DATA ITEM DESCRIPTION

Form Approved
OMB No. 0704-0188

2. TITLE	1. IDENTIFICATION NUMBER
Quality Control Data From the Manufacturing Process of Adhesively Bonded Assemblies	DI-QCIC-80560

3. DESCRIPTION / PURPOSE

3.1 Quality Control Data from the Manufacturing Process of Adhesively Bonded Assemblies will provide the procuring activity with data necessary to partially satisfy the criteria required to evaluate manufacturing processes used on adhesively bonded assemblies. The quality control data shall include inspections as well as chemical, physical, destructive, and nondestructive test results.

4. APPROVAL DATE (YYMMDD)	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)	6a. DTIC REQUIRED	6b. GIDEP REQUIRED
880408	F/SA-ALC-MMIAR		

7. APPLICATION / INTERRELATIONSHIP

7.1 This Data Item Description contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract.

7.2 This data item description contains the content preparation instructions for reporting the results of the quality control inspection procedures, physical test, chemical test and nondestructive tests results.

8. APPROVAL LIMITATION	9a. APPLICABLE FORMS	9b. AMSC NUMBER
		F4372

10. PREPARATION INSTRUCTIONS

10.1 General. The quality control data generated by the processes used to manufacture adhesively bonded honeycomb core panel assemblies will partially satisfy the criteria for evaluating adhesively bonded assemblies.

10.2 Format. Data may be provided in contractor format.

10.3 Content.

10.3.1 Honeycomb core material data. Honeycomb core material data shall specify the material composition, material and adhesive specification requirements, physical tests, heat treatment, application of chemical treatment and configuration.

a. Metallic honeycomb core data shall include material composition analysis results, honeycomb core test results per applicable specification, date of test, date corrosion treatment was applied to foil used to manufacture core, QPL (Qualified Products List) supplier name, batch or lot number, date of manufacture, and contract number.

b. Non-metallic honeycomb core data shall include results of material composition analysis, honeycomb core test per applicable specification, percent resin content, date of test, QPL supplier name, batch or lot number, date of manufacture, and contract number.

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11. DISTRIBUTION STATEMENT

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

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10.3.2 Bonded assembly facings (skins) data. Bonded assembly facings (skins) data shall specify material composition, material specification, heat treatment, and chemical milling requirements.

a. Metallic facings data shall include results of chemical analysis and physical test. The data shall include the date of receipt or shipment, applicable specification, heat treatment, batch or lot number, part number, and contract number.

b. Non-metallic data shall include results of chemical analysis and physical test. The data shall also include the number of laminates, resin content, date of manufacture, cure date, applicable specification, batch or lot number, part number, and contract number.

10.3.3 Bonded assembly closure components data. Bonded assembly closure components data, for such items as spars, ribs, doublers and extruded details, shall specify material composition, material specification, heat treatment, and chemical milling requirements.

a. Metallic components data shall include results of chemical analysis and physical tests. Data shall include date of shipment or receipt, applicable specification, batch or lot number, part number, and contract number.

b. Non-metallic components data shall include results of chemical analysis and physical tests. The data shall also include number of laminates, resin content, date of manufacture, date of receipt or shipment, applicable specification, batch number, part number, and contract number.

10.3.4 Bonded assembly components data. Bonded assembly components data for such items as inserts, spacers, stiffeners, and bushings shall specify material composition, material specification, heat treatment, and milling requirements.

a. Metallic components data shall include results of chemical analysis and physical test results, date of receipt or shipment, applicable specification, batch number, part number, and contract number.

b. Non-metallic components data shall include results of chemical and physical tests. Data shall also include date of receipt or shipment, applicable specification, cure date, batch or lot number, part number, and contract number.

10.3.5 Film, foam, liquid shim and potting/casting adhesive data. Data for film, foam, liquid shim and potting/casting adhesives used in the manufacture of bonded assembly, shall specify manufacturer name, part number, manufacturers shelf life for film, foam, or potting/casting

adhesives, storage requirements, applicable specification, and test results.

a. Film, foam, liquid shim and potting/casting adhesive data shall include manufacturer name, part number, batch or lot number, date of manufacture, storage requirements, manufacturers shelf-life expiration date, applicable adhesive primer, applicable specification, mix ratios used, heat up rate used, cure temperature used, pressure used, manufacturer test results, quality control 168 hour test results, date and time of 168 hour test, assembly part number, and contract number.

10.3.6 Conventional or preimpregnated laminating resin systems data. Conventional or preimpregnated laminating resin systems data shall specify resin systems, carrier material, shelf-life, cure temperature, pressure requirements, storage requirements and supplier.

a. Laminating resin material data shall include manufacturer name, part number, statement whether conventional or preimpregnated, batch or lot number, date of manufacture, carrier material, carrier applicable specification, cure date, cure temperature,pressure requirements, manufacturer test results, quality control 168 hour test results, date and time of 168 hour test, storage requirements, assembly part number, and contract number.

10.3.7 Paint system data. Paint system data shall specify manufacturer name, date of manufacture, shelf-life, storage requirements, and applicable specification test results.

a. Paint system data shall include manufacturer name, batch or lot number, date of manufacture, applicable specification, test results, storage requirement, shelf-life, date of receipt, part number of assembly and contract number.

10.3.8 Sealers data. Sealers data shall specify manufacturer name, date, batch or lot number, shelf-life, storage requirement and applicable specification test results.

a. Sealer data shall include date of manufacture, manufacturer name, mixing ratios used, storage used, shelf-life expiration date, and applicable specification test results.

10.3.9 Tool proof data. Tool proof data shall specify tool proof film or mechanical prefit method and applicable bonding process.

a. Tool proof film method data shall include date of tool proof, name or part number of film used, dimensional check of cured tool proof, location of dimensions taken from tool proof film, bonding process used, tool proof material, cure temperature, cure temperature dwell time, bond pressure, bond pressure dwell time, assembly part number, and contract number.

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b. Mechanical prefit method data shall include date of mechanical prefit, sketch of assembly showing dimensional results, location of dimensions, table of component dimensions checked, including component part number, assembly part number, and contract number.

c. Mechanical prefit method data shall include calibration data of equipment used to perform dimensional check, date of calibration, and name of company and person that performed the calibration.

10.3.10 Chemical processes data. Data for chemical processes used in the manufacturing of adhesively bonded assemblies shall specify solution concentration, voltage, amperage, temperature, pH, and solution specimen test results.

a. Electrolytic chemical processes data shall include date, solution concentration analysis results, wedge test results, specification used, part number, and contract number.

b. Non-electrolytic chemical processes data shall include solution concentration, solution operating temperature, pH, and solution specimen test results, specification used, part number, and contract number.

10.3.11 Autoclave bonding process data. Autoclave bonding process data shall specify temperature, pressure, and heat up rate of the bonded assembly. The data shall also include the equipment calibration data.

a. Autoclave bonding process data shall include date assembly is placed in the autoclave, maximum cure temperature reached, date and time, minimum cure temperature reached, date and time, heat up temperature rate of assembly during the cure cycle, cure temperature dwell time, maximum pressure reached, pressure rise rate experienced by the assembly, pressure dwell time, bonded assembly part number, and contract number.

b. Data shall include a sketch showing the location of all pressure probes, vacuum probes, thermocouples attached to the bonded assembly and tooling.

c. Calibration data of Autoclave bonding process equipment shall include calibration date of the input/output recording devices, input/output monitoring devices, probes, standards used and the name of company and person that performed the calibration.

10.3.12 Press platen bonding process data. Press platen bonding process data shall specify temperature, pressure, and heat up rate of the bonded assembly. The data shall also include the equipment calibration data.

a. Press platen bonding process data shall include date assembly is placed in the press, maximum cure temperature reached, date and time,

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minimum cure temperature reached, date and time, heat up temperature rate, cure temperature and dwell time, cooling temperature rate, maximum pressure, pressure rise rate, bonded assembly part number, and contract number.

b. Press platen bonding process data shall include bonding date, sketch showing the location of thermocouples and pressure probes.

c. Calibration of press platen equipment data shall include calibration date of input/output recording devices, input/output monitoring devices, and the name of company and person that performed the calibration.

10.3.13 Vacuum and heating blanket bonding process data. Vacuum and heating blanket bonding process data shall specify vacuum and heating blanket bonding process temperature, pressure, and cure rate of bonded assembly. The data shall also include equipment calibration data.

a. Vacuum and heating blanket bonding process data shall include date, maximum and minimum cure temperature, heat up rate, cure time, vacuum pressure in inches of mercury, bonded assembly part number, and contract number.

b. Vacuum and heating blanket bonding process data shall include date and sketch showing the location of vacuum and pressure probes, and thermocouples attached to the bonded assembly and tooling.

c. Vacuum and heating blanket bonding process equipment calibration data shall include calibration date of the input/output recording devices, input/output monitoring devices and the name of company and person that performed the calibration.

10.3.14 Visual and hermetic inspection data. Visual and hermetic inspection data shall specify description, location and corrective action of defects.

a. Visual inspection data shall include date of inspection, defect description, sketch showing defect location, tolerances, specification, corrective action taken, inspectors stamp number or signature, part number, and contract number.

b. Hermetic seal inspection data shall include date of inspection, defect description, sketch showing defect location, specification, corrective action taken, immersion medium, medium temperature, immersion depth, inspectors stamp number or signature, part number, and contract number.

10.3.15 Ultrasonic inspection data. Ultrasonic inspection data shall specify defect size, location, and equipment used.

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a. Ultrasonic inspection data shall include date, name of equipment used, equipment settings, readings, standard used, sketch showing location and size of defect, part number, stamp number or signature of inspector, and contract number.

b. Ultrasonic inspection equipment calibration data shall include calibration date of instrument and input/output recording devices, and name of company and person that performed the calibration.

10.3.16 Radiographic (X-RAY) inspection data. Radiographic (x-ray) inspection data shall specify the defect size, location, and equipment used.

a. X-ray inspection data shall include x-ray film grade or x-ray paper grade, x-ray source, voltage setting, amperage setting, distance from camera source to part, date of inspection, stamp number or signature of inspector, applicable specification, part number, and contract number.

b. X-ray equipment calibration data shall include calibration date of instrument and input/output recording devices, and the name of company and person that performed the calibration.

10.3.17 Dissection inspection data. Dissection inspection data shall specify dissected specimen location, specimen identification, tests results, equipment used, equipment calibration and applicable specifications.

a. Dissection inspection data shall include a sketch of assembly showing location of each test specimen, specimen identification, and applicable specification. Data shall include the test results, specimen preparation, specimen dimensions, bondline dimensions, assembly part number, and contract number.

b. Dissection inspection equipment data shall include name of equipment used, capacity of equipment used to perform test, calibration date, name of company and person that performed the calibration.

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