Framework Agreement ELDAT (RVE)

by the

Plattform Forst & Holz

From 15.04.2018

Framework agreement ELDAT (RVE)

IMPRINT

Plattform Forst & Holz, Claire-Waldoff-Strasse 7, 10117 Berlin

1. Edition 2018

Preamble

The German Forestry Council (DFWR) and the German Wood Industry Council (DHWR) conclude the "Framework Agreement ELDAT" (RVE) as platform Forst & Holz in order to promote unified digital data logistics between forest companies and wood-utilising companies for wood-based value creation. The Forst & Holz platform sees the digitization of processes and business processes in the forestry and timber industry as the future and a necessary development towards an "Economy 4.0."

The basis for optimizing digital data collection, communication and use in the industry is the joint development of electronic standards. The Forst & Holz platform is therefore committed to ELDAT as a common data standard and promotes its dissemination. It recommends the nationwide use of ELDATsmart by all companies in the forestry and timber industry as a new data standard for transmitting data in the forest and wood cluster.

Inhalt

1. Introduction

With an explicit recommendation from the German Forestry Council (DFWR) and the German Wood Industry Council (DHWR), the electronic data standard "ELDAT" ("Electronic Data Standard for Wood Data") was published in 2002 and introduced to the market. Since then it has been supervised by the Competence Centre for Forest Work and Forest Technology (KWF).

The ELDAT standard (ELDATclassic) was based on the shopping basket concept. This opened up a wide range of variants for describing raw wood. However, it proved disadvantageous that the exchange of data between the involved logistics partners always required a bilateral coordination of the information structure. The business partners using the standard had to create individual information technology solutions. Only the economically strong forestry and timber companies could make the necessary investments for this purpose. This adaptation process was too high a hurdle for small and medium-sized enterprises without IT capacities. Consequently, ELDAT scarcely found any application there. Therefore industry calls for a more practical ELDAT solution increased.

In response and supported by the Federal Ministry of Food and Agriculture on the basis of a decision of the German Bundestag, the Competence Centre for Forest Work and Forest Technology (KWF), the Working Committee of Raw Wood Consumers (AGR) and the German Forestry Council (DFWR) as part of the research and development project "ELDATsmart" developed a smarter variant of the so-called classic ELDAT standard that has been valid so far. Simplified data structures, greater standardization and better system integration result in enhanced usability, efficiency and security of digital wood data exchange. IT adjustments on a case-by-case basis should be dispensable in the future.

In contrast to the previous shopping basket principle, the wood delivery process in ELDATsmart is realised with the help of five modules in a process-oriented manner:

(1) Wood Allocation
(2) Transfer Order
(3) Delivery Note
(4) Measurement Journal
(5) Clearing

The new process-oriented structure is intended to facilitate the precise exchange of information by binding specifications for the logistic processes along the value chain between forest companies and wood-utilising companies, and also to enable small businesses to participate in the ELDAT process. The automation and efficiency enhancement effects resulting from the use of ELDATsmart should contribute to the competitiveness of the players in the German business cluster Forest and Wood and their activities in an increasingly globalised raw material market.

2. Scope

The "Framework Agreement ELDAT" (RVE) defines the architecture, structure and designations of data transmitted electronically between the market partners in the raw wood trade and transport with the ELDATsmart standard, which replaces the existing ELDAT standard (ELDATclassic). The ELDATclassic standard will not be maintained any further with the publication of the ELDATsmart standard and will therefore expire. The framework requirements of the RVE are valid for digital data sets for the control of logistics processes between the wood-providing, transporting and processing companies of the German business cluster Forst and Holz.

The RVE is designed to be included in contractual agreements by market partners. Due to its legal status as a private law agreement, this integration can be done in a full-permanent or partial manner.

The current status of the RVE can be examined on the website www.eldatstandard.de.

3. Architecture and Structure

3.1 Wood Logistics Chains in Forestry

The processes of wood logistics chains are diverse and depend on the general requirements of the contractors, the wood measuring and recording procedures and the chosen clearing process. In principle, wood logistics chains consist of sub-processes that line or overlap differently depending on the requirements and situation.

The sub-processes are:

- Wood measurement
- Wood recording
- Signing of a contract
- Wood allocation
- Transportation permission
- Transfer order
- Transportation
- Delivery at the customer
- Invoicing

Particularly the sub-process of wood measurement can be located at various points in the wood logistics chain and in some cases cannot be separated from wood recording and wood allocation. The difference between these three sub-processes is that *wood measurement* provides wood dimensions that are suitable for invoicing for at least two contractors. On the other hand, *wood recording* is only used to journalise the wood for in-house data processing or wood logistics management with forwarding companies and raw wood customers. *Wood allocation* is separated from these sub-processes since this describes the moment when the transfer of legal responsibility for the goods takes place.

The sub-processes of *Signing of a contract* and *Invoicing* can also take place at different times in the wood logistics chain. This depends on whether the wood is marketed in advance or post-sale, or whether the measuring process is agreed to take place in the forest or at the factory.

3.2 The flow of data between forest companies and wood utilising companies via ELDATsmart

Communication between devices, people or institutions is necessary to optimally manage these sub-processes. While in-house communication and the corresponding exchange of data can proceed free of conventions of the ELDATsmart standard, the exchange of data between the wood supplier, the wood receiver and the delivery company is regulated by the content of the ELDATsmart standard.

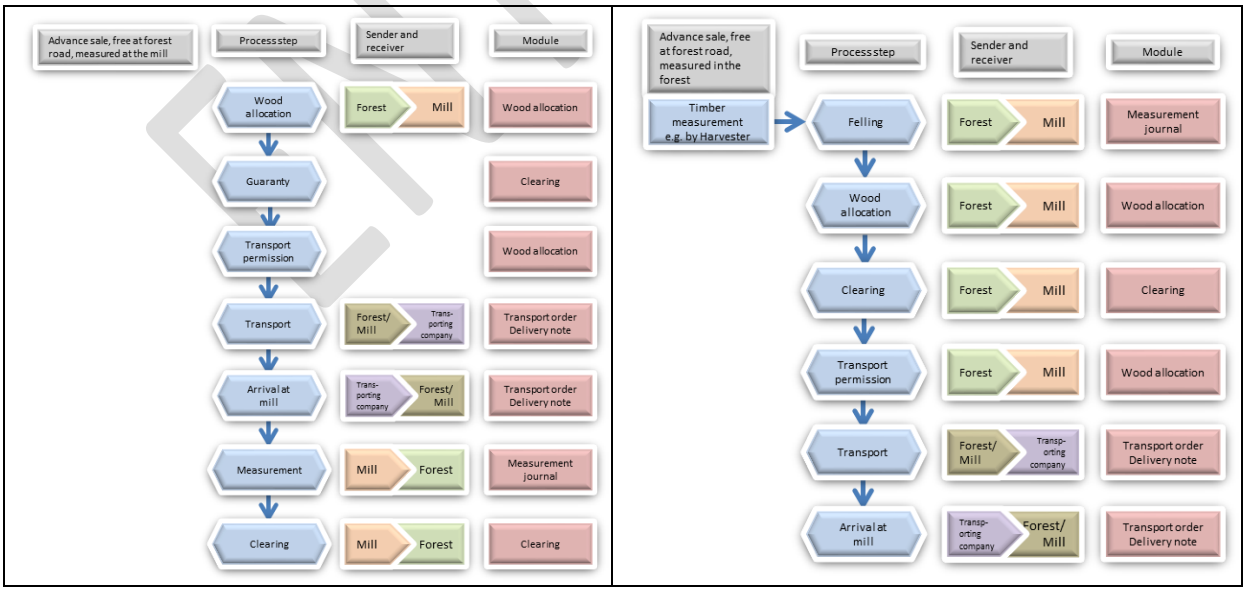
In order to make data exchange more efficient and easier and adapt to current data processing, the sub-processes are grouped into five modules. Each of the modules contains the information necessary for the respective process step within the wood logistics chain.

The modules are:

- Wood Allocation
- Transfer Order
- Delivery Note
- Measurement Journal
- Clearing

The users are free to choose in which order the modules are transferred. Users can also decide individually whether they want to drop certain modules if they are not required for their own wood logistics process. Modules can also be transferred multiple times, either to update, correct or manage a new sub-process in the logistics chain.

In many cases the differentiation between sender and receiver of messages results from contractual agreements or the process chain itself. The role of sender and receiver can switch at each process step. The illustrations below exemplify the differentiation of sender and receivers using two exemplary wood logistics chains.



3.1 The modules in ELDATsmart

The modules *Wood Allocation*, *Transfer Order*, *Delivery Note*, *Measurement Journal* and *Clearing* contained in ELDATsmart are briefly described below.

Common to all modules is the "Status" sub-module. This contains information about the time of shipment, the status of the message and the location of the sender.

Detailed information on the structure and content of the modules is defined in the appendix of this RVE and on the website www.eldatstandard.de/dokumentation.

Recommendations for filling the modules are also made in the appendix.

3.1.1 Wood Allocation

The "Wood Allocation" module is the central module for transferring wood data between the forest and the timber companies. Three document functions are distinguished here:

1. Offer: Wood-related data can be transmitted to a potential customer, even if a contract has not yet been signed. There is no need to create piles yet. It is simply a question of notifying someone that wood is available in certain forms. It is also possible to refer to an already concluded pre-sale contract. The notification in this case states that a certain amount of wood is available with which a particular contract could be operated.

2. Wood allocation notice: The actual timber allocation can be transmitted, i.e. the notification that wood has been prepared for transportation at a specific location. In this case, the buyer is informed that his wood is ready for him. An assessment of the wood can be arranged.

3. Transportation permission: Last but not least, the transportation permission is hereby granted. The seller permits the transportation of the wood within a set time frame. Whether the goods have already been paid for at this time is subject to the contractual terms of the trading partners.

3.1.2 Transfer Order

The "Transfer Order" module is used to transfer all the information necessary for transport to a forwarding company and, if necessary, for better logistics planning, also to all other players involved in the logistics chain.

3.1.3 Delivery Note

The "Delivery Note" module is used to verify and document the delivery. This can also be sent to those directly affected (client, forwarding company) as well as to all other players involved in the logistics chain.

3.1.4 Measuring Journal

The "Measuring Journal" module is used to document wood measurements (and wood recording) and provides detailed information on the measured wood. This means that this is considered to be the basis for invoicing, provided that the measuring procedure specified therein complies with the contractual agreement. Four procedures of measuring are distinguished:

1. Photo-optical: The measurement is carried out via a hand-held device or attached to a support system. A two-dimensional photograph is taken on the basis of which the wood volumes for invoicing are estimated with a reference measure.

2. Gravimetric: In the case of crane weighing, the gravimetric mass detection of wood takes place by measuring the fresh wood weight. In other procedures, the water content is subsequently subtracted. The result is the mass of pure wood substance and bark.

3. Volume aggregation: This enables the collection of wood measurements of several logs simultaneously, for example by estimating the pile volume by front area multiplied with the log length. It is also possible to transmit individual logs measured in the mill in aggregate if no detailed information is needed.

4. Single log: Individually measured logs, either in the mill of the wood buyer or in the forests (for example, manual measuring or harvester measuring), are listed and described here.

3.1.5 Clearing

The Clearing module is used for invoicing the traded product and, if necessary, related services.

4. Further development of the ELDATsmart Standard

4.1 ELDAT Advisory Board

To further develop the ELDAT data standard, the platform Forst & Holz will set up an ELDAT advisory board. The Advisory Board consists of a total of eight members and eight deputies and is equally staffed by representatives of the forestry and timber industries. The members are each designated by the umbrella organisations DFWR and DHWR.

The task of the ELDAT Advisory Board is to discuss current trends in the practical application of data communication in wood logistics, which will necessitate the modification of data standard itself or its handling. The ELDAT Advisory Board decides on changes to the ELDATsmart standard. The effectiveness of such modifications must be confirmed by the platform Forst & Holz. Staff allocation, working methods, tasks and decisions are governed by the Rules of Procedure of the Advisory Board, which is confirmed by the platform Forst & Holz.

4.2 ELDAT Secretariat

The Forst & Holz platform can set up a secretariat and also assign it to third parties to provide technical support and further the development of both the data standard ELDATsmart, as well as the website www.eldatstandard.de, as well as to support the Advisory Board. The Rules of Procedure of the Advisory Board regulate the functions and tasks of the Secretariat.

4.3 ELDAT User Group

The ELDAT User Group can be called to incorporate practice at an early stage before further developments in the ELDAT standard. This is an open forum of users and people interested in the ELDAT standard.

4.4 Version Management

Changes and additions to the ELDATsmart data standard are recorded and documented in the version administration. The version ID is numerical and has 3 levels of classification. The first two levels of classification are subject to changes in content and are decided by the ELDAT Advisory Board. Technical changes as well as additions are incorporated and documented in a third level. These technical changes and additions are displayed to the ELDAT Advisory Board prior to publication by the ELDAT Secretariat.

5. Privacy Policy

The issue of data protection is central to electronic data transfer. As a framework agreement, the RVE has no direct legal character and therefore cannot provide specifications on the modality and methods of encryption of the transmitted data. In this case, the applicable data protection provisions must be laid down in the terms and conditions (AGB) to be agreed between the business partners. As a legally agreed wording recommendation, the RVE offers the following legally verified passage:

German

„Die Vertragspartner verpflichten sich, alle im Zusammenhang mit dem Datenstandard ELDATsmart generierten und ausgetauschten Daten im Rahmen des Bundesdatenschutzgesetzes (BDSG) streng vertraulich zu behandeln und ausschließlich für zulässige Zwecke zu verwenden. Dies bedeutet, dass die Vertragspartner die betreffenden Daten nur für Zwecke ihrer eigenen Kunden-, Lieferanten-, Finanz- und Materialbuchhaltung und Kostenrechnung verwenden dürfen.“

English

“The contracting parties commit to treat all data generated and exchanged in connection with the ELDATsmart data standard in the strictest confidence under the Federal Data Protection Act (BDSG) and to use it exclusively for permissible purposes. This means that the contractors may only use the relevant data for the purposes of their own customer, supplier, financial and material accounting and cost accounting.”

6. Appendix

6.1 Version History

29.03.2018, at ELDATsmart Version 1.0.1

Clarification: Insert subchapter „Change History“
Bug-fix: Inserted missing values to ref_aggregation_type
Bug-fix: Deleted „ISO 3166-2“ from ref_state
Bug-fix: Inserted „ISO 3166-1 alpha-2“ to ref_state
Bug-fix: Deleted „ISO 3166-1 alpha-2“ from ref_subdivision
Bug-fix: Inserted „ISO 3166-2“ to ref_subdivision
Clarification: Inserted subchapter „Documentation and Schema“
Clarification: Inserted subchapter „Including External Files“
Clarification: Adjusted introductory text to the reference tables
Clarification: Rewrote the notes for the models of the Wood Depiction in ref_wood_depiction and in subchapter „Wood Data and Piles“
Clarification: Rewrote the introductory text for the subchapter „Wood Data and Piles“
Bug-fix: Inserted missing values from the RVE to ref_length_class
Bug-fix: Inserted a note for „Schätzung“ to ref_measuring_method
Clarification: Changed the term „Revierförster“ to „Förster“ in ref_contact_role
Clarification: Revisioned the explanations in subchapter „Measurement Data“ and „Photo-optical measurement data“
Bug-fix: Changed the explanations to the conversion factor in subchapter „Wood Data“
Bug-fix: Deleted non-compliant RVR qualities in the reference table „ref_quality“

6.2 General

6.2.1 Documentation and Schema

A standard documentation that is up-to-date at all times can be found at www.eldatstandard.de/dokumentation. If you select a desired version, a JSON scheme of that version can be downloaded there. It is also possible to download individual modules and containers, as well as the reference tables.

The latest version of the standard should always be used.

6.2.2 File-Formats and Transmission

The ELDATsmart standard is intended for use in JSON format. As a file ending ".eldat" is recommended for easier detectability. Users are also advised to provide the file name with a time stamp, name of the sending device and name of the sent module. A file name would look like this: "eldat_wood_allocation_2017_6_27_10_13.eldat."

Here, the first "eldat" indicates that the file was created by the website www.eldatstandard.de.

ELDATsmart files can be sent as an e-mail attachment. Other transmission methods, such as REST or SOAP, are also allowed.

6.2.3 Including External Files

External files, intended for the container "other_file," are not directly integrated into ELDATsmart. It is possible to specify a link via the path field in the corresponding container, which either refers to a

location on the Internet, or describes a relative path when the ELDATsmart file is sent together with the attachments. Additional information, such as passwords for restricted information, can be provided via the “file_text” field.

The "signature" field is intended for the electronic transmission of a signature. This is directly integrated in BASE64 format.

6.3 ELDATsmart Modules

No guarantee is given for the timeliness and accuracy of the modules listed below. An up-to-date list of the modules and their contents can be found at any time under www.eldatstandard.de/dokumentation.

The ELDATsmart standard consists of five modules:

Name	ID
Wood Allocation	wood_allocation
Transfer Order	transport_order
Delivery Note	delivery_note
Measurement Journal	measurement_journal
Clearing	clearing

6.3.1 Architecture of the Wood Allocation module (wood_allocation)

The wood allocation module consists of four thematically separate sub-modules, and the field of document function. The sub-modules are:

1. Document type (doc_type)	Assigns the content of the module to an intention.
2. Address (address)	Contains all the information of the trading partners involved. At least the supplier must be defined. In addition, the user is free to define subcontractors (supervised forest owners) or the wood buyer.
3. Delivery Information (delivery_inf)	Any delivery information, such as delivery conditions, transportation permission, etc. that has been established are entered here.
4. Wood data (wood_data)	All wood concerning (felling date, certification, coordinates, etc.) or descriptive (quality, species, diameter class, quantity, etc.) information is entered here.
5. Status (status)	Contains information about the time of transmission, the status of the message and the location of the sender.

6.3.3 Architecture of the Transfer Order module (transfer_order)

The transfer order module consists of five thematically separate sub-modules. The sub-modules are:

1. Transfer address (transfer_address)	Contains all information about the partners of the logistics chain. At least the transport contractor, loading and unloading point, as well as the forwarding company must be defined.
2. Transport information (transfer_inf)	Contains information about the transport order, such as the validity period, the transport distance, or the fare.
3. Barcode information (barcode_inf)	If barcodes are used to make logistics more efficient, appropriate information can be entered here.
4. Pile data (pile_data)	All wood concerning (felling date, certification, coordinates, etc.) or descriptive (quality, species, diameter class, quantity, etc.) Information is entered here.
5. Status (status)	Contains information about the time of transmission, the status of the message and the location of the sender.

6.3.4 Architecture of the Delivery Note module (delivery_note)

The module delivery note consists of four thematically separate sub-modules. The sub-modules are:

1. Delivery note address (transfer_address)	Contains all information about the partners of the logistics chain. At least the transport contractor, loading and unloading point, as well as the forwarding company must be defined.
2. Delivery note Information (transfer)	Provides information about the driver and the used means of transport.
3. Load origin (origin)	Central sub-module for logistics planning. On the one hand, information on the load and residual amount of wood is provided in this, and on the other hand, the original pile is defined.
4. Status (status)	Contains information about the time of transmission, the status of the message and the location of the sender.

6.3.5 Architecture of the Measurement Journal module (measurement_journal)

The measurement journal module consists of three thematically separate sub-modules. The sub-modules are:

1. Address (other_address)	Since both sender and receiver of the measurement journal can vary, no specific actor is specified as a minimum indication. It contains information about the message creator.
2. Measurement data (measurement_data)	Contains information about the measurer, the framework conditions of the measurement process and the result of the measurement. In addition, invoices can be created directly in connection to the measurement result.
3. Status (status)	Contains information about the time of transmission, the status of the message and the location of the sender.

6.3.6 Architecture of the Clearing module (clearing)

The clearing module consists of three thematically separate sub-modules. The sub-modules are:

1. Invoice address (clearing_address)	Contains information about the supplier and buyer of the wood.
2. Invoice header (invoice_header)	Contains information about the invoice or credit, as well as the individual items.
3. Status (status)	Contains information about the time of transmission, the status of the message and the location of the sender.

6.4 ELDATsmart Container

An up-to-date list of containers and their contents can be found at any time at www.eldatstandard.de/dokumentation.

6.5 ELDATsmart Fields

An up-to-date list of the fields and their formatting can be found at any time at www.eldatstandard.de/dokumentation.

6.6 ELDATsmart Reference Tables

No guarantee is given for the timeliness and accuracy of the reference tables listed below. An up-to-date list of reference tables and their contents can be found at any time at www.eldatstandard.de/dokumentation.

Reference tables serve as a set of values for certain fields in the ELDATsmart standard. Unless otherwise defined, their use is mandatory. Change requests for the set of values must be communicated to the ELDAT Secretariat.

The contents of the reference tables may differ in places from the recommendations of the "Framework Agreement for Raw Wood Trading in Germany (RVR)," or other regulations. This is necessary because the ELDATsmart standard reference tables also cover a range of information beyond the RVR and other regulatory frameworks. For more information on the framework agreement for raw timber trading in Germany, reference is made to the relevant amended document of the Forst & Holz platform.

Aggregationsstufe / ref_aggregation_level

Name	Value	Comment
LKW-Fuhre	lkw	Summarised is a truck load
Bahn-Waggon	bahn	Summarised is a waggon load
Polter	pol	Summarised is a precise wood pile
Monat	mon	Summarised is a month's consignment
Quartal	qua	Summarised is a quarter's consignment
Jahr	jah	Summarised is a year's consignment
Gesamtvertrag	gesv	Summarised is a whole contract's consignment
Messprotokoll	mesp	Summarised is a measurement journal's content

Aggregationstyp / ref_aggregation_type

Name	Value	Comment
Sorte	so	The specified unit is of the same grade
Verwendungssorte	vw	The specified unit is of the same use
Holzart	ha	The specified unit is of the same wood species
Qualität	qu	The specified unit is of the same quality
Stärkeklasse	sk	The specified unit is of the same thickness class
Durchmesser	du	The specified unit is of the same diameter
Länge	la	The specified

Name	Value	Comment
		unit is of the same length
Sorte/Holzart	soha	The specified unit is of the same grade AND wood species
Sorte/Holzart/Qualität	sohaqu	…
Sorte/Holzart/Qualität/Stärkeklasse	sohaqusk	…
Sorte/Holzart/Qualität/Stärkeklasse/Länge	sohaquskla	…
Sorte/Holzart/Qualität/Durchmesser	sohaqudu	…
Sorte/Holzart/Qualität/Durchmesser/Länge	sohaqudula	…
Sorte/Qualität	soqu	…
Sorte/Qualität/Stärkeklasse	soqusk	…
Sorte/Qualität/Stärkeklasse/Länge	soquskla	…
Sorte/Qualität/Durchmesser	soqudu	…
Sorte/Qualität/Durchmesser/Länge	soqudula	…
Sorte/Stärkeklasse	sosk	…
Sorte/Stärkeklasse/Länge	soskla	…
Sorte/Durchmesser	sodu	…
Sorte/Durchmesser/Länge	sodula	…
Sorte/Verwendungssorte/Holzart	sovwha	…
Sorte/Verwendungssorte/Holzart/Qualität	sovwhaqu	…
Sorte/Verwendungssorte/Holzart/Qualität/Stärkeklasse	sovwhaqusk	…
Sorte/Verwendungssorte/Qualität	sovwqu	…
Sorte/Verwendungssorte/Qualität/Stärkeklasse	sovwqusk	…
Sorte/Verwendungssorte/Stärkeklasse	sovwsk	…
Verwendungssorte/Holzart	vwha	…
Verwendungssorte/Holzart/Qualität	vwhaqu	…
Verwendungssorte/Holzart/Qualität/Stärkeklasse	vwhaqusk	…
Verwendungssorte/Holzart/Qualität/Stärkeklasse/Länge	vwhaquskla	…
Verwendungssorte/Holzart/Qualität/Durchmesser	vwhaqudu	…
Verwendungssorte/Holzart/Qualität/Durchmesser/Länge	vwhaqudula	…
Verwendungssorte/Qualität	vwqu	…
Verwendungssorte/Holzart/Stärkeklasse	vwhask	…
Verwendungssorte/Holzart/Stärkeklasse/Länge	vwhaskla	…
Verwendungssorte/Holzart/Durchmesser	vwhadu	…
Verwendungssorte/Holzart/Durchmesser/Länge	vwhadula	…
Verwendungssorte/Stärkeklasse	vwsk	…
Holzart/Qualität	haqu	…
Holzart/Qualität/Länge	haqula	…
Holzart/Qualität/Stärkeklasse	haqusk	…
Holzart/Qualität/Stärkeklasse/Länge	haquskla	…
Holzart/Qualität/Durchmesser	haqudu	…
Holzart/Qualität/Durchmesser/Länge	haqudula	…

Name	Value	Comment
Holzart/Sorte/Verwendungssorte/Qualität/Länge	hasovwqula	…
Holzart/Sorte/Verwendungssorte/Qualität/Länge/Stärkeklasse	hasovwqulask	…
Qualität/Stärkeklasse	qusk	…
Polter	pol	The specified unit is part of one wood pile
Los	los	The specified unit is part of one lot
Einzelstamm	ein	The specified unit is a single stem

Artikelgruppe / ref_article_class

Name	Value	Comment
Dienstleistung Einschlag	dei	Billed is the service of felling
Dienstleistung Entrindung	den	Billed is the service of debarking
Dienstleistung Logistik	dlo	Billed is the service of transport
Dienstleistung Rücken	dru	Billed is the service of forwarding
Dienstleistung sonstige	dso	Billed is the service of any sort
Dienstleistung Spritzen	dsp	Billed is the service of preservation
Dienstleistung Vermessung	dve	Billed is the service of measurement
Holz	hol	Billed is the wood resource
Provision	pro	Billed is a commission

Bemessungsgrundlage / ref_determination_base

Name	Value	Comment
Kubikmeter	cbm	Cubic metre
Laufmeter	lfm	Running metre
Stück	stk	Quantity
Schüttraummeter	srm	Loose cubic metre
Kubikfuß	cft	Cubic feet
Tonne lutro	lut	Ton, air-dry
Tonne atro	atr	Ton, kiln-dry
Raummeter mit Rinde	rmm	Stacked cubic metre, with bark
Festmeter ohne Rinde	fmo	Solid cubic metre, without bark
Stunde	std	Hour
Minute	min	Minute
Kilometer	klm	Kilometre
Meter	met	Metre
Transportzone	trz	transport zone

Name	Value	Comment
Polter	pol	pile
Einzelstamm	ein	single stem
Fahrt	fah	Trip
Sonstige	son	Other

Besteuerung / ref_tax_type

Name	Value	Comment
Regelbesteuert	reg	Standard VAT rate
Pauschalbesteuert	pau	Taxed at a flat-rate

Betriebsart / ref_business_type

Name	Value	Comment
Staatswald (Bund)	bw	State forest (Federal Republic of Germany)
Staatswald (Land)	lw	State forest (Single federal state)
Körperschaftswald	kw	Public forest
Gemeindewald	kwgw	Community forest
Körperschaftswald (Kirchenwald)	kwki	Public forest (church owned)
Körperschaftswald (Gemeinschaften)	kwge	Public forest (community owned)
Körperschaftswald (Genossenschaftswald)	kwgs	Public forest (association owned)
Privatwald	pw	Private forest
Privatwald (Kirchenwald)	pwki	Private forest (church owned)
Privatwald (Gemeinschaften)	pwge	Private forest (community owned)
Wald in der Verwaltung der Treuhandanstalt	th	Trust agency managed forest
Handel	ha	Trading company
Sondervermögen	sond	Special property
Privatwald (sonstige, groß)	pwsg	Private forest (other, large)
Privatwald (sonstige, mittel)	pwsm	Private forest (other, medium)
Privatwald (sonstige, klein)	pwsk	Private forest (other, small)
Staatswald (sonstige)	swso	State forest (other)
Körperschaftswald (sonstige)	kwso	Public forest (other)
Privatwald (sonstige)	pwso	Private forest (other)

Dokumentfunktion / ref_doc_type

Name	Value	Comment
Abfuhrfreigabe	abf	Sender provides transport allowance with this document
Angebot	ang	Sender defines an offer with this document
Holzbereitstellungsanzeige	hba	Sender assigns a wood allocation with this document

Durchmesserermittlung / ref_dia_measurement

Name	Value	Comment
Manueller Rindenabzug	mara	Manual bark substraction
Automatischer Rindenabzug	aura	Auto bark substraction
Ohne Rindenabzug	ohra	No bark substraction
Rindenabzugstabelle vor dem Rücken gemessen	ratv	Bark substraction table measured before forwarding
Rindenabzugstabelle nach dem Rücken gemessen	ratn	Bark substraction table measured after forwarding
Unentrindet mit Mittenring	umit	On bark with mark
Gemessen in Rinde	inri	Measured on bark
Gemessen ohne Rinde	ohri	Measured under bark

Holzart / ref_species

Name	Value	Scientific name
Keine	xy	None
Nadelholz	ndh	Softwood
Fichte (spec.)	fi	Picea spec.
Gemeine Fichte	gfi	Picea abies
Omorikafichte	ofi	Picea omorika
Sitkafichte	sfi	Picea sitchensis
Schwarzfichte	swfi	Picea mariana
Engelmannsfichte	efi	Picea engelmanii
Blaufichte, Stechfichte	bfi	Picea pungens
Weißfichte	wfi	Picea glauca
Sonstige Fichten	sofi	Picea (other)
Kiefer (spec.)	kie	Pinus spec.
Gemeine Kiefer	ki	Pinus sylvestris
Bergkiefer	bki	Pinus mugo
Schwarzkiefer	ski	Pinus nigra
Rumelische Kiefer	rki	Pinus peuce
Zirbelkiefer	zki	Pinus cembra
Weymouthskiefer	wki	Pinus strobus
Murraykiefer	mki	Pinus contorta
Gelbkiefer	gki	Pinus ponderosa
Sonstige Kiefer	soki	Pinus (other)
Tanne (spec.)	ta	Abies spec.
Weißtanne	wta	Abies alba
Amerikanische Edeltanne	ata	Abies nobilies
Coloradotanne	cta	Abies concolor
Küstentanne	kta	Abies grandis
Nikkotanne	nita	Abies homolepis
Nordmannstanne	nota	Abies nordmanniana
Veitchtanne	vta	Abies veitchii

Name	Value	Scientific name
Sonstige Tannen	sota	Abies (other)
Douglasie	dgl	Pseudotsuga menziesii
Lärche (spec.)	la	Larix spec.
Europäische Lärche	ela	Larix decidua
Japanische Lärche (einschließlichHybride)	jla	Larix kaempferi
Sonstige Lärchen	sla	Larix (other)
Sonstige Nadelbäume	sonb	Softwood (other)
Lebensbaum	lb	Thuja spec.
Hemlockstanne	ht	Tsuga spec.
Mammutbaum	mam	Sequoia spec.
Eibe	eib	Taxus spec.
Lawsonszypresse	sz	Chamaecyparis lawsoniana
Buche	bu	Fagus sylvatica
Stieleiche	sei	Quercus robur
Traubeneiche	tei	Quercus petraea
Roteiche	rei	Quercus rubra
Zerreiche	zei	Quercus cerris
Sumpfeiche	suei	Quercus palustris
Eiche (spec.)	ei	Quercus spec.
sonstige Eichen	que	Quercus (other)
Esche (spec.)	es	Fraxinus spec.
Gemeine Esche	ges	Fraxinus excelsior
Weißesche	wes	Fraxinus americana
Sonstige Eschen	fra	Fraxinus (other)
Hainbuche (Weißbuche)	hbu	Carpinus betulus
Ahorn (spec.)	ah	Acer spec.
Bergahorn	bah	Acer pseudoplatanus
Spitzahorn	sah	Acer platanoides
Feldahorn	fah	Acer campestre
Eschenblättriger Ahorn	eah	Acer negundo
Silberahorn	siah	Acer saccharinum
Sonstige Ahorne	ace	Acer (other)
Linde (spec.)	li	Tilia spec.
Winterlinde	wli	Tilia cordata
Sommerlinde	sli	Tilia platyphyllos
Sonstige Linden	til	Tilia (other)
Robinie	rob	Robinia pseudoacacia
Akazie	akz	Acacia spec.
Ulme (spec.)	ul	Ulmus spec.
Bergulme	bul	Ulmus glabra
Feldulme	ful	Ulmus minor
Flatterulme	flu	Ulmus laevis
Sonstige Ulmen	ulm	Ulmus (other)
Rosskastanie	rka	Aesculus hippocastanum

Name	Value	Scientific name
Edelkastanie	eka	Castanea sativa
Kastanie	ka	Castanea spec.
Weißer Maulbeerbaum	mau	Morus alba
Nussbaum (spec.)	nus	Juglans spec.
Walnuss	wnu	Juglans regia
Schwarznuss (+Hybriden)	snu	Juglans nigra
Sonstige Nussbäume	jug	Juglans (other)
Stechpalme	ste	Ilex aquifolium
Platane	pla	Platanus spec.
Ahornblättrige Platane	apl	Platanus x acerifolia
Sonstige Laubbäume mit hoher Lebensdauer	solh	Broad leaved trees with high lifespan
Gemeine Birke	gbi	Betula pendula
Moorbirke (+Karpatenbirke)	mbi	Betula pubescens
Birke (spec.)	bi	Betula spec.
Erle	erl	Alnus spec.
Schwarzerle	ser	Alnus glutinosa
Weißerle, Grauerle	wer	Alnus incana
Grünerle	ger	Alnus viridis
Sonstige Erlen	aln	Alnus (other)
Pappel (spec.)	pap	Populus spec.
Aspe, Zitterpappel	zpa	Populus tremula
Europäische Schwarzpappel	spa	Populus nigra
Schwarzpappel Hybriden	spah	Populus x nigra
Graupappel (+Hybriden)	gpa	Populus x canescens
Silberpappel, Weißpappel	wpa	Populus alba
Balsampappel	bpa	Populus balsamifera
Balsampappel Hybriden	bpah	Populus x balsamifera
Sonstige Pappeln	pop	Populus (other)
Sorbusarten	sor	Sorbus spec.
Sonstige Sorbusarten	sso	Sorbus (other)
Vogelbeere	vb	Sorbus aucuparia
Elsbeere	els	Sorbus torminalis
Speierling	spe	Sorbus domestica
Echte Mehlbeere	meb	Sorbus aria
Weide (spec.)	wei	Salix spec.
Salweide	swei	Salix caprea
Kirsche (spec.)	kir	Prunus spec.
Gewöhnliche Traubenkirsche	gtk	Prunus padus
Vogelkirsche	vk	Prunus avium
Spätblühende Traubenkirsche	stk	Prunus serotina
Sonstige Kirschen	pru	Prunus (other)
Zwetschge	zwe	Prunus domestica
Hickory	hic	Carya spec.
Sonstige Laubbäume mit niedriger Lebensdauer	soln	Broad leaved trees with low lifespan

Name	Value	Scientific name
Gemeiner Faulbaum, Pulverholz	fau	Frangula alnus
Wildobst (unbestimmt)	wob	Malus or Pyrus (undefined)
Holzapfel, Wildapfel	wap	Malus sylvestris
Holzbirne, Wildbirne	wbi	Pyrus pyraster
Baumhasel	has	Corylus colurna
Gemeiner Götterbaum	got	Ailanthus altissima
Sonstiges Hartlaubholz	slbh	Other broad leaved hardwood
Laubholz	lbh	Broad leaved wood
Sonstiges Weichlaubholz	slbw	Other broad leaved softwood
Strauch (unbestimmt)	str	Shrub
Mischsortiment Fichte/Tanne	fita	Mixture of Picea and Abies

Holzdarstellung / ref_wood_depiction

Name	Value	Comment
Sägeholz-Modell	sh	Details of single logs are known but cannot be referenced to a particular pile. This may come from measuring each log during harvest and forwarding the logs later. Piles should be described as detailed as possible for logstics purposes.
Wertholz-Modell	wh	Details of single logs are known and can be referenced to specific piles.
Brennholz-Modell	bh	The mass/amount/species of piles are roughly known. However, single logs cannot be referenced to particular piles and therefore there is no accurate description about amount of logs or thickness class in the pile.
Industrieholz-Modell	ih	The mass/amount/species of single logs are roughly known and can be referenced to a particular pile. This way the piles can be described at least with mass and amount of logs.
Gesamtlos-Modell	gl	Wood is described in various levels of detail and forms of aggregation and cannot be assigned to any other model.
Aggregations-Modell	ag	Single logs are known in detail but cannot be referenced to certain piles. Additionally aggregations (by grade, species or others) are given to the described logs.

Holznummerntyp / ref_id_type

Name	Value	Comment
Arbeitsauftragsnummer	arb	Work order number
Artikelnummer	art	Article number
HAB-Nummer	hab	Booking number
HAB- und Los-Nummer	hal	Booking and lot number
Los-Nummer	los	Lot number
Polternummer	pol	Pile number
Polter-Auftragsnummer	poa	Pile order number
Polter-GUID	pog	Pile GUID
Stammnummer	sta	Stem number

Name	Value	Comment
Verkaufslos-Nummer	vlo	Sales lot number

Qualitätsmerkmale / ref_quality_attribute

Name	Value	Comment
abiotische Schäden	ab	Abiotic damages
Borkenkäferbefall	bk	Bark-beetle infestation
Bläue	bl	Blue stain
Bockkäferbefall	bo	Longicorn infestation
Schälschaden durch Wild	fs	Game damage
Holzwespenbefall	hw	Horntail infestation
Harznutzung	hz	Resin extraction marks
Schaden durch Insekten	in	Damage from insects
Lineatusbefall	li	Lineatus infestation
Nasskern	nk	Wet core
Neuartige Waldschäden	nw	Novel forest damages
ohne Schaden	os	No damages
Pilzbefall	pi	Fungus infestation
Rotfäule	rf	Red rot
Ringschäle	ri	Ring peel
Rotkern	rk	Red heartwood
Rotkern <12cm	rk1	Red heartwood <12cm
Rotkern <1/3	rk2	Red heartwood <1/3
Rotkern <1/2	rk3	Red heartwood<1/2
Rotkern >1/2	rk4	Red heartwood>1/2
Rotstreife	rs	Blight
Schnee-, Eis- und Duftbruch	sb	Snow and ice debris
Schleimfluss	sf	Slime leakage
Spritzkern	sk	Brown spot
Sonstige Schäden	so	Other damage
Splitter	sp	Shrapnel
leichte Besplitterung	s1	Little shrapnels
mäßige Besplitterung	s2	Moderately shrapnels
starke Besplitterung	s3	Many shrapnels
Splitterverdacht	sv	Assumed shrapnels
Sturmschäden	ss	Storm damage
Trocknis	tk	Drying damage

Holzzertifizierungstyp / ref_wood_cert_type

Name	Value	Comment
Keine	xy	None
PEFC zertifiziert	pefc	PEFC certified
PEFC Controlled Sources	pecs	PEFC Controlled Sources

Name	Value	Comment
FSC 100 % zertifiziert	fsc	FSC 100 % certified
FSC Mix zertifiziert	fscm	FSC Mix certified
FSC Credit zertifiziert	fscc	FSC Credit certified
FSC Controlled Wood	fscw	FSC Controlled Wood
Naturland	natl	Naturland
DIN EN ISO 9000	iso0	DIN EN ISO 9000
DIN EN ISO 9001	iso1	DIN EN ISO 9001
DIN EN ISO 9002	iso2	DIN EN ISO 9002
DIN EN ISO 9003	iso3	DIN EN ISO 9003
DIN EN ISO 14000	iso4	DIN EN ISO 14000
Öko Audit	oeko	Öko Audit
RAL Gütegemeinschaft	ral	RAL Gütegemeinschaft
Q-Label	qlab	Q-Label

Koordinatensystem / ref_crs

Corresponding http://www.epsg.org

Lieferbedingungen / ref_delivery_term

Name	Value	Comment
Unfrei Waldstraße	uws	Freight collect to forest road
Unfrei Werk	uwe	Freight collect to mill
Unfrei Zwischenlager	uzw	Freight collect to terminal
Unfrei Waggon	uwa	Freight collect on board (wag-gon)
Unfrei Schiff	usc	Freight collect on board (ship)
Frei Stock / Ab Werk (incoterm)	exw	Ex work
Frei Waldstraße / Frei Frachtführer (incoterm)	fca	Free carrier
Frei Schiff/Waggon / Frei an Bord (incoterm)	fob	Free on board
Frei Zwischenlager / Geliefert frei Terminal (incoterm)	dat	Delivered at terminal
Frei Werk / Geliefert verzollt (incoterm)	ddp	Delivered duty paid
Frachtfrei bis (incoterm)	cpt	Carriage paid to
Frachtfrei versichert bis (incoterm)	cip	Carriage and insurance paid to
Geliefert benannter Ort (incoterm)	dap	Delivered at place
Frei längsseits Schiff (incoterm)	fas	Free alongside ship
Kosten und Fracht (incoterm)	cfr	Cost and freight
Frachtfrei (incoterm)	cif	Cost, insurance, freight

Längenklasse / ref_length_class

Name	Value	Comment
Stammholz Abschnitte, < 6 m	sus	Cut-to-length < 6 m (Corresponding RVR)
Stammholz lang, zufällige Längen	slz	Stem, random length (Corresponding RVR)
Industrieholz lang, > 3 m	ild	Pulpwood, long > 3 m (Corresponding RVR)

Name	Value	Comment
Industrieholz kurz, 1-3 m	iku	Pulpwood, short 1-3 m (Corresponding RVR)
Energieholz lang, > 3 m	eld	Energy wood, long > 3 m (Corresponding RVR)
Energieholz kurz, 1-3 m	eku	Energy wood, short 1-3 m (Corresponding RVR)
Scheitholz, < 1 m	sue	Split logs, < 1 m (Corresponding RVR)
Schichtholz, 1 m	sei	Stacked logs, 1 m (Corresponding RVR)
Schichtholz, 2 m	szw	Stacked logs, 2 m (Corresponding RVR)
Nadelholz L1 (4-6m)	l1	Conifers L1 (4-6m) (Used in Switzerland)
Nadelholz L2 (6,5-14,5m)	l2	Conifers L2 (6,5-14,5m) (Used in Switzerland)
Nadelholz L3 (≥15m)	l3	Conifers L3 (≥15m) (Used in Switzerland)
Laubholz L_LBH (≥3m)	l_lbh	Broad leaved wood L_LBH (≥3m) (Used in Switzerland)
Kleinstangen (13-15m)	lks1	Little logs (13-15 m) (Used in Switzerland)
Kleinstangen (9-12m)	lks2	Little logs (9-12 m) (Used in Switzerland)
Kleinstangen (6-8m)	lks3	Little logs (6-8 m) (Used in Switzerland)
Kleinstangen (5m)	lks4	Little logs (5 m) (Used in Switzerland)
Energie-Industrieholz_Länge: Langholz (3-7m Schrittmaß)	llh_kranlang	Energy-Pulpwood-length: Long (3-7 m Running metre) (Used in Switzerland)
Energie_Industrieholz_Länge: Kurzholz (1m)	lkh1	Energy-Pulpwood-length: Short (1 m) (Used in Switzerland)
Energie-Industrieholz_Länge: Kurzholz (2m)	lkh2	Energy-Pulpwood-length: Short (2 m) (Used in Switzerland)
Industrieholz_Länge: Langholz (5-6m Bahn)	llh_bahn	Pulpwood-length: Long (5-6 m, Railway) (Used in Switzerland)
Industrieholz_Länge: Langholz (3-7m Lastwagen)	llh_lastwagen	Pulpwood-length: Long (3-7 m, Truck) (Used in Switzerland)
Baumfallend	bf	Whole tree length (Used in Switzerland)
Kranlänge unvermessen (3-7m)	ku	Crane length, unmeasured (3-7 m) (Used in Switzerland)
Kranlänge vermessen und abgelängt (3-7m)	kv	Crane length, measured and cut (3-7 m) (Used in Switzerland)

Messtechnik / ref_measuring_technique

Name	Value	Comment
Kluppe/Maßband	klma	Caliper/Measuring tape
Harvesteraggregat	harv	Harvester processor head
2D Messverfahren (zwei Ebenen Messung Infrarot/Ultraschall)	inul	2D measuring procedure (two level measuring infrared/ultrasound)
2D Messverfahren (zwei Ebenen Messung Infrarot/Infrarot)	inin	2D measuring procedure (two level measuring infrared/infrared)
3D Messverfahren	drei	3D measuring procedure
3D rotierende Kluppe	rokl	3D rotating caliper

Name	Value	Comment
Röntgen-Messverfahren	rome	X-ray measuring procedure
Foto-optisches Messverfahren (handgeführtes Gerät)	foha	Photo-optical measuring procedure (hand-held device)
Foto-optisches Messverfahren (montiertes/immobiles Gerät)	foim	Photo-optical measuring procedure (mounted/immobile device)
Foto-optisches Messverfahren (montiertes/mobiles Gerät)	fomo	Photo-optical measuring procedure (mounted/mobile device)
Tauchverfahren	tauv	Dipping method
Schnelltrocknungsverfahren (atro, Probenwaage)	stve	Rapid drying procedure (kiln-dry, sample scale)
Masseermittlung (lutro, Fahrzeugwaage)	mame	Mass determination (air-dry, vessel scale)
Elektrische Widerstandsmessung	elwi	Electric resistance measurement

Preiseinheit / ref_price_unit

Name	Value	Comment
Betrag je Einheit	bei	Amount per unit
Absolutbetrag	bet	Absolute value
Prozent	pro	per cent

Preismerkmal / ref_pricing_attribute

Name	Value	Comment
Länge < Minimalwert	lmi	Length < Minimum value
Länge > Maximalwert	lma	Length > Maximum value
Durchmesser < Minimaldurchmesser	dmi	Diameter < Minimum diameter
Durchmesser > Maximaldurchmesser	dma	Diameter > Maximum diameter
Länge < Bestelllänge ≥ Mindestlänge	lbe	Length < Ordered length ≥ Minimum length
Durchmesser < Mindestmittendurchmesser	dmd	Diameter < Minimum mean diameter
Stammfußdurchmesser > Maximaldurchmesser	sma	Bottom diameter > Maximum diameter
Stammfußdurchmesser < Minimaldurchmesser	smi	Bottom diameter < Minimum diameter
Zopfdurchmesser < Mindestzopfdurchmesser	zmi	Top diameter < Minimum top diameter
Zopfdurchmesser > Maximalzopfdurchmesser	zma	Top diameter > Maximum top diameter
Abholzigkeit > zulässige Abholzigkeit	ama	Shrinking > Acceptable shrinking
Krümmung > zulässige Krümmung	kma	Curving > Acceptable curving
Nicht sägetauglich	nsf	Not suitable for sawing
Ovalität > zulässige Ovalität	oma	Ovality > Acceptable ovality
Splitter	spl	Shrapnel

Qualität / ref_quality

Name	Value	Comment
Ohne Qualität	o	No Quality
Normale Qualität	in	Regular quality (Corresponding RVR)

Name	Value	Comment
Fehlerhafte Qualität	if	Flawed quality (Corresponding RVR)
Krank	ik	infested (Corresponding RVR)
Qualität fehlerhaft/krank	fk	Flawed/infested (Corresponding RVR)
Qualität normal/fehlerhaft	nf	Regular/flawed (Corresponding RVR)
Qualität normal/fehlerhaft/krank	nfk	Regular/flawed/infested (Corresponding RVR)
Qualität A	a	Quality A (Corresponding RVR)
Qualität A Rot	ak	Quality A red (Corresponding RVR)
Qualität B	b	Quality B (Corresponding RVR)
Qualität B Rot	bk	Quality B red (Corresponding RVR)
Qualität C	c	Quality C (Corresponding RVR)
Qualität D	d	Quality D (Corresponding RVR)
Ohne Qualitätsausscheidung	oa	Without quality declaration
B/C Mischqualität	bc	B/C mixed quality (Corresponding RVR)
C/D Mischqualität	cd	C/D mixed quality (Corresponding RVR)
B/C/D Mischqualität	bcd	B/C/D mixed quality (Corresponding RVR)
Furnierholz (ÖNORM L 2021)	a_fu	Veneer wood (Used in Austria)
Schleifholz (ÖNORM L 2021)	a_is	Grinding wood (Used in Austria)
Faserholz (ÖNORM L 2021)	a_if	Fibre wood (Used in Austria)
Sekunda (ÖNORM L 2021)	a_i2	Secondary wood (Used in Austria)
Industriedünnholz (ÖNORM L 2021)	a_id	Pulpwood, thin (Used in Austria)
Manipulationsholz (ÖNORM L 2021)	a_im	Manipulation wood (Used in Austria)
Splitterholz (ÖNORM L 2021)	a_sp	Shrapnel wood (Used in Austria)
Braunbloche (ÖNORM L 2021)	a_y	Fungus infested wood (Used in Austria)
C-Kreuz (noch sägefähiger Ausschuss) (ÖNORM L 2021)	a_x	C-cross (Rejects still suitable for saw-ing) (Used in Austria)
Ausschuss (ÖNORM L 2021)	a_z	Rejects (Used in Austria)
Brennholz (ÖNORM L 2021)	a_bh	Energy wood (Used in Austria)
Qualität Käferholz	ch_k	Beetle infested (Used in Switzerland)
Qualität AB	ch_ab	Quality AB (Used in Switzerland)
Qualität BC	ch_bc	Quality BC (Used in Switzerland)
Qualität CD	ch_cd	Quality CD (Used in Switzerland)
Qualität ABC	ch_abc	Quality ABC (Used in Switzerland)
Qualität Rotholz	ch_r	Quality red (Used in Switzerland)
Qualität 1. Klasse	ch_1	Quality 1. Class (Used in Switzerland)
Qualität 2. Klasse	ch_2	Quality 2. Class (Used in Switzerland)
Braunkern	ch_bk	Fungus infested wood (Used in Switzer-land)
Spritzkern	ch_sk	Brown spot (Used in Switzerland)

Rabatt oder Zuschlag / ref_disc_sur_type

Name	Value	Comment
Rabatt	dis	Discount
Zuschlag	sur	Surcharge

Rechnungstyp / ref_invoice_type

Name	Value	Comment
Abschlagsrechnung	abs	Advance payment bill
Endabrechnung	end	Final bill
Gutschrift	gut	Credit voucher
Teilrechnung	tei	Invoice for partial delivery

Referenznummerntyp / ref_ref_type

Name	Value	Comment
Abfuhrfreigabenummer	afn	ID to which the transportation permission is referenced
Hiebsnummer	hin	ID to which the felling is referenced
Kassenzeichen	kas	Transaction number/Reason for payment
Referenznummer Holzabnehmer	rha	Reference ID of the wood receiver
Referenznummer Lieferant	rli	Reference ID of the wood supplier
Referenznummer Spediteur	rsp	Reference ID of the forwarding company
Vertragsnummer Lieferant	vli	Contract ID of the wood supplier
Vertragsnummer Transportauftraggeber	vta	Contract ID of the transport contractor
Referenznummer Transportauftraggeber	rta	Reference ID of the transport contractor
Vertragsnummer Holzabnehmer	vha	Contract ID of the wood receiver
Vertragsnummer Spediteur	vsp	Contract ID of the forwarding company
Vorzeigungsnummer	vzn	Wood assessment ID
Referenznummer Holzbesitzer	rhb	Reference ID of the wood owner
Vertragsnummer Holzbesitzer	vhb	Contract ID of the wood owner
Referenznummer Holzhändler	rhh	Reference ID of the wood trader
Vertragsnummer Holzhändler	vhh	Contract ID of the wood trader
Referenznummer Holzkäufer	rka	Reference ID of the wood buyer
Vertragsnummer Holzkäufer	vka	Contract ID of the wood buyer
Anliefernummer Entladestelle Container	aec	ID of the container where the delivery should be unloaded
Anliefernummer Entladestelle Waggon	aew	ID of the waggon where the delivery should be unloaded
Anliefernummer Entladestelle Lagerbox	ael	ID of the storage box where the delivery should be unloaded
Anliefernummer Entladestelle Sonstige	aes	ID of the other place where the delivery should be unloaded

Region / ref_subdivision

Corresponding ISO 3166-2

Rindenzustand / ref_bark_condition

Name	Value	Comment
entrindet durch Dritte	edr	Debarked by a third party
entrindet	ent	Debarked
gestreift	gst	Striped
handentrindet	hae	Manually debarked
maschinenentrindet	mae	Automatically debarked
teilentrindet	ten	Partly debarked
unbekannt	ube	Unknown
unentrindet	uen	Not debarked
unentrindet mit Mittenring	umi	Not debarked with mark

Rolle / ref_role

Name	Value	Comment
Abnehmer	abn	Receiver of the wood
Entladestelle	ent	Location where the wood is unloaded
Holzbesitzer	hol	Owner of the wood (forest owner)
Ladestelle	lad	Location where the wood is loaded
Lieferant	lie	Seller of the wood
Spediteur	spe	Forwarding company
Transportauftraggeber	tra	Party that orders transportation of the wood
Vermessungsfirma	ver	Service company that conducts wood measurement
Holzhändler	hoh	Buyer of the wood. Receiver is a customer of the trader.
Holzkäufer	hka	Buyer of the wood. Receiver is another location of the same company.

Sortimente und Sorten / ref_grade

Name	Value	Comment
Keine	xy	None
Stammholz lang	st	Stem, long (Corresponding RVR)
Stammholz Abschnitte	fl	Logs, cut-to-length (Corresponding RVR)
Industrieholz lang	il	Pulpwood, long (Corresponding RVR)
Energieholz lang	bl	Energy wood, long (Corresponding RVR)
Energieholz kurz	bs	Energy wood, short (Corresponding RVR)
Industrieholz kurz	is	Pulpwood, short (Corresponding RVR)
Industrieholz Waldhackschnitzel	whi	Pulpwood, wood chips (Corresponding RVR)
Energieholz Waldhackschnitzel	whe	Energy wood, wood chips (Corresponding RVR)
Hackschnitzel	hs	Other wood chips (Corresponding RVR)
Wertholz (ÖNORM L 2021)	a_wh	High quality wood (Used in Austria)
Blochholz (ÖNORM L 2021)	a_bl	Round wood (4-5 m) (Used in Austria)
Doppelbloch (ÖNORM L 2021)	a_db	Round wood (6-10 m) (Used in Austria)
Langholz (ÖNORM L 2021)	a_lh	Round wood (> 10 m) (Used in Austria)
Schwachbloch (ÖNORM L 2021)	a_sb	Round wood, thin (Used in Austria)
Hoblerbloch (ÖNORM L 2021)	a_hb	Round wood, good mean quality (Used in Austria)

Name	Value	Comment
Kurzbloch (ÖNORM L 2021)	a_kb	Round wood (1-2 m) (Used in Austria)
Zerspanerbloch (ÖNORM L 2021)	a_zb	Round wood, extra thin (Used in Austria)
Rundholz	ch_r	Round wood (Used in Switzerland)
Energieholz	ch_e	Energy wood (Used in Switzerland)
Industrieholz	ch_i	Pulpwood (Used in Switzerland)

Staat / ref_state

Corresponding ISO 3166-1 alpha-2

Stärkeklasse / ref_thickness_class

Name	Value	Comment
Ohne Stärke	o	None
Mittenstärke 0-9 cm	d0	Mean diameter 0-9 cm (Corresponding RVR)
Mittenstärke 10-19 cm	d1	Mean diameter 10-19 cm (Corresponding RVR)
Mittenstärke 10-14 cm	d1a	Mean diameter 10-14 cm (Corresponding RVR)
Mittenstärke 15-19 cm	d1b	Mean diameter 15-19 cm (Corresponding RVR)
Mittenstärke 20-29 cm	d2	Mean diameter 20-29 cm (Corresponding RVR)
Mittenstärke 20-24 cm	d2a	Mean diameter 20-24 cm (Corresponding RVR)
Mittenstärke 25-29 cm	d2b	Mean diameter 25-29 cm (Corresponding RVR)
Mittenstärke 30-39 cm	d3	Mean diameter 30-39 cm (Corresponding RVR)
Mittenstärke 30-34 cm	d3a	Mean diameter 30-34 cm (Corresponding RVR)
Mittenstärke 35-39 cm	d3b	Mean diameter 35-39 cm (Corresponding RVR)
Mittenstärke 40-49 cm	d4	Mean diameter 40-49 cm (Corresponding RVR)
Mittenstärke 40-44 cm	d4a	Mean diameter 40-44 cm (Corresponding RVR)
Mittenstärke 45-49 cm	d4b	Mean diameter 45-49 cm (Corresponding RVR)
Mittenstärke 50-59 cm	d5	Mean diameter 50-59 cm (Corresponding RVR)
Mittenstärke 50-54 cm	d5a	Mean diameter 50-54 cm (Corresponding RVR)
Mittenstärke 55-59 cm	d5b	Mean diameter 55-59 cm (Corresponding RVR)
Mittenstärke 60-69 cm	d6	Mean diameter 60-69 cm (Corresponding RVR)
Mittenstärke 60-64 cm	d6a	Mean diameter 60-64 cm (Corresponding RVR)
Mittenstärke 65-69 cm	d6b	Mean diameter 65-69 cm (Corresponding RVR)
Mittenstärke 70-79 cm	d7	Mean diameter 70-79 cm (Corresponding RVR)
Mittenstärke ≥80 cm	d8	Mean diameter ≥80 cm (Corresponding RVR)
Stärke: 1a (10-14 cm)	ch_1a	Strength: 1a (10-14 cm) (Used in Switzerland)
Stärke: 1b (15-19 cm), Zopf 14 cm	ch_1b	Strength: 1b (15-19 cm), Zopf 14 cm (Used in Switzerland)
Stärke: 2a (20-24 cm), Zopf 18 cm	ch_2a	Strength: 2a (20-24 cm), Zopf 18 cm (Used in Switzerland)
Stärke: 2b (25-29 cm), Zopf 18 cm	ch_2b	Strength: 2b (25-29 cm), Zopf 18 cm (Used in Switzerland)
Stärke: 3a (30-34 cm), Zopf 18 cm	ch_3a	Strength: 3a (30-34 cm), Zopf 18 cm (Used in Switzerland)
Stärke: 3b (35-39 cm), Zopf 18 cm	ch_3b	Strength: 3b (35-39 cm), Zopf 18 cm (Used in

Name	Value	Comment
		Switzerland)
Stärke: 4a (40-44 cm), Zopf 22 cm	ch_4a	Strength: 4a (40-44 cm), Zopf 22 cm (Used in Switzerland)
Stärke: 4b (45-49 cm), Zopf 22 cm	ch_4b	Strength: 4b (45-49 cm), Zopf 22 cm (Used in Switzerland)
Stärke: 4 (40-49 cm), Zopf 22 cm	ch_4	Strength: 4 (40-49 cm), Zopf 22 cm (Used in Switzerland)
Stärke: 5 (50-59 cm), Zopf 22 cm	ch_5	Strength: 5 (50-59 cm), Zopf 22 cm (Used in Switzerland)
Stärke: 5a (50-54 cm), Zopf 22 cm	ch_5a	Strength: 5a (50-54 cm), Zopf 22 cm (Used in Switzerland)
Stärke: 5b (55-59 cm), Zopf 22 cm	ch_5b	Strength: 5b (55-59 cm), Zopf 22 cm (Used in Switzerland)
Stärke: 6 (60-69 cm), Zopf 22 cm	ch_6	Strength: 6 (60-69 cm), Zopf 22 cm (Used in Switzerland)
Stärke: 6a (60-64 cm), Zopf 22 cm	ch_6a	Strength: 6a (60-64 cm), Zopf 22 cm (Used in Switzerland)
Stärke: 6b (65-69 cm), Zopf 22 cm	ch_6b	Strength: 6b (65-69 cm), Zopf 22 cm (Used in Switzerland)

Status-ID / ref_statusid

Name	Value	Comment
Erstellt	10	Created
Geändert	20	Changed
Storniert	30	Deleted
Gesendet	40	Sent
Angenommen	50	Accepted
Abgelehnt	60	Declined
Disponiert	70	Disposed
Auftragsbeginn	80	Task started
Unterbrochen	90	Paused
Abgebrochen	100	Cancelled
Fahre ins Revier	110	Entering forest district
Lieferschein erstellt	120	Delivery note created
Verlasse Revier	130	Leaving forest district
Am Lieferort angekommen	140	Arriving at delivery location
Auftragsende	150	End of task

Stellentyp / ref_location_type

Name	Value	Comment
Polter	pol	Single pile in the forest
Waldlager	wal	Location in/near the forest for temporary storage of larger wood amounts (Wet storage, Submission location, etc.)
Bahnhof	bhf	Train station

Name	Value	Comment
Waggon	wag	Waggon
Hafen	haf	Harbour
Schiff	sch	Ship
Werk	wer	Mill
Werk Zwischenlager	wzw	Terminal for wood at the mill
Werk Vermessungsanlage	wva	Measuring device at the mill

Steuernummerntyp / ref_tax_no_type

Name	Value	Comment
Umsatzsteuer-ID	ust	Tax ID number
Steuernummer	stn	Tax number
Keine	xy	None

Vermessungsverfahren / ref_measuring_method

Name	Value	Comment
Manuelle Einzelstammvermessung von Rundholz	mit	Manual single log measurement (Corresponding RVR)
Mittendurchmesser-Stichprobe	mis	Mean diameter sample (Corresponding RVR)
Raummaßverfahren allgemein	arm	General cubic measurement
Sektionsraummaß für Industrie- und Energieholz	srm	Sectional cubic measure for pulp and energy wood (Corresponding RVR)
Konventionelles Schichtraummaß	krm	Conventional stacked cubic measure (Corresponding RVR)
Stirnflächenverfahren	stf	Surface measurement (Corresponding RVR)
Zählung	zae	Counting (Not corresponding RVR)
Schätzung	stz	Estimation (Corresponding RVR, mind legal boundaries)
Werkvermessung von Stammholz	wev	Log measurement at the mill (Corresponding RVR)
Gewichtsmaßermittlung	gwm	Weight measurement
Gewichtsmaßermittlung atro	gwa	Weight measurement, kiln-dry (Corresponding RVR)
Gewichtsmaßermittlung lutro	gwl	Weight measurement, air-dry (Not corresponding RVR)
Stangenvermessung	stg	Pole measurement (Not corresponding RVR)
Zopfstärkenvermessung	zsv	Top end measurement (Not corresponding RVR)
Fremdvermessung	fra	Third party measurement (Not corresponding RVR)
Laufmeter	lfm	Running metre
Sonstiges	son	Other
Harvestermaß	hvm	Harvester measurement (Not corresponding RVR)
optische Poltervermessung	opv	Optical pile measurement (Not corresponding RVR)
Waldmaß	wam	General measurement in the forest

Name	Value	Comment
Keins	xy	None

Verwendungssorte / ref_use

Name	Value	Comment
Keine	xy	None
Furnier	f	Veneer
Teilfurnier	tf	Partly veneer
Schälholz	ss	Peeling wood
Sägeholz	sg	Sawing wood
Wertholz	wh	High quality wood
Profilzerspaner	pz	For plane shapers
Schleifholz	sf	Grinding wood
Restholz	rh	Residual wood
Hackschnitzel	hs	Wood chips
Energieholz	eh	Energy wood
Rundholz	ru	Round wood
Industrieholz	ih	Pulpwood
Stangen	p	Pole
Masten	m	Mast
Rammpfähle	r	Ram pile
Schwellenholz	sw	Railway sleeper
Ohne Verwendungssorte	ov	Without use
Palette	pa	Palette
Parkett	pk	Flooring
Starkholz	st	Large dimension timber
Oriented Strand Board	osb	Oriented strand board
Mitteldichte Faserplatte	mdf	Medium density fibreboard
Chipboard, Spanholz	cb	Chipboard
Lamellenholz	la	
Blochholz	bl	Round wood (Used in Austria)
Säge-, Schneide- und Bauholz	sb	Sawing wood (Used in Austria)
Verpackungs- und Palettenholz	vp	Packaging and palette wood (Used in Austria)
Papier-, Zellstoff- und Holzwerkstoffholz	ph	Pulpwood (Used in Austria)
Sägefähiges Industrieholz, lang	sl	Pulpwood suitable for sawing, long (Used in Austria)
Nutzindustrieholz, lang	nl	(Used in Austria)
Grubenlangholz	gl	Mine grade timber, long (Used in Austria)
Nutz- und Grubenschichtholz	ns	Stacked mine grade timber (Used in Austria)
Ausschuss	au	Reject wood (Used in Austria)
Schwellen	ch_sw	Railway sleeper (Used in Switzerland)

Name	Value	Comment
Kleinstangen	ch_kst	Thin pole (Used in Switzerland)
Kleinbuchen	ch_kbu	- (Used in Switzerland)
Zelluloseholz	ch_z	Pulpwood (Used in Switzerland)
Plattenholz	ch_p	Board timber (Used in Switzerland)
Holzwolleholz	ch_h	Wood wool (Used in Switzerland)
Lieferform: Hackschnitzel	ch_hs	Form of delivery: Wood chips (Used in Switzerland)
Lieferform: Hackholz auf Polter	ch_hhap	Form of delivery: Chip wood, piled (Used in Switzerland)
Lieferform: Hackholz Einzelbaum	ch_hheb	Form of delivery: Chip wood, single log (Used in Switzerland)
Lieferform: Brennholz, lang	ch_brhl	Form of delivery: Energy wood, long (Used in Switzerland)
Lieferform: Brennholz, kurz	ch_brhk	Form of delivery: Energy wood, short (Used in Switzerland)
Lieferform: Spälten	ch_sp	Form of delivery: Split wood (Used in Switzerland)
Lieferform: Kleinspälten	ch_ksp	Form of delivery: Small split wood (Used in Switzerland)
Lieferform: Rugel	ch_ru	Form of delivery: Round wood (Used in Switzerland)
Lieferform: Lang	ch_lang	Form of delivery: Long (Used in Switzerland)

Volumen / ref_volume

Name	Value	Comment
Tonne atro	atr	Ton, kiln-dry (Corresponding RVR)
Tonne lutro	lut	Ton, air-dry (Not corresponding RVR)
Kubikfuß	cft	Cubic foot (Not corresponding RVR)
Schüttraummeter	srm	Loose cubic metre (Corresponding RVR)
Stück	stk	Quantity (Corresponding RVR, for special assortments)
Laufmeter	lfm	Running metre (Corresponding RVR, for special assortments)
Kubikmeter	cbm	Cubic metre (Not corresponding RVR)
Festmeter ohne Rinde	fmo	Solid cubic metre, without bark (Corresponding RVR)
Raummeter mit Rinde	rmm	Stacked cubic metre, with bark (Corresponding RVR)

Währung / ref_currency

Corresponding ISO 4217

Zahlungsverfahren / ref_payment_procedure

Name	Value	Comment
Rechnungsverfahren	rev	Billing
Lastschriftverfahren	lav	Direct debit
Gutschriftverfahren	guv	Credit memo

Zertifizierung / ref_cert_type

Name	Value	Comment
Keine	xy	None
PEFC FM Zertifikat	pefc	PEFC FM Certificate
FSC COC Zertifikat	fsc1	FSC COC Certificate
Naturland	natl	Certified corresponding Naturland regulations
DIN ISO 9000	iso0	Certified corresponding DIN ISO 9000 regulations
DIN ISO 9001	iso1	Certified corresponding DIN ISO 9001 regulations
DIN ISO 9002	iso2	Certified corresponding DIN ISO 9002 regulations
DIN ISO 9003	iso3	Certified corresponding DIN ISO 9003 regulations
DIN ISO 14000	iso4	Certified corresponding DIN ISO 14000 regulations
Öko Audit	oeko	Certified corresponding Öko Audit regulations
Q-Label	qlab	Certified corresponding Q-Label regulations
RAL Gütegemeinschaft	ralg	Certified corresponding RAL Gütegemeinschaft regulations
FSC FM Zertifikat	fscf	FSC FM Certificate
PEFC COC Zertifikat	peco	PEFC COC Certificate

Optional:

The following reference table can be seen as a guideline, but is optional for use and incomplete.

Rolle des Kontaktes / ref_contact_role

Name	Value	Comment
Förster	rf	Person responsible for forest areas working in the field. Also persons taking care on behalf of private forest owners.
Vermesser	vr	Surveyor or person responsible for measurement.
Fahrer	fa	Person steering the timber hauling vehicle.
Holzbesitzer	hb	Person owning the forest (private forest owner).
Einkaufspersonal	ep	Person responsible for timber purchase and contact person in the company.
Verkaufspersonal	vp	Person responsible for timber sales and contact person in the company.
Speditionsmitarbeiter	sm	Person working indoors for a transport company.
Allgemeiner Ansprechpartner	aa	Contact person with no specific duty.

6.7 Application Recommendations

The following application recommendations are provided to enable a uniform use of the ELDATsmart data standard. They depict common cases as well as rare special cases. There is no guarantee of completeness. Should new applications need to be clarified, the ELDAT Secretariat should be consulted in order to draw up a general application recommendation. This will then be decided by the ELDAT Advisory Board.

6.7.1 Address data

Address data is an indispensable part of any module. If in doubt, both the own address as well as the receivers address, or other affected actors, should be specified.

Depending on the actor, differently detailed address records may be required. Here are some actors and related examples.

6.7.1.1 Forest company (possible in all messages)

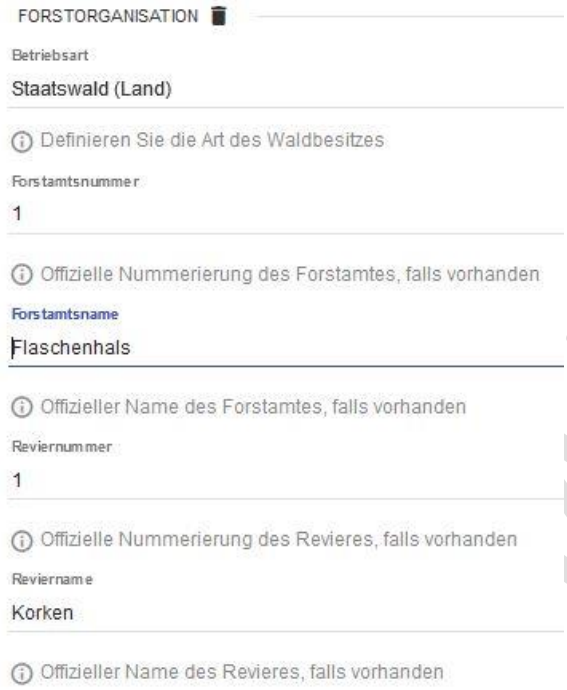
For example, in case of a wood allocation notice, it is essential to enter the supplier.

To do this, the supplying forest company must be defined as follows:

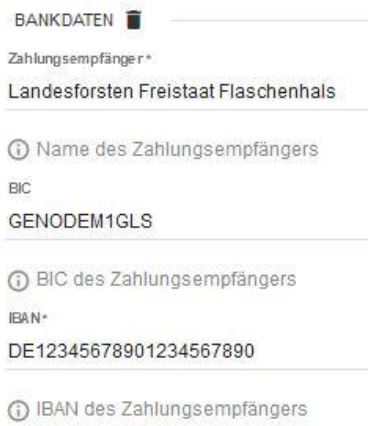
Important: The definition of the supplying Forest office or district must be put in "forestry". The overall hierarchy must be specified in “business”.

All existing forestry certificates must always be mentioned.

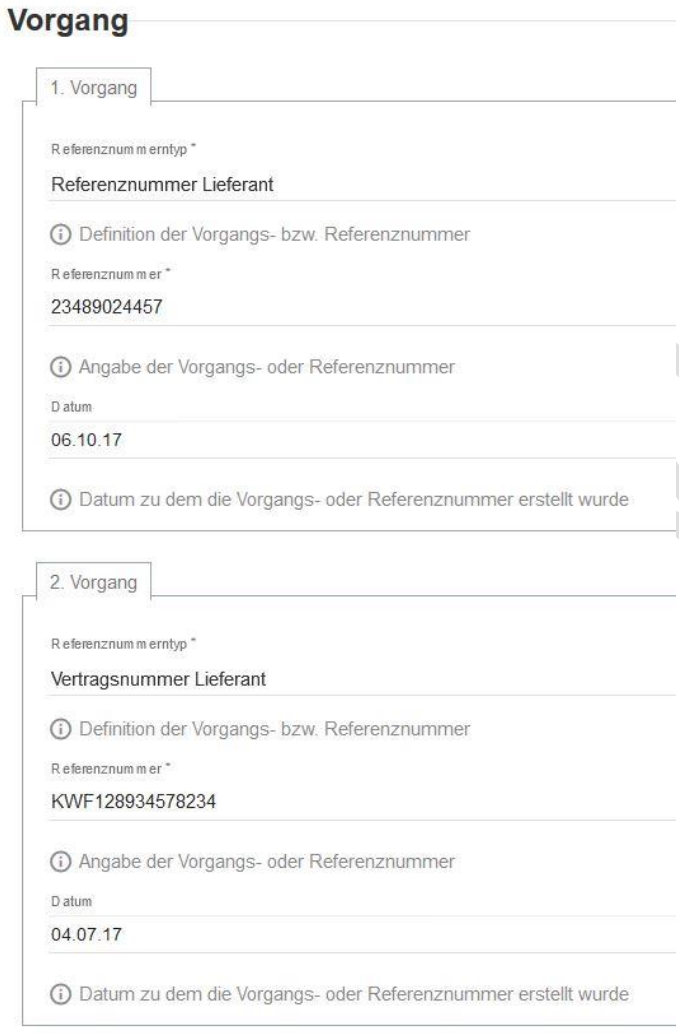
"ZERTIFIZIERUNG DES BETRIEBES" HINZUFÜGEN



If relevant to the customer, the organisational origin of the wood described later is defined in the section "forest organisation". In some forest organisations, forest offices or districts are numbered for a clearer designation. This number must be entered for "office_no" or "district_no". Note that the postcode, telephone number or the in-house number of the forest office or district as used by the timber company must not be entered here.



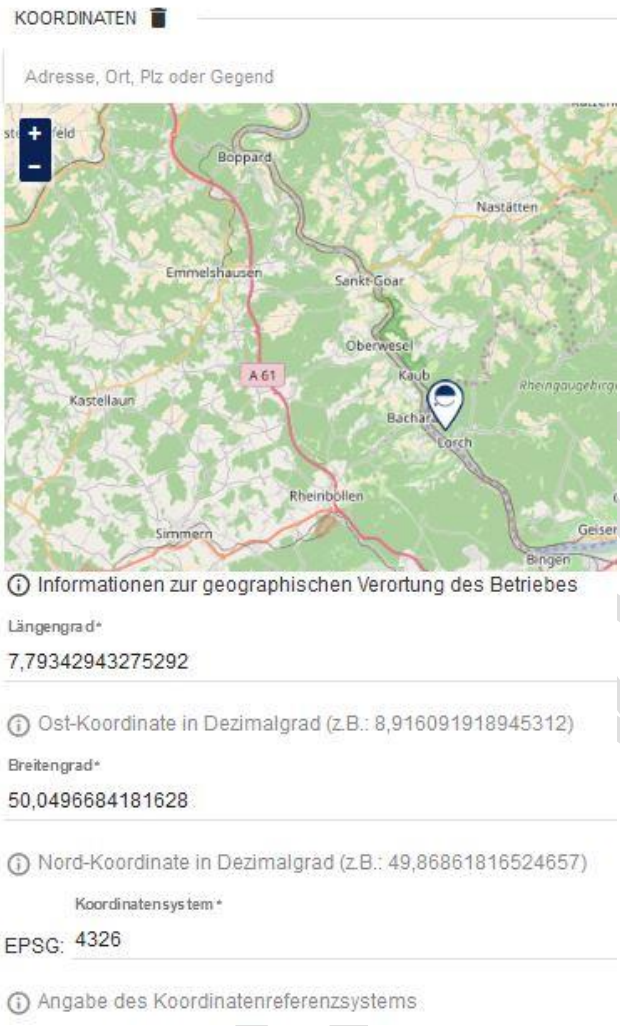
For invoicing, the bank data of the forest organisation should be provided.



At least one process ID should be specified in order to better reference any personal communication that may be necessary, but also for the clearer booking of the process. Here it also makes sense to specify a process date, i.e. the date on which the reference number was created by the supplier. If a contract number is given, the date of creation of the contract will be specified.

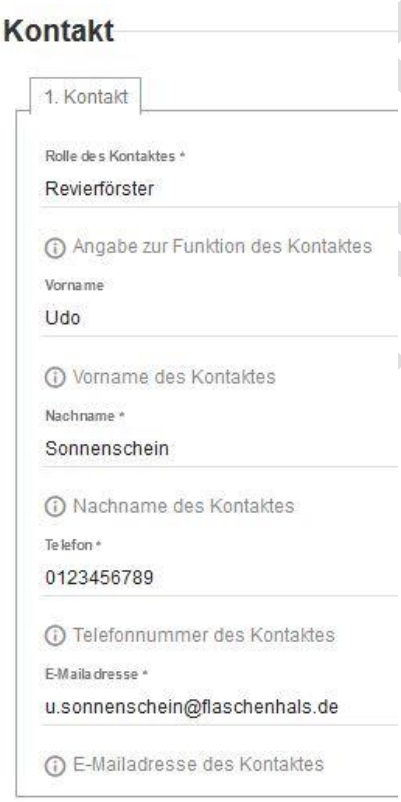
A maximum of two process ID’s are possible and only those from the earlier speci-

fied company. Reference numbers or contract ID's are entered in the address data of the trading partners.
The coordinates of the company are specified in chapter "Address" subsection "Coordinates". The coordinates of the wood are only added in the chapter "Wood Data".



The indication of the coordinates in decimal degree and the use of the coordinate reference system EPSG 4326 is recommended.

The VAT ID can also be used to reference the company. Some wood customers use this information to link address data from their suppliers in the internal system. The information is therefore always recommended.



Companies that are exempt from taxation because of their size are listed as standard tax. The tax rate is then 0%. The contact person for the wood specified later is defined in the "Contact" section. The information is important because, in the event of inquiries, someone should be able to provide information about the wood or, if necessary, the transportation route to be taken. It is also possible to specify several contacts, if there is a representative

scheme, or if there are several contacts for the wood.

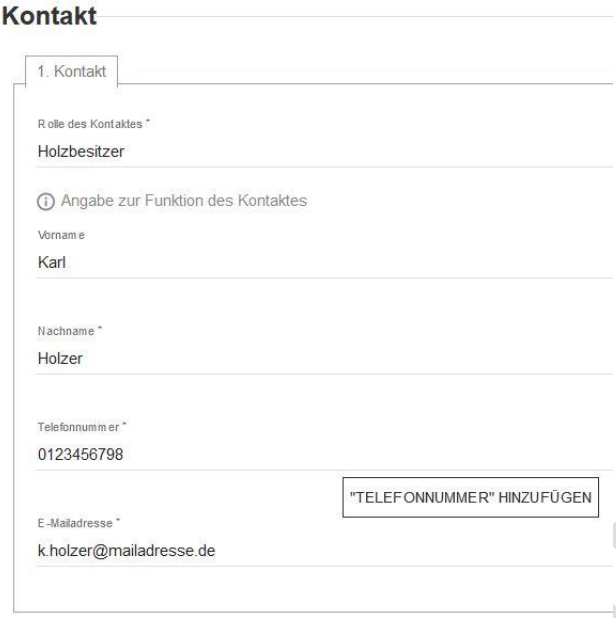
6.7.1.2 Forest companies and sub-supplier (mentored forest owners)

There are two options for indicating a possible sub-supplier. The choice of information depends on whether the sub-supplier should only be named in order, for example, to obtain a clear indication of origin on wood, or whether the sub-supplier acts as a separate payee.

Important: It is not possible to trace the entire procurement path of the wood with ELDATsmart. Sub-suppliers are therefore not all the previous owners of the wood, but only directly affected and relevant actors, such as mentored forest owners.

6.7.1.2.1 The sub-supplier is only named

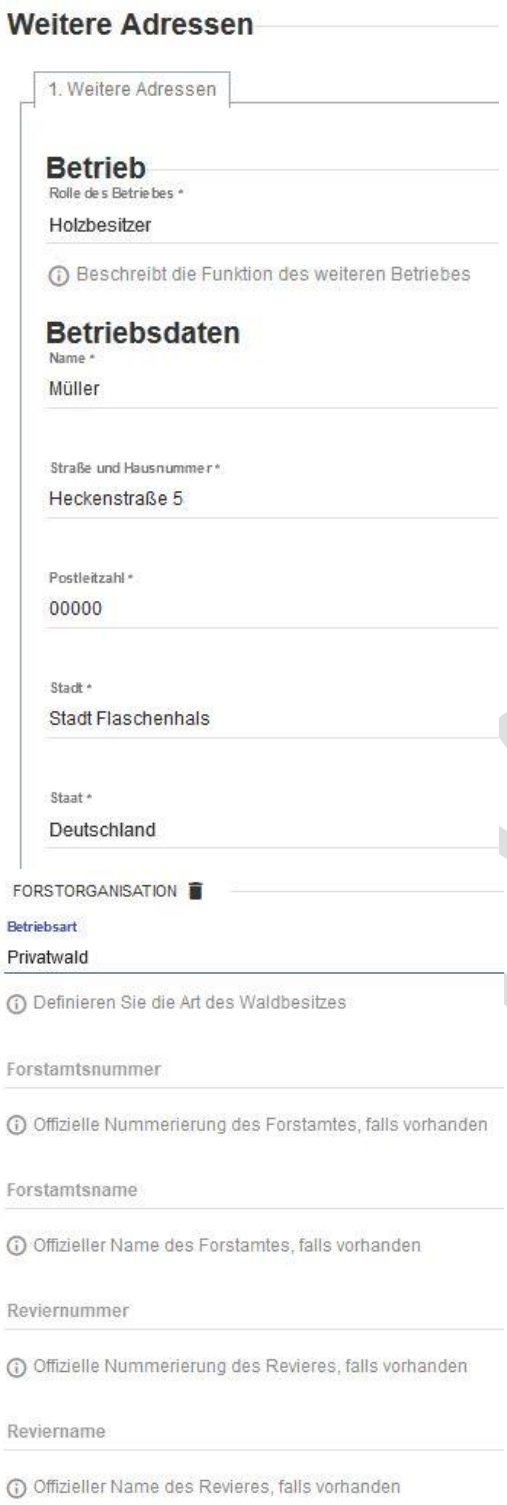
This is carried out as described in the example "Forest companies". However, the additional contact with the designation "wood owner" is added in the field "other_contact_role". This procedure can be repeated as many times as needed. However, it is not possible to assign contacts to individual logs in the wood data. The bank details provided are those of the forest company.



Sub-suppliers, such as mentored private forest owners, are indicated as contact with the role of "wood owner".

6.7.1.2.2 The sub-supplier is a payee in its own right

The supervising forest company is defined as in the example "Forest companies". After that, an additional address set is created and the procedure continues as follows.



Choose "wood owner" for the role of the company and enter the address data of the sub-supplier.

The value "private forest" should be chosen in the field "business_type".

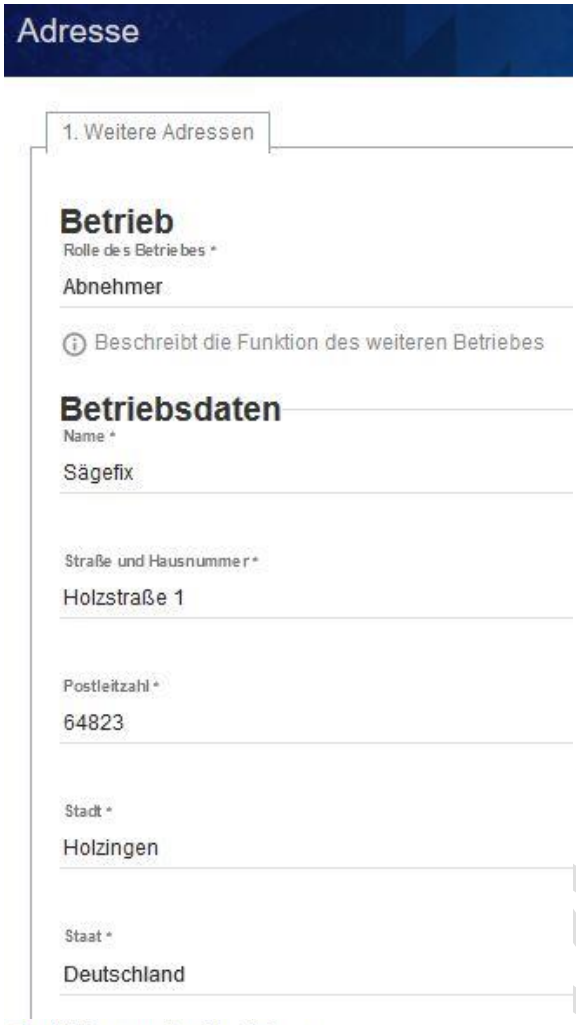
Since private forest owners are often not responsible for forest offices or districts, no information is provided.

Enter the sub-supplier's bank details.

The options "Referenznummer Holzbesitzer" (“Reference number of the wood owner”) or "Vertragsnummer Holzbesitzer" (“Contract number of the wood owner”) are available in the "Process" section. The corresponding identifier must be provided.

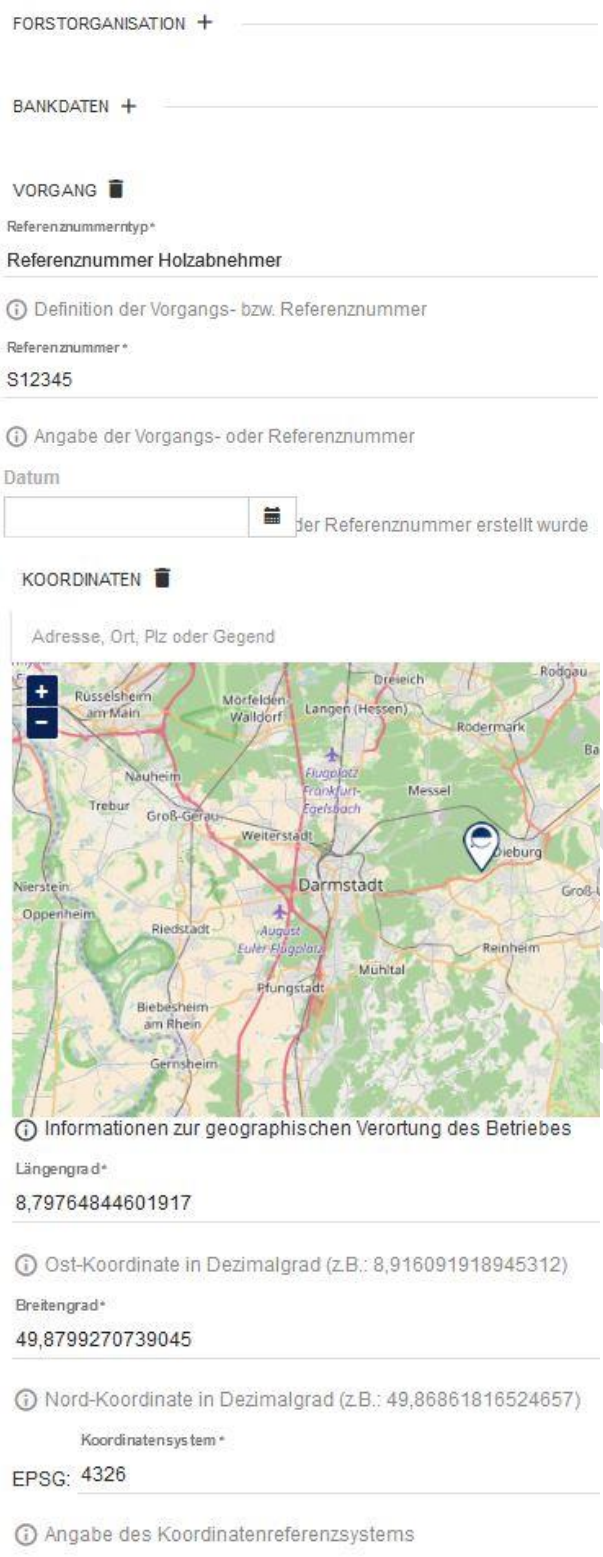
Finally, the tax information must be provided and, if necessary or desired, the contact details of the sub-supplier.

6.7.1.3 Other businesses (wood retailers or wood buyers) (possible in all messages)



Other addresses, such as wood purchasing businesses, are defined in a similar way to the supplier. For example, "Abnehmer" (“customer”) is set for "role_business". The other information relates to the names, street, city, etc. of the wood purchasing company.

The certification is also specified for all other companies involved in the wood logistics chain. This is necessary for a complete traceability of due diligence and compliance with certification requirements.



If it is not a forest company, the “forest organisation” section is left blank.

Depending on the agreed method of invoicing, the bank details must be provided, or not.

In any case, the indication of a process is relevant for referencing, if necessary.

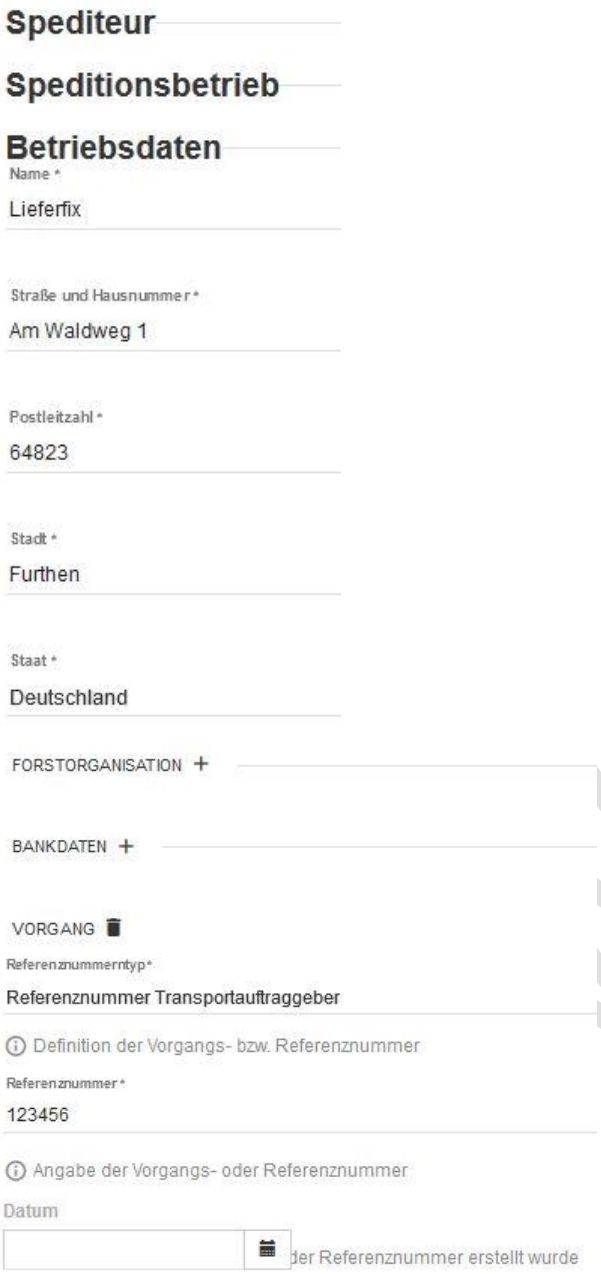
The coordinates for the simple geographical localization of the company also apply to the wood purchaser.
The coordinates of the wood are only added in the chapter "Wood Data".

The indication of the coordinates in decimal degree and the use of the coordinate reference system EPSG 4326 is recommended.

The taxation data is necessary when specifying the wood purchaser. A specified tax number or VAT ID can be used for referencing in in-house receiver systems as this is guaranteed to be unique.

The wood purchasing company can also have a contact, which can be contacted in case of inquiries.
If no contact is known, it may be omitted.

6.7.1.4 Transport companies (to be used in the messages Transfer Order/Delivery Note)



In the business data section for the transporting company , the contracted transporting company is defined as usual.

The indication of the forest organization is left blank.

Depending on the agreed method of invoicing, the bank details must be provided, or not.

In any case, the indication of a process is relevant for reference, if necessary.

The coordinates for the simple geographical localization of the company also apply to the transporting company.
The coordinates of the wood are only added in the chapter "Wood Data".

The indication of the coordinates in decimal degree and the use of the coordinate reference system EPSG 4326 is recommended.

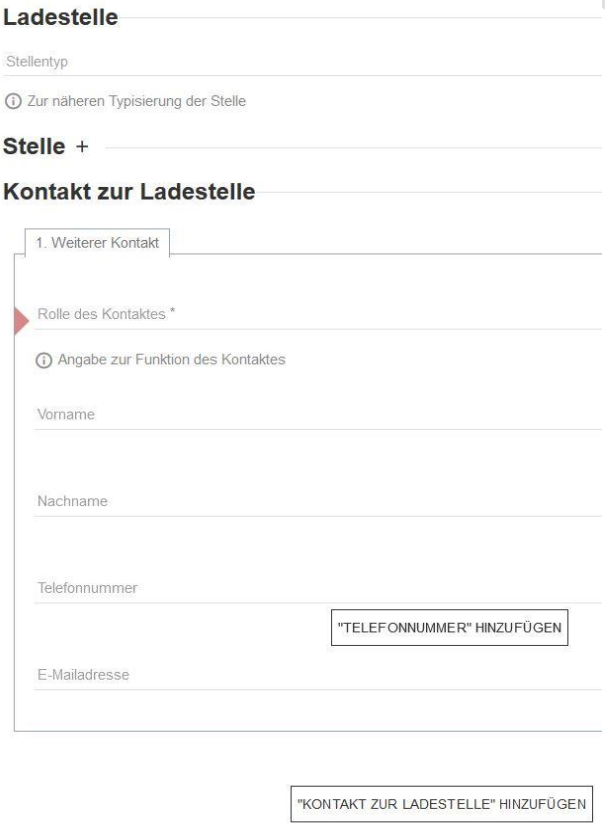
The indication of the taxation data is also important when specifying the transporting company. A specified tax number or VAT ID can be used for referencing in in-house receiver systems as it is guaranteed to be unique.

A contact must also be specified for the transporting company, which can be contacted in case of inquiries.
Adding a further contact could help making a difference between the driver and a contact person in the companies office.

6.7.1.5 Loading and unloading locations (to be used in the messages Transfer Order/Delivery Note)

The loading and unloading location is entered depending on the existence of the data. For example, a storage area in the forest can be described by an address in the "location_data" section, or at least by specifying coordinates.

For example, if the loading or unloading point is also the transport contractor, only "transport contractor" is entered as "other_contact_role". This saves double input.

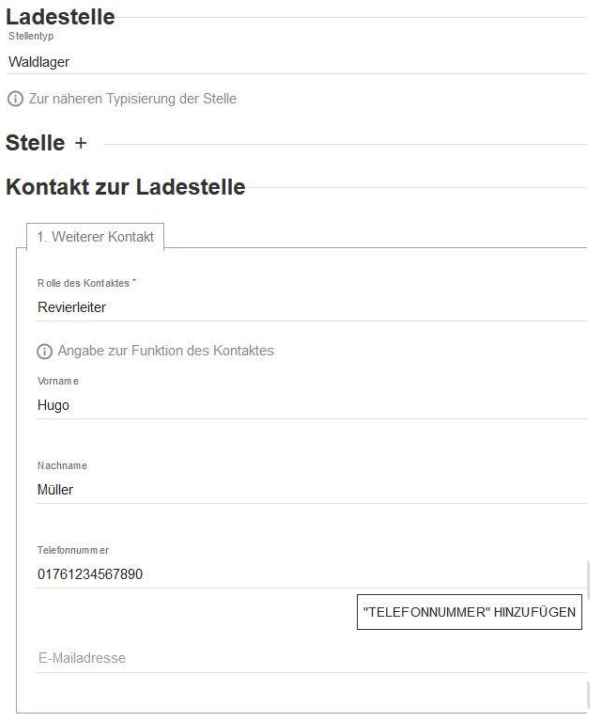


Both loading and unloading points must be provided with at least "other_contact_role". This is intended to avoid duplication of entries if the relevant body is already designated as a transport contractor.

Otherwise, as much data as possible must be provided. All information that is also available in the other address records can be entered here entry.

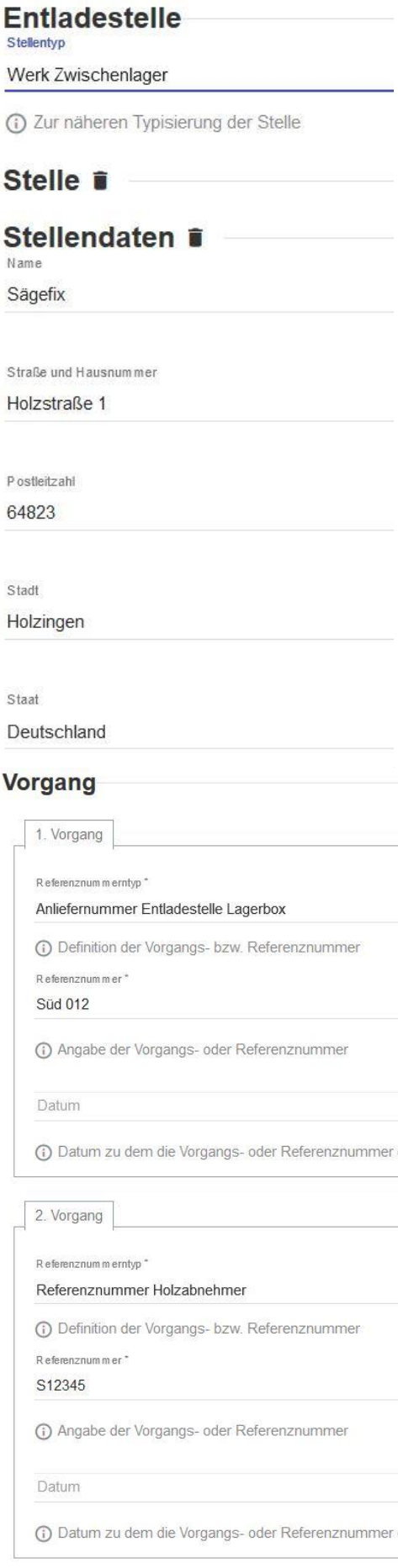
6.7.1.5.1 Loading location is a storage area

In the event that the loading location is a forest storage area, the following data must be provided. A forest storage area is a storage and handling area located in the forest or close to the forest for large quantities of wood (Humidity-controlled storage, submission place, etc.). On the other hand, a loading location with “location_type” "Pile" is a specific pile in the forest.



A forest storage area as a loading location should be provided with at least one contact as a contact person in order to offer the driver or other actors involved the opportunity for direct inquiries.
The business data of the loading location, such as the forest company, should also be provided for a more thorough data processing.

6.7.1.5.2 Unloading location is a storage box in the mill



An interim storage in the factory as an unloading point must come with all business data of the receiving mill, as long as this does not result in redundant data.
See chapter "Other Businesses".

In addition to the usual business data, the carrier can be provided with a storage box number for the unloading point directly.

An exact geographical location of the storage box in the business data of the unloading point helps the driver to find the location independantly.

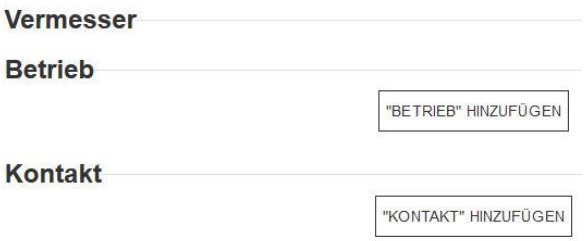
The indication of the coordinates in decimal degree and the use of the coordinate reference system EPSG 4326 is recommended.

6.7.1.6 Transport contractor (to be used in the messages Transfer Order/Delivery Note)

The transport contractor is entered depending on whether the supplier or timber customer is commissioning the transport. See the chapters "Forest company" and "Other businesses."

6.7.1.7 *Measurer (to be used in the Measuring Journal)*

The surveyor is directly assigned to the measurement protocol and is therefore entered in the “measurement_data”. An external surveying company must be identified as such in the addresses by providing the indication "measuring company" in the input field "role_business".

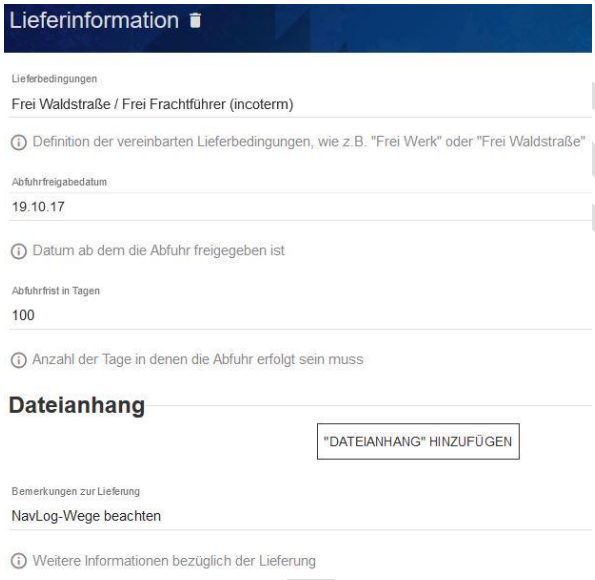


The surveyor is the executive/responsible person during the measurement process.
This person should be defined at least with a contact. If necessary, the company of the surveyor (important for survey service providers) must be named.

6.7.2 Transport and Delivery information

6.7.2.1 Delivery information (to be used in the Wood Allocation)

Providing delivery information as part of the Wood Allocation message is optional. However, the delivery information should always be provided to facilitate logistics management.



The delivery terms indicate the location of the transfer of risk. Some of the possible information is associated with the internationally recognized incoterm.

The transportation clearance date defines the date on which the timber may be picked up.

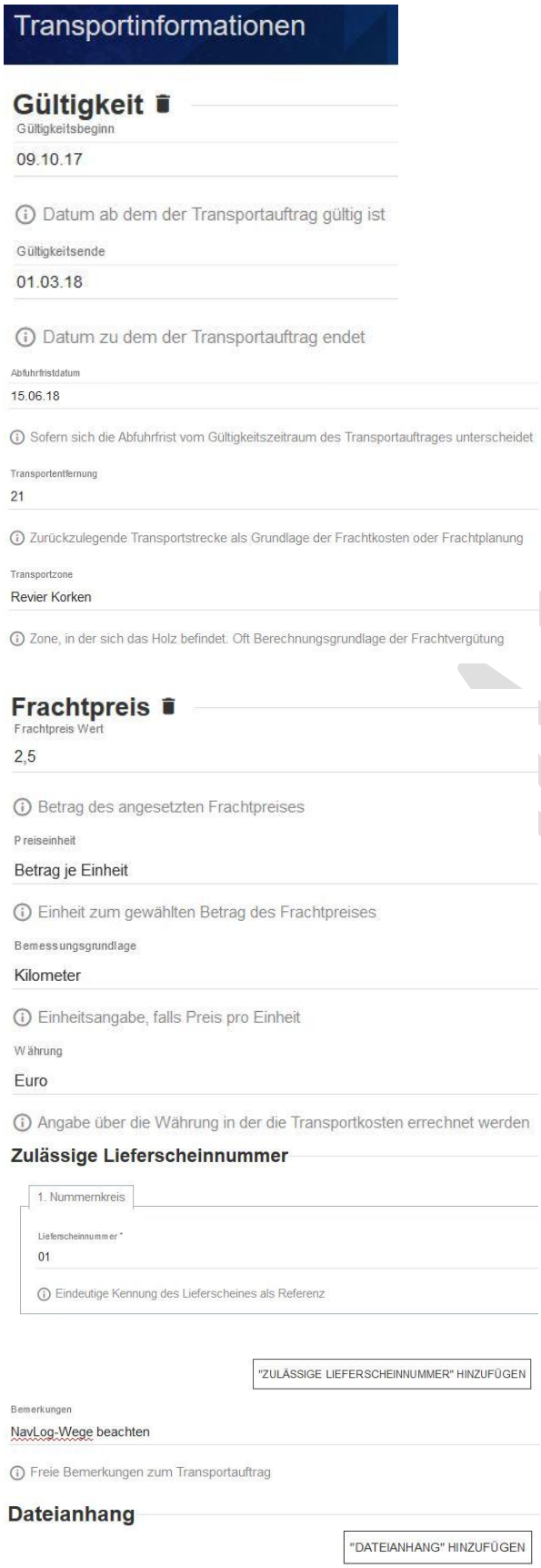
The transportation period in days defines the number of days until transportation must have taken place.

If necessary, files, such as routing maps, can be included as an attachment.

Further information on the delivery can be left as a comment.

6.7.2.2 Transport information (to be used in Transport Order)

The binding transport information is provided as part of the Transport Order. Here, the general conditions of the transport are specified.



The "validity_period" refers to the start and end of the validity of the transport order.
These may differ from the transportation clearance date or the allowed transportation period in the Wood Allocation message and will therefore be reported separately here.

The transportation period date defines the last day by which transportation must have taken place.

Transport distance can be used to calculate freight costs. This specifies the entire route relating to the transport order.

Transport zone can also serve as a basis for calculating freight costs.
The transportation price value indicates the number of the transportation price.

The transportation price unit defines whether the value refers to a unit and is multiplied, or should be seen as an absolute value.

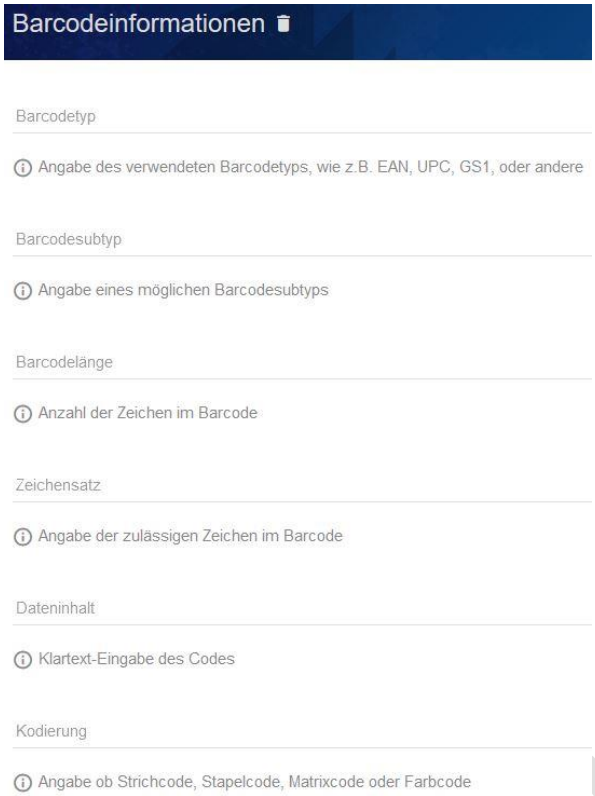
The determination base, if necessary, defines the unit by which the amount is multiplied.

The currency indicates in which local currency the transportation price is calculated.

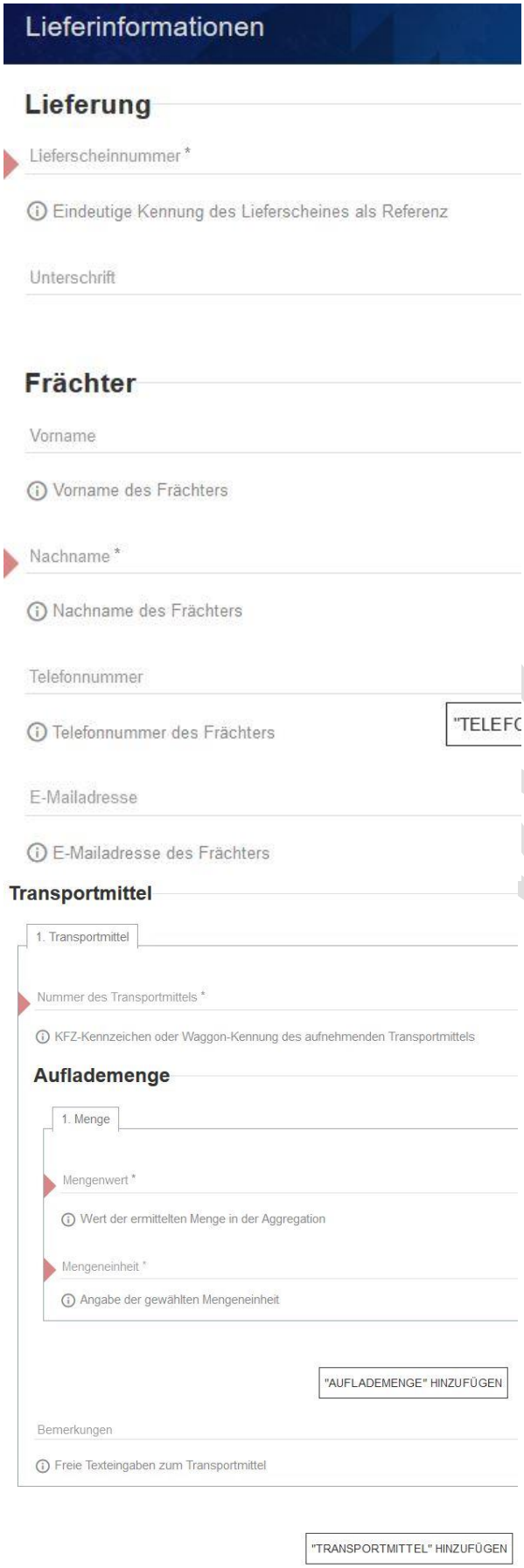
Some mills assign delivery note numbers, also summarized as "delivery number range", which is linked to a delivery.
Each permitted delivery note number must be entered individually in ELDATsmart. Entries in the manner of “From…To“ are not allowed.

Further comments or attachments to the transport order are possible.

6.7.2.3 Barcode information (to be used in Transport Order)



6.7.2.4 Delivery information (to be used in the Delivery Note)



Each delivery note must be provided with a delivery note number.

A signature can be added to confirm the delivery.

The driver must at least be identified by surname.

The transportation means must also be defined and named in the delivery information.

For this purpose, it is mandatory to specify the number of the transportation means. This can be the vehicle registration plate of the vehicle or trailer for a truck, or the corresponding railway wagon number for wagons.

In addition, it is necessary to specify the quantity carried by the transportation means and the quantity unit. This is not about accurate information, but justifiably realistic estimates.
By repeating the load volume, it is possible to specify both the number of logs and the cubic meter.

For other transportation means (trailers, nearest carriages, other containers, etc.) additional means are added.

6.7.3 Wood data and piles

The wood data, and especially the pile, form the starting point and constant core unit of each wood logistics chain and every ELDATsmart module. They must therefore always be indicated as completely and as realistically as possible.

In the ELDATsmart standard, the wood data of the Wood Allocation are divided into two categories. A distinction is made between lot content (“Los-Inhalt”, “product_data” beneath “wood_depiction”), which does not have GPS coordinates, and piles, which must be provided with an X and a Y coordinate in ELDATsmart. A pile must exist in real life in the forest and must be spatially separated from other stacks of wood. As the unit of the pile continues to move through the wood logistics chain, this information must always be provided. However, each real pile may only appear once with its geographic coordinates (on the website as a so-called "Polterliste" (engl.: “List of piles”)) and its pile number in the wood data. The content of a pile can be described by specifiying individual logs (by repeatedly creating the "product_data" dataset within the “allocated_wood”), all of which must be located in the same place, or by aggregating (creating the "product_data" dataset just once) all logs in the pile. However, only one of the two options per “allocated_wood” is allowed. Either a total description of the pile OR a listing of all single logs in the pile!

Any other aggregation of a pile to be sent to a customer, e.g. by using thickness classes, or tree species, etc., or information about contained individual logs, must be specified in lot content (“Los-Inhalt”, “product_data” beneath “wood_depiction”). These additional aggregations or single stem information are referenced to the real piles with the help of the pile number. It is important that the list of piles with the coordinates is already as detailed as possible, as this is transferred one-to-one into the follow-up modules of the wood logistics chain. It should be kept in mind that the receiver himself can draw sums if the data of the individual logs has been sent to him!

This results in wood information basically occurring twice or more often in a message (once in the pile list and once as lot content). In order to avoid double counting, the geographically located pile and the information provided therein are considered the basis for calculating quantities of wood. The creation of multiple aggregations in the "pile content", or the simultaneous listing of aggregation and single logs in a located pile, is therefore not allowed.

Subsequently there are some examples of how wood data is to be included in a wood allocation message, depending on the data availability. These entry variants are called "models," which can be specified for easier data processing in the "wood_depiction" field.

The background of the models is that wood data is available at different levels of detail depending on the harvesting, forwarding or measuring process. Often, the data accuracy is related to the quality of the wood and its usage, which is why the model names are based on it. However, it is not mandatory to use them for these qualities.

In order to be able to give as general description of the models as possible and their reproduction in the wood allocation message, the terms "roughly" and "detailed" are used below. "Roughly" indicates that the wood data is only rudimentary, just enough to be able to describe the wood or pile. In most cases, these are at least information on mass, number of logs and/or wood species, but can also be others or more. On the other hand, there are "detailed" wood data, which are available, for example, in the case of a single stem measurement.

- ***Brennholz-Modell (Firewood Model)***

Description	Lot list	Pile list	Annotation
The mass/amount/species contained in the piles are roughly known. But single logs cannot be referenced to particular piles and therefore there is no accurate description about amount of logs or thickness class in the pile.	No lot list! All available data is given in the pile list.	Piles are described roughly. Make sure there is an as accurate as possible aggregation.	No doubled quantities. All aggregated information is given in the logistics unit of piles.

- ***Industrieholz-Modell (Pulpwood Model)***

Description	Lot list	Pile list	Annotation
The mass/amount/species of single logs are roughly known and can be referenced to a particular pile. This way the piles can be described at least with mass and amount of logs.	No lot list! All available data is given in the pile list.	Piles are described as detailed as possible. Single logs cannot be specified due to the lack of information.	No doubled quantities. All information is given in the logistics unit of piles.

- ***Sägeholz-Modell (Saw log Model)***

Description	Lot list	Pile list	Annotation
Single logs are known in detail but cannot be referenced to a particular pile. This may come from measuring each log during harvest and forwarding the logs later. Piles should be described as detailed as possible for logstics purposes.	Single logs are given in detail	Piles are described roughly. Make sure there is an as accurate as possible aggregation. Single logs cannot be specified in the piles due to a lack of clear allocation information.	The quantities might be given more than once. Lot list gives additional information to the logistics unit pile list!

- ***Wertholz-Modell (High grade wood Model)***

Description	Lot list	Pile list	Annotation
Single logs are known in detail and can be referenced to certain piles.	No lot list! All available data is given in the pile list.	Single logs are given with detailed information in the piles.	No duplicate quantities. All information is given in the logistics unit of piles.

- ***Aggregations-Modell (Aggregation Model)***

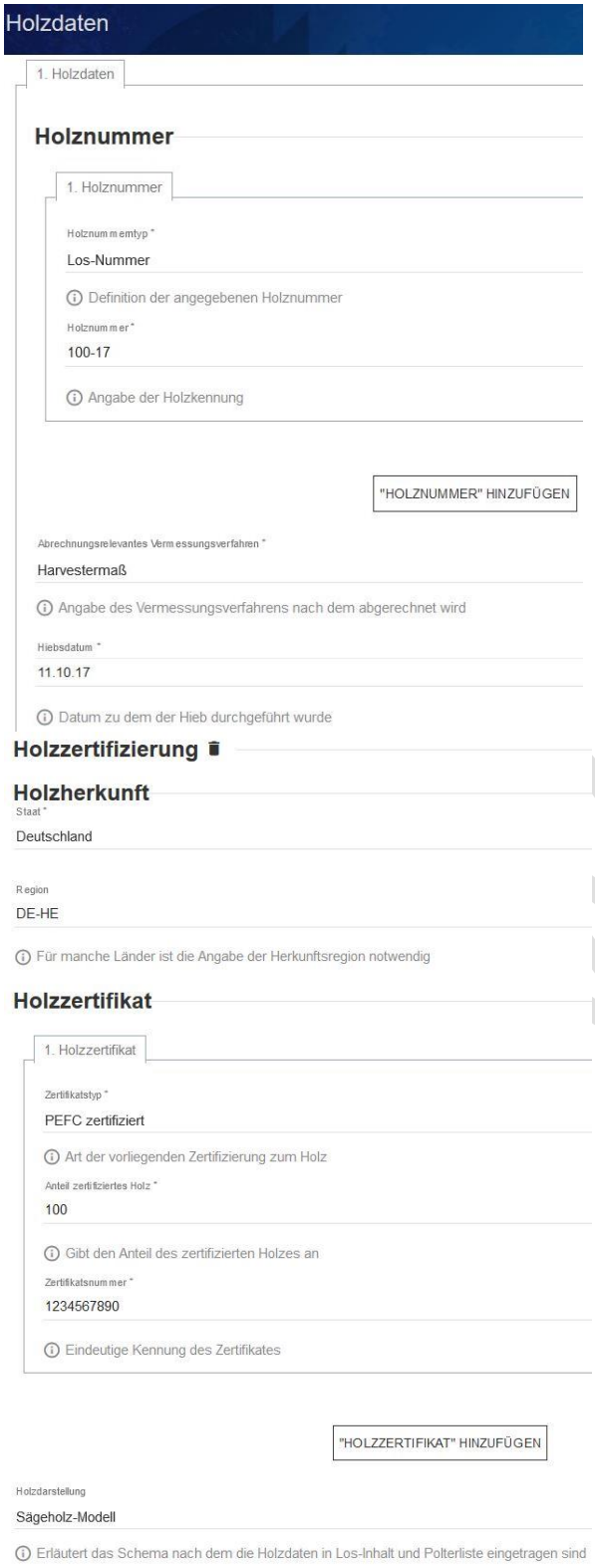
Description	Lot list	Pile list	Annotation
Single logs are known in detail but cannot be referenced to certain piles. Additional aggregations (by grade, species or others) are assigned to the described logs.	Single logs described in detail and aggregations given additionally.	Piles are described roughly. Make sure there is an as accurate as possible aggregation. Single logs cannot be described in the piles due to a lack of clear allocation information.	The quantities might be given more than once. Lot list gives additional information to the logistics unit pile list!

- ***Gesamtlos-Modell (Total lot Model)***

Description	Lot list	Pile list	Annotation
Wood description is given in various levels of detail and forms of aggregation and cannot be assigned to any other model.	Single logs described (if possible given with pile number for referencing) and aggregations assigned additionally.	Piles are described roughly. Make sure there is an as accurate as possible aggregation.	The quantities are given more than once. The lot list provides an overall picture. All known piles are described. This model shouldn't be used for logistics planning because the data is inaccurate.

All other modules have no means for entering lot content. In these cases, it is only possible to provide pile content and the relevant coordinates. This should be adopted entirely from the wood allocation message in order not to lose any information or to keep the cost of module creation to a minimum.

6.7.3.1 Wood data (to be used in the Wood Allocation)



Each set of wood data must be provided with an ID. In most cases this is a lot number.

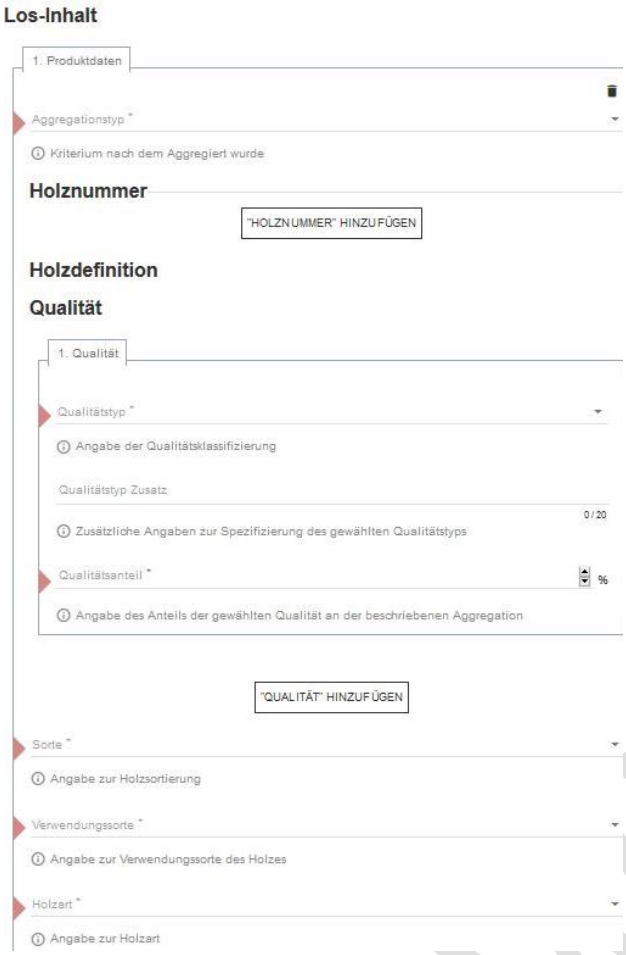
If neccessary there can be more than one wood_id_type and wood_id_no.

The survey method used to provide the wood data for invoicing must be stated.
The felling date refers to the day of the beginning of the harvest. This information helps estimating the freshness of the wood and can be important for wood quality.

The country of origin must be provided. In cases of higher risk the province must be given additionally. In ELDATsmart the entries must be made according to ISO 3166-1 ALPHA-2 (state) and ISO 3166-2 (province).

All certificates concerning the wood must be entered so that subsequent actors can fulfil their duty to prove wood certification and meet the requirements of certification schemes.
Multiple certifications can be specified succesively. These apply to all subsequent wood. In addition, the certification type, the wood certification ratio for that type and the certification ID must be specified.

Before lot or pile contents are defined the used wood depiction can be selected. This can help computing the wood data automatically.



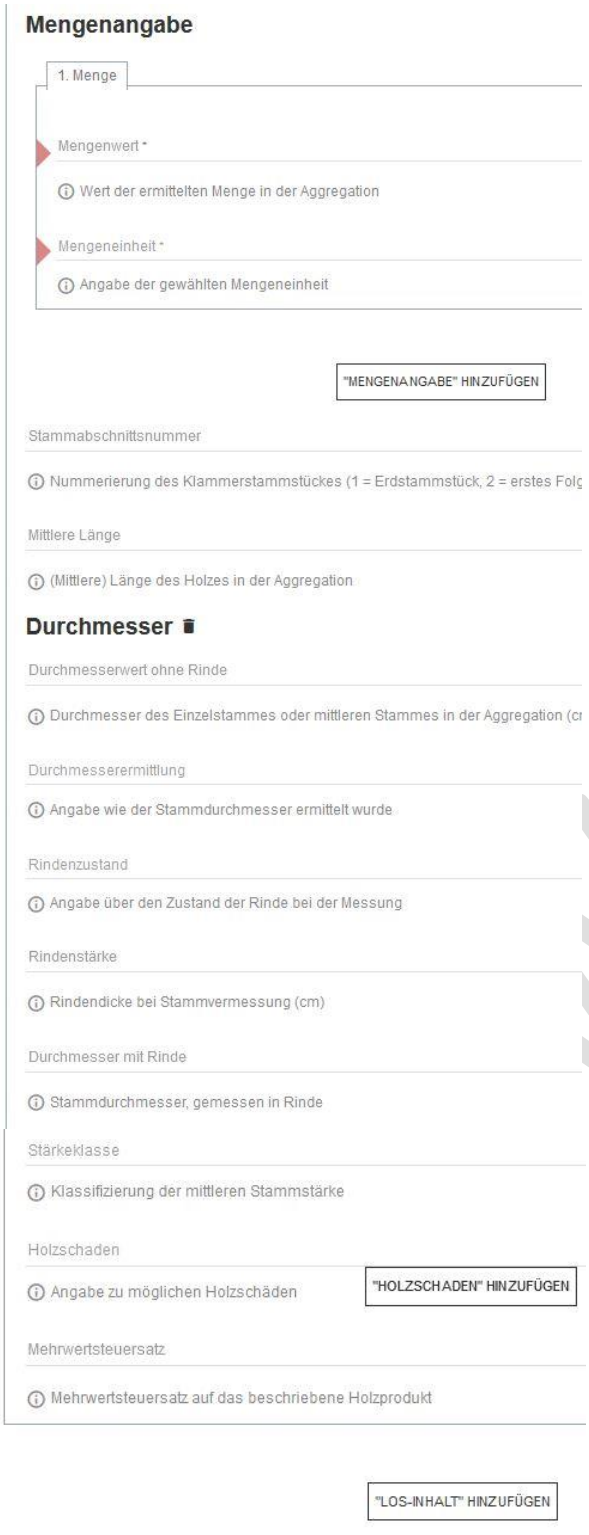
The lot content may contain additional information concerning the later described piles. There can be no wood in the lot content that is not located in one of the piles! This step can be done in many ways and aims for the needs of the wood customer or is dictated by the data quality of the forest company.
Here you can describe the lot in total, virtual aggregations or single logs in the lot.

The quality of the chosen aggregation must be stated plus the ratio of that quality in the aggregation. Single logs can have one quality only. Single logs with parts of different qualities (bracket stem) are described in separate “product_data” datasets.

Each aggregation is given a (leading) grade,

a (leading) use,

and a (leading) wood species.



For every aggregation there must be at least one statement concerning the amount. At least information about the cubic meters and the number of logs is most useful.

If the aggregation is a bracket stem the partition number tells which part is defined by the product_data.

The mean length indicates the arithmetic mean of all log lengths in the aggregation.

Also for the single log only, the exact diameter under bark,

the diameter measuring method,

the bark condition,

the bark thickness,

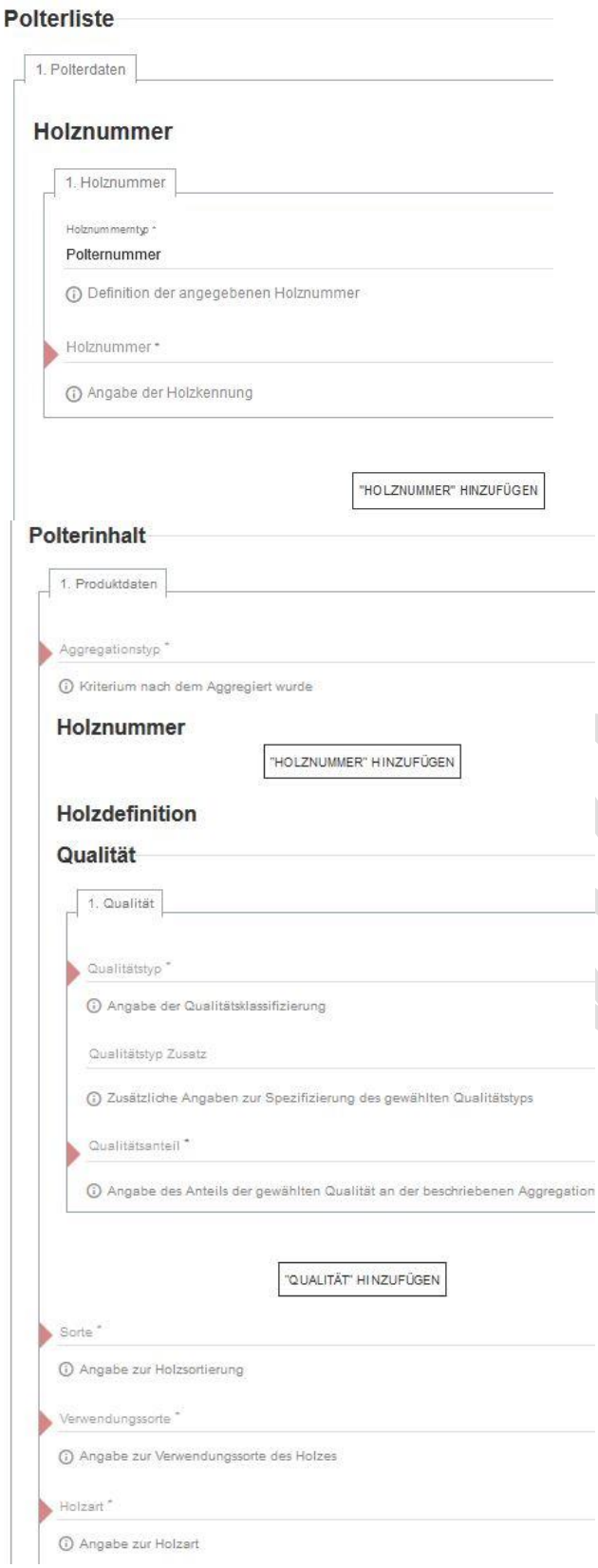
and the log diameter on bark can be mentioned.

A thickness class should be provided for aggregations.

Each aggregation can have one or more quality attributes.

The described wood should be added with a VAT rate.

At the end another aggregation can be added to the lot list.



The pile list records all located piles with as detailed data as possible. Duplicate information within the pile list is not allowed!

At least one pile must be defined per wood data set. This will receive a pile number at the beginning, and if necessary also a pile GUID. A lot number does not need to be specified because this pile is recorded under the lot number/sales lot number specified at the beginning of the wood data set.

Depending on the type of aggregation chosen, the pile content defines an entire pile overall, or every single log within the pile. For this reason, the "product_data" is infinitely repeatable.

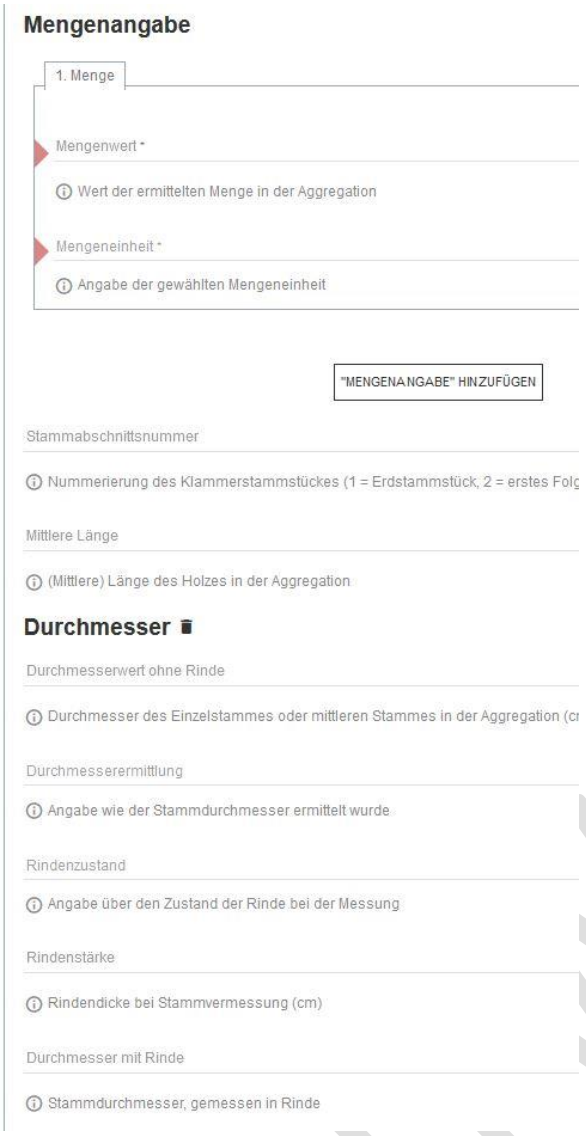
In the case of a single log, the log can be given a stem number via the wood_id at this point, to which it may be referenced later.

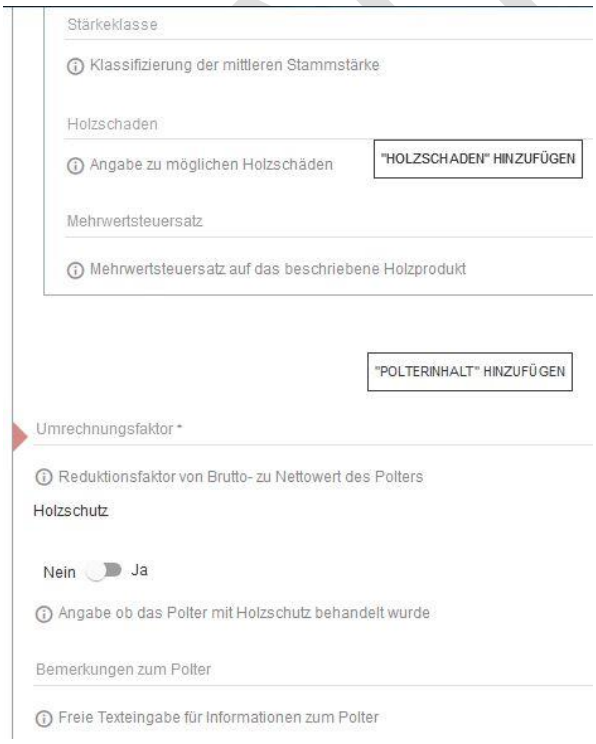
The pile is also defined by a quality. Also in this case there can only be one quality for a single log. Bracket stem partitions are defined by separated „product_data" and are numbered with a partition number.

Furthermore also the pile or the single log is described via
a (leading) grade,

a (leading) use,

and a (leading) wood species.





At least one statement about the amount must be provided for every pile or single log. Information about the cubic meters and the number of logs have proven most useful.

If the single log is a bracket stem the partition number tells which part is defined by the product_data.

The mean length indicates the arithmetic mean of all log lengths in the pile or of the single log.

Also for the single log only, the exact diameter under bark,

the diameter measuring method,

the bark condition,

the bark thickness,

and the log diameter on bark can be mentioned.
A thickness class must be provided for piles.

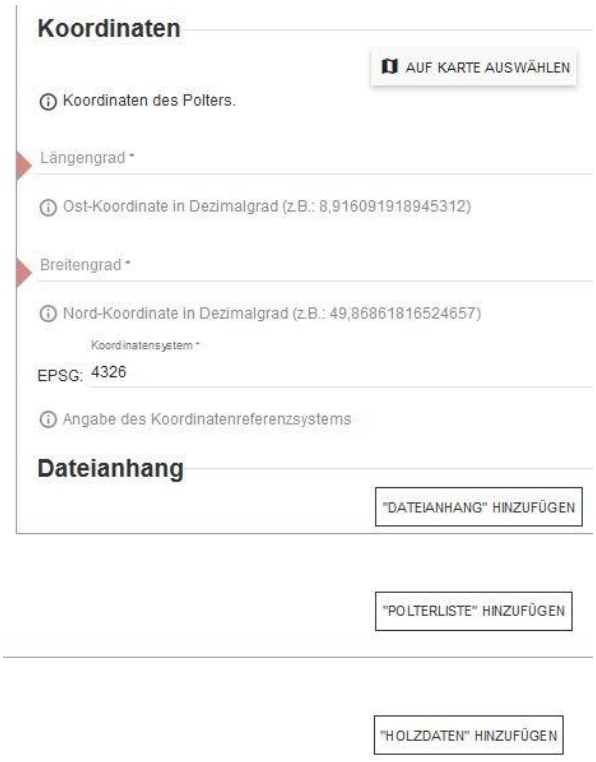
There can be one or more quality attributes.

The described wood should be added with a VAT rate.

With „Polterinhalt“ (engl.: Pile content) another single log can be added to the pile.
New piles can be added further below.
The conversion factor gives the factor to calculate the net cubic metres from the gross cubic metres in piles.

Any use of wood preservation agents on the pile should be declared for health reasons.

Comments to the pile can be entered here.



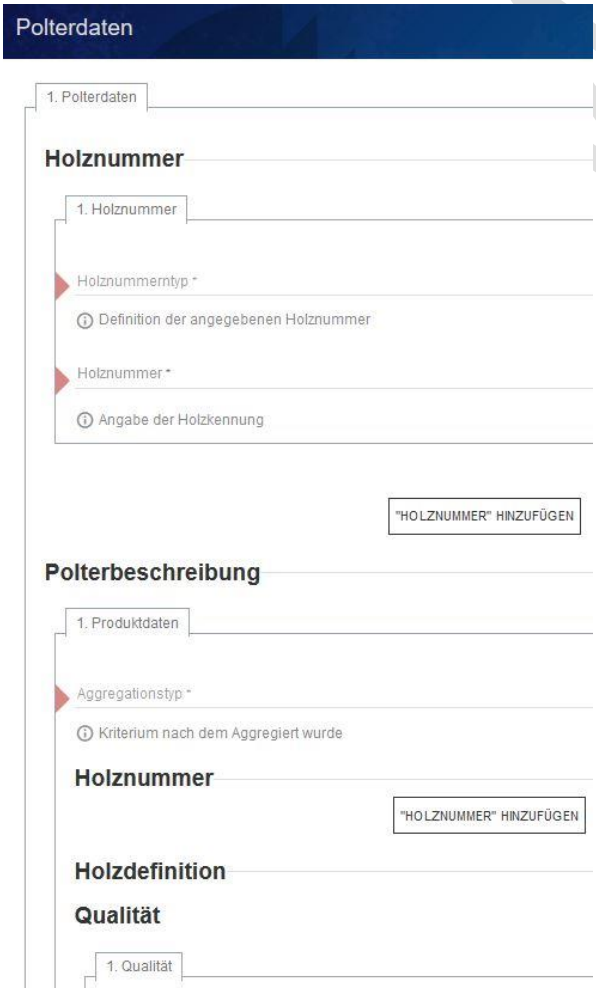
Each pile must be entered with geographic coordinates.
The indication of the coordinates in decimal degree and the use of the coordinate reference system EPSG 4326 is recommended.

In a final step it is possible to attach pile photos or similar documents to the file.

Then a new pile with ist own coordinates can be added if necessary.

It is even possible to add a completely new wood data set with an own lot number or certificate.

6.7.3.2 Pile data (to be used in Transport Order)

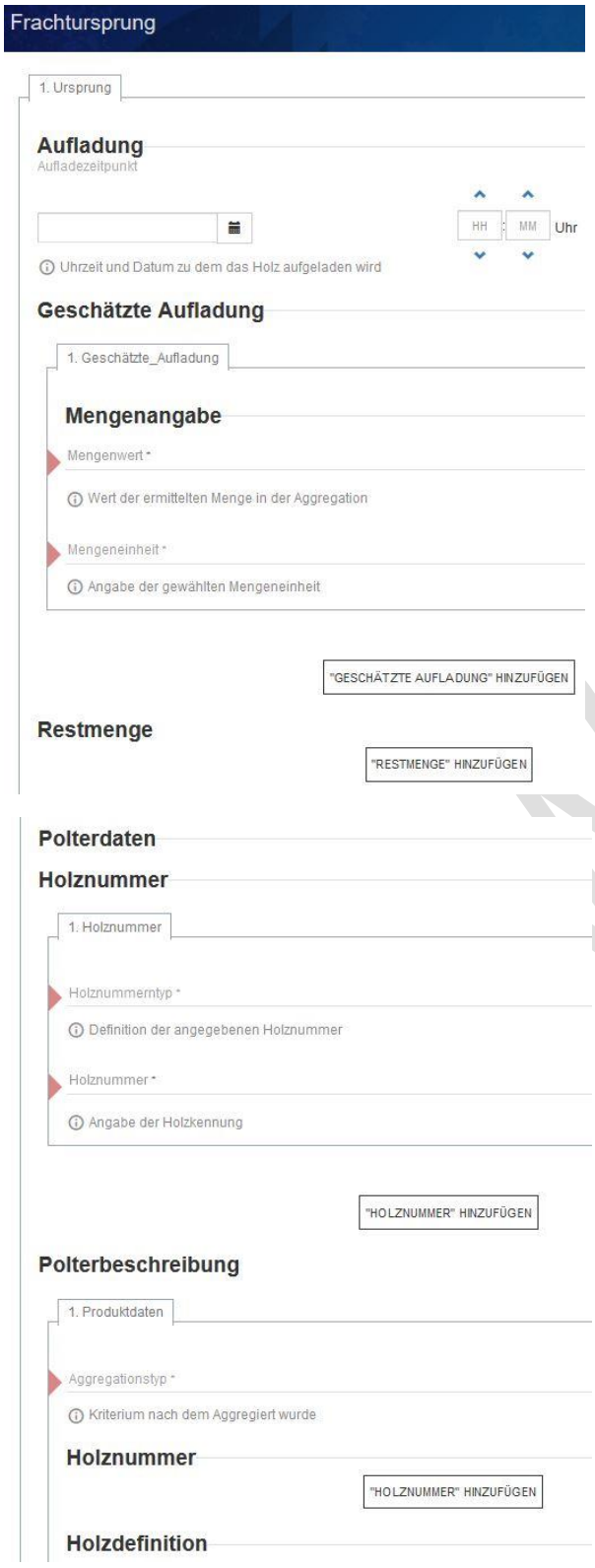


Each Transport Order may contain several piles. It is also possible to create separated truck loads for each transportation task by adding just one pile.

The setup of the pile data in the Transport Order is comparable to the pile list in the wood allocation message. But in this case no lot number is explicitly stated. If necessary the lot number can be entered in the “wood_id” field.

In the product data of the Transport Order a pile can also be defined by describing single logs of the pile or describing the pile in total.
Data entry is comparable to the wood allocation and is therefore omitted in this description.

6.7.3.3 Origin (to be used in the Delivery Note)



The origin of the Delivery Note contains information about the load on the transport means and the remaining quantity in the forest. It also contains data concerning the original pile.

The loading time stamp should be specified for a time efficient logistics management.

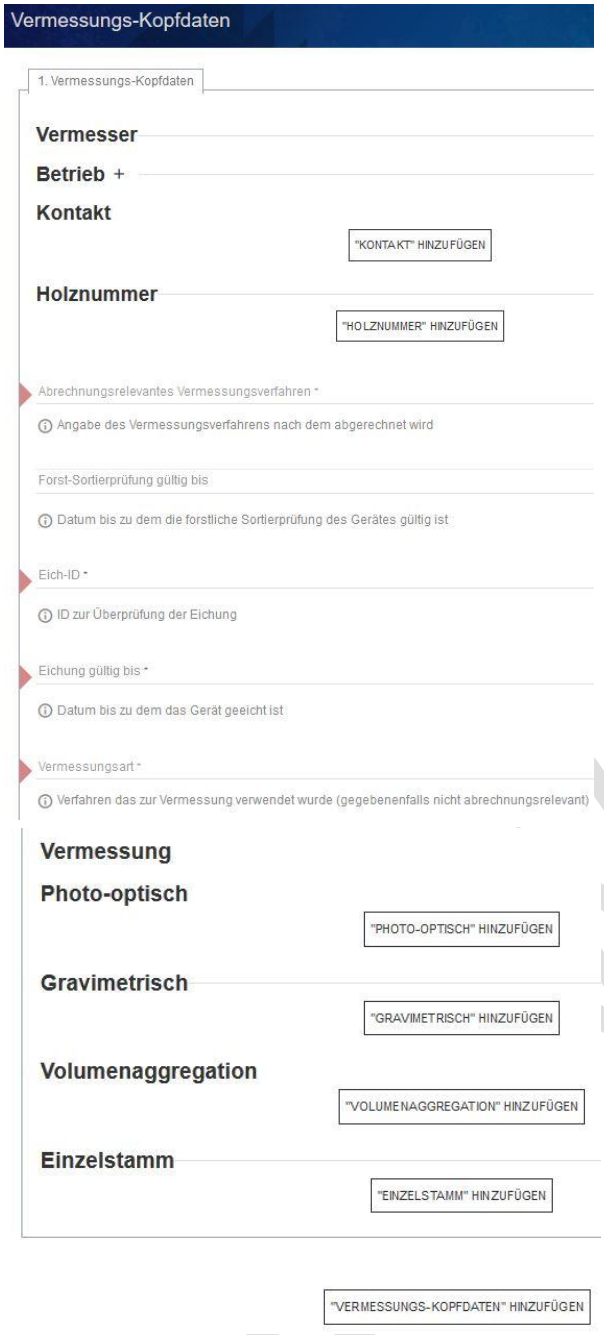
The estimated load must be stated in every case.
Several load measures (cubic metre, quantitiy, etc.) can be added.

Also the remaining quantity left in the forests should be stated to support logistics management.

The structure of the pile data in the Delivery Note is comparable to the pile list in the wood allocation message. However, in this case no lot number is explicitly stated. If necessary the lot number can be entered in the “wood_id” field.

In the product data of the Delivery Note a pile can also be defined by describing single logs within the pile or describing the pile in total. Data entry is comparable to the wood allocation and is therefore omitted in this description.

6.7.4 Measurement Data (to be used in Measurement Journal)



The Measurement Data is the core section of the Measurement Journal.
For further descriptions about entering address and contact data, please see chapter “survey-or“

The measurement can be directly referenced to a lot.

The relevant survey method for the invoice must be stated.
If a special certificate for the measuring device (for example measuring devices in mills) is granted, the expiry date must be stated.

Also the calibration ID,

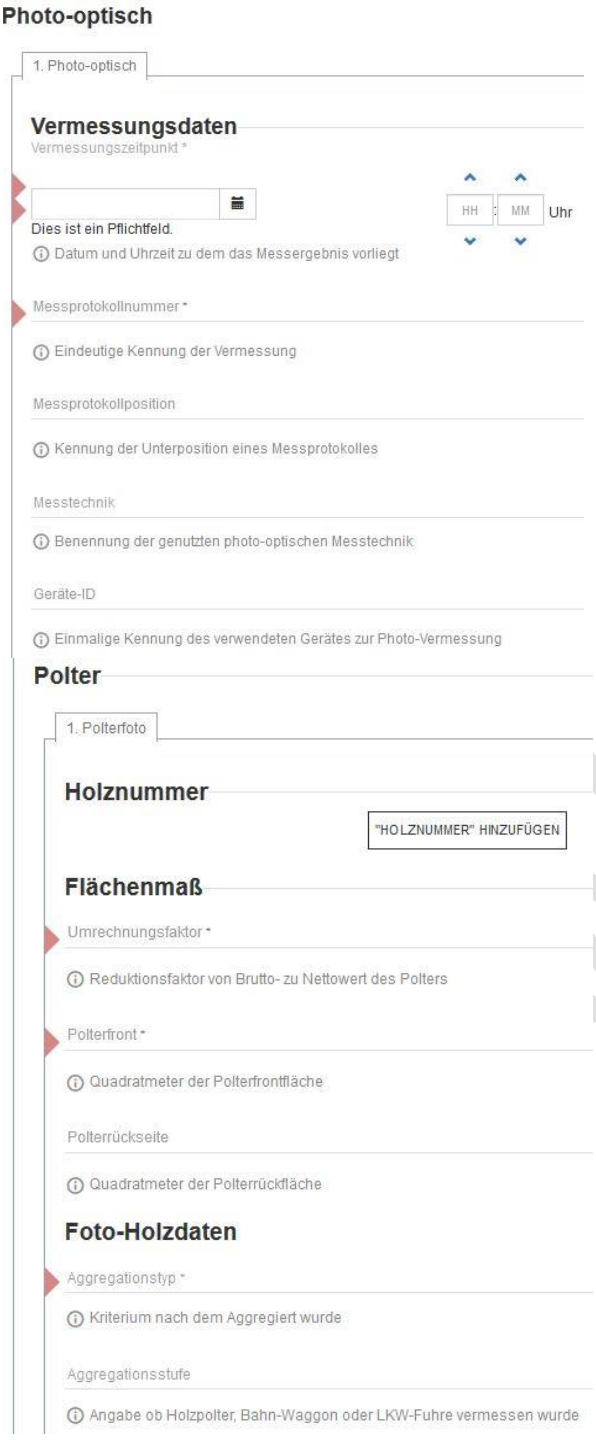
and the expiry date of the calibration.

The used measurement method must be stated even if it is not the one relevant for invoicing.
Four different measuring methods can be selected.
Photo-optical measurement refers to mobile or immobile camera devices
Gravimetric measurements are any kind of weighing.
Volume aggregations can be based on several single logs or other volumetric measuring methods.

It is also possible to provide detailled measured single logs.

It is also possible to add more than one Measurement Data.

6.7.4.1 Photo-optical Measurement Data



There must be one photo-optical data set for each (stitched) photo that is used for pile measurement.

The time stamp of when the photo was stiched and the wood data estimated must be provided.

The measurement is identified by a measurement number for referencing.

If necessary the measurement number is followed by a measurement item number.

The used measurement method of the device should be stated.

A device-ID should be added to make the measurement traceable.

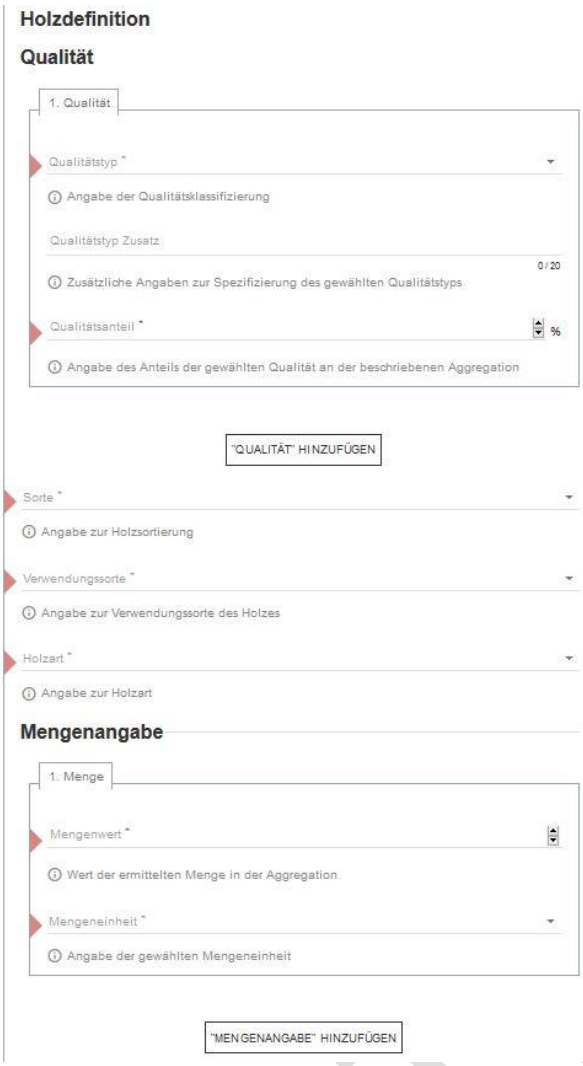
Each photo-optical measurement describes no more than one pile.

The pile number should be added to reference the data with the actual pile.

The conversion factor from gross cubic metres to net cubic meters must always be provided in photo-optical measurements.

The square metres of the pile front face must be stated.

The square metres of the pile back face should be stated according to regulations of the RVR. But this is not necessary for logistics planning.
The pile data set is enriched with further information for more details.
Choose “Polter“ for the aggregation type. Virtual aggregations are possible in addition.
The aggregation level can be stated.



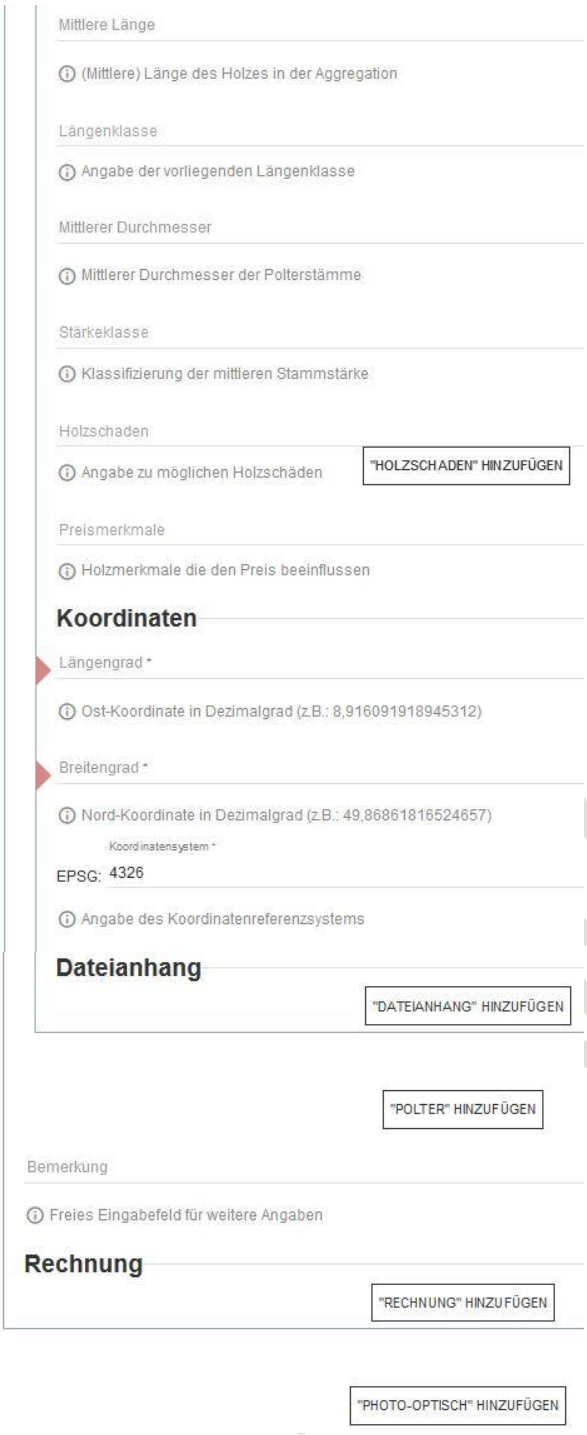
The quality of the photo-optical pile is defined. However, single logs cannot be described in detail due to the insufficient measuring method.

Furthermore the pile photo is provided with a (leading) grade,

a (leading) use,

and a (leading) wood species.

At least one quantity statement must be provided for each photo-optical pile. The most useful information is cubic meters and number of logs.



The mean length of the piles logs can also be provided,

and/or the length class of the logs,

the mean diameter,

and/or the thickness class,

quality attributes,

and attributes relevant for pricing.

Each photo-pile must be provided with geographic coordinates.
The indication of the coordinates in decimal degree and the use of the coordinate reference system EPSG 4326 is recommended.

In a final step, pile photos or similar documents may be attached to the file.

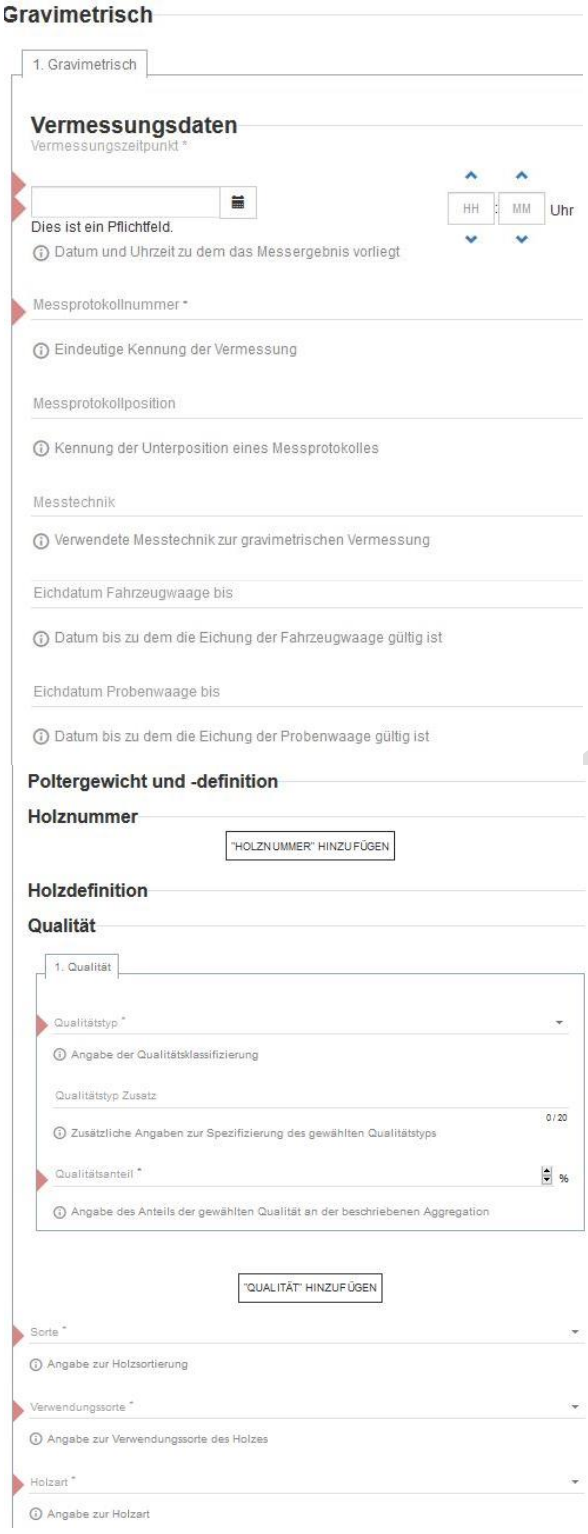
After that, it is possible to add another aggregation of the same pile.

Comments about the pile can be added.

A related invoice for the measurement can be added.

Further photo-piles can be created.

6.7.4.2 Gravimetric Measurement Data



There must be one gravimetric data set for each load or pile that is being weighed.

The time stamp when the weight of the wood was measured must be provided.

The measurement is provided with a measurement number for referencing.

If necessary the measurement number is followed by a measurement item number.

The used surveying method should be stated.

Expiry date of the vessel scale calibration

and/or the sample scale calibration should be stated.

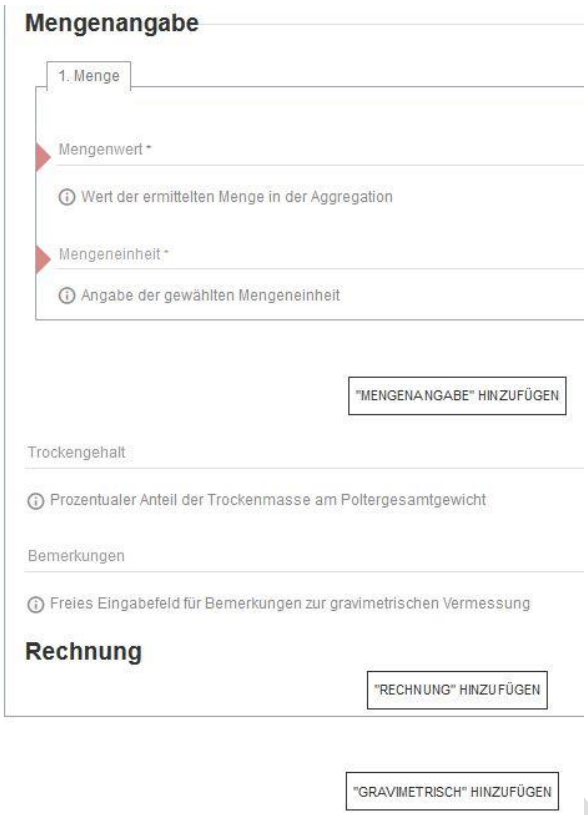
The gravimetric measurement should be referenced to a pile or lot if possible.

The quality of the gravimetric pile is defined here. However, single logs cannot be described in detail due to the insufficient measuring method.

Furthermore the gravimetric pile is provided with
a (leading) grade,

a (leading) use,

and a (leading) wood species.



At least one quantity statement must be provided for each gravimetric pile. The most useful information is cubic meters and number of logs. In the case of gravimetric measurement the weight must always be given.

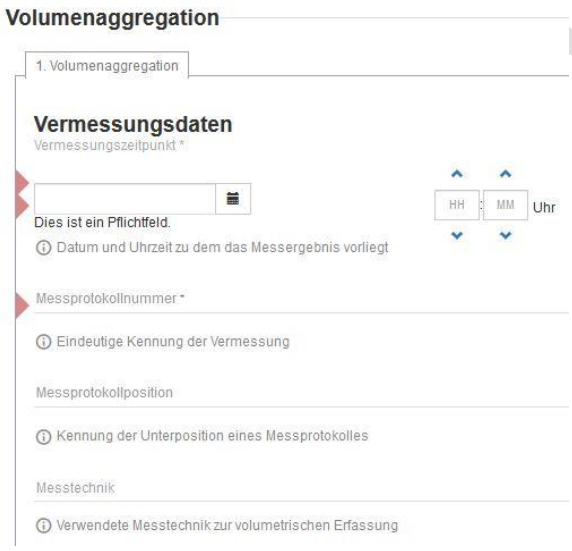
Determined dry content of the wood should be stated.

Comments about the pile can be added.

A related invoice for the measurement can be added.

Further gravimetric piles can be created.

6.7.4.3 Volumetric Aggregated Measurement Data



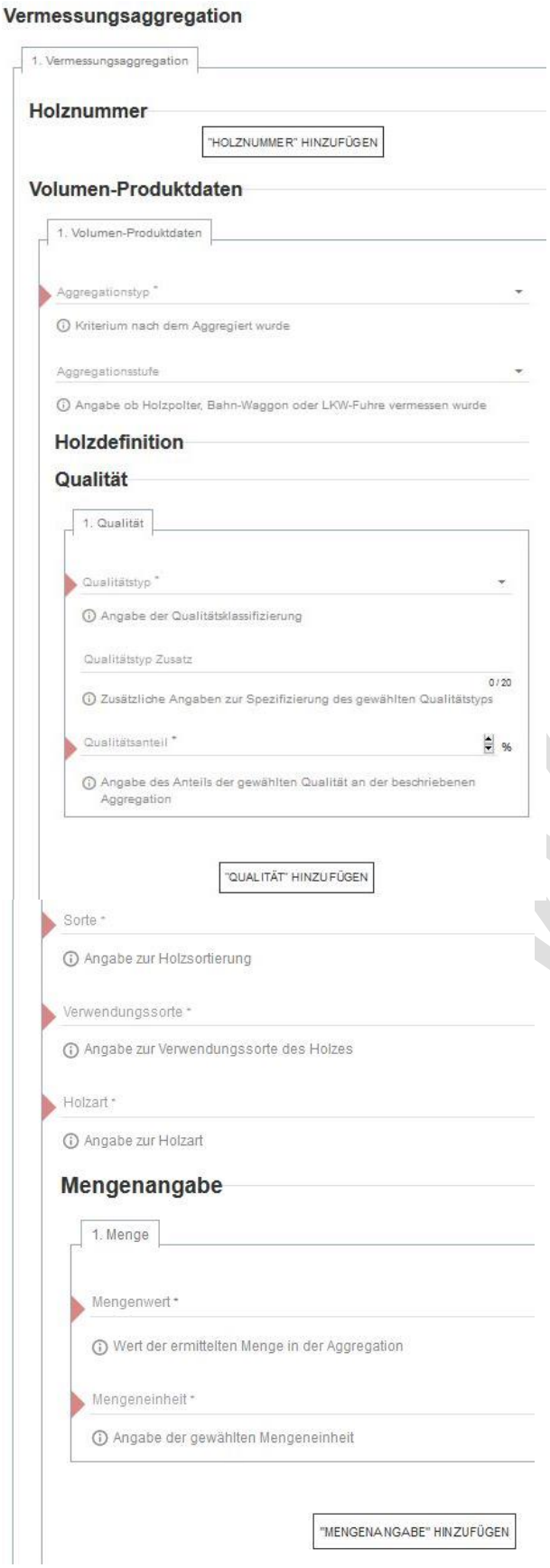
There must be one volumetric aggregation data set for each total volumetric measuring or for sums of several single logs.

The time stamp when the total volume or the sum of several single logs was determined.

The measurement is provided with a measurement number for referencing.

If necessary the measurement number is followed by a measurement item number.

The used measurement method should be entered here.



The volumetric aggregation data set may contain either virtual aggregations or existing piles summed under one pile or order number.

An aggregation type must be chosen.

The aggregation level can be chosen if for example the delivery is of a 3-month aggregate.

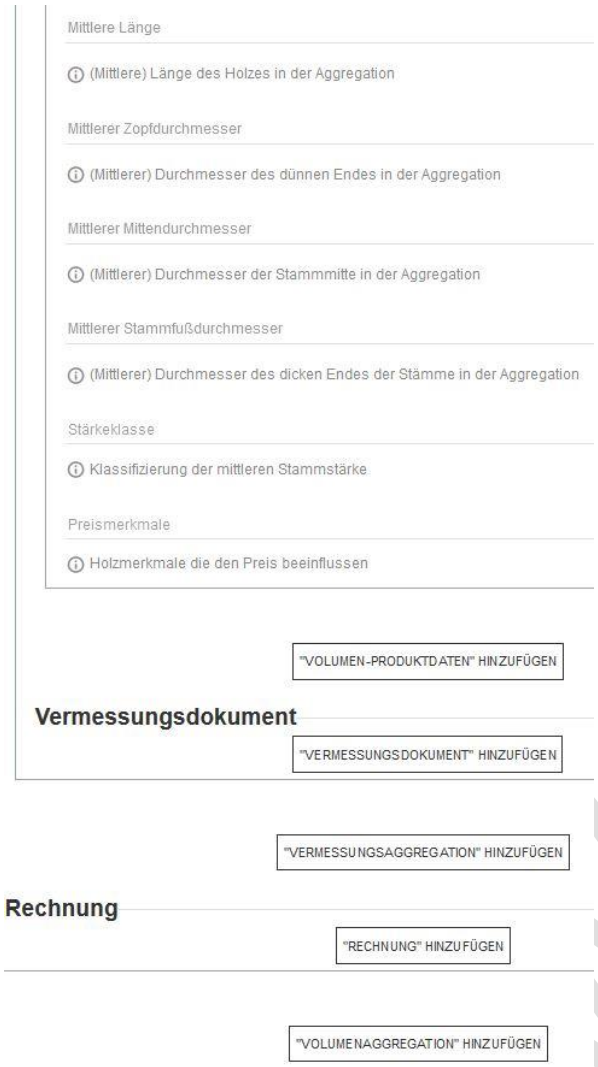
The quality of the volumetric pile is defined here. However, single logs cannot be described in detail due to the insufficient measuring method.

Furthermore the volumetric pile is provided with
a (leading) grade,

a (leading) use,

and a (leading) wood species.

At least one quantity statement must be provided for each volumetric pile. The most useful information is cubic meters and number of logs.



In addition to this, the volumetric pile should provide a mean length of the contained logs,

a mean top diameter,

a mean centre diameter,

a mean bottom diameter,

and/or a thickness class.

Attributes relevant for pricing should be stated.

Another aggregation for the pile can be added.

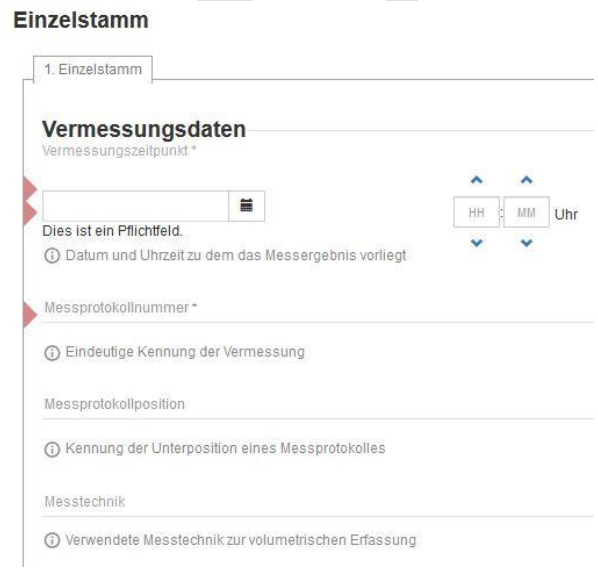
Or a measurement document may be attached.

Here it is possible to add another volumetric aggregation with a new pile or order number within that same measurement.

A related invoice for the measurement can be added.

Further volumetric piles can be created.

6.7.4.4 Single Log Measurement Data



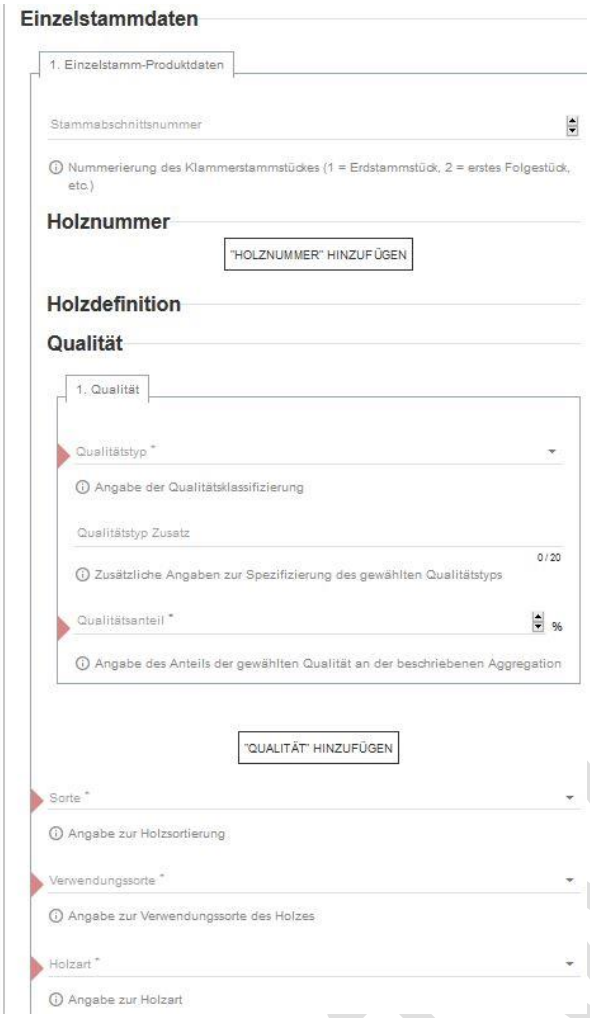
There must be one single log data set for each measured stem.

The time stamp when the length of the log was measured must be given.

The measurement is provided with a measurement number for referencing.

If necessary the measurement number is followed by a measurement item number.

The used measurement method technique should be entered.



A separate data set can be created for each log partition.

Those will be numbered serially.

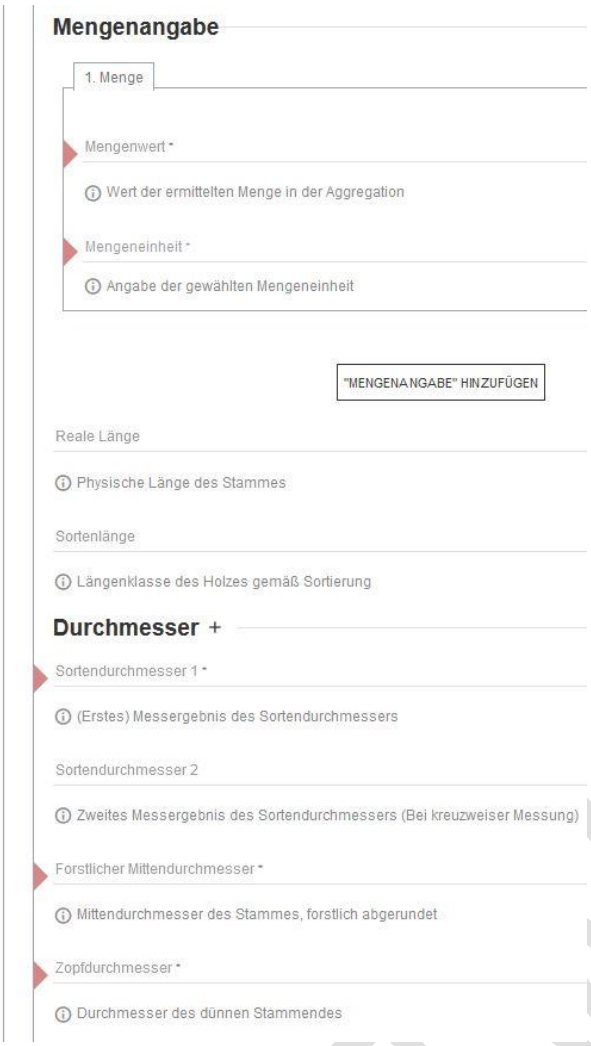
For the sake of easier referencing, each log should be provided with an own stem number and/or related pile number.

The quality of the single log is defined here.

Furthermore the single log is provided with a (leading) grade,

a (leading) use,

and a (leading) wood species.



At least one quantity statement must be provided for each single log. The most useful information is cubic meters. A single log can only have the quantity of one. Therefore the quantity is not required here.

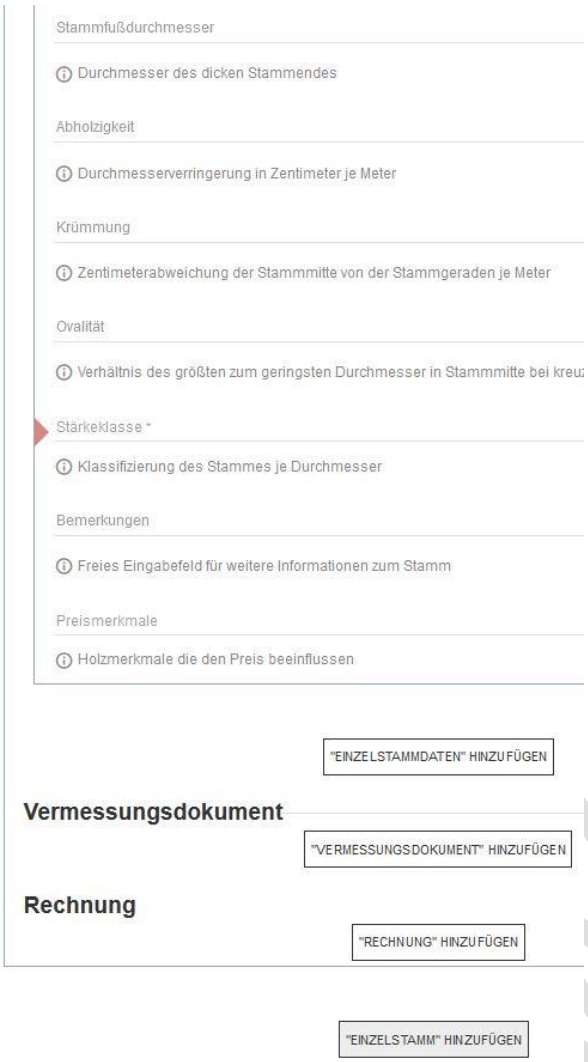
Furthermore the single log should be provided with real length,

a grade length (virtual length according to grade),
and the usual diameter and bark description.

The grade diameter of one measurement must be provided,
in case of a diameter above 20 cm, a second diameter measurement taken at an angle of 90° must be provided.

The forest mean diameter must be provided

as well as the top diameter.



The bottom diameter may be provided.

in case of abnormality, the shrinking,

the crook,

and ovality should be stated.

The thickness class must be given.

Comments to the log (partition) can be added here.

Attributes relevant for pricing should be stated.

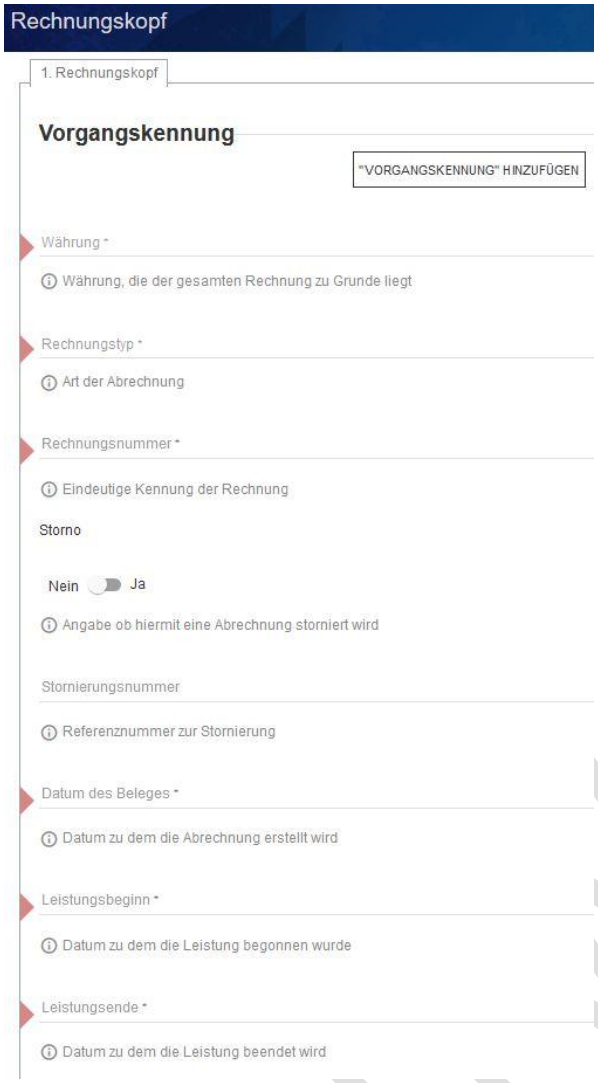
Another partition for the log can be added.

Or a measurement document attached.

A related invoice for the measurement can be added.

Further single logs can be created.

6.7.5 Clearing Data



Each Clearing data set can have one or more clearings.

The invoice header should be referenced to a process id, such as a contract.

A currency must be chosen once for the whole invoice/credit.

The invoice type must be chosen.

The invoice must have an invoice number.

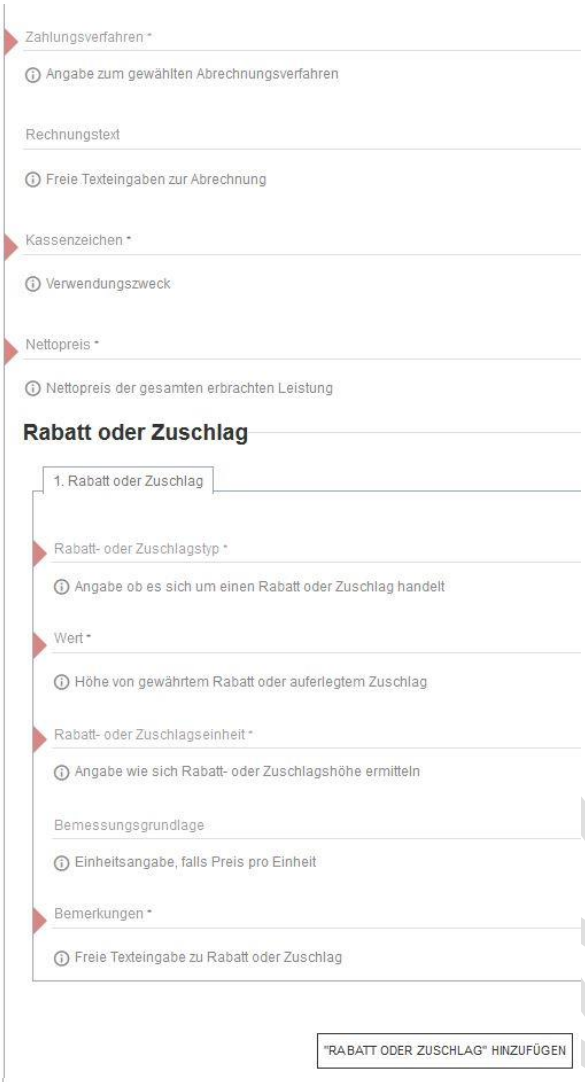
An existing invoice can be cancelled,

for which a cancellation reference number must be entered.

The document must have a document date,

a service period beginning date,

and a service period finishing date.



Choose the agreed or desired payment procedure.

Add comments to the invoice if necessary.

A cash ID or purpose must be provided,

as well as a net price.

A discount can be granted or a surcharge raised,

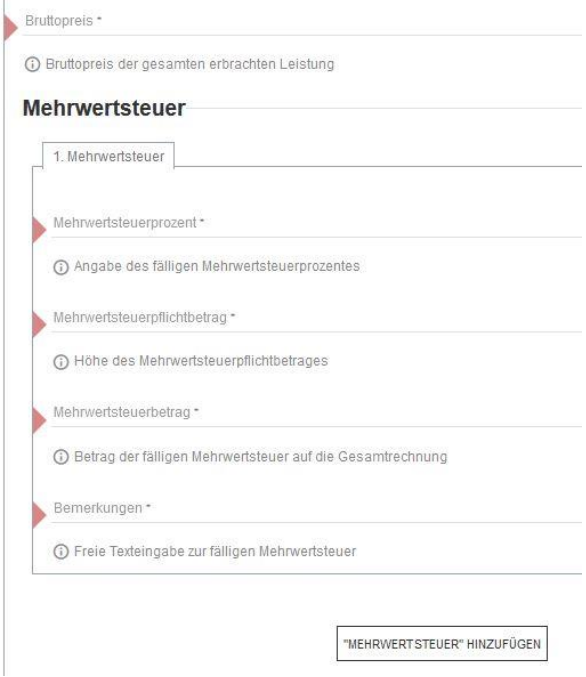
the details must be provided,

as well as the value.

The value must have a unit, such as absolute, percentage or related value.
If it is a related value the determination base must also be stated.

A justification for discount or surcharge must be given.

More than one discount or surcharge is possible.



The gross price must be entered after stating the discount or surcharge.

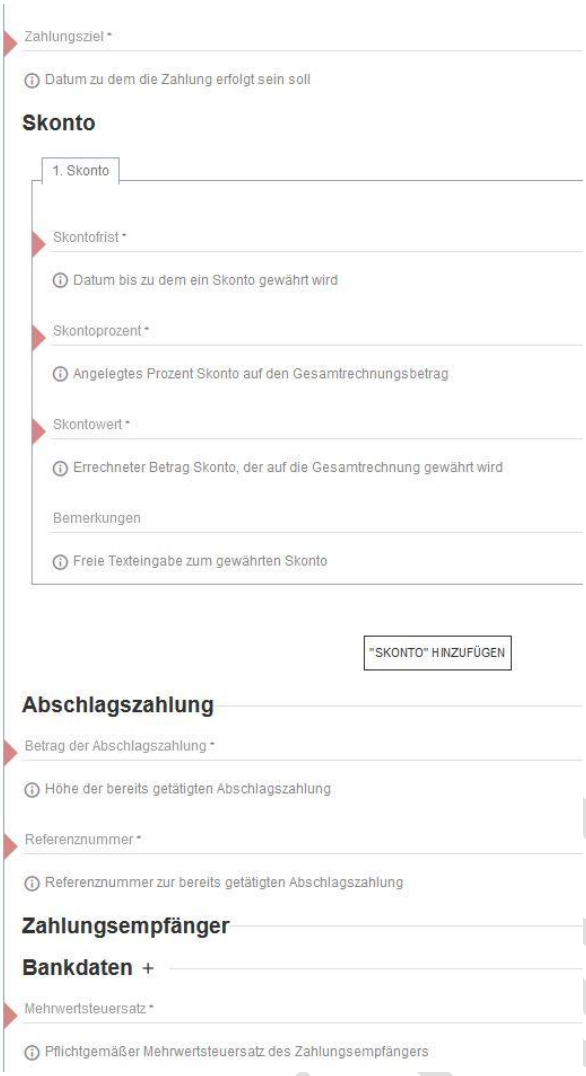
The VAT is calculated on that basis.

Therefore a VAT percentage,

a VAT compulsory contribution,

a VAT value,

and a justification for the VAT must be given.



A due date for payment must be fixed.

There can be a discount for early payments

For which a discount deadline,

a discount percentage,

and a discount value must be defined.

Add comments related to the discount if necessary.

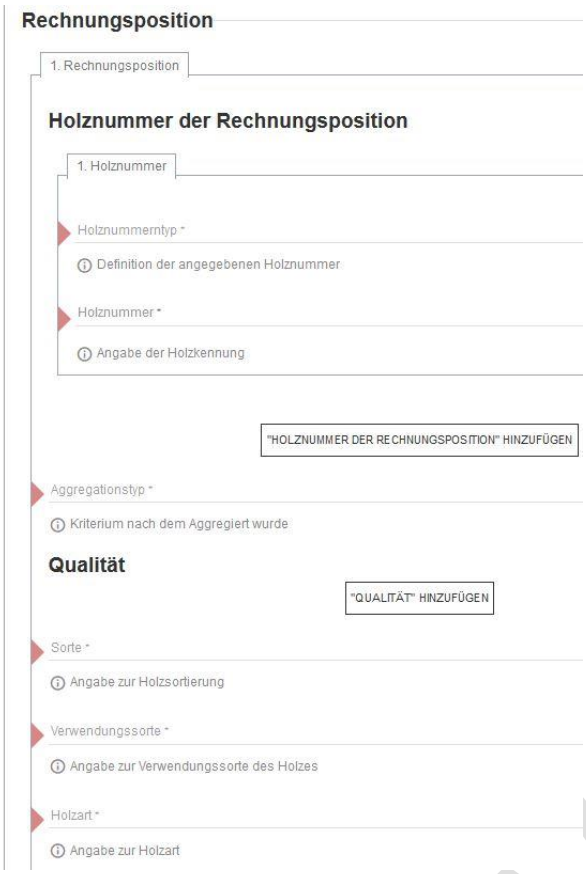
More than one discount can be given if they are differentiated in time.

Received or given advanced payments must be stated

and referenced.

The payees bank data should be provided,

as well as the relevant VAT rate.



One invoice header can have more than one invoice item.

The invoice item must refer to at least one wood ID or order ID.

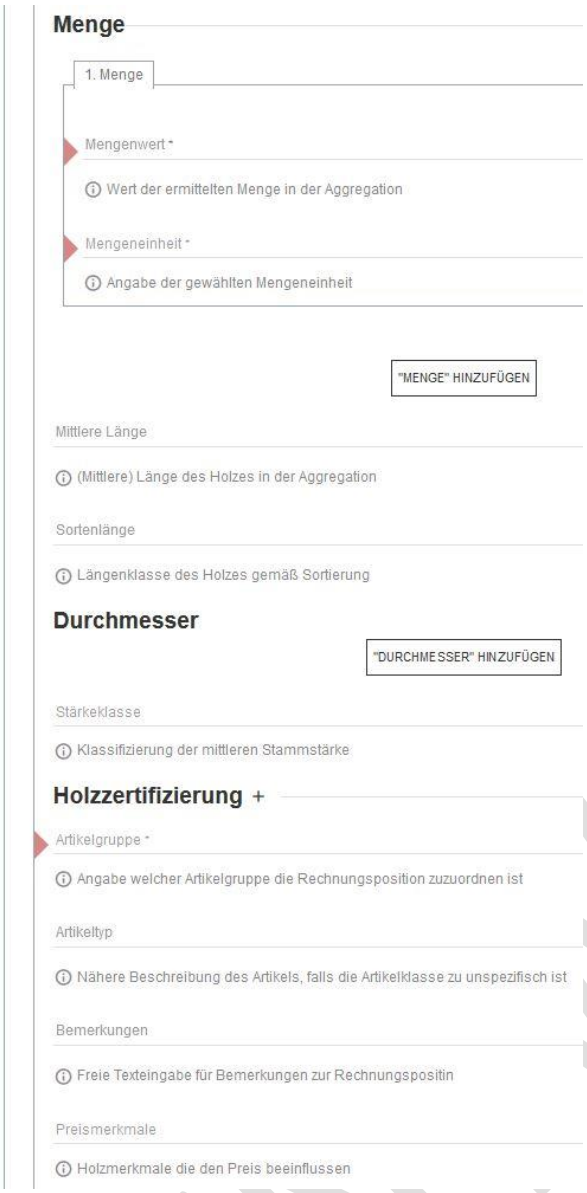
More than one wood or order ID is possible.

Aggregation type of the following wood must be stated.

The quality of the wood can be defined. Furthermore it is provided with
a (leading) grade,

a (leading) use,

and a (leading) wood species.



At least one quantity statement must be provided for each invoice item. The most useful information is cubic meters and number of logs.

The mean length of all logs in the invoice item can be stated,

as well as the grade length.

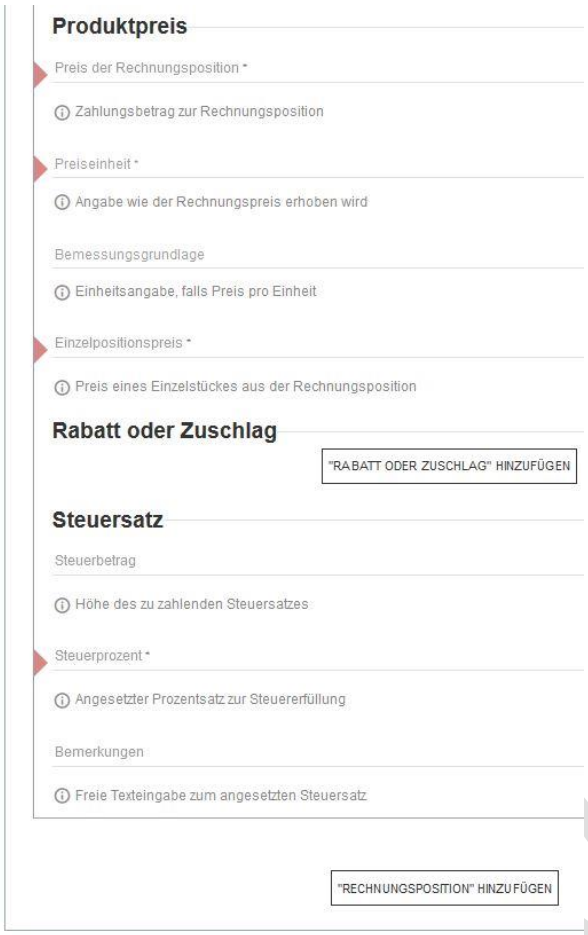
A detailed description of the diameter and bark, in case of single logs, is possible.
A thickness class can be chosen.

If the wood is certified this must always be stated.
The invoice item must always have an article class,

and/or be defined by an article type.

Comments to the invoice item can be added.

Attributes relevant for pricing should be stated.



Each invoice item is provided with a product price value,

a product price unit,

if necessary, a determination base for the price unit,

and a product item price.

Add extra discounts or surcharges for each invoice item if relevant.

The tax rate value may be,

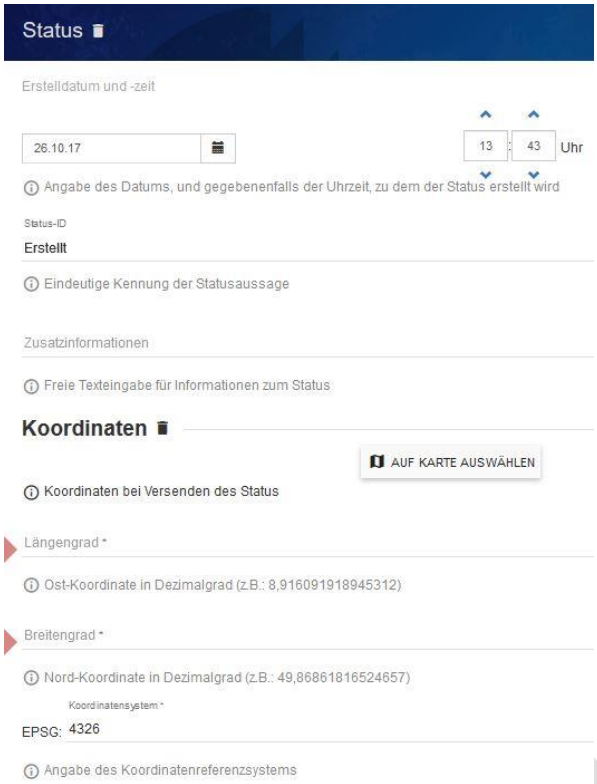
and the tax rate percentage must be stated.

Add comments to the tax rate if necessary.

Add more invoice items when necessary.

Create invoice headers with their contained invoice items here.

6.7.6 Status (to be used in all modules)



The status should be provided as part of every message. This provides additional important information,

such as the time stamp of message creation,

and the status of the message, like “created“, “accepted“, “cancelled“, “accomplished“, etc. with which a dialogue between sender and receiver can be established.
Add more comments concerning the status ID here.

Furthermore a status should come with the current location of the sender which can help improving logistics management especially for transport orders and delivery notes.