papiNet

ProductPerformance

papiNet Standard - Version 2.31

Documentation

Global Standard for the Paper and Forest Products Supply Chain

Build V2R31_20251015
Date 2025-10-24

Production Release

Copyright

Copyright 2000 – 2025 the Confederation of European Paper Industries AISBL (“papiNet”) the “Copyright Owner”. All rights reserved by the Copyright Owner under the laws of the United States, Belgium, the European Economic Community, and all states, domestic and foreign. This document may be downloaded and copied provided that all copies retain and display the copyright and any other proprietary notices contained in this document. This document may not be sold, modified, edited, or taken out of context such that it creates a false or misleading statement or impression as to the purpose or use of the papiNet specification, which is an open standard. Use of this Standard, in accord with the foregoing limited permission, shall not create for the user any rights in or to the copyright, which rights are exclusively reserved to the Copyright Owner.

papiNet, and the members of all papiNet Groups (collectively and individually, "Presenters") make no representations or warranties, express or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, title, or non-infringement. The presenters do not make any representation or warranty that the contents of this document are free from error, suitable for any purpose of any user, or that implementation of such contents will not infringe any third party patents, copyrights, trademarks or other rights. By making use of this document, the user assumes all risks and waives all claims against Presenters.

In no event shall Presenters be liable to user (or other person) for direct, indirect, special or consequential damages arising from or related to any use of this document, including, without limitation, lost profits, business interruption, loss of programs, or other data on your information handling system even if Presenters are expressly advised of the possibility of such damages.

Use of Documents in papiNet Implementations

Documents may be used as templates for a papiNet implementation. The Presenters grant the right to modify and edit them to fit an actual implementation project provided all copies display the copyright and any other proprietary notices contained in this document. Such modified documents must not be distributed beyond the trading partners implementing or maintaining a papiNet connection.

Table of Contents

ProductPerformance Documentation

ProductPerformance e-Document Overview

The ProductPerformance e-Document is created by the product consumer in order to communicate back to the manufacturer the performance of the product. This e-Document will enable the manufacturer to focus on improvements related to product defects that create inefficiency during performance. The aggregation of performance factors by product will provide the mechanism for achieving the value aspect of the e-Document. The goal is to keep the products of the Pulp & Paper Industry attractive versus competing alternatives.

The Scope of the ProductPerformance e-Document

This ProductPerformance e-Document will communicate both the successful or unsuccessful use of a product.

- For paper reel products the primary performance defects are web breaks. The focus is to identify defects directly related to the manufacturer.
- For other products, such as Pulp and sheeted paper, the primary ProductPerformance defects are still being identified.

This e-Document is not intended for evaluation of the consumption process but instead for the usability of the product during the consumption process. This e-Document's focus is product performance defects that are independent of consuming party factors.

The ProductPerformance e-Document must include:

- unique e-Document Number
- e-Document issue date
- end user party
- supplier party
- item identifier (reel, pallet, bale, etc.)
- the conditions under which the performance was observed
- concern indicator (Y,N) on each item
- summary number of line items
- summary total quantity

The ProductPerformance e-Document may include:

- web break information
- references to other documents

This information will trigger the supplier's internal process set to verify the reason of the problem, possible corrective actions to avoid its occurrence in the future and an evaluation whether the consumers perceived reason is correct or not.

Business Rules for ProductPerformance

General Business Rules

The following table list the business rules that apply to the ProductPerformance e-Document.

Identifier	Business Rule
PP001	Each ProductPerformance e-Document will contain one or more line items.
PP002	Each detail line will contain at least one identified unit (reel id, pallet id, bale id, etc).
PP003	Each ProductPerformance line item will be identified as having or not having a defect.
PP004	If ConcernIndicatorType = Yes than a defect must be selected.

Processing the ProductPerformance e-Document

A particular end user uses a product that can be individually identified. The specific period when the product is used is captured and during the process the reel is either processed with or without a performance concern. If there is a concern, additional data surrounding the concern is also captured. To aggregate data for proper analysis, it is important to collect performance data regardless of whether a defect occurs or not.

ProductPerformance Defect Discussion

Paper Web Breaks

The Performance Defect related to reels is web breaks.

Web Breaks are unscheduled press stops. There are three basic cause categories:

- Paper (supplier)
- Press (end user)
- Unknown (paper or press)

Paper and press causes are indisputable based on the physical evidence identified or an obvious press situation. Unknown causes remain unknown unless a pattern is established to suggest further investigation of a paper or press cause.

In the case of web rolls, supplier-caused web breaks are the primary focus. Information beneficial to determining the root cause is critical. The physical evidence, identifier (reel number) and reel break diameter are mandatory for root cause investigation. Upon identification of the defect from the physical evidence, frequency, the identifier (paper machine, super calender, winder, month, day, time of manufacture), and reel break diameter are used to determine the root cause. (The diameter provides specific time in process on the winder, super-calender, and paper machine.) Defect prevention is performed using the aggregation of all printer defect data. The defects identified are not dependent upon end user or customer information.

Unknown causes have become the most frequent and challenging defect category to understand. Physical evidence is disintegrating on the winder, or because of faster presses in operation. Patterns (paper or press) may be detected if simple available information is collected.

The improvement in press information collection and the electronic communication of this data will benefit the analysis of Unknown web breaks. The simple available information for analyzing Unknown causes includes; identifier and corresponding reel break diameter, press number, and corresponding press break location.

If a paper related pattern is detected, the additional data aids the supplier in understanding their process and preventing future occurrences. If a press related pattern is detected, the additional data aids the consumer in understanding their process and preventing future occurrences.

Total performance information is not a requirement of the ProductPerformance e-Document at this time. In the case of web reels, press related web breaks are not needed to determine paper defect root causes. However, consideration has been given to include press related web breaks as well as many other press and paper process levels (Press speed, tensions, inks, temperatures, paper machine speed, fibre orientation, tensile strength, etc.). The normal physical properties of a given grade and basis weight combination and the associated press may shed light on other factors that affect product performance. This is an area that will develop as other analytical tools are created.

Pulp Defects

At this time a strong industry group has not come forward with a request to support a performance e-Document based on pulp performance. This is not to say this is not important to the industry except that resources were not available at this stage in the e-Document development. A simple structure has been put into the e-Document to accommodate basic pulp related performance factors and not negatively impact implementations that may have taken place. Additional enhancements for pulp can take place through the papiNet change control request process as a business case further defines the requirements.

Sheet Product Defects

At this time a strong industry group has not come forward with a request to support a performance e-Document based on sheet performance. This is not to say this is not important to the industry except that resources were not available at this stage in the e-Document development. A simple structure has been put into the e-Document to position and accommodate sheet related performance factors when they are developed and not to negatively impact implementations that may have taken place. Additional enhancements for sheet products can take place through the papiNet change control request process as a business case further defines the requirements.

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).

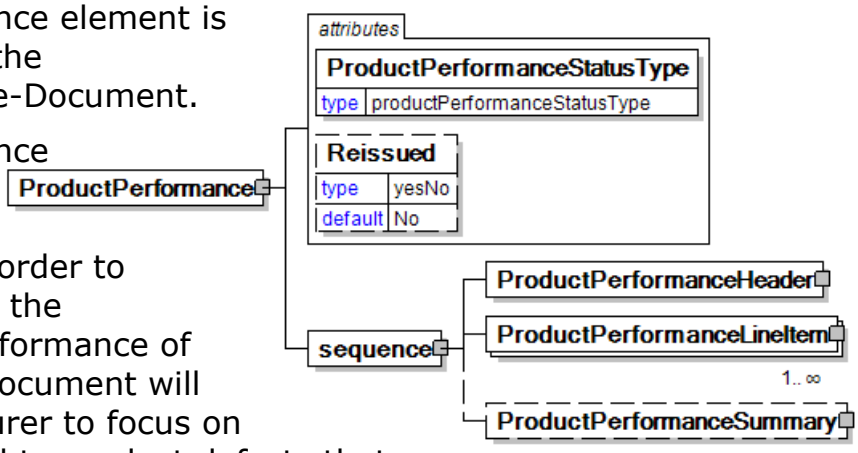
Elements can either have content that is textual/numeric in nature or content that is made up of additional elements and/or attributes.

- 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.

ProductPerformance Root Element

ProductPerformance

The ProductPerformance element is the root element for the ProductPerformance e-Document.



The ProductPerformance e-Document is created by the product consumer in order to communicate back to the manufacturer the performance of the product. This e-Document will enable the manufacturer to focus on improvements related to product defects that create inefficiency during performance. The aggregation of performance factors by product will provide the mechanism for achieving the value aspect of the e-Document. The goal is to keep the products of the Pulp & Paper Industry attractive versus competing alternatives.

ProductPerformanceStatusType [attribute]

ProductPerformanceStatusType is mandatory. A single instance is required.

ProductPerformanceStatusType

This item is restricted to the following list.

Original

The supplied 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.

Reissued [attribute]

Reissued is optional. A single instance might exist.

Either "Yes" or "No".

This item is restricted to the following list.

Yes

No

(sequence)

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

ProductPerformanceHeader

ProductPerformanceHeader is mandatory. A single instance is required.

Information that applies to the entire ProductPerformance e-Document.

ProductPerformanceLineItem

ProductPerformanceLineItem is mandatory. One instance is required, multiple

instances might exist.

Information for each item in the ProductPerformance e-Document.

ProductPerformanceSummary

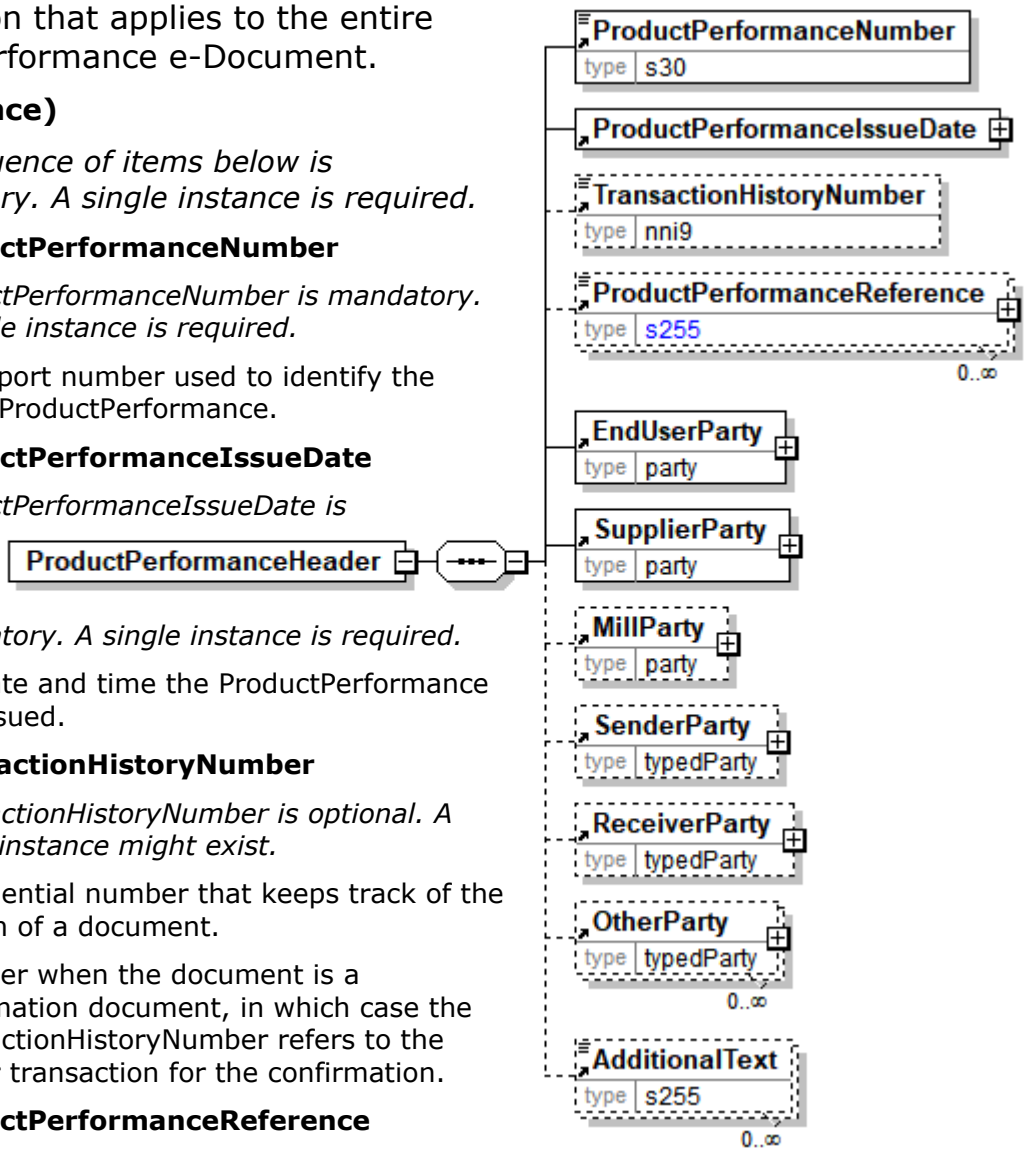
ProductPerformanceSummary is optional. A single instance might exist.

Summary information for the items on the ProductPerformance e-Document

Primary Elements

ProductPerformanceHeader

Information that applies to the entire ProductPerformance e-Document.



(sequence)

The sequence of items below is mandatory. A single instance is required.

ProductPerformanceNumber

ProductPerformanceNumber is mandatory. A single instance is required.

The report number used to identify the entire ProductPerformance.

ProductPerformanceIssueDate

ProductPerformanceIssueDate is mandatory. A single instance is required.

The date and time the ProductPerformance was issued.

TransactionHistoryNumber

TransactionHistoryNumber is optional. A single instance might exist.

A sequential number that keeps track of the version of a document.

However when the document is a confirmation document, in which case the TransactionHistoryNumber refers to the trigger transaction for the confirmation.

ProductPerformanceReference

ProductPerformanceReference is optional. Multiple instances might exist.

Reference back to another e-Document.

EndUserParty

EndUserParty is mandatory. A single instance is required.

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.

SupplierParty

SupplierParty is mandatory. A single instance is required.

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.

MillParty

MillParty is optional. A single instance might exist.

The organisation or business entity that actually produces the product.

SenderParty

SenderParty is optional. A single instance might exist.

The business entity issuing the e-Document, the source of the document.

- The entity responsible for the content. If the sender party has out sourced the message service to a third party the SenderParty is the issuer of the e-Document and not the party performing the transmission service of the electronic message.

ReceiverParty

ReceiverParty is optional. A single instance might exist.

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

- The entity interested in the content. If the receiver party has outsourced the message service to a third party the ReceiverParty is the intended party for the e-Document and not the party performing the receiving service of the electronic message.

OtherParty

OtherParty is optional. Multiple instances might exist.

An organisation or business entity other than those specifically detailed within a e-Document.

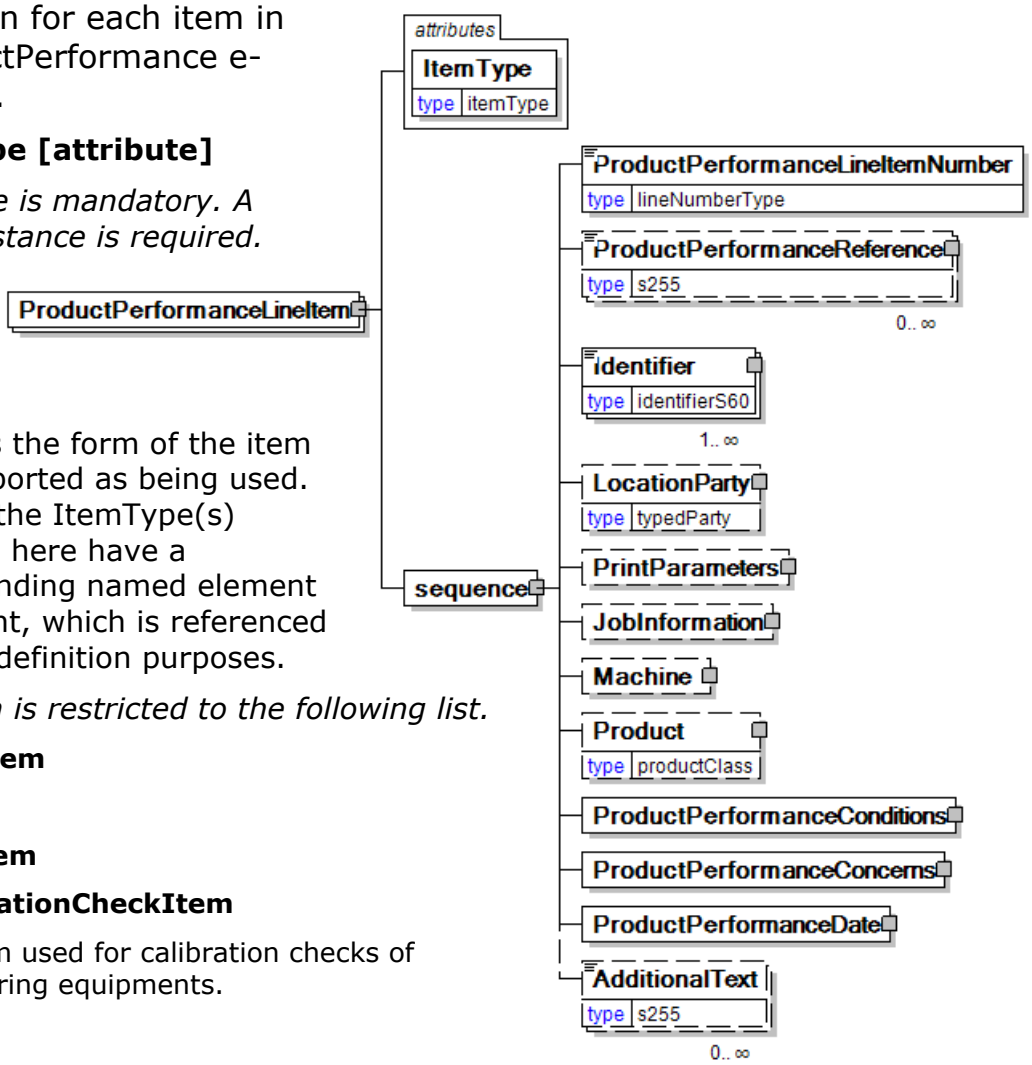
AdditionalText

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.

ProductPerformanceLineItem

Information for each item in the ProductPerformance e-Document.



ItemType [attribute]

ItemType is mandatory. A single instance is required.

Indicates the form of the item being reported as being used. Many of the ItemType(s) indicated here have a corresponding named element equivalent, which is referenced here for definition purposes.

This item is restricted to the following list.

BaleItem

Box

BoxItem

CalibrationCheckItem

An item used for calibration checks of measuring equipments.

Load

A Load contains all goods on a transport carried by one or many transport units.

Log

A cut portion of a stem.

LogBundle

A bundle of logs (a virtual type of item).

LogMultiProduct

A log composed of several virtual log segments with different products.

LogPile

A pile of logs (a virtual type of package).

LogSegment

An uncut virtual portion of a multi product log.

LooseVolumeItem

A unit containing loose volume products (during transports) (a type of virtual package).

Pallet

PulpUnit

ReamItem

ReelItem

ReelPackage

Stem

A tree without branches.

Tambour

TankCompartment

A compartment in a divided tank.

TransportUnit

A transport unit contains goods and moves using power from another source, the transport vehicle, e.g. a RailCar, a Trailer, a DrawbarCombinations etc.

(sequence)

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

ProductPerformanceLineItemNumber

ProductPerformanceLineItemNumber is mandatory. A single instance is required.

The line item identifying the one line being communicated from the Printer to Supplier.

ProductPerformanceReference

ProductPerformanceReference is optional. Multiple instances might exist.

Reference back to another business document.

Identifier

Identifier is mandatory. One instance is required, multiple instances might exist.

An Identifier is required for packages and items (pallets, reel packages, boxes, ream items, reel items, etc). The Identifier element contains the actual item identifier code. Identifier is repeatable so more than one identifier can be communicated. For example, the printed identifier on a label may be different from the barcode printed on the label.

LocationParty

LocationParty is optional. A single instance might exist.

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

PrintParameters

PrintParameters is optional. A single instance might exist.

PrintParameters is optional. The set up parameters of how a print machine or print job is within this construct.

JobInformation

JobInformation is optional. A single instance might exist.

JobInformation is optional. This construct captures information specific to the entire job set up.

Machine

Machine is optional. A single instance might exist.

Machine is used to capture information specific to the particular machine used in the conversion or consumption process.

Product

Product is optional. A single instance might exist.

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.

ProductPerformanceConditions

ProductPerformanceConditions is mandatory. A single instance is required.

The ProductPerformanceConditions, while not absolutely necessary to determine whether there is a product concern is available.

ProductPerformanceConcerns

ProductPerformanceConcerns is mandatory. A single instance is required.

A grouping element used to hold information about the product performance concerns.

ProductPerformanceDate

ProductPerformanceDate is mandatory. A single instance is required.

The date the e-Document was issued.

AdditionalText

AdditionalText is optional. Multiple instances might exist.

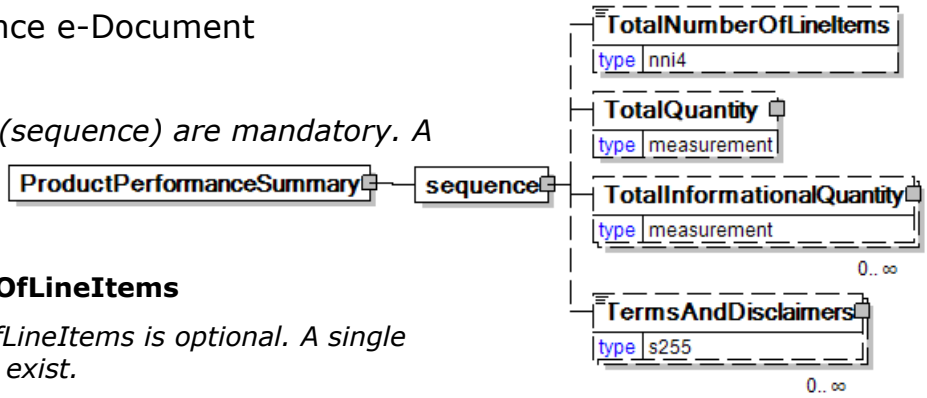
A text field that is used to communicate information not previously defined or for special instructions. To be used only for circumstances not covered by specific elements.

ProductPerformanceSummary

Summary information for the items on the ProductPerformance e-Document

(sequence)

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



TotalNumberOfLineItems

TotalNumberOfLineItems is optional. A single instance might exist.

The total number of individual line items in the document, regardless of the status or type.

TotalQuantity

TotalQuantity is optional. A single instance might exist.

The total quantity of similar items in the business document. TotalQuantity is primarily used in the summary section of documents where it is repeatable to permit totaling for different units of measure.

TotalInformationalQuantity

TotalInformationalQuantity is optional. Multiple instances might exist.

A quantity that is used to communicate related information about the parent element. This element represents a total that is derived from individual line items.

TermsAndDisclaimers

TermsAndDisclaimers is optional. Multiple instances might exist.

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

ProductPerformance Business Scenarios

ProductPerformance Scenario Listing

Scenario A	The Printer has agreed to share some of the print processing information captured in their processing units so that the manufacturer can improve the paper quality, which will result in less web breaks on press.

Scenario A

e-Document	ProductPerformance
Scenario	In order to improve the efficiencies of running a particular grade of paper on press, a trading partner agreement has been worked out between a printer and the supplier that manufactures the particular grade of paper.
Outcome	A ProductPerformance e-Document is generated by the Printer's system and received into the Supplier's system. Each particular reel is identified and categorized as either running successfully, without a web break or unsuccessfully with a web break.
Initiator	Printer
Receiver	Supplier
Trigger	Usage of reel on printing press.

Step 1.	Printer generates run ability data from their system for each reel and then sends it to the Supplier. The Printer also recorded a break on one of the rolls.
	Key Information:
	• Machine ID: PressA/2/1
	• Product: Newsprint 30lb
	• Job Name Daily
	• Roll IDs
	  • ZZ126383490, ZZ126383491, ZZ126383493, ZZ126383494, ZZ126383495, ZZ126383496, ZZ126383496 (Web Break)
	  • Cause Code: 201
	  • Break Description: MILL SPLICE
	  • Press Break Location: INFEED
	  • Reel Break Diameter: 45 IN
	  • Press Speed On Break: 1700 fpm
	  • Waste Impressions: 1000

Results	A ProductPerformance e-Document is generated with a detail line for each reel that indicates whether that reel was run on press successfully or with a concern. On the one reel with additional concern information on why it was unsuccessful run information are also included, including a cause code, break description, press break location, reel break diameter, web break date, press speed, and waste impressions. This information will be sent from the Printer back to the Supplier to determine if a pattern can be identified with other similar reels.