

IN General Delivery Specification for Purchased Parts

1. Introduction

This *Delivery Specification* applies to suppliers (hereinafter referred to as “Contractor”) of Rosendahl Nextrom GmbH (hereinafter referred to as “Client”) in addition to the client’s *RL Standard Purchasing Terms and Conditions*.

Compliance with these instructions is a basic requirement for business relations between the client and the contractor.

This *Delivery Specification* defines the basic requirements that are essential when manufacturing a product and correspond to the client’s Manufacturing Standard.

However, the client explicitly points out that not all the contents stated are applicable to each contractor - nevertheless, each contractor shall be obliged to observe the items that need to be kept for manufacturing the contractor’s products.

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3. General requirements

3.1. Validity

This *Delivery Specification* shall apply to all the deliveries made to the client as a minimum requirement.

Higher requirements as necessary will be specified in the respective order.

If requirements going beyond this are necessary for fulfilling the purpose of the product, they will have to be considered.

In case of doubt, the more stringent requirement shall always apply.

3.2. Confidentiality and contact

Documentation provided by the client must be treated confidentially and must not be brought to the attention of third parties without client's express written consent. DIN ISO 16016 must be heeded. All contact with the client's customer or its representatives is to be avoided unless explicitly approved in writing.

3.3. Specifications

Deliveries must comply with the order, legal provisions, relevant standards and guidelines, the client's specification documents and recognized standards of technology. Qualified personnel must be employed in carrying out the services. The specification documents and standards named in this delivery specification or order are applicable in their most current version or succession, unless otherwise stipulated in the order.

4. Quality

4.1. Audits and visits

The client is entitled to inspect and review the contractor's equipment and measures, as well as carry out audits. This also refers to the contractor's subcontractors.

4.2. Testing and measuring equipment

Testing and measuring equipment as well as facilities which serve as proof of quality requirements must be checked respectively calibrated regularly, unless agreed otherwise. The monitoring status of the testing and measuring equipment and facilities must be evident to users.

4.3. Unclear specification documents

Whenever discrepancies or errors are observed in the customer's specification documents (e.g. drawings, regulations etc.), these must be promptly reported to the responsible purchaser and instructions must be requested.

If contradictions or non-conformities are detected in the drawings / documents that are handed over, they shall be reported to the client's responsible purchaser immediately and adequate instructions required.

4.4. Inspections

The contractor is obliged to test the products accordingly.

If the test result does not fulfil the specification the contractor has to proceed like documented at chapter 4.6.

If non-conformities are stated at schedule control, progress control or quality inspections by the client, the contractor will be obliged to take all measures to achieve the desired state at the contractor's costs and expenses.

The client reserves the right to conduct repeat inspections. If an inspection is repeated, the contractor will have to bear the costs and expenses accruing to the client.

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4.5. Test documentation

The following requirements apply to products classified as A or B

The template sent with the order must be used for documentation of dimensional measurement, or a separate log which contains at least the quality criteria in accordance with the client's template. If no template has been sent, it must be requested from the client's purchaser responsible.

For quality relevant processes and inspections such as heat treatment, material analysis (chemical analysis [CA], tensile test [TT], notch impact test [NI]), non-destructive testing, pressure and leakage tests an inspection certificate 3.1 according to EN 10204 is required.

The test documentation is considered a part of the delivery and must be enclosed with the goods. In addition, the test documentation must be sent as PDF file to qa@rosendahlnextrom.com.

The following requirements apply to products classified as C5

The template sent with the order must be used for documentation of dimensional measurement, or a separate log which contains at least the quality criteria in accordance with the client's template. If no template has been sent, it must be requested from the client's purchaser responsible.

Documents to be submitted to the contractor comprise the protocol of dimensional measurement and heat treatment protocol. This test documentation is considered a part of the delivery and must be enclosed with the goods. In addition, it must be sent as PDF file to qa@rosendahlnextrom.com.

Possibly required inspection certificates according to 3.1 EN 10204 do not have to be submitted but must be available on request for review respectively forwarding at Contractor's.

The following requirements apply to products classified as C1

The template sent with the order must be used for documentation of dimensional measurement, or a separate log which contains at least the quality criteria in accordance with the client's template. If no template has been sent, it must be requested from the client's purchaser responsible.

The test documentation is considered a part of the delivery and must be enclosed with the goods. In addition, the test documentation must be sent as PDF file to qa@rosendahlnextrom.com.

The following requirements apply to products classified as C3 or C2

The contractor must keep internal documentation proofing that the parts were inspected / tested and in accordance with the requirements. This documentation does not have to be submitted but must be available on request for review respectively forwarding at Contractor's.

4.6. Deviations

The client must be notified of any deviations from the specification documents (e.g. deviations in dimensions, materials, processes etc.) immediately in writing by means of *FR Non-Conformity Report Supplier*. This form must be completed and sent to the client's responsible purchaser. The further proceeding depends on the approved measures as per Non-Conformity Report Supplier.

The contractor is obliged to take all the measures necessary to avoid delays in delivery, regardless of additional costs. This includes possible rework or the replacement of components that are being discontinued.

Upon delivery of the part (new / reworked / deviating) the contractor has to enclose the *FR Non-Conformity Report Supplier* in the delivery.

4.7. Incoming goods inspection

In general, delivered parts are subjected to a quantity and identification check in an incoming goods inspection by the client. The client reserves the right to not to carry out a 100% incoming goods inspection.

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4.8. Complaints

If deviations are found by the client, the contractor is obliged to set up the contractually agreed state. If the contractor should not fulfil this obligation or the schedule situation requires faster implementation, the client reserves the right to have the rework done at the contractor's cost following respective information.

5. Marking, packaging and provisions

5.1. Component marking

All components have to be marked with tags (aluminium plate and stainless-steel wires) and the client's purchase order label (or own label with the same contents) at least one per packing unit. The tags can be obtained from the client. This represents a minimum requirement according to marking class K1.

If additional component marking is required in the order item or drawing e.g.K1-K4, the numbers must be permanently placed on each component in addition to the tag by means of engraving, laser labelling or punch numbers.

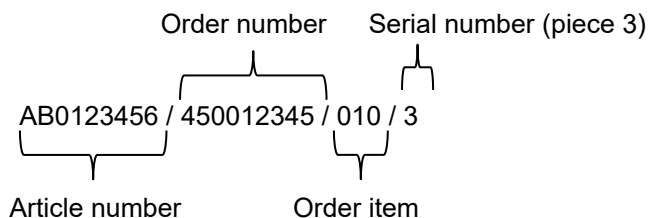
Marking is only permitted on non-machined and non-tolerated surfaces. If this should not be possible, the responsible purchaser must be contacted.

If marking class (K2-K4) is required in the drawing the marking defines the position of the marking on the part.

Component marking consists of

- Article number
- Order number
- Order item
- Serial number (for more than one piece)

For example:



5.2. Packaging

The packaging of manufactured parts must be chosen by the contractor in such a way that the goods cannot become damaged.

- **Polypropylen (PP) twin-wall sheet as insert/intermediate layer**
PP twin-wall sheets or air bubble films must be used as an insert or intermediate layer for goods made of stainless steel; in the case of browned components only PP twin-wall sheets may be used.
- **PP twin-wall sheet on euro pallet**
PP twin-wall sheets must be used as a support/intermediate layer for goods made of stainless steel and for browned components.
- **Painted parts on euro pallet/cardboard**
An insert or intermediate layer made of cardboard can be used for painted parts.
- **Container separation**
Goods made of stainless steel are not allowed to be delivered in the same container as non-treated materials such as steel.

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5.3. Provided products

Provision of products supplied to the contractor by the client or the client's customer must be inspected at delivery for their proper condition (damage, corrosion, etc.) and must be marked as the client's property.

In case of subsequent customer complaints, the additional costs and expenses shall be borne by the contractor.

6. Production specifications

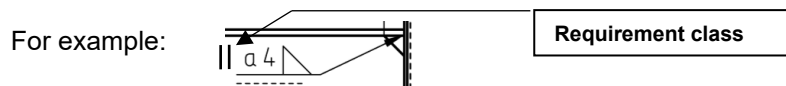
6.1. General and free dimension tolerances

In accordance with drawing.

6.2. Welding

To ensure the required quality of welded joints, requirement classes are specified on the drawings in accordance with the ISO standard.

The requirement class is indicated by a Roman numeral after the welding symbol.



If no requirement class is defined on the drawing, requirement class II applies.

	Requirement class I	Requirement class II	Requirement class III
Shape of weld	ISO 9692-1	ISO 9692-1	ISO 9692-1
Execution	ISO 9692-1 and 2	ISO 9692-1 and 2	-
Findings	Outer and inner	Outer	Outer
Acceptance level	ISO 5817 B	ISO 5817 C	ISO 5817 D
Traceability to the welder	Necessary	Not necessary	
Visual inspection VT Execution DIN EN ISO 17637 Acceptance criteria ISO 5817	100% of weld seams	100% of weld seams	100% of weld seams
Aluminium VT Execution DIN EN ISO 17637 Acceptance criteria DIN EN ISO 10042	100% of weld seams	100% of weld seams	100% of weld seams
Dye penetration test PT Execution ISO 3452-1,2,5,6 Acceptance criteria ISO 23277 Cl.2x	100% of weld seams	-	-
Magnetic particle test MT Execution ISO 17638 Acceptance criteria ISO 23278 Kl.2x	100% of weld seams	-	-
Ultrasonic test UT Technology, test classes and evaluation ISO 17640 Characterization of inhomogeneities ISO 23279 Kl.2x	100% of the full penetration welds	-	-
Requirements qualification NDT personnell	certified personnel acc. to ISO 9712	Personnel qualified and authorized by the contractor	

Table 1: Welding requirements

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Only qualified welders with a valid test certificate in accordance with ISO 9606 may be deployed for the welding of welds. These test certificates must be available from the contractor.

Valid welding procedure qualification records (WPQR) and welding procedure specifications (WPS) must be available for all welded joints.

6.3. Thermal cutting

ISO 9013 applies for thermal cutting.

6.4. Heat treatment

In accordance with specific heat treatment regulations. These are marked on the drawings or in the order.

7. Surface treatment

If the surface treatment in the order differs from the drawing, then the requirement in the order applies.

7.1. Anodizing

(anodizing oxide products on aluminium and wrought aluminium alloy)

Execution acc. to	DIN 17611
Material	according to drawing
Preparation	E6 chemical etching
Remark	Cover fittings
Colour	C-0 (colourless / nature), if not defined otherwise
Layer thickness	Class 20 (smallest average coating thickness ^{1,2} 20 µm, smallest average coating thickness 16 µm, location and environment: outside, urban or industrial location)

7.2. Hard anodizing

(hard anodizing oxide layer on aluminium and wrought aluminium alloy)

Execution acc. to	DIN ISO 10074
Material	according to drawing
Preparation	E0 Degreasing and deoxidation
Remark	Cover fittings
Colour	C-0 (colourless / nature), if not defined otherwise
Layer thickness	50 µm tolerance + / - 5 µm

7.3. Warm browning

Only warm browned parts (130-150°C) are permitted. For delivery, the components must also be protected with corrosion protection oil.

7.4. Painting

According to the Client *IN Painting Specification*

7.5. Treatment of stainless-steel parts

Discoloration and oxide scale as well as rust must be removed by means of cleaning with suitable acids and then flushed with water. Mechanical removal is only admissible after consulting with the client.

¹ It should be noted that the coating thickness in grooves can be smaller due to the profile geometry and the wettability of the product surface.

² In special cases for which other requirements apply, coating thicknesses of 5 µm or smaller are possible. (e.g. pre-anodizing).

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7.6. Protection

All blank machined parts and surfaces as well as browned parts must be protected preserved. Only preservative oils are permitted for use as preservation agents.

When preserving, make sure that the preservative oil is sprayed very finely. The parts should only be coated with a thin film.

7.7. Galvanic zinc coatings

Surface coatings containing chromium(VI) such as black, blue and yellow chromating (according to DIN 50961) are no longer permitted with immediate effect.

The alternative surface treatment is by galvanizing and transparent passivation. (also known as: "galvanic galvanized blue").

The designation in our orders is: "Galvanized blue".

This treatment must be carried out in accordance with DIN EN ISO 19598 and meet the following specification:

- Electroplated coating DIN EN ISO 19598 - **Fe//Zn12//An//T0**
 - Designation for a zinc coating (Zn) on a component made of steel (Fe), a local minimum layer thickness of 12µm (12) and transparent passivated (An) without subsequent sealing (T0)
- Breakdown
 - Fe – main alloying element base material (for steel → iron (Fe))
 - Zn12 – galvanic coating and local minimum layer thickness
 - An – transparent passivation layer
 - T0 – without sealing
- Drawing dimensions are finished dimensions
- Uncoated areas or individually coated areas are defined separately on the drawing.