

What requirements of Mil-Std-1686 are covered in ANSI/ESD S20.20

Sections of Mil-Std-1686	ANSI/ESD S20.20
<p>1 Scope which contains a Purpose (1.1), Scope (1.2) and Application (1.3) Establish an ESD Control Plan Wherever ESD sensitive parts at handled Applies to all Government activities</p>	<p>Two sections 1.0 Scope 2.0 Purpose Establish an ESD Control Plan Wherever ESD sensitive parts at handled</p>
<p>1.1 Purpose Allows this standard to be tailored for various types of acquisitions</p>	<p>6.3 Tailoring Allows for tailoring the requirements of this standard as long as there is a documented rationale and technical justification</p>
<p>2. Applicable Documents Various documents listed that will be used in the standard. As requirements are listed they reference document will be noted.</p>	<p>3.0 Referenced Publications Various documents listed that will be used in the standard. As requirements are listed they reference document will be noted</p>
<p>The documents listed in both standards vary greatly.</p>	
<p>3. Definitions Definitions are in Mil-HBK-263</p>	<p>4.0 Definitions Definitions are in ADV 1.0 Glossary</p>
<p>4. General Requirements 4.1 General An ESD Control Program shall be established and implemented.</p>	<p>6.0 ESD Control Program 6.1 ESD Control Program Requirements An ESD Control Program shall include all technical and administrative requirements in this standard.</p>
<p>4.1.1 Tailoring The contractor shall tailor the ESD Control program for the acquisition by selecting the applicable elements</p>	<p>6.3 Tailoring Allows for tailoring the requirements of this standard as long as there is a documented rationale and technical justification</p>
<p>The slight difference between these two sections is the requirement in 20.20 for a technical justification and rationale that must be documented as part of the plan. The Mil-Std is not clear is there is any additional requirements beyond the selection.</p>	

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<p>5. Detailed Requirements 5.1 ESD control program plan This outlines what is required as per Fig 1 in the standard. From that, the requirements are to have a protected area, handling procedures, protective coverings and training. All parts and assemblies must be classified per sec 5.2</p>	<p>7.0 ESD Control Program Administrative Requirements 8.0 ESD Control Program Technical Requirements These two sections require everything in the Mil-Std plus many more specific details. For example, the training plan must define initial and recurrent training, training records and where they are stored, document the training techniques and have a way to demonstrate comprehension</p>
<p>5.2 Classification of ESDS parts, assemblies and equipment This section requires every part and assembly to be tested to various standards to determine how sensitive they are.</p> <p>While this would be useful information, to classify every part and assembly is not done. Some of the standards in the Mil-Std do not exist anymore. The Mil-Std did not have a requirement to document what the process was capable of handling.</p>	<p>6.1 ESD Control Program Requirements This requires the process owner to document the most sensitive part they can handle.</p>
<p>5.3 Protected Areas Handling of ESDS parts, assemblies and equipment without ESD protective covering or packaging shall be performed in ESD protected areas....</p>	<p>8.3 ESD Protected Areas (EPAs) Handling of ESDS parts, assemblies, and equipment without ESD protective covering or packaging shall be performed in an EPA.</p>
<p>5.4 Handling Procedures ESD protective handling procedures shall be established, documented and implemented.</p>	<p>8.1 Grounding 8.2 Personnel Grounding 8.3 ESD Protected Areas (EPAs) These three sections give specific requirements on handling procedures and ESD control items that are used within and EPA. This section also included test methods and limits which are not part of the Mil-Std</p>
<p>5.5 Protective covering When not being worked on or when outside protected areas, ESDS parts and assemblies shall be enclosed in ESD protective covering or packaging. Guidance is in MIL-HDBK-263</p>	<p>8.4 Packaging ESD protective packaging shall be in accordance with contact, purchase order.. When not specified the organization shall define ESD protective packaging requirements, both inside and outside the EPA per ANSI/ESD S541</p>

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<p>5.6 Training Periodic and recurrent ESD training shall be provided to all personnel who perform or supervise ...</p>	<p>7.2 Training Plan Initial and recurrent ESD awareness and prevention training shall be provided to all personnel who handle or otherwise come into contact,... Plus records are required and a way to demonstrate comprehension is required</p>
<p>5.7 Marking of hardware There are specific requirements for marking assemblies and equipment that contain ESDS items</p>	<p>8.5 Marking There is a requirement for a marking plan or to mark items as per a contract. However, a valid marking plan might be not to mark items.</p>
<p>5.8 Packaging Per contract or MIL-STD-2073 codes GX....</p>	<p>8.4 Packaging Per contract or ANSI/ESD S541</p>
<p>5.9 Quality Assurance reviews and audits No requirements but recommendations.</p>	<p>Not in ANSI/ESD S20.20 but a third party certification can be obtained by trained assessor from Certification Bodies</p>
<p>5.10 Failure Analysis No requirements but recommendations on how to perform failure analysis</p>	<p>Not in ANSI/ESD S20.20</p>
<p>Section 6 are note and as stated are not mandatory</p>	
<p>No requirement</p>	<p>6.2 ESD Control Program Manager Must name a responsible person in the organization</p>
<p>No requirement</p>	<p>7.1 ESD Control Program Within this section, the following must be documented and implemented Grounding/Bonding systems Personnel Grounding EPA requirements</p>
<p>No requirement</p>	<p>8.1 Grounding/Equipotential Bonding Define with limits the connection systems</p>
<p>No requirement</p>	<p>8.2 Personnel Grounding Define the limits and qualification requirements. The qualification requirements have low humidity testing</p>
<p>No requirement</p>	<p>8.3 ESD Protected Areas Requirements on ESD control item with measurements and limits, product qualification and E-field limits defined</p>