or a manual timer causes a ProductQuality message to be sent to the Publisher.
Step 1.	Supplier sends a ProductQuality message to the Publisher. Statuses sent within the message: • ProductQualityStatusType = “Original” • Significant data: • TimePeriod • Product Definition • ItemType=“Tambour”
Step 2.	Publisher processes the data contained in the message into their information systems.
Step 3.	The Publisher may respond to the Supplier with a BusinessAcknowledgement message informing the Supplier that the ProductQuality message was successfully processed.