



*Dynamit Nobel Defence*

# Sampling Guideline

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## 1 Purpose

The initial sample inspection is intended to confirm that the parts manufactured under production conditions by the supplier comply with all requirements and specifications.

This guideline ensures that the documents and procedures required for sampling are sufficiently extensive and follow the chronological order.

Possible sources of error should be identified and appropriate corrective measures initiated before the start of series production. A uniform and detailed procedure is therefore necessary to perform sampling.

## 2 Scope of application

This guideline applies to all suppliers of production materials and trade goods.

## 3 Sampling

Sampling must always be carried out before the start of series production and when changes are made, in accordance with VDA Volume 2 (production process and product approval process (PPF)). Sampling must always be carried out in the following cases:

- New part based on drawing
- Requalification (new sampling)
- Technical change resulting in an increment of the revision status of a specification or drawing
- Relocation of production or individual machines
- Changes to the manufacturing procedure or process
- After a correction has been made due to a complaint about moulded parts
- Change of supplier (exception: catalogue parts) Changes to purchased parts
- The use of new, modified or replacement tools
- The component was last produced more than 24 months ago The list is not exhaustive.

In case of doubt, sampling must be agreed with DND.

Deliveries of raw material are not subject to initial sampling. For deliveries of material, the supplier must ensure that the delivered material can be traced via batch numbers or delivery note numbers. The supplier must generally include the corresponding DIN EN 10204 acceptance test certificate with the delivery.

## 4 Conditions for sampling

As far as possible, the sample parts must be produced under series production conditions. Deviations from this must be indicated in the initial sample inspection report (ISIR/PPAP).

Any missing, incomplete or defective initial sample documentation shall result in a negative supplier evaluation. Initial samples without complete documentation or without order reference are not processed and are returned to the supplier at the supplier's expense.

## 5 Conducting sampling

The supplier must use suitable and calibrated test equipment that can be used to check the parts for conformity with the given specifications.

Characteristics that cannot be inspected by the supplier itself must either be confirmed by an inspection certificate from the upstream supplier or verified via inspections by external inspection bodies.

Responsibility remains with the supplier in all cases.

The supplier undertakes to carry out the tests in accordance with the agreed specifications and to document all characteristics individually with TARGET and ACTUAL values.

It must be possible to assign the actual values to the sample parts. Actual values that lie outside the permissible deviations must be marked.

### 5.1 Initial sampling

The forms as specified in VDA Volume 2 or as required specifically in the purchase order are to be used for sampling. The cover sheet of the initial sample inspection report must be completed in full (article No., designation, index, date, revision status, tool No., number of cavities, production machine/line, etc.).

During the initial sample measurement, all items/characteristics of the DND drawing and of the standards, order specifications and specifications given on the drawing must be measured/checked and confirmed on all points. For sampling of assemblies, all items of the BOM must be listed with the current index and date and presented accordingly. All components of the assembly must be presented with an ISIR (any subcontractors must be named).

For products of the supplier's own design, the supplier must sample the assembly and present it to DND. Initial sampling must also be carried out for the individual parts and, where appropriate, for the sub-assemblies. DND must be granted access to this documentation as required.

### 5.2 Correction or change sampling

For correction or change sampling, only the characteristics/specifications that are affected by the correction/change and the primary functional features and the functional features must be presented. The item numbers from the first ISIR must be retained in the correction or change sampling.

Changes to the production process may only be made with the written approval of DND. The extent of sampling required for the process change must be agreed with DND. The supplier is obliged to notify DND of the above changes.

## 6 Content of sampling

### 6.1 Material-specific data

Material	Requirement
Plastic	Safety data sheet according to 91/155/ECC, data sheet, process parameters, product information sheet
Metal	Test certificate of the material supplier (min. DIN EN 10204 - 3.1), stating the mechanical properties and chemical analysis
Elastomers	Safety data sheet according to 91/155/ECC, hardness, compression set etc. according to drawing specification

### 6.2 Data regarding the production process

Production process	Requirements
Surfaces	Factory certificate according to DIN EN 10204, 2.2, actual values of the layer thickness(s) (measurement report), results of the resistance test(s) (complete verification of the requirements from the standards/customer standards)
Heat treatment	Hardness, hardening depth, structural condition according to drawing, test certificate including documentation of the test centre on the test specimen

### 6.3 Statistical process capability for special characteristics

In the case of SPC characteristics according to drawings and/or requirements from delivery specifications, the following data must be submitted with the sampling:

- at least 50 individual values (per cavity) with target value and tolerance
- Xbar-S chart, CmK,  $\geq 1.67$  / Ppk / Cpk  $\geq 1.67$
- Measuring equipment used

### 6.4 Number of samples

A minimum of 5 parts or 5 shots must be provided for sampling. Deviations from this number must be agreed and documented in advance with supplier management.

## 7 Documentation

Different levels of documentation are required, according to the following table:

Level 1	Level 2	Level 3	Requirements
X	X	X	ISIR cover sheet
X	X	X	Test results (e.g. dimension, function, material)
X	X	X	Material test certificate
		X	Process capability (for weighted characteristics)
X	X	X	Sample (scope according to agreement)
	X	X	Documents (drawings, specifications, etc.)
		X	FMEA (only for inspection - document is kept by the supplier)
	X	X	Process flow chart (production and test steps)
		X	Production control plan/control plan (only for inspection - document is kept by the supplier)
		X	Test equipment list (product-specific)
		X	Test equipment capability test (for special characteristics)
X	X	X	Confirmation of compliance with legal requirements, if agreed with the customer (e.g. environment, safety, recycling, ethics, etc.)

Level	Applied to:
1	Active supplier without quality problems, easy to produce components in the past 2 years or simple change Changes to the production process After altering or repairing tools or machines Sampling within a product family (one component is sampled at level 2 or 3, the others at level 1)
2	New supplier: Frequent quality problems with active suppliers in the past 2 years. Quality problems with similar components; new products. Relocation of production
3	New production process; complex component Special production process Components with special requirements

Alternatively, the details in the purchase order shall apply.

## 8 Decisions

The supplier shall be notified of the decision regarding the relevant sampling. Sampling that does not meet this sampling requirement shall be rejected and returned unprocessed.

If the test results meet the specifications, approval for production delivery is granted.

An approval is not time-limited. An exception to this rule is an interruption of production of at least 24 months.

If the decision is negative, the submission of corrected initial samples including new ISIRs is required in all cases. The supplier shall deliver the corrected initial samples to DND without any further request, and with reference to the original order. In exceptional cases, the supplier may apply for a special approval/approval of deviation if deviations are found.

In the event of deviations, measures must be taken and documented to DND that reliably rule out repeated errors in series production.

If an initial sample inspection is not possible at the start of production (e.g. production facilities are not available yet; prototypes or small batches), or DND has expressly waived this requirement in writing, the supplier must increase the inspection severity in consultation with DND to ensure compliance with the drawing.

Note:

Deviations from specification requirements that are not detected during the initial sample inspection may be subject to objection at a later date, as approval does not release the supplier from its responsibility to deliver according to the applicable valid specification.

## 9 Exceptions

Other procedures that deviate from this requirement may be agreed. However, such procedures must always be in writing and are not permissible without prior agreement with DND.

## 10 Miscellaneous

If you have any questions or if inconsistencies are found regarding this requirement, please contact DND's supplier management department.