



**Setra Systems Inc. Supplier Handbook**  
**v7 – May 2, 2023**

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## 1. ABOUT SETRA SYSTEMS, INC.

- 1.1. Setra Systems, Inc, is comprised of Setra Systems and Gems Sensors & Controls. The companies were merged in 2023 and do business as Setra Systems (Setra) and Gems Sensors & Controls (Gems), referred herein collectively as “Gems/Setra”. We design and manufacture reliable and innovative sensing and monitoring technologies to deliver solutions to customers’ problems and challenges.
- 1.2. Our headquarters are in Boxborough Massachusetts. We are a global company with production facilities in the USA (Massachusetts and Connecticut), Great Britain and Asia.
- 1.3. Setra systems, inc. Is part of the Fortive group of companies, a diversified industrial growth organization based in Everett, Washington with 26,000 employees worldwide. The Fortive business system (FBS) is the cornerstone of our culture and our ultimate competitive advantage. We are constantly in a state of innovation: figuring out how we can solve customer problems, increase our quality and productivity, and deliver to our mission & vision.

## 2. PURPOSE OF DOCUMENT

- 2.1. The purpose of this document is to elaborate on the expectations Gems/Setra has of its suppliers. The intent is to improve the accuracy and efficiency of communications, in-bound shipments and products, and invoicing.

## 3. SUPPLIER CODE OF CONDUCT

- 3.1. Supplier will comply with all laws and regulations applicable to their business, and the standards of its industry, including those pertaining to the manufacture, pricing, sale, distribution, labeling, import, and export of merchandise. Without limiting this requirement, Supplier will not: (A) violate, misappropriate or infringe upon the intellectual property rights of Fortive and its subsidiaries or any third party; or (B) engage in any activities which would violate any applicable laws and regulations relating to (1) bribery or illegal payments, (2) laws against unfair competition, (3) unfair and deceptive trade practices, (4) the environment, (5) health and safety, (6) international trade, including exports and imports, (7) data privacy, (8) money laundering, (9) employment, (10) contracting with governmental entities, or (11) medical devices, if applicable. **For more information, please visit: [www.fortive.com/suppliers](http://www.fortive.com/suppliers)**

## 4. QUALITY

### 4.1. DPPM (PPM)

- 4.1.1. Gems/Setra expects that all suppliers achieve a DPPM (defective parts per million) level of 2500 or better. A suppliers DPPM level will be monitored monthly using a rolling 3-month basis.

$$DPPM = \frac{\text{Quantity Rejected}}{\text{Quantity Received}} * 1,000,000$$

### 4.2. SUPPLIER CORRECTIVE ACTION REQUESTS (SCAR)

- 4.2.1. Gems/Setra will generate a NCR (non-conformance report) for any material that doesn’t meet Gems/Setra drawings and /or specifications. Supplier will be notified of the discrepant material via a NCR form or a SCAR (Supplier Corrective Action Request) form. A SCAR will require a supplier to submit a formal written corrective action to address the non-conformance. The necessity for a SCAR will be evaluated by Gems/Setra and will take into account potential impact to production costs, quality costs, performance, reliability, safety, and customer satisfaction. The supplier is expected to complete all the sections of the SCAR form with correct information and provide additional supporting documents where applicable. The completed SCAR form must be returned via email within 20 (twenty) days from the issue date for timely closure.
- 4.2.2. Gems/Setra will disposition the discrepant material as; use-as-is, return to vendor, sort, or rework based on severity and production requirements.
- 4.2.3. An example of a SCAR and a NCR Form is included in the Appendix

#### 4.3. QUALITY RETURNS (RMA)

4.3.1. RMA (Return Material Authorization) process:

4.3.1.1. Gems/Setra will contact supplier to request a RMA # via a RMA request form. The Supplier is expected to have the RMA#, shipping account number and shipping address back within 48 hours after the initial request was issued.

4.3.1.2. Gems/Setra will generate a DM (debit memo) using the information from the RMA form.

4.3.1.3. The supplier will receive a copy of the DM from Gems/Setra ERP system for return of parts.

NOTE: The DM does NOT authorize the supplier to send replacement material

4.3.1.4. The buyer will issue a separate PO to the supplier for the replacement material if required.

4.3.1.5. Gems/Setra will take the debit against open invoices for the supplier.

#### 4.4. SORTING/REWORK

4.4.1. Should Gems/Setra need to sort or rework material; Gems/Setra will bill the supplier at a rate of up to \$60 per hour for sorting and any other rework charges incurred based on required resources.

4.4.2. Alternatively, the supplier can send a representative within 24 hours to sort or rework the material at Gems/Setra facility.

#### 4.5. SUPPLIER DEVIATION REQUESTS

4.5.1. In certain instances, it may be permissible for the supplier to temporarily deviate from drawing requirements and specifications. Supplier may request a SRW (Supplier Request for Waiver) form from Gems or a TDN (Temporary Deviation Notification) from Setra. The forms must provide all required and pertinent information concerning the requested deviation. If non-conforming material is associated with the deviation, the supplier is responsible for the segregation of the non-conforming material until approval is granted. Any discrepant material received at Gems/Setra without an approved SRW or TDN may be rejected and returned to the supplier at the supplier's expense with all additional handling and shipping costs incurred by the supplier. Once a deviation is approved, all material shipped with the allowed deviation must be accompanied by a copy of the signed and approved SRW or TDN.

4.5.2. An example of a SRW and TDN Form is included in the Appendix.

### 5. ENVIRONMENTAL HEALTH & SAFETY

5.1. Gems/Setra is committed to conducting its business in an environmentally responsible manner, in compliance with all applicable environmental, health and safety laws and regulations, and in a manner that promotes pollution prevention and protects the health and safety of our associates, customers, and members of our local communities worldwide. Gems/Setra expects Suppliers to demonstrate a commitment to responsible environmental stewardship, and workplace health & safety.

### 6. ON-TIME DELIVERY (OTD)

6.1. Gems/Setra expects that our suppliers will maintain **95% on-time delivery or better**. We work with our suppliers to achieve this goal through such programs as Kanban and VMI. Gems/Setra encourages suppliers to provide suggestions that will allow them to attain this goal.

#### 6.2. PO Due date

6.2.1. Purchase order (PO) requested dates are the date that product is expected at Gems/Setra dock, it is not the ship date. Suppliers are measured against the shipment requested date, not shipment promise date.

#### 6.3. PO Quantity

6.3.1. Gems/Setra reserves the right to return any product shipped more than the quantity ordered. If the quantity shipped is less than the quantity ordered, supplier should obtain buyer approval in writing

to close the order. Supplier adherence to this process will be tracked in a quality database as product is received. Suppliers will be notified of violations.

## **7. MATERIAL REPLENISHMENT PROGRAMS**

7.1. Gems/Setra uses multiple material replenishment systems to ensure the optimal flow of material. These include: Kanban, VMI (vendor managed inventory), off-site consignment. We determine the best program based on the suppliers/part usage, cost, and manufacturing location. Our primary replenishment system is the Kanban system. When appropriate, Gems/Setra may also place discrete POs/spot buys.

### **7.2. Kanban Basic Program expectations:**

- 7.2.1. Suppliers are expected to carry the negotiated minimum inventory levels to meet fluctuating demands.
- 7.2.2. Gems/Setra will issue a master blanket purchase order (PO) for each item on the program and will issue a release (Kanban PO) as necessary. The Kanban PO will have its own identifying PO number and will deduct off the master blanket PO.
- 7.2.3. PO quantity determines liability unless otherwise defined in any signed Agreement.
- 7.2.4. The due date for all Kanban PO's will be based on a set lead time agreed to by the Supplier and Buyer. This is the JIT (just-in time) lead time. The due date (or request date) is the date the product is due at Gems/Setra's dock.

### **7.3. VMI basic program expectations:**

- 7.3.1. Suppliers are expected to manage the inventory levels at the VMI stocking location and at their facilities for each item on the program.
- 7.3.2. Gems/Setra will issue a weekly consolidated PO for each item on the program based on weekly supplier VMI scan report. Product is expected to arrive at Gems/Setra within five (5) business days; this is the JIT (just-in-time) lead time.
- 7.3.3. Estimated annual usage (EAU) for each item on the program may be provided upon request. Supplier is expected to use this information to establish recommended ROP/ROQ quantities subject to approval.

### **7.4. Off-site Consignment basic program expectations:**

- 7.4.1. Gems/Setra uses a 3PL (3<sup>rd</sup> party logistics provider) warehouse for inventory management services.
- 7.4.2. Product stored at the 3PL are considered in consignment and are owned by Supplier until released to Gems/Setra.
- 7.4.3. Gems/Setra will issue a master blanket PO for each item on the consignment program and will issue a release (kanban release PO) to ship product from the 3PL to Gems/Setra.
- 7.4.4. Supplier will have access to the 3PL's web portal to view inventory levels and will receive email notices to assist in management of the items on the consignment program.
- 7.4.5. Gems/Setra and Supplier will agree to set inventory aging guidelines.

7.5. Suppliers will be expected to consider participation in these programs as requested by Gems/Setra. Detailed program requirements may be further defined in a Long-Term or Program Agreement

## **8. COST / PURCHASE PRICE VARIANCE (PPV) / VALUE ADD/VALUE ENGINEERING (VA/VE)**

8.1. Gems/Setra expects suppliers to support Gems/Setra ability to sell product at a competitive rate. Gems/Setra actively encourages and desires suppliers to participate in cost reduction efforts and for these efficiencies to be shared between Gems/Setra and the Supplier. Examples of these activities include kaizen events, material evaluation, enhanced manufacturing processes and tooling, etc.

## 9. SUPPLIER PERFORMANCE

- 9.1. Gems/Setra evaluates suppliers primarily based on quality, delivery, cost, and customer service.
- 9.2. Gems/Setra Score card - Suppliers performance regarding quality and delivery may be communicated to suppliers via a Gems/Setra Score Card transmitted on a periodic basis.
- 9.3. Gems/Setra SCIP (supplier continuous improvement plan)– Gems/Setra may engage key suppliers in a detailed review of their overall performance metrics.

## 10. PURCHASE ORDER CONFIRMATION

- 10.1. Suppliers are expected to confirm receipt of each PO with the buyer within 24 (twenty-four) hours. Supplier's failure to acknowledge purchase order quantity, delivery and cost will be assumed to imply acceptance.
- 10.2. *Gems/Setra Standard Terms and Conditions of Purchase ("Terms") apply. The Terms are located at: <http://www.gemssensors.com/terms-and-conditions> and at <https://www.setra.com/terms-and-conditions>*

## 11. NATIONAL DEFENSE RATING

- 11.1. Gems/Setra may issue a PO with US Defense Priority requirement. In the event of a PO being rated as a Defense Priority, Supplier will be advised of the DPAS rating and is required by U.S. law to follow the provisions of the DPAS regulation (15 CFR 700). Detailed requirements for a DPAS rated order can be found at: <<http://www.gemssensors.com/terms-and-conditions/>>

## 12. INVOICING AND PAYMENT

- 12.1. Payment of invoices, less any amounts in dispute, will be made at **net 90 days check/wire transfer** or **net 60 days credit card** from the date of acceptable invoice(s), unless otherwise negotiated in writing. International wires are also an option. For payment to be made promptly, the supplier must send the commercial invoice directly to Gems/Setra in one of the following means:

### **Invoices to Setra:**

- **Email (preferred):** [ap\\_finance@setra.com](mailto:ap_finance@setra.com)
- **Mail:** Setra Systems, Inc.
- Attn: Accounts Payable
- 159 Swanson Rd.,
- Boxborough, MA 01719 USA

### **Invoices to Gems:**

- **Email (preferred):** [ap\\_finance@setra.com](mailto:ap_finance@setra.com)  
(or [accountspayable@gemssensors.com](mailto:accountspayable@gemssensors.com))
- **Mail:** Gems Sensors & Controls,
- Attn: accounts payable
- 1 Cowles Road
- Plainville, CT 06062 USA

- 12.2. Invoices included with the physical goods will not be processed.

- 12.3. Invoices must include the following:

- 12.3.1. Invoice date
- 12.3.2. Supplier name and remit to address
- 12.3.3. Gems/Setra PO number(s)
- 12.3.4. if the shipment is a kanban release, this is the specific release number, NOT the blanket order number
- 12.3.5. Gems/Setra part number(s)
- 12.3.6. Quantity shipped (in the same unit of measure as on the PO)
- 12.3.7. Price (in same currency as on PO, usually US dollars)
- 12.3.8. Packing slip number / reference number that ties each invoice to a specific shipment.

### 13. PACKAGING AND LABELING

- 13.1. Each package/carton in the shipment should contain a label that specifies the following:
- 13.1.1. Supplier name
  - 13.1.2. Country of Origin
  - 13.1.3. Gems/Setra PO number(s)
  - 13.1.4. if the shipment is a kanban release, this is the specific release number, NOT the master blanket PO number
  - 13.1.5. Gems/Setra part number(s) and revision
  - 13.1.6. Date of manufacture
  - 13.1.7. Quantity in box
- 13.2. In addition, the shipment should contain, at a minimum, the following paperwork:
- 13.2.1. Commercial invoice (international shipments only)
  - 13.2.2. Packing list
  - 13.2.3. CoC (Certificate of Conformance),
  - 13.2.4. CoO (Country of Origin certification)
  - 13.2.5. Material certifications and secondary operations certifications
  - 13.2.6. Mill certification (as applicable)
  - 13.2.7. Other paperwork as required by Gems/Setra
- 13.3. Note: documentation can be sent electronically to: [suppliercoc@gemssensors.com](mailto:suppliercoc@gemssensors.com) or [incomingfreight@setra.com](mailto:incomingfreight@setra.com).
- 13.4. Documents should be attached to outside of box, with one set of duplicate documents inside the carton. If shipment contains multiple cartons, the paperwork should be included in one carton clearly marked "paperwork enclosed". An example of each of these documents is included in the Appendix.
- 13.5. Maximum allowable weight for each package is **25 (twenty-five) pounds**. All goods shall be packaged and packed by Supplier adequately to ensure arrival at destination in an undamaged condition. All international shipments must be boxed and contents rust-proofed and otherwise protected to prevent damage in transit and meet all export shipping requirements.
- 13.6. Notice to all Non-Domestic Suppliers: Per U.S. import regulations, all parts must be marked with Country of Origin; all stainless-steel and aluminum parts must include a material certification, traceable to the manufacturing mill, with each shipment
- 13.7. An example of an acceptable Packing List, COC, and Material Certification is included in the Appendix

### 14. FREIGHT TERMS

- 14.1. Gems/Setra standard freight terms for domestic shipments will be by Gems/Setra assigned carrier as FCA Origin, Freight Collect, unless specifically stated otherwise in any Long-Term Agreement between Supplier and Buyer. Shipping terms for international shipments are FCA, Port of Origin, Freight Collect, per INCOTERMS 2010, unless specifically stated otherwise in any such Long-Term Agreement.
- 14.2. In addition, Supplier is expected to follow shipping instructions as listed in Gems/Setra freight routing guide, unless otherwise instructed in writing. The routing guide is located on the Gems/Setra web site at: <https://www.gemssensors.com/terms-and-conditions>

## 15. DRAWINGS AND QUOTING

- 15.1. Gems/Setra provides 2D drawings to control fit and form of parts. It is Gems/Setra expectation that all parts provided will meet ALL of the drawings requirements (including material requirements and notes). Changes that will improve availability or cost of the product may be submitted by Suppliers for review by Gems/Setra. If requested change is accepted the drawing will be revised to include the change. Parts supplied must meet the drawing revision level as noted on any PO. In case of any discrepancy, Supplier should notify Buyer.
- 15.2. Any quote submitted without exceptions noted will be assumed to meet ALL drawing requirements.

## 16. FORTIVE PART QUALIFICATION PROCESS (FPQP)

- 16.1. Gems/Setra uses FPQP (Fortive Part Qualification Process) for approval of any new parts. The first time Gems/Setra is receiving a part or revision level from that supplier, part is considered new. A part is considered new until the part has received Final Acceptance by Gems/Setra. This requires the supplier to submit FAI (first article inspection) sample parts along with the package of documentation called FPQP package. FPQP level would be requested at the time FAI PO is placed and FPQP level will be indicated on the FAI PO. Submission requirements for different FPQP levels are in the FPQP handbook which can be provided upon request. There are 3 (three) levels of FPQP, namely A, B, and C that Gems/Setra could request, out of these C is the simplest and A is the most complex. FPQP level is determined based on the complexity and criticality of the part to Gems/Setra application. Upon submission of FPQP package and samples, Gems/Setra will make the determination on the approval or rejection of the part and will notify the supplier. This process may require more than 1 (one) sample unit to be submitted. Any production quantities of parts produced prior to final acceptance of a part are the responsibility of the supplier unless alternate arrangements have been made in writing by Gems/Setra and the supplier.
- 16.2. Part approval does not guarantee PO award.
- 16.3. The transition period to ramp up to full production volumes of a new part may often take as long as 6 months, or longer, while Gems/Setra uses up any pre-existing commitments.
- 16.4. FPQP documents should be sent electronically to:
- 16.4.1. Gems: [a0a4e40b.Gemssensors.com@amer.teams.ms](mailto:a0a4e40b.Gemssensors.com@amer.teams.ms)
- 16.4.2. Setra: [fai@setra.com](mailto:fai@setra.com)

## 17. CHANGE MANAGEMENT/COPY EXACT (CE)

- 17.1. CHANGES BY GEMS/SETRA – Drawings may be revised by Gems/Setra. Such changes may require additional qualifications. Gems/Setra shall notify the supplier of all relevant revisions by sending the updated print with the first PO or PO revision for the updated part.
- 17.2. CHANGES BY SUPPLIERS – Any changes to form, fit, or function of the part including component, process, and/or design changes must be submitted in writing to Gems/Setra prior to making any changes. Verbal notification of changes will not be accepted by Gems/Setra. When the supplier submits changes for Gems/Setra approval, the information submitted must include a complete description of the change. The Supplier must have a documented process whereby changes that impact Gems/Setra are triggered for notification and written approval.
- 17.3. SUB-CONTRACT SUPPLIERS – Gems/Setra must be notified at time of quotation of any primary process or procedure not performed directly by the Supplier and outsourced to a subcontract supplier. Additionally, Supplier must notify Gems/Setra of any changes to fabrication processes and sub-contract sources. New FAI units may be required. Supplier is responsible to manage the quality and liability of their sub-contracted suppliers.
- 17.4. LAST TIME BUY – For any changes under this section, Gems/Setra shall have the option to make a last time buy for the product before the change is implemented.
- 17.5. OEM (original equipment manufacturer) COMPONENTS –
- 17.5.1. Suppliers that provide OEM parts either individually or in an assembly are expected to implement, maintain, and enforce a Counterfeit Material Prevention and Detection Process to assure the

authenticity and conformance of purchased parts and may be required to sign a Counterfeit Materials Prevention and Detection Process agreement.

17.5.2. Electronic components are primarily controlled through an AVL (approved vendor list)

## 18. SUPPLIER CERTIFICATIONS

18.1. Gems/Setra prefers, and in some instances may require, Suppliers be at a minimum of ISO or AS certified or in the process of obtaining such certification.

## 19. COMPLIANCE WITH LAWS AND REGULATIONS

19.1. It is Gems/Setra expectation that suppliers comply with all applicable laws and regulations.

19.2. Gems/Setra has strict policies regarding Equal Opportunity Employment, Conflict Minerals, ROHS compliance, counterfeit parts, anti-dumping, mercury, and export and import regulations.

19.3. Learn about Fortive's Integrity and Compliance Policies here: <https://www.fortive.com/culture#integrity-compliance>

## 20. SUPPLIER VISITS

20.1. Gems/Setra expects suppliers to allow Gems/Setra personnel to visit Supplier's site(s) as required. Gems/Setra also expects that Suppliers will visit Gems/Setra on a periodic basis to support business needs.

## 21. GEMS/SETRA OWNED TOOLING

21.1. Please see Setra T&Cs section #12. BUYER'S PROPERTY: Unless otherwise provided in writing, property of every description, including all tools, equipment and materials furnished or made available to Supplier, title to which is in Buyer's name, and any replacement thereof, shall be and remain the property of Buyer. Property other than materials shall not be modified without the written consent of the Buyer. Such property shall be plainly marked or otherwise adequately identified by Supplier as property of Buyer (by name) and shall be safely stored separately and apart from Supplier's property. Supplier shall not use such property except for performance of work hereunder or as authorized in writing by Buyer. Such property while in Supplier's possession or control shall be kept in good condition, shall be held at Supplier's risk, and shall be kept insured by Supplier, at its expense, in an amount equal to the replacement cost with loss payable to Buyer. To the extent such property is not materially consumed in the performance of this Order, it shall be subject to inspection and removal by Buyer and Buyer shall have the right of entry for such purposes without any additional liability whatsoever to Supplier. As and when directed by Buyer, Supplier shall disclose the location of such property and/or prepare it for shipment and ship F.O.B. its plant to Buyer in as good condition as originally received by Supplier, reasonable wear and tear accepted.

## 22. APPENDIX A - GLOSSARY OF TERMS

- **Cold Start Lead Time** – Length of time for Gems/Setra to receive the first Kanban release quantity when issuing a new blanket purchase order.
- **Discrete Purchase Order**- A Discrete Purchase Order is for a specific quantity of parts to be delivered on a specified date. Also referred to as a Standard PO.
- **FPQP** – Process used by Gems/Setra for qualification of parts (Fortive Part Qualification Process).
- **JIT Lead Time** – Length of time for Gems/Setra to receive a kanban quantity from a supplier when releasing it from an existing master blanket purchase order. This time-period includes supplier order processing time as well as shipment time (days in transit).
- **Kanban** – A material pull system in which a customer (Gems/Setra) signals suppliers that material is required.
- **Kanban Agreement** – Document which outlines the responsibilities of the supplier and Gems/Setra.
- **Kanban Bin Quantity** (release quantity) – Predetermined release quantity based on usage, JIT lead time and safety stock.
- **Kanban Card** – Internal document which contains part information, used as an internal signal.
- **Kanban Release Order** – A Kanban Release Purchase Order will decrement the quantity on the master blanket purchase order. An example of a Kanban release order is included in the Appendix.
- **Master Blanket Purchase Order** – An estimated quantity of product required over an extended period of time. Due date on this type of order is the intended date for the order to have shipped complete.
- **Processing Lead Time** – Length of time for supplier to internally restock a new manufacturing lot.
- **Supplier Continuous Improvement Plan (SCIP)** – Process used by Gems/Setra to identify opportunities for supplier improvement.
- **Supplier Quality Engineer (SQE)** - Primary point of contact for all quality-related issues and correspondence. Supplier Corrective Action Requests, Supplier Deviation Requests, and any quality related requirements must be managed in coordination with the Supplier Quality Engineer and the Buyer.
- **Supplier Scorecard** – A tool to measure a supplier’s quality and delivery performance.

**23. APPENDIX B – EXAMPLE DOCUMENT**

23.1. Important Note: These are EXAMPLES only, not required formats. The required content for these documents is listed in the main section of this document.

**1) EXAMPLE OF CERTIFICATE OF COMPLIANCE (C OF C)**

**\*\* This document must be signed by an officer of the supplier \*\***

**To: Gems Sensors & Controls**

**We hereby certify that the parts supplied on your purchase order # conform to the material specifications and/or drawings furnished with the order. Test reports, or certification of test reports covering material use on file at our plant subject to examination.**

**Part Number:**

**Rev Level:**

**Part Name:**

**2) Example of Material Certification**

**CERTIFICATE OF TEST**

Page 01 of 01

Certification Date  
22-FEB-2009

CUSTOMER ORDER NUMBER

25162

Invoice Number  
S180269

CUSTOMER PART NUMBER

SOLD TO:

SHIP TO:

Description: 6061-T6511 EXTRUDED BAR AMS QQA 200/8, QQA 20  
1-1/4 X 2 RECT X 12' R/L Line Total: 779 LB  
HEAT: 686303 ITEM: 513741

Specifications:  
QA A 200/8 ASTM B221 06 ASME SB 221 98  
AMS QA A 200/8 UNS 96061

ALUMINIUM CHEMICAL ANALYSIS

DESCRIPTION:

	SI	FE	CU	MN	MG	CR	ZN	TI
MIN	0.4		0.15		0.8	0.04		
MAX	0.8	0.7	0.4	0.15	1.2	0.35	0.25	0.15

OTHERS : EACH TOTAL  
0.05 0.15 AL REMAINDER

RCPT: R392893

MILL :

COUNTRY OF ORIGIN :

MECHANICAL PROPERTIES

DESCRIPTION	YLD STR KSI	ULT TEN KSI	%ELONG IN 02 IN	%RED IN AREA	HARDNESS BHN
	54.8	58.3	11.5		

DESCRIPTION	YLD STR KSI	ULT TEN KSI	%ELONG IN 02 IN	%RED IN AREA	HARDNESS
	53.9	57.4	12.5		

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination.

We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes.

Material did not come in contact with mercury while in our possession.

\_\_\_\_\_  
MANAGER, QUALITY ASSURANCE

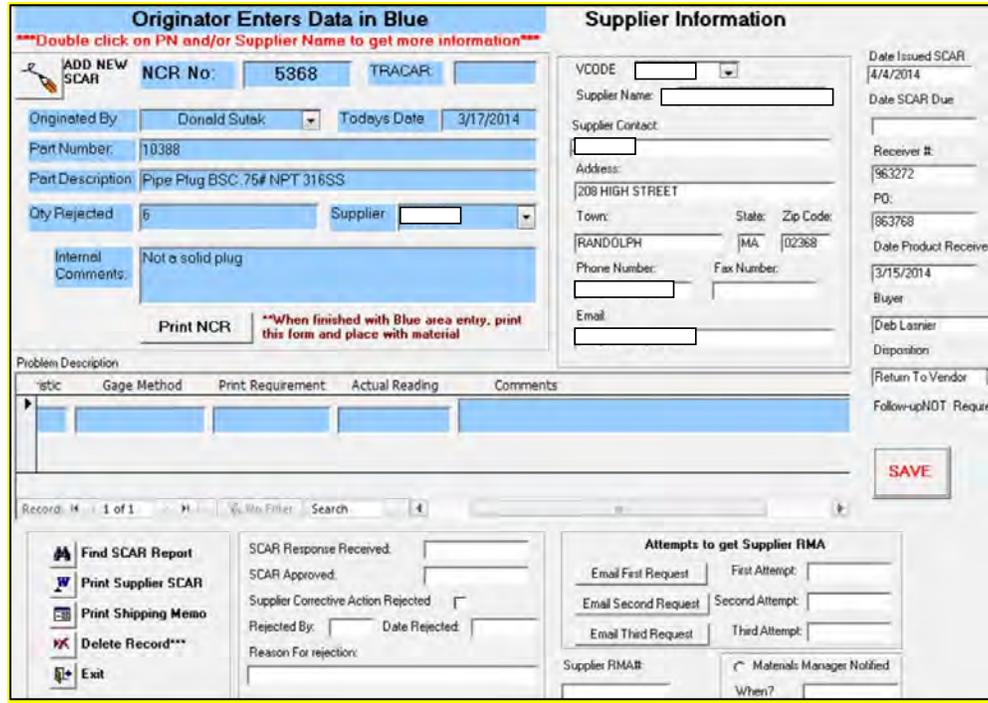


**4) Example of Kanban Release Order**

**\*\*Note: Contract Number refers to the parent Blanket order number that release is pulling from\*\***

		<h3>KanBan Release</h3>		Contract 202955		Page 1 of 1	
Note: P.O. must accompany shipment		--- >		Purchase Order 452983		P.O. Date 03/16/11	
Gems Sensors Inc. Cowles Road Plainville, CT 06062 Tel: 860-747-3000 Fax: 860-747-4244		Terms Net Days		Shipping Method		Buyer	
Supplier GEMS Sensors Inc. 1 Cowles Road Plainville CT 06062 United States		Vendor #		Buyer Email @gemssensors.com			
Line	Product/Description	Requested Date	U/M	Original Qty	Open Qty	Unit Price	Amount
1.00	9411010 HSG ALUM P561  Kanban ID:30536Suppl.Loc.:P561-B .	03/23/11	EA	200	200	\$	\$
<p>*Certification required that all material furnished under this purchase order shall be free from contamination by mercury. *Gems Sensors is not responsible for any charge not listed on this PO. *Certificate of compliance and packing slip must accompany.</p>							<b>Order Total:</b>
<p>The Buyer and Seller agree to be bound by the terms and conditions referenced in the next sentence in connection with the purchase of the goods (the "Terms"). These terms are located Buyer's website that can be found at &lt;http://www.gemssensors.com/content.aspx?id=4648&gt; and are subject to change. Seller is advised to review Buyer's website from time to time when it receives a new order for goods.</p>							

5) NCR form



**Originator Enters Data in Blue**  
\*\*\*Double click on PN and/or Supplier Name to get more information\*\*\*

ADD NEW SCAR  
NCR No: 5368 TRACAR: [ ]

Originated By: Donald Satak Today's Date: 3/17/2014

Part Number: 10388

Part Description: Pipe Plug BSC: 75# NPT 316SS

Qty Rejected: 6 Supplier: [ ]

Internal Comments: Not a solid plug

Print NCR \*\*When finished with Blue area entry, print this form and place with material

**Supplier Information**

VCODE: [ ] Supplier Name: [ ]

Supplier Contact: [ ]

Address: 208 HIGH STREET

Town: RANDOLPH State: MA Zip Code: 02388

Phone Number: [ ] Fax Number: [ ]

Email: [ ]

Date Issued SCAR: 4/4/2014  
Date SCAR Due: [ ]  
Receiver #: 963272  
PO: 863768  
Date Product Received: 3/15/2014  
Buyer: Deb Larrier  
Disposition: [ ]  
Return To Vendor: [ ]  
Follow-up/NDT Required: [ ]

Problem Description

Part	Gage Method	Print Requirement	Actual Reading	Comments

Record: 1 of 1

Find SCAR Report  
Print Supplier SCAR  
Print Shipping Memo  
Delete Record\*\*  
Exit

SCAR Response Received: [ ]  
SCAR Approved: [ ]  
Supplier Corrective Action Rejected: [ ]  
Rejected By: [ ] Date Rejected: [ ]  
Reason for rejection: [ ]

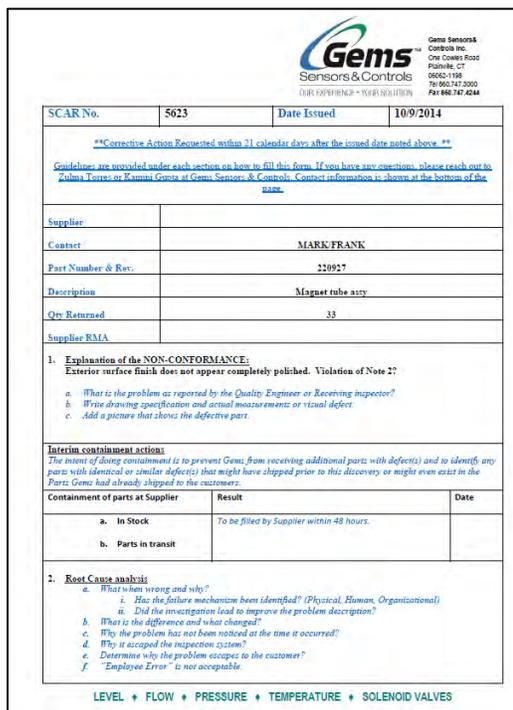
Attempts to get Supplier RMA

Email First Request: [ ] First Attempt: [ ]  
Email Second Request: [ ] Second Attempt: [ ]  
Email Third Request: [ ] Third Attempt: [ ]

Supplier RMA#: [ ]  
Materials Manager Notified: [ ]  
When?: [ ]

SAVE

6) SCAR form



**Gems Sensors & Controls**  
OUR EXPERIENCE • YOUR SOLUTION

SCAR No. 5623 Date Issued 10/9/2014

\*\*Corrective Action Requested within 21 calendar days after the issued date noted above.\*\*

Guidelines are provided under each section on how to fill this form. If you have any questions, please reach out to Zulma Torres or Kamini Gupta at Gems Sensors & Controls. Contact information is shown at the bottom of this page.

Supplier: [ ]  
Contact: MARK FRANK  
Part Number & Rev: 220927  
Description: Magnet tube Assy  
Qty Returned: 33  
Supplier RMA: [ ]

1. **Explanation of the NON-CONFORMANCE:**  
Exterior surface finish does not appear completely polished. Violation of Note 27

a. What is the problem as reported by the Quality Engineer or Receiving Inspector?  
b. Write drawing specification and actual measurements or visual defect.  
c. Add a picture that shows the defective part.

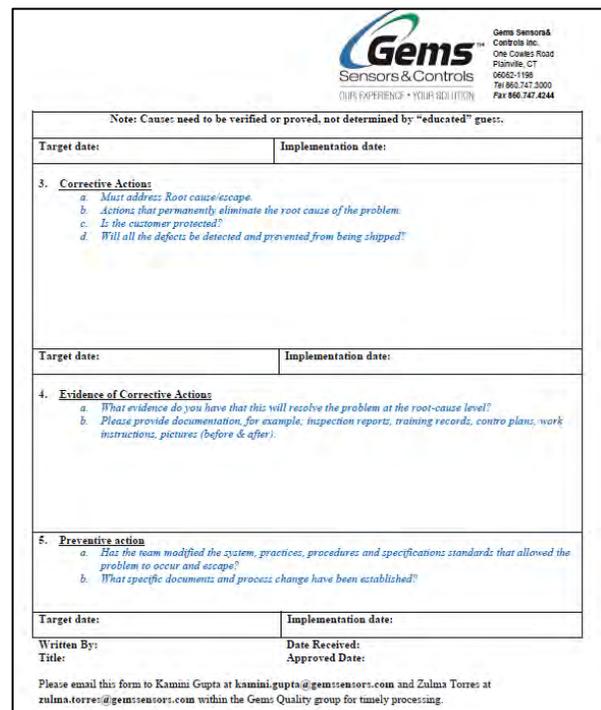
**Interim containment actions:**  
The intent of doing containment is to prevent Gems from receiving additional parts with defects) and to identify any parts with identical or similar defects) that might have shipped prior to this discovery or might even exist in the Parts Gems had already shipped to the customer.

Containment of parts at Supplier	Result	Date
a. In Stock	To be filled by Supplier within 48 hours.	
b. Parts in transit		

2. **Root Cause analysis:**

a. What was wrong and why?  
i. Has the failure mechanism been identified? (Physical, Human, Organizational)  
ii. Did the investigation lead to improve the problem description?  
b. What is the difference and what changed?  
c. Why the problem has not been noticed at the time it occurred?  
d. Why it escaped the inspection system?  
e. Determine why the problem escapes to the customer?  
f. "Employee Error" is not acceptable.

LEVEL • FLOW • PRESSURE • TEMPERATURE • SOLENOID VALVES



Note: Cause: need to be verified or proved, not determined by "educated" guess.

Target date: [ ] Implementation date: [ ]

3. **Corrective Actions:**

a. Must address Root cause/escape.  
b. Actions that permanently eliminate the root cause of the problem.  
c. Is the customer protected?  
d. Will all the defects be detected and prevented from being shipped?

Target date: [ ] Implementation date: [ ]

4. **Evidence of Corrective Actions:**

a. What evidence do you have that this will resolve the problem at the root-cause level?  
b. Please provide documentation, for example, inspection reports, training records, contro plans, work instructions, pictures (before & after).

Target date: [ ] Implementation date: [ ]

5. **Preventive action:**

a. Has the team modified the system, practices, procedures and specifications standards that allowed the problem to occur and escape?  
b. What specific documents and process change have been established?

Target date: [ ] Implementation date: [ ]

Written By: [ ] Date Received: [ ]  
Title: [ ] Approved Date: [ ]

Please email this form to Kamini Gupta at kamini.gupta@gemssensors.com and Zulma Torres at zulma.torres@gemssensors.com within the Gems Quality group for timely processing.

**7) SRW form**

	<h3>Supplier Request for Waiver</h3>	Waiver No. <input style="width: 50px;" type="text"/> Gems Sensors 1 Cowles Road Plainville CT 06062
Part Number	<input style="width: 80px;" type="text"/>	Revision <input style="width: 30px;" type="text"/>
Part Description	<input style="width: 100%; height: 20px;" type="text"/>	
Supplier	<input style="width: 100%; height: 20px;" type="text"/>	
Requirement	<input style="width: 100%; height: 20px;" type="text"/>	
Deviation	<input style="width: 100%; height: 20px;" type="text"/>	
Reason for waiver	<input style="width: 100%; height: 20px;" type="text"/>	
Qty of Deviant Parts	<input style="width: 100%; height: 20px;" type="text"/>	
Corrective Action	<input style="width: 100%; height: 40px;" type="text"/>	
Comments	<input style="width: 100%; height: 40px;" type="text"/>	
Requested by	Date	Company
_____	_____	_____
Approved by	Date	Company
_____	_____	_____

**8) TDN Form**

<b>Setra</b> Sheet 1 of _____		<b>TEMPORARY DEVIATION NOTICE</b>		TDN # _____
<b>REASON FOR DEVIATION</b> <input type="checkbox"/> Vendor Request <input type="checkbox"/> Purchasing Request <input type="checkbox"/> Engineering Request <input type="checkbox"/> Manufacturing Request <input type="checkbox"/> Other: _____			Originator: _____	Date: _____
Explain Reason			Qty, time period, or order covered by this notice:	
			(Req'd) ESTIMATED EXPIRATION DATE: _____	
Amendment Info				
<b>P/N</b>	<b>REV</b>	<b>TITLE</b>		
<b>DESCRIPTION OF CHANGE</b>				
<b>TDN SCOPE</b>		<b>WHERE USED and PRODUCT IMPACTED DETAILS:</b>		
<b>PROCESS STAGE</b>	<b>APPLY AT STAGE? (Y or N)</b>	OTHER COMMENTS:  Copy Exact Applies: <input type="checkbox"/> YES Sales SignOff: _____ Date _____		
ITEMS on order				
ITEMS in stock				
Intermediate level ASSY on order				
Intermediate level ASSY in stock				
FINAL ASSY on order				
FINAL ASSY in stock				
In FIELD/REPAIRS				
<b>AREAS AFFECTED/DISTRIBUTION</b>		<b>Mark-Ups Being Used:</b> <input type="checkbox"/> YES <input type="checkbox"/> NO		
Copy to Team Lead, ME, Focus Fact. Mgr, and Mtl's <input type="checkbox"/> FF1-HVAC <input type="checkbox"/> INCOMING INSP <input type="checkbox"/> FF2-T&M/DJ/IND <input type="checkbox"/> SHIPPING <input type="checkbox"/> FF3-UHP/VAC/SCALE <input type="checkbox"/> MACHINE SHOP <input type="checkbox"/> Other(specify) _____ <input type="checkbox"/> PURCHASING		<b>Include Starting Effectivity Info. ?</b> <input type="checkbox"/> YES <input type="checkbox"/> NO	<b>TDN SIGN-OFF</b>	
Additionally, a copy of all TDNs must go to: SALES                      and                      QUALITY		S/N: _____	<b>DATE</b>	
		DATE CODE: _____	Manufacturing: _____	
			Quality: _____	
			Eng.Tech. Authority: _____	

TDN FORMDOC Rev: 2022-06-01