ROUSH
Entertainment Systems

RES Supplier QC Documentation Submission Checklist Instructions

F-RES-QA003.R02

STEP 1 – Complete the required information (yellow cells) in the Cover Sheet for each part/part number being submitted.

STEP 2 – Complete the Supplier QC Documentation Submission Checklist for each part/part number and the supplemental checklists, as applicable.
- **QCR 850 – G-6 Process Checklist**
- **QCR 900 – G-12 Inspection Checklist**
- **QCR 910 – G-13 Welding Process Inspection Checklist**
- **refer to 910 – G-13 WPS Flow Chart as required**

NOTE: The checklists may be completed manually and then scanned and saved as a PDF file. If the supplier has the software capable of editing the provided PDF, the file can be completed electronically and saved as a PDF file.

STEP 3 – All supporting quality documents are to be arranged in Document Element order (relative to QCR numbers on the checklist) and scanned/electronically combined.

STEP 4 – Combine the checklist PDF and the supporting quality documentation into ONE PDF ONLY

- **Use the following filename format for your RES Quality Documentation PDF submission:**

Roush Drawing Number_REV X_Supplier Name_ Submission Date (mmddyy).pdf
Example: DDLMARCMV5000_REV A_Johns Machining_011623.pdf

STEP 5 – External Suppliers: Email quality package PDF to: email address shown on PO
Internal Suppliers: Email quality package PDF to: RES_Quality@roush.com
- **Include RES and filename in email SUBJECT LINE:**

Example: RES_DDLMARCMV5000_REV A_Johns Machining_011623

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RES Supplier QC Documentation Submission Checklist Cover Sheet

F-RES-QA003.R02

PO/MSR Number:		Part Quantity:		Inspection Date:	
Roush Drawing Number:				Dwg. Rev.	
Drawing Title:					
Supplier:				Supplier ID:	
Supplier Address:					
Employee Name & Title:					
Employee Phone #:		Email:			

1. Purpose of Checklist

This Checklist is intended to be used by Roush Suppliers to verify that the applicable Quality Capability Requirements (QCR)s have been fulfilled prior to shipping parts to Roush.The applicable Quality Capability Requirements are stated on the Purchase Order (PO), Material Stock Request (MSR) or Contract.

• A completed copy of this Checklist is to be included with your shipment of parts along with the required supporting documentation (i.e. certifications, inspection and test reports, etc.).

• Suppliers shall review the Purchase Order Line Item(s), MSR or Contract to identify the QCR Code(s) for the part(s) and refer to this document to determine the requirements associated with the QCR Codes.

– QCR Requirements may be specified on Purchase Orders, MSRs or Contracts and are considered to be deliverable items, as applicable to specific parts.

– QCRs are considered to be supplemental to the Terms and Conditions statement and other requirements listed on the Purchase Orders, MSRs or Contracts.

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• The current list and descriptions of Quality Capability/Procurement Requirements (QCRs) can be found under "Roush Quality Requirements and Forms" at: https://www.roush.com/downloads/.

• Refer to each applicable QCR specified on your PO / MSR / Contract by part number / line item and sign-off that all applicable requirements have been met. Record "N/A" for requirements that do not apply to this shipment (QCRs NOT stated on the Purchase Order/MSR/Contract).

Sign-off		QCR
Supplier	Roush QA	
		Purchase Order/MSR: **(REQUIRED FOR ALL SUBMISSIONS) Copy of Roush Purchase Order (PO) or Material Stock Request (MSR) - Must match Part Number/ Revision of part being submitted.**
		RFW/RFD - Approved Request for Waiver / Request for Deviation (when applicable) **(REQUIRED FOR ALL SUBMISSIONS – IF APPLICABLE)** Roush authorized engineering change documents for changes not yet recorded in the design record but incorporated in the product being submitted **(F-RES-PC013 - Request for Deviation/Waiver Submission form)** signed and dated, and a red-lined drawing). Supplier must include a copy of the ROUSH "APPROVED" Deviation(s) or Waiver(s) when applicable, as part of the submission documentation. **NOTE:** Supplier must record the applicable Deviation / Waiver LOG NUMBERS in the space provided at the bottom of the **QCR 900 – G12 Inspection Checklist.**
		800 G-01 Part Identification: **(REQUIRED FOR ALL SUBMISSIONS - EXTERNAL SUPPLIERS ONLY)** Pictures showing the PART ID and LOCATION on the part as referenced on the drawing – Includes Bag & Tag items. At a minimum, the Packing Slip and Packaging shall reference the ordered Part Number (i.e. WDC Number or Part Number) and the Supplier/Manufacturer Part Number (if applicable such as with commercial off-the-shelf parts). Additional identification requirements may include physically marking manufactured parts with the Part Number and Revision as specified on the Drawing according to the methods listed below. If a different method is specified on the drawing, those requirements take precedence. **NOTE**: Part Numbers and Drawing Numbers should be the same except for tabulated drawings.

Continued on Next Page

INDICATE WITH "X" ALL THAT APPLY		Extended Marking Method Codes include the following:
		G-01a SAE AS478-2 (Metal Stamp) – Drawing Number and Revision applied on each Part. **NOTE:** Engrave (shallow) is an allowed alternative for Metal Stamp but not vice versa.
		G-01b SAE AS478-7A (Electrochemical Etch) – Drawing Number and Revision applied on each Part.
		G-01c SAE AS478-30 (Ink Stamp) – Drawing Number and Revision applied on each Part.
		G-01d SAE AS478-35D (Bag and Tag) Note: SAE AS478-37 (Package) - Applying part identification on the packaging (i.e. box) or labeling the part will be considered an acceptable alternative to Bag and Tag.
		G-01e SAE AS478-3 (Engrave) – Drawing Number and Revision applied on each Part.
		G-01f SAE AS478-15 (Laser) – Drawing Number and Revision applied on each Part.
		810 G-02 Part Serialization
		820 G-03 Roush Receiving Inspection Required: **NOTE:** To help ensure Roush QA receives all required information, place the documents in a separate folder/envelope, mark it as “QA Documents” and place it inside the box/packaging of the parts. Keep it separate from the Packing Slip and/or Invoice.
		830 G-04 Material Certification
		840 G-05 Physical and/or Chemical Certification
		850 G-06 Process Certification: Verify certification of processes as specified on the PO, drawings, and specifications is included. Process Certification is to explicitly state the requirements noted on the PO and/or drawing and state that the delivered parts are in compliance with those requirements. **When applicable, complete a QCR 850 – G-6 Process Certification Checklist prior to signing off this requirement.**
		860 G-07 Certificate of Compliance (C of C)
		870 G-08 No Substitution
		890 G-10 Special Care Parts Material Certification
		895 G-11 Fastener Requirement
		900 G-12 Proof of Inspection: Verify evidence of inspection and acceptance is included by completing a detailed **QCR 900 – G-12 Proof of Inspection Checklist.** **When applicable, complete a QCR 900 – G-12 Proof of Inspection Checklist prior to signing off this requirement.**
		902 Mag Particle Inspection

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		905 Electrical Inspection Documentation
		907 Electrical Cable Assembly Inspection
		908 Electrical Power Distribution / Control Box Inspection
		910 G-13 Welding Requirement: Verify all welding meets the applicable standards and requirements for parts by completing the **QCR 910 – G-13 Welding Process Inspection Checklist.** **When applicable, complete a QCR 910 – G-13 Welding Process Inspection Checklist prior to signing off this step.**
		911 G-13A Weld Documentation
		925 P-01 & P-02 Critical Surfaces

Supplier Employee Signature

Date

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QCR 850 – G-6 Inspection Checklist

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When applicable, complete this detailed checklist prior to signing off for the QCR 850 – G-06 requirement on the Supplier QC Documentation Submission Checklist. Attach this checklist and all Process Certification paperwork with documentation.

Supplier:			
Supplier Employee Name & Title:			
Part Number:		Revision:	

1) Identify the type of process(es) used on this part (Check all applicable):

Check					
	Heat Treatment		Shot Peening		Other
	Plating/Coating/Finishing		Bonding		

2) Check that all applicable Process Certification paperwork is included with documentation.

Heat Treatment – Process Certification may include (but is not limited to) the following:

- Reference to the Process requirement (i.e. Hardness Test Type and required value).
- Specific key requirements stated on the associated PO, drawing, specification, or standard.
- Statement that the requirements have been complied with. At a minimum, it shall include:
  • Surface Hardness results on 100 percent of heat treated components.
  • Destructive testing results (tensile, core hardness, etc.) on coupon(s) or sample part(s) as required to verify conformance to the PO, drawing, specification, or standard.

Plating/Coating/Passivation/Finish – Process Certification may include (but is not limited to) the following:

- Reference to the Process requirement.
- Specific key requirements stated on the associated PO, drawing, specification, or standard (i.e. Plating/Coating/Finish including Class and Type, Plating Thickness, Painting Thickness).
- Statement from the supplier actually performing the process that the requirements have been complied with.

Shot Peening – Process Certification shall include (but is not limited to) the following:

- Reference to the Process requirement.
- Specific key requirements (variables) stated on the associated PO, drawing, specification, or standard (e.g. Shot size, hardness, material, intensity, percent coverage).
- Statement that the requirements have been complied with.

Bonding – Process Certification shall include (but is not limited to) the following:

- Reference to the Process requirement.
- Specific key requirements stated on the associated PO, drawing, specification, or standard (e.g. Adhesive, Type, Preparation, Temperature and Cure Time).
- Statement that the requirements have been complied with.

Supplier Employee Signature

Date

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QCR 900 – G-12 Inspection Checklist

F-RES-QA003.R02

When applicable, complete this detailed checklist prior to signing off for the QCR 900 – G-12 requirement on the Supplier QC Documentation Submission Checklist. Attach this Checklist and all Inspection paperwork with documentation.

Supplier:			
Supplier Employee Name & Title:			
Part Number:		Revision:	

Supplier shall have objective evidence of inspection and acceptance. Proof shall include the following:

Check	
	Verify Inspection Report is included with documentation.
	Verify detailed Inspection Report includes results for all dimensions stated on the drawing.
	Verify parts were inspected according to the F- RES-QA011 – RES Inspection Sampling Plan (can be found under "Roush Quality Requirements and Forms" at: https://www.roush.com/downloads/)
	Verify detailed Inspection Report includes information pertaining to all notes stated on drawing (Record N/A if not applicable)
	Verify detailed Inspection Report includes information regarding all items in the Bill of Materials (Record N/A if not applicable)

Indicate which NDT Method was used below (Record N/A if not applicable):

	Eddy Current Test (ET)
	Liquid Penetrant Test (PT)
	Magnetic Particle Test (MT)
	Radiographic Test
	Ultrasonic Test (UT)

Verify the following applicable NDT Information is provided (Record N/A if not applicable).

	* Verify Test Report of Acceptance is included in documentation. Note: Verify that Report lists the part serial numbers (if applicable per 810 G-2 and/or the drawing)
	* Verify NDT Technique Sheet is included in documentation.
	* Verify a copy of Technician qualifications per ANST Level II are included in documentation.

***** As required per the Standard specified in the PO, Drawing, etc.
For example, provide objective evidence of satisfying ASTM E1417 Section 6 for PT or ASTM E1444 section 5 for MT and so on depending which Standards are specified and utilized.

Record any relevant comments below:
Any Roush approved Deviation/Waiver requests, redlined drawings, other pertinent information associated with requirements? If so, indicate and attach objective evidence.

Supplier Employee Signature

Date

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QCR 910 – G-13 Welding Process Inspection Checklist

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When applicable, complete this detailed checklist prior to signing off for the QCR 910 – G-13 requirement on the Supplier QC Documentation Submission Checklist. Attach this checklist and all Process Certification paperwork with shipment.

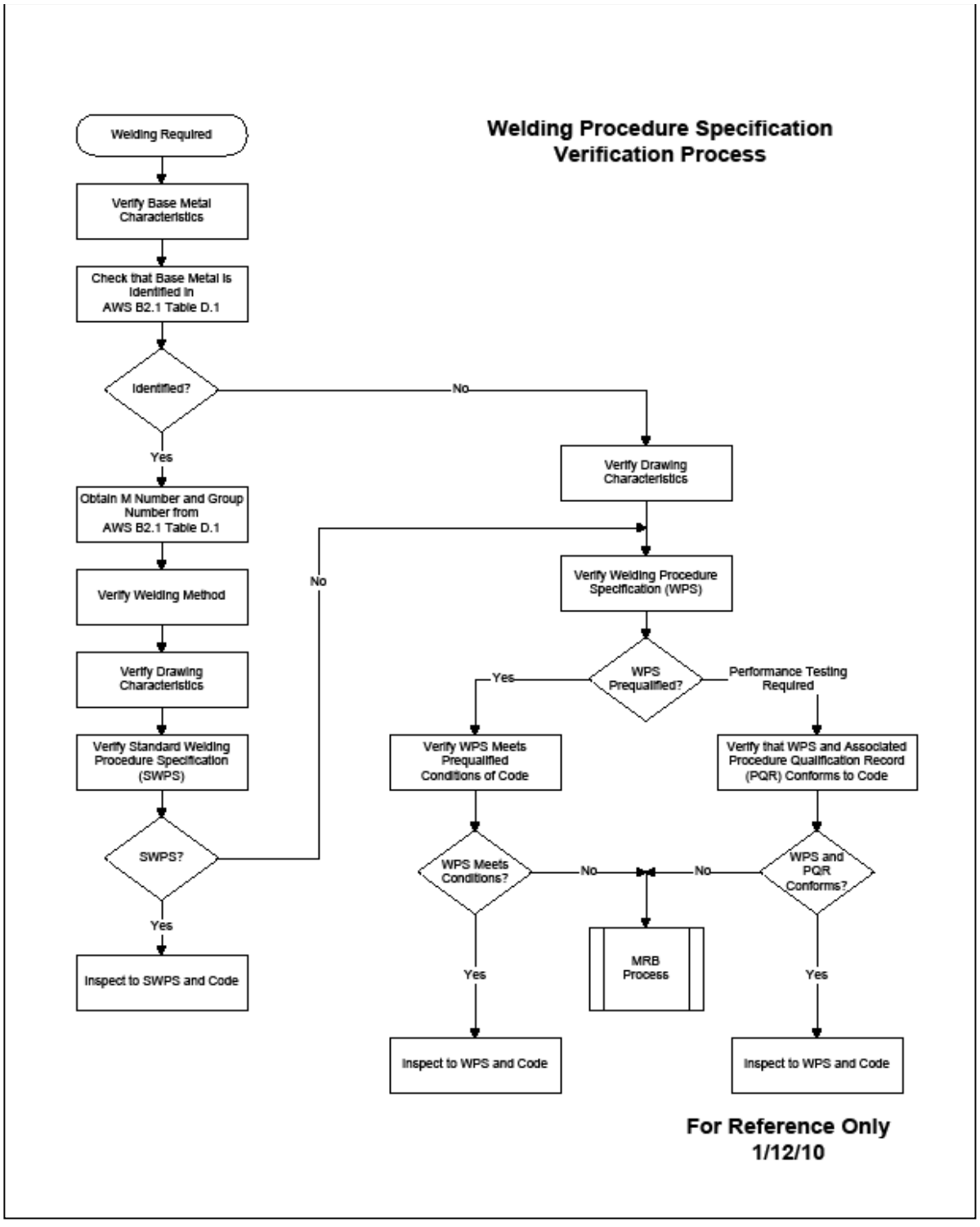
Welding Fabricator:		Phone:		Date:	
Supplier:		PO/MSR Number:			
Sub-contracted From (if applicable):					
Roush Drawing No.		Draw. Rev.		Qty:	

AWS D1.1 (Steel)	X or N/A	AWS D1.2 (Aluminum)	X or N/A	AWS D1.6 (Stainless Steel)	X or N/A
Other – Specify		(Must be pre-approved by Roush in advance)			
WPS No:		Filler Metal Type:			
Certified Welding Inspector Name:					
Title:					

Item #	Requirements	INITIALS YES	INITIALS NO
1	Welding Procedure Specifications (WPS) are in accordance with the referenced code and are consistent with the materials and processes used for welding the production parts and are attached to this checklist.		
2	Welder certifications are consistent with the WPS and are submitted with the part documentation.		
3	The welder certifications submitted represent the actual welder who performed the work. Welder has maintained his certifications by performance since the initial certification test date (must weld once each six month period). Attach welder certification test report. **NOTE:** Welder must have been tested by the fabricator producing the work and have been continuously welded without a break in service for more than six months. Signature at bottom of this checklist will also serve as an Affidavit attesting to continuing performance.		
4	Filler metals have been stored properly in accordance with the referenced code.		
5	My company has a current copy of the appropriate code(s) for reference.		
6	Visual weld quality is in accordance with the appropriate standard (for example Table 6.1 and Figure 5.4 in AWS D1.1). All welds have been inspected by a Certified Welding Inspector (CWI).		
7	Weld size and location is in accordance with the drawing and inspected by a Certified Welding Inspector (CWI) with gages appropriate for the inspection.		
8	Weld preparation for full penetration, partial penetration, and fillet welds is in accordance with the drawing. If parts have been provided with weld preparations already complete, weld preparations have been verified in accordance with the drawing and the WPS.		
9	Preheat is in accordance with the WPS and the drawing if noted.		
10	Post Weld heat treatment has been performed in accordance with the drawing.		
11	Workmanship is in accordance with the appropriate section of the referenced code. (e.g. Clause 5 of AWS D1.1)		
12	Nondestructive testing requirements (NDT): all required nondestructive testing has been performed in accordance with the class of weld designated. Personnel performing nondestructive testing have been certified in accordance with ASNT SNT-TC-1A Level II.		
13	There has been no deviation from the drawing for specific weld joint configurations, weld placement, or other weld code requirements without obtaining documented approval from the Roush cognizant Engineer and/or Customer (attach documentation showing approval if applicable).		

I certify that the statements above are true and the parts were welded in accordance with the requirements.

Certified Welding Inspector (CWI) - Signature, Stamp, & Date	


Welding Procedure Specification
Verification Process
Welding Required
Verify Base Metal Characteristics
Check that Base Metal is Identified in AWS B2.1 Table D.1
Identified?
No
Yes
Obtain M Number and Group Number from AWS B2.1 Table D.1
Verify Welding Method
Verify Drawing Characteristics
Verify Standard Welding Procedure Specification (SWPS)
SWPS?
No
Yes
Inspect to SWPS and Code
Verify Drawing Characteristics
Verify Welding Procedure Specification (WPS)
WPS Prequalified?
Yes
Performance Testing Required
Verify WPS Meets Prequalified Conditions of Code
Verify that WPS and Associated Procedure Qualification Record (PQR) Conforms to Code
WPS Meets Conditions?
No
No
WPS and PQR Conforms?
MRB Process
Yes
Yes
Inspect to WPS and Code
Inspect to WPS and Code
For Reference Only
1/12/10

REVISION HISTORY

Rev #	Revision Description	Author	Approver	Issue Date
R00	Initial New Document Release - replaces ENGR-16-PM - Supplier Checklist for PO Quality Requirements	L. Purtill	K. Wayne	4/13/2023
R01	• Revised worksheets to go back to old formatting of ENGR-16-PM per request of AQE group. • Removed descriptions for most QCRs, listed titles only to reduce maintainance when QCRs are updated. • Added QCR 902, removed 920, 930, 940, 950 - only use 925 • Removed checking aids requirements from QCR 900 • Welding process Inspection checklist updated to require Certified Welding Inspector for all welding inspections - due to customer requirements. Minor text changes to lines 2, 3 & 13.	L. Purtill	K. Wayne	10/30/2023
R02	Updated instructions for external suppliers to submit quality documentation on Checklist Instruction worksheet - Step 5	L. Purtill	K. Wayne	2/23/2024
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