

Factory standard, general information

Manufacture, cleaning and packaging of components

Technical guideline
on
order processing
at
Ecoclean GmbH
Procurement Department

UPDATE / CHANGE STATUS

Change Control

- This document is currently not subject to change control.
- QM System maintains an update service for this document.
- The latest version of this document is available on the ecoNet.

Update status

Document version: 1.0 from 10.07.2024

The development of the previous versions is listed below:

Version	Date	Name	Change/reason
1.0	10.07.2024	JH	New version
1.1	05.02.2026	CSM	Revision of Chapter 9

1. Purpose

The purpose of this factory standard is to define and ensure all necessary quality requirements for the manufacture, cleaning and packaging of components.

2. Applicability

This document must be used for every Ecoclean order.

In addition to this, there are 2 additional detailed factory standards, which differ in the product areas:

- CLA = Factory standard- **C**leaning **A**utomotive
- CLP = Factory standard- **C**leaning **P**recision
- H2 = Factory standard- Hydrogen

Each order refers to one of these two standards.

If the technical drawing or the purchase order includes requirements that deviate from this standard, the requirements stipulated in the purchase order and drawing shall override the information provided in this factory standard.

3. Scope of supply and services / purchase orders

- The supplier's scope of supply and services is based on the purchase order issued by Ecoclean, the drawings provided, the 3D models and the BOM. Unless otherwise agreed, the drawing is always binding. If discrepancies are found between the drawing and the 3D model, these must be reported to us. If no restrictions are noted in the Ecoclean purchase order regarding the scope of supply and services, then the scope of supply and services must be provided in full.
- All production and processing instructions specified on the production drawings must be observed.
- An assembly is also considered to be part of the scope of supply and services if the supplier is only required to provide materials or components and not production services.
- The columns "Source", "PrvCode" (provision code) and "ProdRel" (production relevance) in the BOM must be considered for the supplier's material planning. If a BOM item is marked with an "L" in the "PrvCode" column, this means that it is part of your scope of supply.
If a BOM item is marked with "HBG...Z" in the "Source" column and "X" in the "ProdRel" column, this means that it will be provided by Ecoclean.
Collection of the parts provided by the supplier or shipment by post must be agreed separately.
- If an item is not marked with an "L" in the "PrvCode" column and also not with "HBG...Z" in the "Source" column, this means that it will be provided by Ecoclean for internal processing at the Ecoclean works and is not required in the scope of supply and services.
- If a BOM item is marked with an "I" in the "PrvCode" column, this means that it is not part of your scope of supply but will be provided by Ecoclean at a later date.
- All items marked on the drawing, as well as small parts (screws, nuts, etc.) that are required for assembly and are not listed individually, are part of the supplier's scope of supply and services.
- See our sample BOM for the above-mentioned BOM identification.
- Explanation of the letters in the provision code column:

"I" means internal assembly - used for internal assembly at Ecoclean

"L" means provided by supplier - is part of the supplier's scope of supply

4. The scope of supply and services shall include:

- Complete supply of materials in accordance with Point 1.

- Preparation of the sheet metal folding sketches, depending on the CAD system.
- Cutting, trimming; all processing must be carried out using a low-stress process, e.g. nibbling, laser, water jet or plasma cutting.
- Assembly, welding, dressing and fettling.
- In particular, sharp edges caused by cutting with shears or laser must be deburred (risk of accidental cuts).
- Reinforcements that are not marked but are necessary must be provided and carried out by the supplier after consultation with Ecoclean and are included in the scope of supply and services. Additional reinforcements are always necessary if the sheet metal parts for housings or process tanks could buckle under load (e.g. when water is filled into the tank) after being welded together.
- All attachments shown in the drawing, such as fittings, sockets, holders, threaded bolts, etc., must be mounted and seal-welded on both the inside and outside. Interior sheet metal parts or air ducts must be seal-welded on one side; all external weld seams must be seal-welded on both sides. Separate agreements can be made for each Ecoclean order regarding the application and execution of welding instructions. See also Chapter 9 (Welding instructions).
- Threaded welding bolts must hold permanently and may not come loose at the welding point.
- Round rivet nuts must also be attached.
- Prime all steel parts with FREIOPLAST matt stone grey RAL 7030 paint. To be procured from FreiLacke | Emil Frei GmbH & Co. KG, Am Bahnhof 6, 78199 Bräunlingen, Germany.
- Pickle all stainless steel welds by spraying or dipping, but the surface should not become coarse-grained or change the specified tolerances.
- Care must be taken to ensure that folds, reinforcements etc. are designed or mounted in such a way that pickling fluids can run off and undercuts can be sufficiently rinsed.
- Leak checks must be made as a matter of principle: Tanks, base trays and base frames with integrated base tray must be filled with water for 24 hours and checked for leaks. Test using the dye penetration method.
- Please submit leak check reports without being asked. These must contain the following information: Leak test method, duration, names of tester and welder. Only the Ecoclean template may be used for this purpose.

5. Scope of supply and services - acceptance / trial run

Before the agreed delivery date, it must be agreed with the responsible Ecoclean employee in the Purchasing/Procurement department whether a preliminary acceptance test is to be carried out at the supplier's premises.

An acceptance report must be completed by the supplier prior to acceptance. If you do not have your own protocol template, this must be drawn up in co-operation with Ecoclean.

The acceptance test consists of:

- A visual inspection of the manufactured main assemblies or subassemblies
- For Ecoclean pre-acceptance, the respective main assemblies or subassemblies must be completely pre-assembled or provided as agreed. Any defects found must be rectified immediately. Defects or faults discovered during installation, trial runs or at the customer's premises must be rectified promptly and free of charge in consultation with Ecoclean.
- A trial run of the transport equipment will only be carried out in special cases if expressly requested when the contract is awarded.

6. Technical discussions

Technical and commercial queries from the supplier must be discussed directly and only with the responsible employees in the Purchasing/Procurement department. The responsible employee shall be named in the query or the purchase order.

During order processing, the supplier's production manager shall be available to us as agreed for coordination purposes at no extra charge.

Changes agreed on site or by phone that are contrary to the documents provided by Ecoclean must be documented.

Should price and/or scheduling consequences be derived from these discussions, Ecoclean must be informed in a separate letter within 7 calendar days of the discussion at the latest, stating the additional or reduced charges and/or the postponement of the deadline without being asked.

Problems that only arise during the acceptance procedure must be clarified immediately.

Additional charges or postponements notified at a later date will not be recognized. Additional charges and/or postponements notified in good time do not mean that Ecoclean must accept them. For example, Ecoclean reserves the right, in the event of a delivery delay, to engage other suppliers for assistance after consultation and to invoice the charges incurred to the supplier from whom the scope of supply and services was originally ordered.

Technical discussions shall be conducted in German or English; in the case of other languages, the supplier shall provide a translator.

7. Rust removal and coating

The scope of supply and services includes rust removal, degreasing and coating of all items within the scope of the order.

- Unless otherwise specified or agreed, steel parts must always be painted with FREIOPLAST matt stone grey RAL 7030. This must be procured from FreiLacke I Emil Frei GmbH & Co. KG, Am Bahnhof 6, 78199 Bräunlingen, Germany.
- If a further top coat is required, only the following processes and paints should be used:
 - Roller or spray painting with EFDEDUR System-Strukturack GS9141H
 - Powder coating with FREOPOX Pulverack PL1033A

We will inform you of the required RAL colours in separate painting instructions.

- Any damage caused to coated parts during assembly shall be remedied prior to shipment.
- All steel components as well as stainless steel housings and process tanks that are externally reinforced with steel profiles must be primed!
- Only apply top coat if expressly requested by Ecoclean!

8. Assembly, disassembly and on-site installation

8.1 Assembly

The main assemblies or subassemblies shall be assembled at the supplier's production facility. All equipment required for this, such as shop crane, tools, etc., shall be provided by you. The supplier must provide appropriate power connections for any trial runs or test operations.

8.2 Disassembly and marking

If the order comprises a complete system, Ecoclean will design it with separation points in dimensions suitable for transport. This does not exclude the possibility that special transportation may be required for components. The system must be dismantled for shipment in accordance with Ecoclean's instructions.

Painting must then be carried out in accordance with point 7 (rust removal and coating) of these guidelines (priming must be carried out before reassembly).

All dismantled units must be marked with tags (also applies to component production) according to the dismantling status. A correctly completed tag bears the following information: Ecoclean order number, main assembly group(s) and, if applicable, subassembly group(s). If order is placed for screws and bolts or the like, the item number is to be shown as well.

8.3 On-site installation

On-site assembly may be included in the supplier's scope of supply and services. Our site manager or the responsible Ecoclean employee from the Procurement department will be present at the time of acceptance. It should be noted that this employee is authorised by Ecoclean to carry out certain functions and to comply with customer specifications and is permitted to issue instructions.

The transportation of the ordered scope to our customer's premises is part of the supplier's scope of supply and services.

Should cases arise for which no guidelines are listed in this factory standard, the ECOCLEAN DELIVERY, PERFORMANCE AND INSTALLATION CONDITIONS apply

(to be found at https://ecoclean-group.net/fileadmin/pdf/ECOCLEAN/Terms_of_conditions/DE/Liefer-_Leistungs-_und_Montagebedingungen_2017.pdf)

8.4 Documents

The supplier must submit all necessary documents, such as certificates, visas, proofs, social insurance confirmations, residence permits, etc., which are required for a work permit in the respective country or at the respective customer's, to Ecoclean in good time and in full, in consultation with the Ecoclean installation coordinator or site manager.

8.5 Registration/equipment

The supplier must ensure proper registration with the customer. Factory passes, safety training, industrial truck instructions, work safety instructions, work clothing regulations, etc., which are required by our customer, are part of the scope of supply and services and are in no case considered additional expenses. Make sure that the site is clean when you leave (every day).

The applicable regulations can be requested from Ecoclean.

8.6 Extra work on site

If work is carried out by Ecoclean for the supplier, or by the supplier for Ecoclean, which is not included in the original order, this extra work must be documented in reports/hoursheets. These reports/hoursheets must always be signed by the Ecoclean site manager and the respective representative of the supplier. Extra work that is not correctly documented will not be invoiced or settled between Ecoclean and the respective supplier.

9. Welding instructions

To ensure the quality of welded products, the manufacturing company must be certified according to ISO 3834-3. Welding instructions are only required if they are specified in individual cases or in the applicable factory standard for the main assembly.

Allowed welding processes according to DIN EN ISO 4063 are: 111 (manual arc welding), 13 (gas metal arc welding), 141 (gas tungsten arc welding with solid wire or solid rod filler), laser welding with filler material. The use of other welding processes must be approved in advance by Ecoclean in writing and recorded in a written agreement.

In compliance with DIN EN ISO 5817, the welding products must be evaluated by the executing company in accordance with evaluation group C. Any irregularities found must be professionally repaired. As an exception to this, a higher evaluation group may be required for individual main assemblies in the corresponding factory guideline.

A 100% VT (visual inspection) must be carried out on all weld seams.

Ecoclean only applies weld seam symbols in accordance with DIN EN ISO 2553 to 3D models or drawings that are classified as safety-relevant or process-relevant components, such as crane lifting points or pressure vessels. If specifications regarding the type of seam are included, the supplier must ensure that the weld seam is prepared accordingly. For welded components that do not fall under this classification, only a note is made on the drawing with the designation 'welded component' and a corresponding classification. In this case, the supplier is responsible for the professional and suitable design of the welds in accordance with the current state of the art. At Ecoclean, we understand this to mean, among other aspects, that the correct weld thickness is specified after taking the material thickness into account. In mechanical engineering, this is 0.7x the minimum material thickness, and in sheet metal construction, it is 0.5x the minimum material thickness. If individual welding specifications and the note 'welded component' are present, the welding specifications for the relevant seam take priority and the information included in the note applies to the rest of the component. The classifications listed in the drawings are to be interpreted as follows:

Tack welding: We (Ecoclean) define the tack welding process as the execution of the weld seam as a short (spot-like) weld seam, which is applied at regular intervals along the workpieces as required. The aim is to secure the position of the welded components in relation to each other.

Single-sided welding: According to Ecoclean's definition, single-sided welding refers to the complete execution of the weld seam on one side with the aim of safely transferring forces in relation to the load requirements and technical specifications of the component.

Double-sided welding: According to Ecoclean's definition, double-sided welding refers to the complete execution of the weld seam on both sides and without gaps with the aim of safely transferring forces in relation to the load requirements and technical specifications of the component. In accordance with the requirement, care must be taken to ensure that the weld seam is free of gaps in order to prevent the formation of cavities that could allow liquids to remain.

Double-sided tight welded: We (Ecoclean) define double-sided tight welded as the complete execution of a weld seam with the requirement to ensure a gas- or liquid-tight connection. The aim is to ensure an impermeable connection that can withstand external influences. The weld seam must be carried out on both sides. The red-white dye penetration test must be carried out if this is noted on the drawing or has been agreed in writing with Ecoclean. Otherwise, the use of the dye penetration test is not permitted. If a WHG certificate (Water Resources Act certification) is required, it must be prepared in accordance with the regulations and sent to Ecoclean.

Bolt welding: Bolt welding must be carried out and tested in accordance with DIN EN ISO 14555. A visual inspection is required for all bolt welds.

If you have any questions or require clarification, please do not hesitate to contact us.

If deviations from this factory standard are necessary with regard to the application or execution of welding regulations, these must be agreed separately with Ecoclean for each individual order.

10. Prices

Prices in euros or in the supplier's national currency

The prices are fixed and include all items in this specification.

11. Time schedule

In principle, an order confirmation with delivery date must be sent to Ecoclean after a written purchase order has been placed (this can be a copy of our order).

If requested by Ecoclean, the price quotation or order confirmation shall include a schedule showing the most important tasks and their timing. The schedule must include the following points:

- Design (if included in the scope of supply)
- Procurement of materials
- Manufacturing of components
- Pre-assembly
- Final assembly
- Trial run
- Dismounting
- Dispatch

When the order is awarded (receipt of the written order), an agreement regarding the time schedule is also made. Subsequent deviations from this schedule must be communicated to Ecoclean immediately and approved by Ecoclean. Ecoclean reserves the right to carry out occasional production and deadline checks during order processing.

12. Cleaning components

All components must be cleaned by the supplier before delivery.

No residues such as swarf, emulsion, sanding dust, abrasives or pickling residues may be present.

13. Packing and shipping instructions

- Ecoclean expects delivery free domicile or to the point of use, depending on the agreement in the order.
- In the case of the production of complete systems, the necessary transportation is always included in the scope of supply and services and must be taken into account accordingly in the offer. Ecoclean makes use of the most favourable option in the order.
- Complete systems and system components must be correctly loaded and secured in place. The machine body must always be covered by a tarpaulin. Edges and corners of the system in contact with the tarpaulin must be padded to prevent paint damage. Single parts must be loaded in boxes or secured on pallets. The system and packages must be secured against slipping on the means of transport.
- All smaller items (total weight less than 1000 kg) must be able to be unloaded with a forklift truck and must therefore be placed on pallets and beams.
- The Packaging Act (VerpackG) 2024 must be observed when executing this order.
- If the packaging is not taken back, it must be designed in such a way that it can be disposed of easily and at low cost by the Ecoclean customer. Unless otherwise specified by Ecoclean, only paper, steel or wood may be used.
- All tanks must be drained completely due to the danger of frost. Pipes, pneumatics, control or shut-off devices that come into contact with liquids must be flushed with compressed air before shipping. Heat exchangers must be filled or wetted with antifreeze.
- If truck delivery to Ecoclean Monschau is planned, this must take place between 7 a.m. and 3 p.m. and must be announced two working days in advance.
- Deliveries to our customers must be agreed with our respective installation coordinator.
- Delivery shall in any case be free to the place of delivery. The delivery site is specified in the purchase order.
- All components must be able to be unloaded with normal forklift trucks or cranes.
- If, in exceptional cases, Ecoclean is to collect the goods, the Ecoclean employee responsible in the Purchasing/Procurement department must be notified in good time that the goods are ready for dispatch with the following details:
 - Marking as described in point 1

Package dimensions in	length x width x height in metres
Package contents	Description as per drawing title
Package weight	Gross (gross and net for non-EU deliveries)

The marking on the parts and delivery bills must contain the following information in addition to the item designation:

- Ecoclean order number, HBG, BG, Ecoclean item number (or a copy of our order)
- Weight of each item ordered
- If the shipment consists of separate components, these shall be identified by tags showing the above data including the item number. This also applies to standard parts provided (screws etc.).

If deliveries are made to Ecoclean without this information, Ecoclean may refuse to accept the goods.