



F-840-008C

Supplier Requirements

1.0 Purpose/Scope

- 1.1 Applies to products and services supplied to INTEC for incorporation into aerospace products.
- 1.2 Provides external providers with aerospace product requirements not specified on the drawing, or specifications provided with the purchase order.
- 1.3 Provides external providers with INTEC source inspection requirements. Customer engineering data supersedes this specification.
- 1.4 Defines the extent and control over external providers based on the type of products and services provided and their impact on final product quality.

2.0 Responsibility

- 2.1 INTEC Quality Manager
- 2.2 INTEC Purchasing

3.0 References and Definitions

- 3.1 Turn-key Subcontractor: Providers of assemblies complete to final product engineering data; dimensional results must be reported in aircraft coordinates.
- 3.2 Special Process Subcontractor: Providers of services to product that require certified processes and personnel, such as 3rd party inspection (UL, CE, etc.), paint/coating processes, certified build processes.
- 3.3 Commercial Product Supplier: Distributors of catalog and standard inventory items.
- 3.4 COTS – Commercial-Off-The-Shelf : Commercial items, including services, available in the commercial marketplace. Packaged solutions which may be then adapted to satisfy the needs of the purchasing organization, rather than the commissioning of a custom-made, or bespoke, solutions.

4.0 Resources

- 4.1 None

5.0 Instructions

5.1 SUPPLIER QUALIFICATION

- 5.1.1 Initial external provider evaluation and approval is performed by the Purchasing Department in accordance with the control of external providers procedure P-840.
- 5.1.2 External providers being considered for aerospace work are evaluated against INTEC and customer requirements prior to approval.



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- A. The Purchasing Department accepts new aerospace external providers and documents any registration certificates, accreditations, etc. received during the initial evaluation.
 - B. The Quality Manager reviews the external provider documentation with any other relevant technical functions to determine if further evaluation is necessary.
 - Process audits may be required for special process external providers that are not ISO9001 or AS9100 registered. Registration / certification / compliance to other generally recognized standards or to internal QMS requirements may be considered acceptable on a case by case basis
 - Based on the complexity of the work and risks associated, the team determines if the required audits will be performed on-site or if a desk audit is appropriate.
 - The Quality Manager coordinates on-site audits with the prospective new supplier and the appropriate INTEC technical representatives.
 - C. Purchasing creates an external provider folder that includes all documented information of the supplier's initial evaluation and adds the supplier to the INTEC Approved Supplier List F-840-002.
 - The Approved Supplier List F-840-002 denotes the scope of approval. The scope of approval includes the external provider classifications (detail, turn-key or special process), commodities, and quality system approvals.
 - Purchasing monitors third party quality system registration status of external providers when used as a basis for approval.
- 5.1.3 All suppliers shall demonstrate an awareness of counterfeit part prevention in conformance with the AS9100D standard.
NOTE: As appropriate to the product, Supplier will plan, implement, and control processes for the prevention of counterfeit or suspect counterfeit part use and their inclusion in product delivered to Intec, using AS6174 and / or AS5553 as guidance. A copy of the Supplier's prevention of counterfeit parts program shall be provided to Intec upon request.
- 5.1.4 It shall be the responsibility of the external provider to ensure it obtains, on a timely basis, all necessary information, revision level, and/or latest data level, so that the requirements will be met.



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5.2 GENERAL PRODUCT REQUIREMENTS

5.2.1 Commercial Items

- a. Unless specified in the engineering data, commercial items may not be altered without prior approval from INTEC Engineering.
- b. Unless otherwise specified, equivalent substitutions do not require INTEC approval.
- c. If product certifications are received with the commercial item, include them in the submission package.
- d. If the supplied products have shelf life considerations, the supplier is expected to furnish either the expiration date or the material cure date.

5.2.2 Paint, Black Oxide, Surface Finish

- a. Paint specifications are provided by INTEC when called out on purchasing documents.
- b. Do not paint over hardware and other commercial items.
- c. Paint is not permitted on machined surfaces, in tapped holes or on Class A welds.
- d. Steel details that are not painted must be black oxidized unless specified otherwise.
- e. Aluminum surfaces that are not painted or machined must be jitter bugged or fogged, such as with Scotch-Brite

5.3 MATERIAL REQUIREMENTS

5.3.1 Equivalent or better material type substitutions do not require INTEC approval. Material shape, size or thickness substitutions require prior INTEC engineering approval.

5.3.2 Material Certifications

- a. Material certifications are required for every non-COTS component.
- b. Material certifications must include the material type, size and shape, traceability to the mill heat/lot, and the applicable material specifications.
- c. Scan and submit all material certifications together as one .pdf.

5.4 WELD REQUIREMENTS

- 5.4.1 Documented weld processes must be CWI approved.
- 5.4.2 Welders must be AWS certified. The welders' certificates will be requested when INTEC customers require copies.
- 5.4.3 Weld inspection must be performed by a CWI.
- 5.4.4 Unless otherwise specified, weld in accordance with AWS D17.1.

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- 5.4.5 Unless otherwise specified, welds must be Class B or better and continuous.
- 5.4.6 Class A welds require NDT. Paint is not permitted on Class A welds.
- 5.4.7 Weld Process Certifications
 - a. Weld inspection reports are required for all weldments.
 - b. Weld inspection reports must include the following product information as applicable: the tool number, sub assembly number and serial numbers; the quantity of each weldment; the weld specification name/number; the CWI inspection stamp.
 - c. Scan and submit all weld certifications together as one .pdf.
- 5.5 STRESS RELIEF REQUIREMENTS
 - 5.5.1 Welded assemblies must be thermal stress relieved. Vibratory stress relief is not allowed without prior INTEC engineering approval.
 - 5.5.2 Unless otherwise specified, stress relief is required after forming operations.
 - 5.5.3 Unless otherwise specified, stress relieve steel in accordance with AWS D1.2.
 - 5.5.4 Unless otherwise specified, stress relieve aluminum as follows:
 - a. In all cases, the temperature of the furnace shall not exceed 200°F at the time the welded assembly is placed in it; slow furnace cooling is essential.
 - b. For 6061 T4, stress relieving shall be done at 630-660°F for one hour, plus 30 minutes for each 1/2" of thickness over 1".
 - c. For 6061 T6, stress relieving shall be done at 375°F +/-25°F for 2 hours for up to 1-1/2" thick, plus 30 minutes for each 1/2" of thickness over 1-1/2".
 - 5.5.5 Stress Relief Certifications
 - a. Stress relief certifications are required for all weldments.
 - b. Stress relief certifications must include the following product information as applicable: the tool number, sub assembly number and serial numbers; the quantity of each weldment; the weld specification name/number; an oven chart.
 - c. Scan and submit all stress relief certifications together as one .pdf.



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5.6 HEAT TREAT REQUIREMENTS

5.6.1 Heat Treat Certifications

- a. Heat treat certifications are required for all hardened details.
- b. Heat treat certifications must include the following product information as applicable: the tool number and detail numbers; the material type; the quantity of each detail; the heat treat specification name/number; the hardness requirements and actual results.
- c. Scan and submit all detail heat treat certifications together as one .pdf.

5.7 NDT PROCESS REQUIREMENTS

5.7.1 NDT Certifications

- a. NDT certifications are required for all Class A welds.
- b. NDT certifications must include the following product information as applicable: the tool number, sub assembly number and serial numbers; the quantity of each weldment; the specification name/number; the CWI inspection stamp or Level II inspector signature.
- c. Scan and submit all NDT certifications together as one .pdf.

NOTE: Where tool, sub-assembly and detail numbers are required on certifications, the end customer nomenclature is required, not the INTEC project number or INTEC detail number.

5.8 DIMENSIONAL INSPECTION REQUIREMENT

5.8.1 Tool Inspection Report

- A. TIRs must be in Excel format and include nominals, tolerances and actuals. Submit the original Excel TIR and a .pdf copy that includes an inspection stamp on each line item or a signature on each page.
- B. For turn key products, features to be reported on the TIR are contained in the ISO FT&A capture in the MBD or highlighted on the engineering drawings.
- C. Separate TIRs are required for each turn-key assembly.
- D. For detail TIRs, all features with .020" or less tolerance or unilateral tolerance, all GD&T and all applicable flag notes must be reported.

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- E. Separate TIRs are not required for multiple details or sub-assemblies. Indicate the detail or sub-assembly number(s), the quantity of each and report high/low results for the batch.
- F. The TIR header must include the following product information as applicable: the tool number, sub assembly or detail number, the serial number, and the engineering drawing or model name and revision level.

5.8.2 Coordinate Measurement Results

- A. A copy of CMM and laser tracker calibration certificates must be provided.
- B. CMM or laser tracker reports must contain all holes, surfaces, vector points, tooling balls and laser targets. Point maps will be requested if required by INTEC's customer.
- C. Unless otherwise specified, all CMM and laser tracker inspection results must be reported in English language and 4-place decimal inch.
- D. Turn key dimensional results must be reported in aircraft coordinates and a .csv file must be provided.
- E. Detail and sub-assembly dimensional results are reported in the detail or sub-assembly datum system, except drill jigs and N/C blocks which require dimensional results reported in aircraft coordinates with a .csv file.
- F. The .csv report must contain X, Y and Z values in aircraft coordinates and formatted to 4-place decimal inch. Unique customer specifications for .csv file format will be provided when required.

- G. Unless otherwise specified, use the following guidelines for point collection:

Feature Type	Data Required
Surfaces with radii larger than 3"	Collect a 3" grid pattern.
Surfaces with radii smaller than 3"	Collect 3 points every 3"; 1 point at each tangent and 1 point at the crest of the radius.
Straight Scribes	Collect 1 point every 12" along the scribe; a minimum of 2 points per straight scribe.

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Curved Scribes	Collect a minimum of 3 points for all curved scribes; 1 point at each tangent and 1 point at the crest of the curve.
Planes	Collect a minimum of 4 points.
Spheres	Collect a minimum of 6 points.
Cylinders	Collect a minimum of 6 points.
Circles	Collect a minimum of 3 points.

5.8.3 Pictures

- A. Pictures of details and sub-assemblies are required for verification of proper paint, black oxide, identification and overall cosmetic appearance.
- B. In-process and final tool assembly pictures may be requested prior to on-site source inspection. The INTEC QA group takes final pictures at source inspection.

5.9 QUALITY BUY OFF PROCESS

5.9.1 All product must be approved by INTEC QA prior to shipping. A copy of the signed authorization to proceed form must accompany the shipment.

5.9.2 Inspection Package Submission

- A. Complete the authorization to proceed form.
- B. Email the inspection package, which includes the TIR, CMS results, material and process certifications, pictures, and the authorization to proceed form to the INTEC QA Group at Quality@intecautomated.com.
- C. INTEC QA reviews the inspection documentation and pictures.
- D. Details and sub-assemblies are generally approved after review of the inspection documentation and pictures. If further evaluation is needed, INTEC QA contacts the supplier to make arrangements for additional documents or pictures, or a QA representative will coordinate an on-site source inspection.
- E. Turn-key products require on-site source inspection. The INTEC QA representative coordinates the source inspection with the external providers quality department.
- F. Source inspection may include witnessing CMM and laser tracker inspection.

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G. Factory acceptance testing and proof load verification must be witnessed by the INTEC QA representative.

5.10 NONCONFORMING PRODUCT

5.10.1 INTEC verification activities may not be used by the subcontractor as evidence of effective control of quality and does not absolve the subcontractor of its responsibility to provide acceptable product and comply with all requirements.

5.10.2 Nonconforming product may not be shipped without prior INTEC Quality Team Approval. Report nonconforming product to Quality@intecautomated.com

A. External providers may not use dispositions of use-as-is or repair unless specifically authorized by INTEC QA.

B. Dispositions of use-as-is or repair, repair instructions, and reverification activities must be approved in writing from INTEC QA.

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5.11 RIGHT OF ACCESS

5.11.1 External providers must allow right of access by INTEC, INTEC customers, and regulatory authorities to the applicable areas and documented information, at all facilities, at any level of the supply chain involved in the order.

5.12 INTEC NOTIFICATION REQUIREMENTS

5.12.1 External providers must notify INTEC of changes to approved special processes and sub-tier special process suppliers.

5.12.2 External providers must notify INTEC of changes to facility location, or temporary or permanent relocation of work.

5.12.3 DPD approved external providers must notify INTEC of changes to DPD processes, equipment, software and personnel.

5.12.4 Send change notifications to the INTEC Quality Team at Quality@intecautomated.com.

5.13 RECORD RETENTION AND TRACEABILITY REQUIREMENTS

5.13.1 External provider record retention policy for INTEC orders shall be a minimum of 10 years.

5.13.2 Prior to discarding, transferring or destruction of documented information, the Supplier and sub-tier supplier shall notify Intec in writing and provide the opportunity to obtain documented information.

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- 5.13.3 In case of takeover, transfer of ownership or joint venture, Suppliers shall maintain responsibility of record archiving, including possible transfer to the owner.
- 5.13.4 In case of bankruptcy, the Supplier shall ensure that archived documented information are made accessible for customers and Regulatory authorities.

5.14 SUPPLIER AWARENESS

- 5.14.1 The Supplier shall establish a method for training, assessing and documenting the proficiency of personnel performing activities that affect quality. Personnel shall be aware of:
 - a. Their contribution to product or service conformity
 - b. Their contribution to product safety
 - c. The importance of ethical behavior
- 5.14.2 Recurrent training shall be conducted as needed for regulatory, technical skills and special process personnel qualification.
- 5.14.3 Training requirements shall be continually reviewed to ensure skills are upgraded to reflect changes in methods and technology advancements. Documented information related to training shall be retained.
- 5.14.4 Intec requires that external providers apply appropriate controls to their direct and sub-tier external providers, to ensure that requirements are met.



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6.0 Revision History

	Date	Section / Paragraph	Summary of change	Authorized by
-	1/28/19		Initial issue	Scott Mackay
A	2/6/19	5.1.2C	Changed the word records to documented information	Scott Mackay
A	2/6/19	5.11.1	Changed the word records to documented information	Scott Mackay
A	2/6/19	5.13, 2, 3, and 4	Changed the word records to documented information	Scott Mackay
A	2/6/19	5.14.3	Changed the word records to documented information	Scott Mackay
A	2/6/19	N/A	Removed Nonconforming and corrections. Replaced with Supplier Requirements	Scott Mackay
A	2/6/19	N/A	Corrected date stamp	Scott Mackay
B	9/3/2019	5.1.2b	Added "(Testing and Calibration providers)"	Scott MacKay
		5.2.1	Added "d."	
		Multiple	Corrected font / title case. No change to actual information	
		3.4	Added "COTS"	
C	1/17/20	5.1.2 b.	Revised statement regarding QMS registration / compliance	Kelsey Clissold
		5.1.2, 3 rd bullet	Revised counterfeit program information, moved to 5.1.3	
		5.1.4	Added 5.1.4	
		6.0	Combined "Section" and "Paragraph" columns	
D	8/18/20	5.14.4	Added 5.14.4	Kelsey Clissold

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