

General Manufacturing and Action Guidelines for Suppliers

1. Scope

These manufacturing and action guidelines are part of the purchase order and apply to all deliveries and services provided by suppliers.

Our purchase orders also include the latest drawings, specifications and any other order documents that may apply. Please follow the instructions on required measurement reports, certificates and other confirmations and documentation.

In order to provide comprehensive specifications for structural components, TRIOPTICS provides PDF-format, 2D drawings in compliance with applicable standards, as well as, upon request, files in STEP- and DXF format and assembly overviews as an EDRAWING or 3D PDF.

The PDF-format 2D drawings are the reference document and defining basis for all structural components.

They may include requirements that go beyond mere geometry.

The drawings describe the required delivery condition and do not replace work schedules or intermediate stages in the manufacturing process that must be described.

2. Delivery / Delivery Documents

Please follow the instructions below for deliveries and allocations in Receiving:

- No delivery without a delivery note
- Indicate our purchase order number and type and quantity of goods delivered on the delivery note.
- Clearly allocate the goods/delivery note information to our purchase order items.
- Label the goods/packaging using our part number.

- The goods must be packaged and labelled in a way that ensures that we can enter, store and pick the goods according to our purchase order items without having to repackage.
- In the case of purchase orders/deliveries of sets or assemblies, these must always be packaged and delivered as a set (!) to permit immediate order picking/shipping.
- If the scope of a purchase order item makes packaging as one (1) set in one (1) packaging unit impossible and requires several packaging units, every single package must be labeled.

This includes:

- TRIOPTICS part number
- Numbering including total number of packages
(e.g. Part no. 123-..., cardboard box no. 1 of 5).

When delivering structural components as individual parts or assemblies, the following documents must be attached to the delivery note (2.1 and 2.2).

2.1. Structural components as per drawing

Attachment:

Latest drawing including information on and confirmation of verified dimensions

2.2. Assemblies as per bills of materials

Attachment:

Latest bill of materials including a confirmation of completeness and verified dimensions, for unconnected parts individual check and confirmation of quantity supplied

Documentation of inspection specifications/setting specifications

3. Surfaces

3.1. General requirements

- Tolerances of finished dimensions as per drawing (PDF document) must be met
- Special drawing requirements must be observed
- Fits and smooth internal threads must be ensured; if necessary, they must be covered before surface treatment
- Optically flawless surfaces

3.2. Blasting = glass bead blasting

Ultra-fine finish for matte surfaces.

(NO sand blasting)

3.3. Chemical coatings and electroplating

All coatings must be matt unless otherwise specified on the drawings.

Passivation =Chromium(VI)-free

3.4. Powder coating

Powder coating materials from the manufacturers listed below must be used for the following functional areas to ensure a uniform appearance.

Housing outside, fine structure:

RAL 7035 Light grey

Type RELEST Powder Hybrid RAL7035 ST/M

Manufacturer AkzoNobel

RAL 5007 Brilliant blue

Type ML-MA315, RAL5007 FS/matt

Manufacturer Ganzlin Beschichtungspulver GmbH

Item no. ML-5007-MA315

RAL 9005 Jet black

Type RELEST Powder Hybrid RAL9005 FS/M

Manufacturer AkzoNobel

Housing inside, smooth / dull matt:

RAL 9005 Jet black

Type RELEST Powder Hybrid RAL9005 S/DM 5%

Manufacturer AkzoNobel

For other powder coatings, such as RAL 9006 white aluminium (silver) fine structure, matt, you may choose any manufacturer.

Special application

Electrically conductive coating powder for electrostatic discharge (ESD):

RAL 7035 Light grey

Type DURA®mix 331M IGP 70350 R fs/matt / electrically conductive

Manufacturer IPG Powder Coatings

Item no. 331MA70350C00

RAL 9005 Jet black

Type DURA®mix 331M IGP 90050 R fs/matt / electrically conductive

Manufacturer IPG Powder Coatings

Item no. 331MA90050C00

3.5. Paint

Matt textured finish

Our standard industrial paint is BUCOPUR 2K PU, manufactured by Bucolin.

Other paint may be used following the alignment of colour samples. We can send you colour samples on request.

4. Preservative coating

Only silicone-free agents must be used

5. Packaging

Packaging must be suitable for the part to be packaged and ensure the following functions:

- Protective function
- Loading and transport protection
- Storage function

Care must be taken to ensure that the packaging can withstand the strains of the functions.

Small parts must be packed separately – if necessary use a larger cardboard box. The packaging has to be marked with our part number.

(Small parts must not be packed between/within other/larger parts.)

6. Labelling of Parts

In order to ensure that the parts can be clearly allocated in receiving and internal transport, the parts must be marked using removable labels (alternatively, use tags or write on packaging). This does not pertain to parts whose surface might be damaged by labelling or parts for which a different type of labelling is specified in the drawing or specifications.

7. Materials

General designations such as “Ms”, “St”, or “AlMg” are used for applications without specific material requirements.

8. Applicable Instructions

We would like to point out the relevant quality assurance obligations as well as the required compliance with legal provisions.

In this context, the following sections in our General Purchasing Terms and Conditions must be followed in particular with regard to manufacturing, delivery and documentation:

- 3 / Included in delivery: technical design and documentation
- 9 / Quality assurance and product liability
- 10 / Hazardous substances