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**SUBJECT: First Piece Inspection  
Purchased Parts**

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Supersedes NA

Effective Date: 05/13/09

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**Introduction:** To provide a uniform method of first piece part sample approval for purchased production parts. The first piece inspection process demonstrates the ability to manufacture product to written specification.

### **Definitions:**

Purchased Production Parts - These are parts made to Knap and Vogt specifications that will be incorporated into finished product. This also includes KV specified packaging.

First sample inspection is required at the following times:

- Before a new purchased product is released to production.

- When an engineering change affects product specifications.

- When a revision to a purchased part tool has occurred.

- When a tool is moved to another supplier.

- When a supplier is chosen to provide a product that has already been in production from a different source.

In the course of normal business, it may be necessary to request other information, data, or part inspections from the supplier. The Purchasing dept. will make all requests to suppliers. Also, the Purchasing dept. will make arrangements for the data analysis and inspection if required. These records will *not* be required to be maintained as per QPRO4.16.01.

**Scope:** All Grand Rapids Purchased Products

### **Procedure:**

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Approved By: Gordon Kirsch

Signature on file

Date:



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### **1.0 Obtain first piece samples**

#### **1.1 Responsibility: Purchasing Agent**

The Purchasing Agent is responsible for contacting vendors and requesting First Piece sample submissions when any of the above instances occurs. Sample approval is a part number program. Each part # must have a sample approval.

If there are multiple cavities, impressions, or tools, each will require a sample approval inspection layout.

Purchasing and Engineering will have a review meeting (Marketing and Quality Assurance may attend if needed for clarification). This will ensure that specifications and drawings accurately convey any changes in tolerance, material, etc. to potential suppliers. Deliverables may include marked & signed drawings, written performance specifications, "best" and "worst" case samples, tolerances, material or aesthetic specifications, and all other items necessary to convey the intended final product requirements.

### **2.0 Part Layout**

#### **2.1 Responsibility: Supplier**

**2.2** The supplier will sequentially number or letter each dimension/specification on Knappe & Vogt's part print. The sequence numbers and dimensions/specification must be transferred to a summary report. The inspection layout results are to be written next to the print dimension on the summary report, including the nominal dimension, tolerance, and a determination whether the results are in or out of specification.

All parts submitted must be made on production tooling and must not be altered in anyway by a non-production tool operation. One part completely laid out (all characteristics), and three parts with all *criticals* laid out will be submitted for approval. The parts from multiple tools, cavities, or impressions will be permanently marked. The print shall be attached together with all related reports. The inspection report shall include the type of measurement device used for each individual print dimension. Only numerical values should be recorded even if a dimension is typically checked with an attribute gage. Parts used for Supplier inspection will be submitted with the First Piece Submission, labeled "First Piece

Samples.”



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## Quality System Procedure # QPRO4.10.04

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Any out of specification conditions found in the layout must be circled on the submitted layout summary form. The Supplier must have written approval from Knap & Vogt's Product Engineering prior to submission of a layout with an out of specification condition. The Deviation/Change request must include the inspection report, print and reason for the request. If the layout is submitted with out of specification conditions it must also contain a corrective action plan for those conditions.

#### **2.3 Shipping First Piece Submission**

#### **2.4 Responsibility: Supplier**

**2.5** The samples should be treated with extra care. Package samples individually in a sealed plastic bag to prevent contamination during shipment. Sufficient padding materials shall be used to guard against damage to all critical features. Samples should be packed in cartons so no damage will occur during shipment to Knap & Vogt.

The following four items shall be present in the carton for each submission:

- Identified sample(s)
- Inspection Report
- Labeled Print
- Packing List

**2.3 Capability Study:** A thirty (30) piece capability study of selected critical characteristics may be requested by Product Engineering or Quality Assurance Department. The Capability Study will be performed on production run parts. A CPK of 1.33 or greater must be achieved. If the initial capability of the process can not meet a CPK of 1.33, a corrective action must be submitted and the capability study must continue until a CPK of 1.33 is achieved.

#### **3.0 Internal Layout Review**

#### **3.1 Responsibility: Purchasing, Product Engineer, Packaging Engineer,**



responsibilities), see [QPRO4.10.04 Summary](#).

**Records:** Customer and KV layout records are maintained in accordance with [QPRO4.16.01](#).