



**SUPPLIER QUALITY REQUIREMENTS
NEW PART/PRODUCT QUALIFICATION**

WWD-QA-1007 Rev. P

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Issue Date: 4/9/2007
Issued By: Steve Lund

Change History Log

Issue	Date	Reason
Revision "P"	5/23/08	Documented as ISO work instruction

1. Scope

Videojet Technologies Inc. has established a quality objective targeted at zero defects from its suppliers for material, components, and assemblies. This document supports the requirements set fourth on all Videojet specifications and drawings.

It is expected that suppliers have/will incorporate the necessary systems and process controls to prevent defects prior to completion and delivery to Videojet.

Based on the zero defects objective, Videojet requires it's suppliers to perform verifications on each new part(s) that is supplied to Videojet.

2. Precedence of document

1. Videojet purchase order
2. Videojet part specification or drawing

3. Requirements



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An industry accepted First Article Inspection Report (F.A.I.R.) is required on all 1st time submissions for new product supplied to Videojet. The F.A.I.R. must be generated from actual production processes and cannot be developed from engineering samples.

The Initial First Article Inspection Report (F.A.I.R.) submission shall include the following:

1. Current/latest revision drawing of the piece part or assembly.
2. Dimensional verification and layout of actual measurements, notes and Geometric dimensioning & tolerancing (GDT) characteristics on three (3) pieces.
3. Process capability study for CTQ dimensions or features identified as critical.
4. Control Plan (industry accepted format) is recommended.
5. Bill of material verification. B.O.M. when required (PCB's, harnesses, cables).
6. Standard off the shelf items or catalog items do not require the F.A.I.R. process.
7. Certificate of Conformance (C of C) is required for raw base material of each lot delivered to Videojet. Send C of C with each shipment.

Note: See section 7.0 for commodity specific requirements

4. Process Capability Index (CPK) as a formula

Cpk = either $(USL - \text{Mean}) / (3 \times \text{sigma})$ or $(\text{Mean} - LSL) / (3 \times \text{sigma})$ whichever is the smaller (i.e. depending on whether the shift is up or down).

Unless otherwise specified, a Cpk index of ≥ 1.33 is required on dimensions considered critical.

Dimensions identified as a CTQ or "critical" must have measurement data collected from no less than fifteen (15) to a recommended 30 production samples to calculate Cpk. After acceptance of F.A.I.R., the Cpk study must accompany the next lot delivered to Videojet. When accepted, the Cpk study(s) are considered final approval by Videojet.

When performing the calculations, it is recommended that industry accepted SPC software be used. Software such as QI macros or mini-tab is preferred.

Note: Typically critical dimensions are identified on the piece part drawing by the feature or dimension being enclosed in a circle or identified with a triangle symbol.

4.5 Process Capability Results- Substandard

If Cpk study cannot be met or be performed, it is the supplier's responsibility to notify Videojet supplier quality assurance prior to part submission. Instances where a critical dimension or feature does not meet the Cpk index of ≥ 1.33 but is within the specified



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tolerance range, 100% verification/inspection of the dimension or feature is required. The supplier must maintain record(s) of this verification through lot traceability.

5.0 Part Submission

The Initial First Article Inspection Report (F.A.I.R.) must be sent to Videojet inspection in the following format identified on the outside of the carton/box:

Attention: Videojet Supplier Quality Assurance- F.A.I.R. submission

6.0 Request for deviation

In situations where a dimension(s) or characteristic cannot meet the intended specification, it is the supplier's responsibility to notify Videojet.

A deviation request must be submitted for each part number in question. The deviation request must be approved by Videojet engineering/quality prior to actual production lots (Videojet format).

7.0 Commodity specific requirements

- Printed Circuit Boards- All PCB's/Flex circuits must comply with applicable IPC standards and be dimensionally verified on a minimum of one panel. Continuity, in-circuit and functional test must be performed on part submissions 100%.
- Injection/Blow molded parts- All molded parts must have three (3) samples retained for measurement study from each cavity of the mold.
- Wire harnesses and cable assemblies. Three (3) piece sample size shall be submitted w/first article inspection report. Continuity test(s) shall be performed 100%. Process capability is not required for these commodities. Custom assemblies such as fluid pans and print heads/umbilical assemblies do not require process capability studies unless specified on the piece part drawing.