



Standard Specification for Quality Assurance of a Small Unmanned Aircraft System (sUAS)¹

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1. Scope

1.1 This standard defines the quality assurance requirements for the design, manufacture, and production of a small unmanned aircraft system (sUAS).

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

F2910 Specification for Design, Construction, and Test of a Small Unmanned Aircraft System (sUAS)

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *manufacturer, n*—entity responsible for assembly and integration of components and subsystems to create a safe operating sUAS. The builder of kit built systems provided by a manufacturer must conform to the manufacturer’s assembly and test instructions without deviation in order for that kit built system to meet this standard.

3.1.2 *permanent record, n*—records that shall be kept for each sUAS produced.

3.1.3 *propulsion system, n*—consists of one or more power plants (for example, a combustion engine or an electric motor and, if used, a propeller or rotor) together with the associated installation of fuel system, control and electrical power supply (for example, batteries, electronic speed controls, fuel cells, or other energy supply).

3.1.4 *quality assurance manual, QAM, n*—documentation of the quality assurance program.

¹ This test method is under the jurisdiction of ASTM Committee F38 on Unmanned Aircraft Systems and is the direct responsibility of Subcommittee F38.01 on Airworthiness.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard’s Document Summary page on the ASTM website.

3.1.5 *quality assurance program, QAP, n*—method of inspections used by the manufacturer to validate and ensure the proper production thereof.

3.1.6 *quality assurance record, QAR, n*—record of quality assurance associated with each sUAS produced.

3.1.7 *small unmanned aircraft system, sUAS, n*—composed of the small unmanned aircraft (sUA) and all required on-board subsystems, payload, control station, other required off-board subsystems, any required launch and recovery equipment, and command and control (C2) links between the UA and the control station. For purposes of this standard, sUAS is synonymous with a small Remotely Piloted Aircraft System (sRPAS) and sUA is synonymous with a small Remotely Piloted Aircraft (sRPA).

3.1.8 *supplier, n*—any entity engaged in the design and production of components (other than a payload which is not required for safe operation of the sUAS) used on a sUAS.

3.1.8.1 *Discussion*—Where the supplier is not the manufacturer, the supplier can only ensure that the components comply with accepted consensus standards.

3.2 *Shall versus Should versus May*—Use of the word “shall” implies that a procedure or statement is mandatory and must be followed to comply with this standard, “should” implies recommended, and “may” implies optional at the discretion of the supplier, manufacturer, or operator. Since “shall” statements are requirements, they include sufficient detail needed to define compliance (for example, threshold values, test methods, oversight, reference to other standards). “Should” statements are provided as guidance towards the overall goal of improving safety, and could include only subjective statements. “Should” statements also represent parameters that could be used in safety evaluations, and could lead to development of future requirements. “May” statements are provided to clarify acceptability of a specific item or practice, and offer options for satisfying requirements.

4. Applicability

4.1 This standard is written for all sUAS that are permitted to operate over a defined area and in airspace defined by a nation’s governing aviation authority (GAA). It is assumed that a visual observer(s) will provide for the sense-and-avoid