



papiNet

Product Performance

papiNet Standard - Version 2.31

Documentation

**Global Standard for the Paper and Forest
Products Supply Chain**

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ProductPerformance Documentation

An Overview of the ProductPerformance Message

The ProductPerformance Message is a document created by the product consumer that communicates back to the manufacturer the performance of the product. This message 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 message. The goal is to keep the products of the Pulp & Paper Industry attractive to competing alternatives.

The Scope of the ProductPerformance Message

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

The ProductPerformance message must include:

- unique message Number
- message 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 message 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.

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Business Rules for ProductPerformance

General Business Rules

The following table list the business rules that apply to the ProductPerformance Message.

Identifier	Business Rule
PP001	Each ProductPerformance message 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 product performance 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 Message

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,

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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 message 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 message 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 message development. A simple structure has been put into the message 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 message 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 message development. A simple structure has been put into the message 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

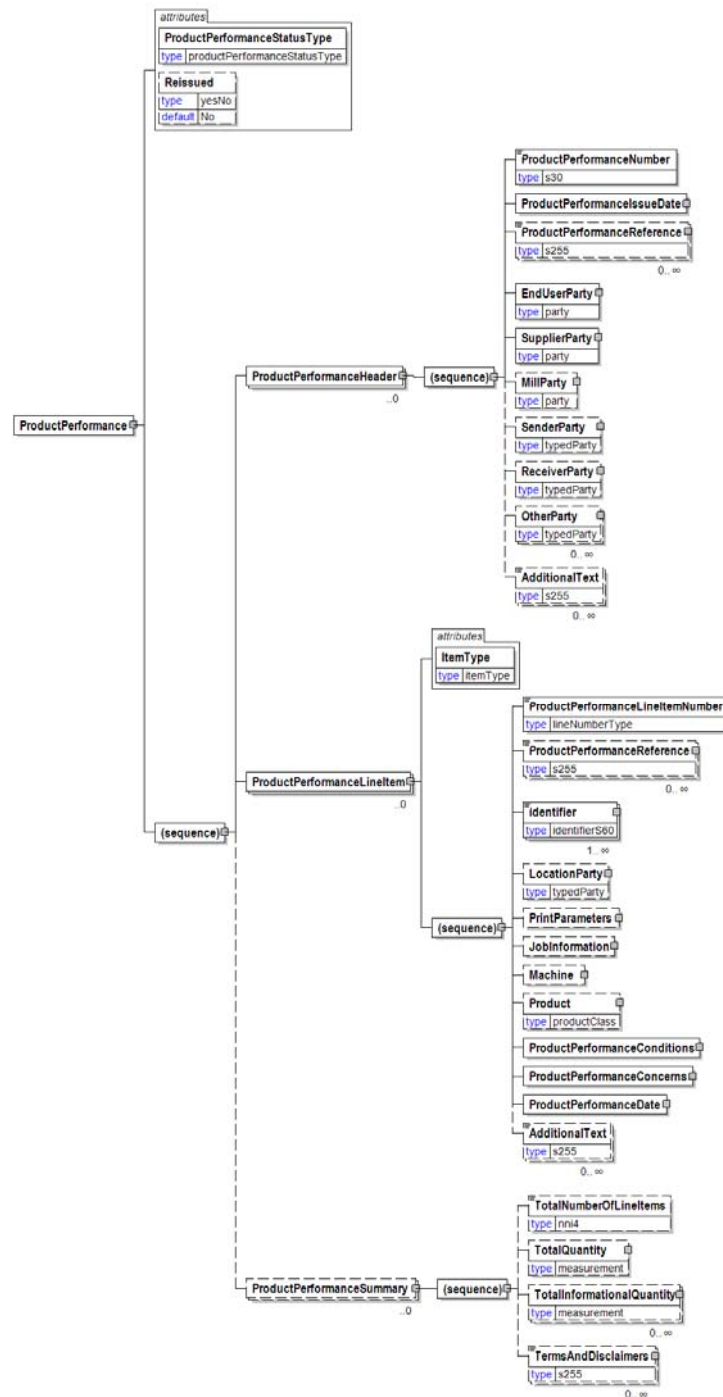
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sheet products can take place through the papiNet change control request process as a business case further defines the requirements.

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ProductPerformance 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.

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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

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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.

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Product Performance Root Element

ProductPerformance

The root element of the Product Performance message

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 Product Performance message.

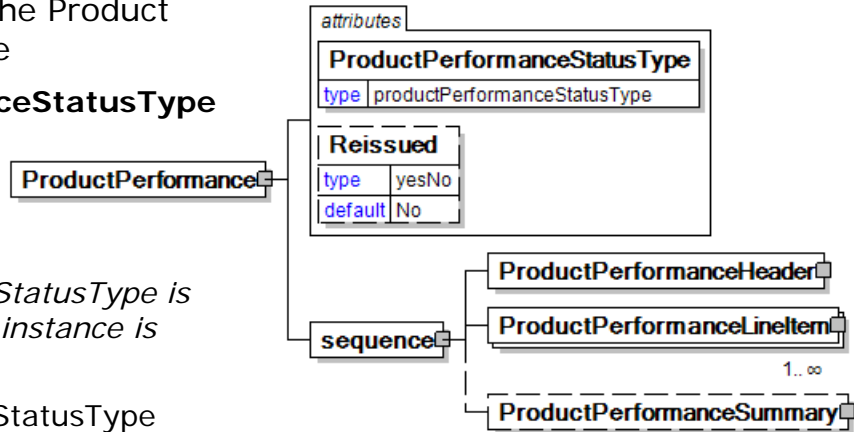
ProductPerformanceLineItem

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

Information for each item in the Product Performance message.

ProductPerformanceSummary

ProductPerformanceSummary is optional. A single instance might exist.



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Summary information for the items on the Product Performance message

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Primary Elements

ProductPerformanceHeader

Information that applies to the entire Product Performance message.

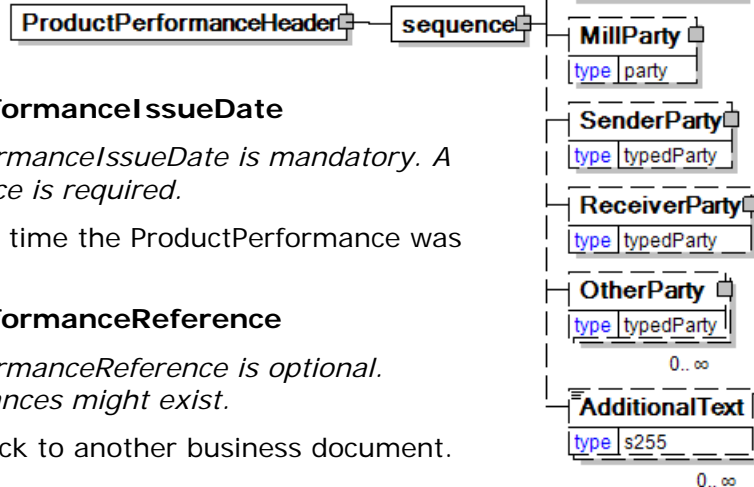
(sequence)

The contents of (sequence) are 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.

ProductPerformanceReference

ProductPerformanceReference is optional. Multiple instances might exist.

Reference back to another business 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.

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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 outsourced 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. A single instance 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 envelope. 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.

OtherParty

OtherParty is optional. Multiple instances might exist.

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

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ProductPerformanceLineItem

Information for each item in the Product Performance message.

ItemType [attribute]

ItemType is mandatory. A single instance is required.

ProductPerformanceLineItem

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

Pallet

PulpUnit

ReamItem

ReelItem

ReelPackage

Tambour

(sequence)

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

ProductPerformanceLineItemNumber

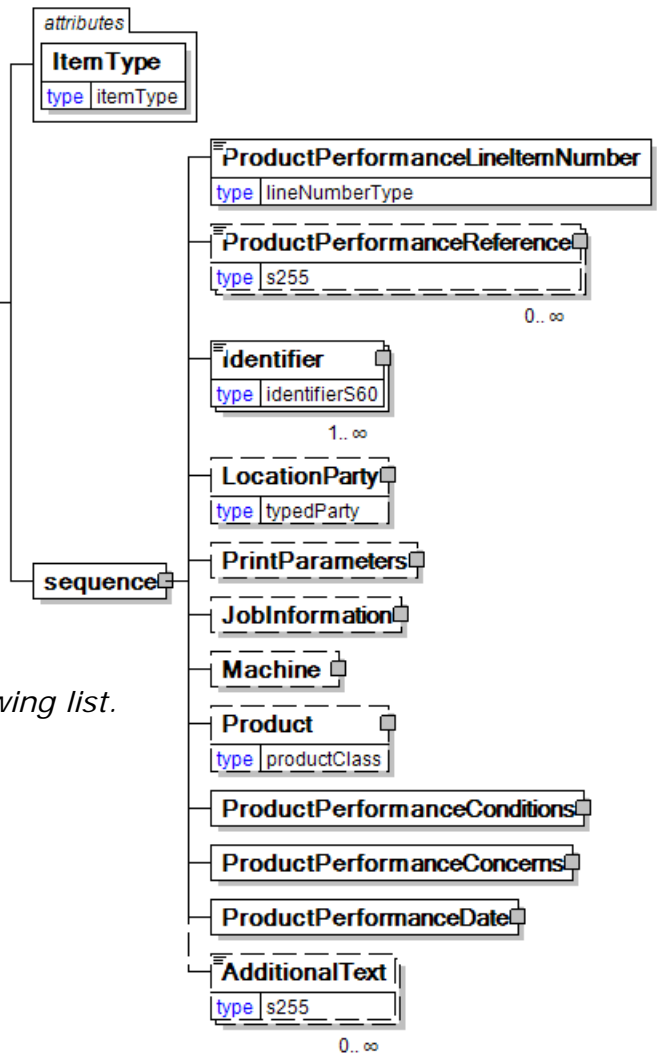
ProductPerformanceLineItemNumber is mandatory. A single instance is required.

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.



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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

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ProductPerformanceDate is mandatory. A single instance is required.

The date the message was issued.

AdditionalText

AdditionalText is optional. Multiple instances might exist.

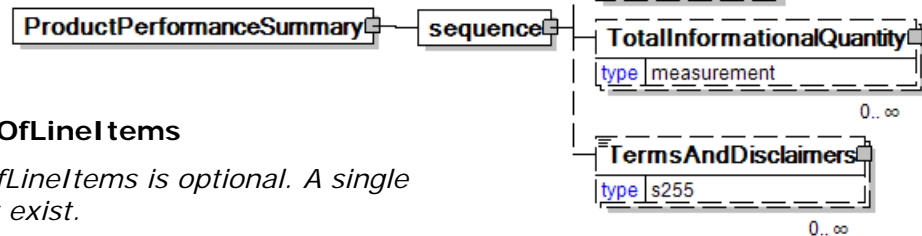
A text field that is used to communicate information not previously defined or for special instructions. To be used only for circumstances not covered by specific elements.

ProductPerformanceSummary

Summary information for the items on the Product Performance message

(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.

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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.
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Scenario A

Message	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 message 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.	<p>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.</p> <p>Key Information:</p> <ul style="list-style-type: none">• Machine ID: PressA/2/1• Product: Newsprint 30lb• Job Name Daily• Roll IDs<ul style="list-style-type: none">• ZZ126383490, ZZ126383491, ZZ126383493, ZZ126383494, ZZ126383495, ZZ126383496, ZZ126383496 (Web Break)• Cause Code: 201• Break Description: MILL SPLICE• Press Break Location: INFEED

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	<ul style="list-style-type: none">• Reel Break Diameter: 45 IN• Press Speed On Break: 1700 fpm• Waste Impressions: 1000
Results	<p>A ProductPerformance Message 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.</p>