

Title:

QUALITY CLAUSE CODES

Document #: **QF-04-07** Page #: 1 of 11

Instructions to Rolls-Royce Canada Limited, Naval Marine Suppliers

The following table lists the Quality Clause Codes (QCC) that are used to communicate specific quality requirements to those who supply products to Rolls-Royce Canada Limited, Naval Marine (RRNMC).

RRNMC will add the applicable QCC's to the purchase order line item to identify quality requirements.

The documentation provided by the supplier will cover the total number of items that are listed in the quantity column of the line item. The supplier is not required to supply separate documents for each individual item; one document may be used to confirm that the requirement has been met for all of the parts inspected.

Unless indicated otherwise, each shipment of parts will be accompanied by the documents required for the parts that are delivered (for example: partially completed orders that are delivered in separate shipments will each contain the documents that apply to the parts shipped).

Where practical, the supplier may provide one document that confirms the fulfillment of different Quality Clause Code requirements.

NOTE: If a specification or (other document) is referred to in a QCC, use the revision of the specification that is in effect at the time the purchase order is issued.

QCC Number	QCC Name	Requirement Description
QCC 01	Minimum Inspection System Requirements	The supplier is responsible for ensuring that all inspections and tests have been performed that are necessary to substantiate that the supplies or services furnished under this purchase order conform to the specification requirements and comply to any quality clause codes called out on the purchase order. Upon acceptance of this purchase order, the supplier agrees to meet all requirements. Parts shall be made of new material only. All repair to out- of - specification conditions or requests for deviation must be submitted to RRNMC QA or technical contact using form QF-10-06 (supplier request for deviation) prior to shipment. During procurement of this order, the vendor's inspection system and manufacturing processes may be subject to review, verification, and analysis by RRNMC and/or customer representatives. RRNMC / customer inspection or release of product before shipment is not required, unless otherwise noted. The supplier shall retain all records associated with this PO for a minimum of six years or for the life of the project as requested by RRNMC. All US Government contractors and suppliers are responsible for understanding and acting on all applicable regulations (FARS/DFARS).
QCC 02	Inspection System Requirements	Deleted



Title:

QUALITY CLAUSE CODES

Document #: **QF-04-07**

QCC 03	Source Surveillance	Surveillance by RRNMC and/or customer personnel is required at the supplier's facility. The supplier shall provide all necessary facilities, inspection data, equipment and personnel to successfully complete the surveillance. RRNMC shall be notified at least one week before the inspection point denoted in the purchase order, statement of work or inspection and test plan. If the surveillance is waived, a copy of the waiver shall be submitted with the product.					
	3.1- Surveillance is requ	uired after the completion of fabrication and NDT.					
	3.2- Surveillance is requ	uired during the completion of the Dimensional Report.					
	3.3- Surveillance is required at final inspection and prior to shipment.						
QCC 04	Certification of Conformance	 A Certificate of Conformance that includes the following shall be included with each shipment : RRNMC purchase order number Specification or drawing number (including revision) Item description and quantity of each item furnished A statement that the material and/or product conforms to the applicable purchase order requirements. Date, signature and title of authorized representative See attachments for blank copy for use 					
QCC 05	Acceptance Test Procedures	The supplier shall prepare and submit an Acceptance Test Procedure (ATP) for RRNMC review and approval before the first shipment of parts. As a minimum the ATP shall include: • ATP Title and revision • Part name and number of the item to be tested • Test conditions • Issued date and/or revision date • Test equipment to be used (including calibration data) • Indication/description of tests to be performed • Test parameters and limits • Preparation and approval signatures • Page numbers and total number of pages Each test data sheet shall include: • Objective evidence of compliance • Part name, number, and serial number • Test document paragraph correlation • Date of test, final acceptance, and acceptor identification					
QCC 06	lest Reports	requirements detailed in the RRNMC specifications. These reports shall be traceable to the materials furnished. Copies of the test reports shall be included with each applicable shipment.					



Title:

QUALITY CLAUSE CODES

Document #: **QF-04-07**

QCC 07	First Article Inspection	The supplier shall perform first article inspection (100%) on the first part produced for all items and subassemblies supplied as per SAE AS9102 (including effective thread, splines, basic dimensions, and all notes). The supplier may utilize SAE AS9102 form, RR FAI Report form or an equivalent for the first article inspection and the requirements of it. Should the first article part be manufactured from a casting or forging, the source name shall be listed on the FAI form. The completed FAI form shall be submitted to RRNMC for approval prior to release of the associated shipment. If the first article part/assembly is included within a shipment of other like parts/assemblies, a tag or suitable method of identification is required. NOTE: All out of specification requirements shall be reported to RRNMC prior to shipment using form QF-10-06 (supplier waiver form). See attached for copy of SAE AS9102 for use
QCC 08	Hazardous Material	The supplier is required to submit Material Safety Data Sheets with each shipment. Shipping containers shall be identified with the appropriate warning labels.
QCC 09	Configuration of Parts	The supplier shall notify RRNMC purchasing department of any changes to their original design that will affect component form/fit/function, material or finish. This requirement will apply only if original component number does not change with the design.
QCC 10	Certified Material Test Report (CMTR)	The supplier shall furnish certified material test reports for each line item identified on the PO and include them with the first shipment. The RRNMC part number that each CMTR pertains to will be identified on the CMTR. Subsequent shipments from the same lot, manufactured from the same lot of materials, may reference that the certifications were sent with the first shipment, that they are on file and that they are available upon request. Multiple CMTRs may be required if more than one lot of material is used per purchase order. Heat treat certificates are required with the CMTR when material is to be treated as per the applicable part drawing. All CMTRs must be legible. Yield stress, ultimate tensile stress and elongation in a 2" or 4" sample must be included in the CMTR for all metallic raw material. For some plain carbon steels, and for heat treated alloy steels where yield, tensile and elongation are not typically reported, these may be omitted with approval. If extra testing is required on the drawing, test reports must be supplied to RRNMC (ie. Charpy)
	10.1 - All CMTR's as no manufacturing.	ted above must be supplied to the RRNMC buyer prior to commencement of
QCC 11	Special Process (Nuclear)	Deleted
QCC 12	MIL-STD, AMS/ASTM Specifications/ Revision Status	Unless otherwise specified on the purchase order, MIL-STD and/or AMS/ASTM specifications shall conform to the latest revision of the applicable military specifications at time of manufacture.
QCC 13	In-process Surveillance	Deleted
QCC 14	Final Surveillance	Deleted



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Title:

QUALITY CLAUSE CODES

Document #: **QF-04-07**

Rev.: 24 Page #: 4 of 11

QCC 15	Final Tests	Deleted
QCC 16	Identification	Package Identification: The supplier shall mark package(s) with part number, revision number if applicable, and supplier identification. A Packing List shall be included with the shipment that identifies RRNMC's purchase order number and date, shipped item(s) identification and quantity furnished, and any items back ordered. Part Identification shall be in accordance with the RRNMC drawings / specifications.
QCC 17	Vendor Items Used On RRNMC Assembly Drawings	Unless otherwise specified, the supplier shall procure vendor items listed on the RRNMC drawings from the sources indicated, or from another RRNMC authorized distributor. The supplier shall provide evidence with each shipment that the correct parts were used. NOTE: If the RRNMC drawings denote the manufacturer as a "suggested" source of supply, then any equivalent part meeting the requirements of the original manufacturer's part may be used.
QCC 18	Inspection And Test Plan	The supplier is required to prepare and submit an Inspection and Test Plan to RRNMC for approval prior to commencement of work. The plan will indicate the sequence of manufacturing and the relative location of planned inspection and test points, including incoming inspection, in-process inspection, and final inspection. Referenced inspection and test procedures shall be provided upon request. RRNMC will designate on the ITP, any points for source inspection. RRNCM blank Inspection and Test Plan template can be found within the attachments.
QCC 19	Nuclear Quality Program Requirements	Deleted
QCC 20	Inspection of Critical Dimensions	 All drawing dimensions which are designated as critical shall be inspected for all parts. RRNMC requires that inspection of critical dimensions include a copy of a bubbled drawing referencing item numbers on the inspection report. A completed inspection report detailing these dimensions is to be provided with the shipment. The inspection report shall include in the title block the name of supplier, drawing number and revision, drawing title, purchase order number, signature of the person performing the inspection and the date. The inspection report shall include columns for item number, dimension required, tolerance, actual measurement, method of inspection and Acc/Rej. If the supplier's linspection report does not include the above requirements, RRNMC's blank inspection report form can be found within the attachments. Note: - If RRNMC provides a populated inspection report with the PO, a bubbled drawing is not required. All out of specification required. All out of specification required to match corresponding identifiers on the Inspection Report

ROLLS ROVCE	olls-Royce	ISO 9001 Quality Management System FormSE CODESDocument #: QF-04-07Rev.: 24Page #: 5 of 11						
Title:	QUALITY CLAU							
QCC 21	Welding Requirements	Nelding RRNMC requires a welding certificate of conformance which indicates that the work performed complies with all drawing weld specifications. The C of C will include the RRNMC PO number, RRNMC drawing number, a statement that the weld conforms to the applicable specification, visual inspection, date, signature and the title of the authorized representative. Welds to be finished as per "QF-04-21, Weld Finishing Requirement", which can be found within the attachments.						
	 21.0- All welds for the product 21.1- All welds for the product (AWS) and/ or certified (CWI) of compliance (weld proceduct 21.2- delete 21.3- All welds for the product (AWS) and/ or certified (CWI) of compliance (weld proceduct 	ct described on this line item mus ct described on this line item mus B) welders using approved proced ires, welder qualifications/certifica ct described on this line item mus B) welders using approved proced ires, welder qualifications/certifica	t comply with drawing specification t comply with drawing specification dures to the standard referenced o titons, relevant data sheets) must t comply with drawing specification dures to the standard referenced o tions, relevant data sheets) must	ns. ns and be perfo n the drawing. be maintained. ns and be perfo n the drawing.	ormed by qualified Objective evidence ormed by qualified Objective evidence			
	 prior to the commencement of fabrication. 21.4- delete 21.5- delete 21.6- All welds for the product described on this line item must comply with drawing specifications and be performed by qualified (AWS) and/ or certified (CWB) welders using approved procedures to the standard referenced on the drawing. Objective evidence 							
	21.7 All welds for the product (AWS) and/ or certified (CWI of compliance (weld procedu must be supplied to RRNMC fabrication must be utilized to	tt described on this line item must B) welders using approved proced ures, welder qualifications/certificat for approval prior to the comme o track each weld (joint type, qual	comply with drawing specification dures to the standard referenced o tions, weld consumable certificate encement of fabrication. The we ification, weld consumable, inspec	s and be perfor on the drawing. e, weld map, re Id map that is s stion) throughou	med by qualified Objective evidence levant data sheets) upplied prior to ut fabrication.			
QCC 22	Deleted							
QCC 23	Synthetic Rubber Products	Use the applicable portion <u>Cure date for synthetic ru</u> The cure date for synther marked on the unit packat the shelf life must remain RRNMC.	ns of this clause: ubber products delivered as tic rubber products delivere ages in accordance with MI at time of receipt unless o	<u>s end items:</u> d as end ite L-STD-1523 therwise aut	ms shall be 3. At least 75% o horized by			
		O-ring unit packaging: O-rings shall be individua This requirement superse specification). Cure date for assemblies Synthetic rubber product shall meet the age requir General Specification) ar addition, all assemblies s	ally packaged and shall con edes all other requirements <u>s containing synthetic rubbe</u> s installed in assemblies su rements of MIL-STD-1523 (nd shall be installed before shall be marked with the cu	form to MIL (i.e. drawin er products: upplied on th Age Control their expirat re date of th	-P-4861, Level A g or is purchase orde of Rubber, ion date. In e oldest syntheti			

accomplished by decal, rubber stamp, or metal tag.



Title:

QUALITY CLAUSE CODES

Document #: **QF-04-07** Page #: 6 of 11

QCC 24	Toxic Substances	Material supplied toxic substances The supplier sha Certificate of Co substances with be approved (us point numbers b	Material supplied on this purchase order shall not contain any of the identified toxic substances. This requirement must be passed on to all subcontractors. The supplier shall provide certification (it could be an additional statement on the Certificate of Conformance) stating that material is free from the identified toxic substances with each shipment. Any deviation requests to this requirement must be approved (using QF-10-06) by RRNMC prior to shipment of the product. The point numbers below indicate the individual substance the documentation is			
		required for.	required for.			
	24.1-Methylene chloride,	24.2 - Carbon Tetrachloride	24.3 - Xylene	24.4- Benzene	24.5-Trichloroethylene	
	24.6- Mercury	24.7- Beryllium	24.8- Cadmium	24.9-Chromium	24.10- Chloroform	
	24.11 - Asbestos	24.12 - PCBs	24.13 - Lithium	24.14 - Magnesium	24.15 - PVC	
	24.16 – Zinc or Zinc Alloys	24.17 – Ozone Depleting Chemicals (ODCs)				
QCC 25	Qualified Products List Item	It is required that order be certified or in the case of Suppliers shall c	order be certified and the product be listed on the Qualified Products List (QPL), or in the case of microcircuits, be listed in MIL-HDBK-103 at time of manufacture. Suppliers shall certify that the item supplied is a certified, QPL item.			
QCC 26	Process Specification - BOPS 1.044	n The requirement order.	The requirements of the process specification BOPS 1.044 are applicable to this order.			
QCC 27	Shelf Life	The supplier sha shall be identified and name of ma remain at the tim Purchase Order.	The supplier shall be responsible for labelling shelf life items. Each unit package shall be identified with the part number, date of manufacture, storage expiration, and name of manufacturer as applicable. At least 75% of the shelf life must remain at the time of receipt by RRNMC unless otherwise specified on the Purchase Order.			
QCC 28	Process Specification – BOPS 1.040	n The requirement order.	ts of the process spe	cification BOPS 1.040	are applicable to this	

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Title: Document #: Rev.: Page #: QUALITY CLAUSE CODES QF-04-07 24 7 of 11

QCC 29	Printed Wiring Boards/ Multiwire Boards	Printed Wiring Boards (PWBs) – Each lot of PWBs shall meet the requirements of MIL-PRF-31032 or MIL-P-50884, as applicable. PWBs shall be forwarded to RRNMC with microsection reports and other quality reports as applicable.Multiwire Boards – Multiwire boards shall be manufactured and tested in accordance with IPC-DW-425. Boards shall be forwarded to RRNMC with microsection reports and other quality reports as applicable.Shelf Life – Shelf life shall be established as one (1) year from date of manufacture (date code). At least ¾ (nine months) of the shelf life must remain at the time of receipt by RRNMC. Suppliers releasing boards to RRNMC that are
		<u>Packaging</u> – All boards shall be packaged in Type II or Type III material in accordance with MIL-B-81705 before being placed in their shipping containers.
QCC 30	J-STD-001	Parts supplied on this purchase order shall conform to the applicable requirements of J-STD-001 as specified by the drawing, specification, or purchase order. If the class is not specified, Class 3 will apply. Suppliers may use a higher standard, such as MIL-STD-2000 if appropriate. RRNMC shall receive a deliverable (may be a statement on the C of C) that this requirement has been fulfilled.
QCC 31	Electrostatic Discharge (ESD) Protection	ESD sensitive devices shall be packaged and marked in accordance with the applicable requirements of Electronics Industries Association EIA-625, and handled in a manner that will prevent mechanical or electrical damage and maintain the leads and terminals in the manufactured condition. The ESD sensitive devices shall be packaged in static shielding materials. The intermediate and exterior packages shall be identified.
QCC 32	Solderability	Parts that are to be soldered to surfaces at the next assembly level, shall be solderable upon receipt at RRNMC, and meet the solderability requirements of the governing specification. Where possible, the supplier shall provide solderability test results with the shipment. For connectors with solderable pins, sample pins shall be provided when possible.



Title:

QUALITY CLAUSE CODES

Document #: **QF-04-07** Rev.: 24 Page #: 8 of 11

QCC 33	Documentation for Processing (non-nuclear)		The supplier must provide certificates of conformance, travelers and test data for all processes specified on the drawing/purchase order. The RRNMC part number that each certificate pertains to will be identified on the cert. The supplier shall furnish this documentation with the first shipment. Subsequent shipments from the same processing lots may reference the documents shipped with the first lot. The point numbers below indicate the individual process the documentation is required for.				
	33.1-anodizing	33.2 -р	assivation	coating	33.4-nickel plate	33.5-chrome plate	33.6-ION NITRITE
	33.7-acid treat	33.8-u inspec	ltrasonic tion	33.9 – liquid penetrant insp.	33.10 - magnetic particle insp.	33.11-deleted	33.12-runout tolerance
	33.13-carburize	33.14-	pitch	33.15-lead	33.16-tooth profile	33.17-tooth	33.18-paint
	33 19-surface	tolerar		tolerance	33 22-acid etching	surface	33 24- zinc plating
	temper inspection	harder	ning	hardening	JJ.22-acid eterning	33.23 - brazing	33.24 - 2inc plating
	33.25- powder coating	33.26- radiog	raphic insp.	33.27-stress relief	33.28- de- magnetize to 2 gauss max		
QCC 34	Machining and/or cutting method restrictions		Machining and/or cutting methods, using heat or thermal energy for metal removal such as laser, electro-discharge machining (EDM), or plasma are prohibited. This restriction also applies to marking methods using heat or thermal energy.				
QCC 35	Control of OSL Drawings		The supplier must destroy all copies of RRNMC drawings or return to RRNMC upon completion of work. A letter must be sent with the product stating that drawings have been destroyed or the drawings may be returned with the final shipment.				
QCC 36	Source Control Drawings Provided with Products		Suppliers must provide an As-Built drawing/parts list of the product supplied that specifies overall dimensions and any interface dimensions. The drawing will include material coating and hardware specifications.			uct supplied that drawing will	
QCC 37	Sub-Tier Suppliers		It is the su suppliers v responsibl requireme	pplier's responsible within their own Qu le for the delivery, nts to the sub-tier	ility to approve, ma uality Managemen performance, and suppliers. ISO 90	aintain and control t System. The sup flow down of all c 01 certified sub-tie	sub-tier plier is ontractual r's are preferred.
	Subcontractor Appro	val	All subcontractors utilized must be included on the project specific approved vendors list. This list can be obtained via the Rolls-Royce purchasing agent.				asing agent.
QCC 38	Phytosanitary The su docum Agricu (Interr		The suppli document Agriculture (Internatio	Supplier must certify with a statement included in the C of C or a separate sument that the product supplied is in accordance with the U.N. Food and riculture Organizations, International Plant Protection convention document ernational Standards for Phytosanitary Measures No. 15-ISPM No. 15)			or a separate N. Food and ion document M No. 15)
QCC 39	Travellers		The issued to Rolls-Ro assembly complete a	d RRNMC travelle oyce with the prod work will stop and a source inspectio	rs shall be initialle uct. If there is a C an RRNMC QA re n.	d, dated as comple A hold point within presentative will b	ete and returned n the traveller, be contacted to



Title:

QUALITY CLAUSE CODES

Document #: **QF-04-07** Rev.: **24** Page #: 9 of 11

QCC 40	Certificate of Origin	A Certificate of Origin (or NAFTA Certificate of Origin) must accompany all shipments to Rolls-Royce where the parts originate outside of Canada. The Certificate must identify all parts specified on the purchase order. Instructions can be found at the following link: <u>http://www.canadabusiness.ca/servlet/ContentServer?cid=1081944203567&pag</u> <u>ename=CBSC_ON%2Fdisplay⟨=en&c=Reg</u> s. Sample Certificate of Origin forms or NAFTA Certificate of Origin forms can be provided by contacting the RRNMC purchaser.
QCC 41	HS&G Toxic Substances	Deleted
QCC 42	ROHS Compliant	Certification must be forwarded with the product (may be a statement on a C of C) that the product is ROHS compliant.
QCC 43	ORCA Toxic Substances	Deleted
QCC 44	AWD Toxic Substances	Deleted
QCC 45	Restriction of purchased material from China	The material, goods or services supplied on this purchase order must not be purchased <u>directly</u> from China. The supplier will endeavour to source material from alternate sources as much as possible. If this clause cannot be complied with, the supplier will submit a supplier waiver to RRNMC for disposition of the material. For COTS components (eg fasteners, electrical components), the supplier will make an effort to source material not produced in China. If the supplier has any questions with regards to these requirements, they should be directed to the purchaser listed on the RRNMC purchase order.
QCC 46	DFARS	The material, goods or services supplied on this purchase order must meet the requirements of Defence Federal Acquisition Regulations Supplement 252.225-7014 (specialty metals provision).



Title:

QUALITY CLAUSE CODES

Document #: **QF-04-07** Rev.: 24 Page #: 10 of 11

QCC 47	Heat Treatment	The supplier must provide certificates of conformance and test data (heat treatment charts) for each component. The RRNMC part number that each certificate pertains to will be identified on the cert. The supplier shall furnish this documentation with the first shipment.
	47.1- All Materials (hardness test)	The supplier must provide certificates of conformance (C of C) and test data (heat treatment charts) for each component. The RRNMC part number that each certificate pertains to will be identified on the cert. The supplier shall furnish this documentation with the first shipment.
		This part is to be heat treated with extra material (a coupon) from the same heat in which it was fabricated. The thickness shall be representative of that of the heat treated part. If part material sections include thicknesses of both 0.5" and below as well as 1.5" and above, then two coupons are to be tested for both the thickest and the thinnest section to be treated. After heat treatment, coupons are to be tested for hardness with a calibrated hardness tester. Results to be reported on the above mentioned C of C as well as sent to the RRNMC buyer as soon as possible. Coupons shall be suitable to perform tensile, yield and elongation as per ASTM B557 if required. Coupons are to be stored at the supplier's facility for no less than 1 year from
		time of heat treatment.
	47.2 – All materials (mechanical tests)	The supplier must provide certificates of conformance and test data (heat treatment charts) for each component. The RRNMC part number that each certificate pertains to will be identified on the cert. The supplier shall furnish this documentation with the first shipment.
		This part is to be heat treated with extra material (a coupon) from the same heat in which it was fabricated. The thickness shall be representative of that of the heat treated part. If part material sections include thicknesses of both 0.5" and below as well as 1.5" and above, then two coupons are to be tested for both the thickest and the thinnest section to be treated. After heat treatment, coupons are to be tested per ASTM B557 or RRNMC approved equivalent to determine tensile strength, yield strength (as measured with extensometer) and elongation of heat treated material. Test coupons shall comply with minimum values required by the aluminum specification stipulated on drawing. Results to be reported on the above mentioned C of C as well as sent to the RRNMC buyer as soon as possible.
		Coupons are to be stored at the supplier's facility for no less than 1 year from time of heat treatment.
QCC 48	Counterfeit Parts	Vendor shall not deliver Counterfeit or suspect-Counterfeit work to RRNMC. "Counterfeit Work" means work that is or contains items which imitate authentic items. "Counterfeit Work" also means work that is altered in such a way that it is non-compliant to the required specifications. Suppliers shall only purchase products directly from the OCM/OEM, or through an OCM/OEM authorized distributor chain and if requested be able to provide documentation that authenticates traceability of the items to the applicable OCM/OEM. Supplier shall include this clause or equivalent provision in lower tier orders for delivery of items that will be included in or furnished as work to this component.



Title:

QUALITY CLAUSE CODES

Document #: **QF-04-07**

QCC 49	Lloyd's Procurement Plan	The supplier is required to follow Lloyd's Procurement Plan. The suppliers will be responsible for liasoning with LR and RR in order to schedule all necessary surveys/inspections required by this document as well as the RR approved product Inspection and Test Plan (ITP). The plan will indicate procurement of material, weld qualifications, NDT testing, machinery and COTS components. This document can be obtained via the Rolls-Royce purchasing agent.
QCC 50	Lifed Items	 The supplier shall be responsible for labelling lifed items. Each unit package shall be identified with the following; Lifed Item Manufacture Date: refers to the date at which a product becomes the item it is supposed to be, or as it is described in its specifications/technical literature Lifed Item Proof Test Date: refers to the date at which a stress/pressure test was carried out to determine the fitness of the component, where it was subjected to loads above that expected during normal use. Lifed Item Cure Date: refers to the date at which the rubber is fully moulded in the curing process and is made up of the quarter and year i.e. January 2001 would be written as 1Q01.