



IPC-HDBK-001F

Handbook and Guide to Supplement J-STD-001

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Users of this publication are encouraged to participate in the development of future revisions.

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Table of Contents

| | |
|--|---|
| <p>Δ0.1 GENERAL 1</p> <p>Δ0.1.1 Scope 1</p> <p>Δ0.1.2 Purpose 1</p> <p>Δ0.2 FORMAT (Using This Handbook) 1</p> <p style="padding-left: 20px;">1 GENERAL 2</p> <p style="padding-left: 40px;">1.1 Scope 2</p> <p style="padding-left: 40px;">1.2 Purpose 2</p> <p style="padding-left: 40px;">1.3 Classification 2</p> <p style="padding-left: 40px;">1.4 Measurement Units and Applications 3</p> <p style="padding-left: 40px;">1.4.1 Verification of Dimensions 3</p> <p style="padding-left: 40px;">1.5 Definition of Requirements 3</p> <p style="padding-left: 40px;">1.5.1 Hardware Defects and Process Indicators 4</p> <p style="padding-left: 40px;">1.5.2 Material and Process Nonconformance 4</p> <p style="padding-left: 40px;">1.6 General Requirements 4</p> <p style="padding-left: 40px;">1.7 Order of Precedence 4</p> <p style="padding-left: 40px;">1.7.1 Conflict 4</p> <p style="padding-left: 40px;">1.7.2 Clause References 4</p> <p style="padding-left: 40px;">1.7.3 Appendices 5</p> <p style="padding-left: 40px;">1.8 Terms and Definitions 5</p> <p style="padding-left: 40px;">1.8.1 Disposition 5</p> <p style="padding-left: 40px;">1.8.2 Electrical Clearance 5</p> <p style="padding-left: 40px;">1.8.3 FOD (Foreign Object Debris) 5</p> <p style="padding-left: 40px;">1.8.4 High Voltage 5</p> <p style="padding-left: 40px;">1.8.5 Manufacturer (Assembler) 5</p> <p style="padding-left: 40px;">1.8.6 Objective Evidence 5</p> <p style="padding-left: 40px;">1.8.7 Process Control 5</p> <p style="padding-left: 40px;">1.8.8 Proficiency 6</p> <p style="padding-left: 40px;">1.8.9 Solder Destination Side 6</p> <p style="padding-left: 40px;">1.8.10 Solder Source Side 6</p> <p style="padding-left: 40px;">1.8.11 Supplier 6</p> <p style="padding-left: 40px;">1.8.12 User 6</p> <p style="padding-left: 40px;">1.8.13 Wire Overwrap 6</p> <p style="padding-left: 40px;">1.8.14 Wire Overlap 6</p> <p style="padding-left: 40px;">1.9 Requirements Flowdown 6</p> <p style="padding-left: 40px;">1.10 Personnel Proficiency 7</p> <p style="padding-left: 40px;">1.11 Acceptance Requirements 7</p> <p style="padding-left: 40px;">1.12 General Assembly Requirements 7</p> <p style="padding-left: 40px;">1.13 Miscellaneous Requirements 7</p> <p style="padding-left: 40px;">1.13.1 Health and Safety 7</p> <p style="padding-left: 40px;">1.13.2 Procedures for Specialized Technologies 7</p> <p>2 APPLICABLE DOCUMENTS 8</p> <p>2.1 EIA 8</p> | <p>2.2 IPC 8</p> <p>2.3 Electrostatic Discharge Association 9</p> <p>3 MATERIAL, COMPONENTS, AND EQUIPMENT REQUIREMENTS 9</p> <p style="padding-left: 20px;">3.1 Materials 9</p> <p style="padding-left: 20px;">3.2 Solder 10</p> <p style="padding-left: 40px;">3.2.1 Solder – Lead Free 12</p> <p style="padding-left: 40px;">3.2.2 Solder Purity Maintenance 18</p> <p style="padding-left: 20px;">3.3 Flux 20</p> <p style="padding-left: 40px;">3.3.1 Flux Application 23</p> <p style="padding-left: 20px;">3.4 Solder Paste 23</p> <p style="padding-left: 40px;">Δ3.4.1 Solder Powder 24</p> <p style="padding-left: 40px;">Δ3.4.2 Particle Shape Effects 24</p> <p style="padding-left: 40px;">Δ3.4.3 Solder Particle Size Effects 24</p> <p style="padding-left: 40px;">Δ3.4.4 Oxide Content in Solder Paste 24</p> <p style="padding-left: 40px;">Δ3.4.5 Metals Content 24</p> <p style="padding-left: 40px;">Δ3.4.6 Paste Viscosity 25</p> <p style="padding-left: 40px;">Δ3.4.7 Determination of Correct Paste Volume 25</p> <p style="padding-left: 20px;">3.5 Solder Preforms 26</p> <p style="padding-left: 20px;">3.6 Adhesives 26</p> <p style="padding-left: 20px;">3.7 Chemical Strippers 26</p> <p style="padding-left: 20px;">3.8 Components 27</p> <p style="padding-left: 40px;">3.8.1 Component and Seal Damage 27</p> <p style="padding-left: 40px;">3.8.2 Coating Meniscus 27</p> <p style="padding-left: 20px;">3.9 Soldering Tools and Equipment 27</p> <p>4 GENERAL SOLDERING AND ASSEMBLY REQUIREMENTS 28</p> <p style="padding-left: 20px;">4.1 Electrostatic Discharge (ESD) 28</p> <p style="padding-left: 20px;">4.2 Facilities 29</p> <p style="padding-left: 40px;">4.2.1 Environmental Controls 29</p> <p style="padding-left: 40px;">4.2.2 Temperature and Humidity 29</p> <p style="padding-left: 40px;">4.2.3 Lighting 29</p> <p style="padding-left: 40px;">4.2.4 Field Assembly Operations 29</p> <p style="padding-left: 20px;">4.3 Solderability 29</p> <p style="padding-left: 20px;">4.4 Solderability Maintenance 30</p> <p style="padding-left: 20px;">4.5 Removal of Component Surface Finishes 30</p> <p style="padding-left: 40px;">4.5.1 Gold Removal 30</p> <p style="padding-left: 40px;">4.5.2 Other Metallic Surface Finishes Removal 31</p> <p style="padding-left: 20px;">4.6 Thermal Protection 31</p> <p style="padding-left: 20px;">4.7 Rework of Nonsolderable Parts 32</p> <p style="padding-left: 20px;">4.8 Preprocessing Cleanliness Requirements 32</p> <p style="padding-left: 20px;">4.9 General Part Mounting Requirements 32</p> <p style="padding-left: 40px;">4.9.1 General Requirements 32</p> |
|--|---|

| | | | | | |
|----------|--|-----------|----------|---|-----------|
| 4.9.2 | Lead Deformation Limits | 32 | 5.4.6 | Pierced or Perforated Terminals | 56 |
| 4.10 | Hole Obstruction | 32 | 5.4.7 | Cup and Hollow Cylindrical Terminals – Placement | 56 |
| 4.11 | Metal-Cased Component Isolation | 33 | 5.5 | Soldering to Terminals | 57 |
| 4.12 | Adhesive Coverage Limits | 33 | 5.5.1 | Bifurcated Terminals | 57 |
| 4.13 | Mounting of Parts on Parts (Stacking of Components) | 33 | 5.5.2 | Slotted Terminal | 57 |
| 4.14 | Connectors and Contact Areas | 34 | 5.5.3 | Cup and Hollow Cylindrical Terminals – Soldering | 57 |
| 4.15 | Handling of Parts | 34 | 5.6 | Jumper Wires (See Figure 5-19) | 58 |
| 4.15.1 | Preheating | 34 | 5.6.1 | Insulation | 59 |
| 4.15.2 | Controlled Cooling | 34 | 5.6.2 | Wire Routing | 59 |
| 4.15.3 | Drying/Degassing | 35 | 5.6.3 | Wire Staking | 59 |
| 4.15.4 | Holding Devices and Materials | 35 | 5.6.4 | Land | 60 |
| 4.16 | Machine (Nonreflow) Soldering | 35 | 5.6.5 | Supported Holes | 60 |
| 4.16.1 | Machine Controls | 35 | 5.6.6 | SMT | 60 |
| 4.16.2 | Solder Bath | 36 | | | |
| 4.17 | Reflow Soldering | 37 | 6 | THROUGH-HOLE MOUNTING AND TERMINATIONS | 63 |
| 4.17.1 | Intrusive Soldering (Paste-in-Hole) | 46 | 6.1 | Through-Hole Terminations – General | 63 |
| Δ4.17.2 | Selective Soldering | 46 | 6.1.1 | Lead Forming | 65 |
| 4.18 | Solder Connection | 47 | 6.1.2 | Termination Requirements | 67 |
| 4.18.1 | Exposed Surfaces | 47 | 6.1.3 | Lead Trimming | 68 |
| 4.18.2 | Solder Connection Anomalies | 48 | 6.1.4 | Interfacial Connections | 68 |
| 4.18.3 | Partially Visible or Hidden Solder Connections | 49 | 6.1.5 | Coating Meniscus in Solder | 69 |
| 4.19 | Heat Shrinkable Soldering Devices | 49 | 6.2 | Supported Holes | 69 |
| | | | 6.2.1 | Solder Application | 69 |
| 5 | WIRES AND TERMINAL CONNECTIONS | 49 | 6.2.2 | Through-Hole Component Lead Soldering | 69 |
| 5.1 | Wire and Cable Preparation | 49 | 6.3 | Unsupported Holes | 69 |
| 5.1.1 | Insulation Damage | 50 | 6.3.1 | Lead Termination Requirements for Unsupported Holes | 69 |
| 5.1.2 | Strand Damage | 50 | | | |
| 5.1.3 | Tinning of Stranded Wire | 51 | 7 | SURFACE MOUNTING OF COMPONENTS | 70 |
| 5.2 | Solder Terminals | 51 | 7.1 | Surface Mount Device Lead | 70 |
| 5.3 | Bifurcated, Turret and Slotted Terminal Installation | 51 | 7.1.1 | Plastic Components | 70 |
| 5.3.1 | Shank Damage | 51 | 7.1.2 | Forming | 70 |
| 5.3.2 | Flange Damage | 52 | 7.1.3 | Unintentional Bending | 70 |
| 5.3.3 | Flared Flange Angles | 52 | 7.1.4 | Flat Pack Parallelism | 70 |
| 5.3.4 | Terminal Mounting – Mechanical | 52 | 7.1.5 | Surface Mount Device Lead Bends | 71 |
| 5.3.5 | Terminal Mounting – Electrical | 52 | 7.1.6 | Flattened Leads | 71 |
| 5.3.6 | Terminal Mounting – Soldering | 53 | 7.1.7 | Parts Not Configured for Surface Mounting | 71 |
| 5.4 | Mounting to Terminals | 53 | 7.2 | Leaded Component Body Clearance | 71 |
| 5.4.1 | General Requirements | 53 | 7.2.1 | Axial-Leaded Components | 71 |
| 5.4.2 | Turret and Straight Pin Terminals | 54 | 7.3 | Parts Configured for Butt/I Lead Mounting | 71 |
| 5.4.3 | Bifurcated Terminals | 54 | 7.4 | Hold Down of Surface Mount Leads/Components | 72 |
| 5.4.4 | Slotted Terminals | 55 | 7.5 | Soldering Requirements | 72 |
| 5.4.5 | Hook Terminals | 55 | 7.5.1 | Misaligned Components | 72 |

| | | | | | |
|--|--|---------|---|--|-----|
| 7.5.2 | Unspecified and Special Requirements | 72 | 9.1.3 | Haloing | 88 |
| 7.5.3 | Bottom Only Chip Component Terminations | 73 | 9.1.4 | Edge Delamination | 88 |
| 7.5.4 | Rectangular or Square End Chip Components – 1, 3 or 5 Side Termination | 73 | 9.1.5 | Land/Conductor Separation | 88 |
| 7.5.5 | Cylindrical End Cap Terminations | 73 | 9.1.6 | Land/Conductor Reduction in Size | 89 |
| 7.5.6 | Castellated Terminations | 73 | 9.1.7 | Flexible Circuitry Delamination | 89 |
| 7.5.7 | Flat Gull Wing Leads | 73 | 9.1.8 | Flexible Circuitry Damage | 89 |
| 7.5.8 | Round or Flattened (Coined) Gull Wing Leads | 74 | 9.1.9 | Burns | 89 |
| 7.5.9 | J Lead Terminations | 74 | 9.1.10 | Non-Soldered Edge Contacts | 89 |
| 7.5.10 | Butt/I Terminations | 74 | 9.1.11 | Measles | 89 |
| 7.5.11 | Flat Lug Leads | 74 | 9.1.12 | Crazing | 89 |
| 7.5.12 | Tall Profile Components Having Bottom Only Terminations | 74 | 9.2 | Marking | 90 |
| 7.5.13 | Inward Formed L-Shaped Ribbon Leads | 74 | 9.3 | Bow and Twist (Warpage) | 90 |
| 7.5.14 | Surface Mount Area Array Packages | 74 | 9.4 | Depanelization | 90 |
| 7.5.15 | Bottom Termination Components (BTC) | 75 | 10 COATING, ENCAPSULATION AND STAKING (ADHESIVE) | 90 | |
| 7.5.16 | Components with Bottom Thermal Plane Terminations (D-Pak) | 75 | Δ10.0.1 | Conformal Coating General | 90 |
| 7.5.17 | Flattened Post Connections | 75 | Δ10.0.2 | Conformal Coating Adhesion | 91 |
| 7.5.18 | P-Style Terminations | 75 | Δ10.0.3 | Substrate Preparation | 92 |
| 7.6 | Specialized SMT Terminations | 75 | 10.1 | Conformal Coatings – Materials | 94 |
| 8 CLEANING PROCESS REQUIREMENTS | 75 | Δ10.1.1 | Acrylic (AR) | 96 | |
| Δ8.0.1 | Process Residues and Their Impact on Product Reliability | 76 | Δ10.1.2 | Epoxy (ER) | 96 |
| Δ8.0.2 | Historical Perspective on Cleaning and Cleaning Processes | 76 | Δ10.1.3 | Silicone (SR) | 96 |
| Δ8.0.3 | Magnification and Visual Inspection for Cleanliness | 77 | Δ10.1.4 | Polyurethane (UR) | 96 |
| Δ8.0.4 | J-STD-001F Section 8 Demystified | 78 | Δ10.1.5 | Paraxylylene (XY) | 96 |
| 8.1 | Cleanliness Exemptions | 78 | Δ10.1.6 | Two-Part Systems (Acrylic/Polyurethane and Other Combinations) | 97 |
| 8.2 | Ultrasonic Cleaning | 79 | Δ10.1.7 | Other Types of Conformal Coatings | 97 |
| 8.3 | Post Solder Cleanliness | 79 | 10.2 | Conformal Coating – Masking | 97 |
| 8.3.1 | Foreign Object Debris (FOD) | 79 | 10.3 | Conformal Coating – Application | 98 |
| 8.3.2 | Flux Residue and Other Ionic or Organic Contaminants | 79 | 10.3.1 | Conformal Coating on Components | 99 |
| 8.3.3 | Post Soldering Cleanliness Designator | 80 | 10.3.2 | Thickness | 99 |
| 8.3.4 | Cleaning Option | 80 | 10.3.3 | Uniformity | 99 |
| 8.3.5 | Test for Cleanliness | 80 | 10.3.4 | Transparency | 100 |
| 8.3.6 | Testing | 80 | 10.3.5 | Bubbles and Voids | 100 |
| Δ8.4 | Frequently Asked Questions on Cleanliness | 83 | 10.3.6 | Delamination | 100 |
| 9 PCB REQUIREMENTS | 88 | 10.3.7 | Foreign Objects Debris | 100 | |
| 9.1 | Printed Circuit Board Damage | 88 | 10.3.8 | Other Visual Conditions | 100 |
| 9.1.1 | Blistering/Delamination | 88 | 10.3.9 | Inspection | 100 |
| 9.1.2 | Weave Exposure/Cut Fibers | 88 | 10.3.10 | Rework or Touchup of Conformal Coating | 101 |
| | | | 10.4 | Encapsulation | 102 |
| | | | 10.4.1 | Application | 102 |
| | | | 10.4.2 | Performance Requirements | 102 |
| | | | 10.4.3 | Rework of Encapsulant Material | 102 |
| | | | 10.4.4 | Encapsulant Inspection | 103 |
| | | | 10.5 | Staking | 103 |

10.5.1 Staking – Application 103

10.5.2 Staking – Adhesive 103

10.5.3 Staking – Inspection 103

11 WITNESS (TORQUE/ANTI-TAMPERING) STRIPE 103

12 PRODUCT ASSURANCE 104

12.1 Hardware Defects Requiring Disposition 104

12.2 Inspection Methodology 104

12.2.1 Process Verification Inspection 104

12.2.2 Visual Inspection 104

12.2.3 Sampling Inspection 105

12.3 Process Control Requirements 105

12.3.1 Opportunities Determination 106

12.4 Statistical Process Control 106

13 REWORK AND REPAIR 106

13.1 Rework 106

13.2 Repair 106

13.3 Post Rework/Repair Cleaning 106

APPENDIX GUIDE 107

APPENDIX A Guidelines for Soldering Tools and Equipment 108

APPENDIX B Minimum Electrical Clearance – Electrical Conductor Spacing 110

APPENDIX C J-STD-001 Guidance on Objective Evidence of Material Compatibility 111

APPENDIX D Cross Reference Listing by Revision 112

ACRONYM INDEX 119

Figures

Figure 3-1 Phase Diagram for Eutectic Solder 11

Figure 3-2 Eutectic Solder Microstructure 11

Figure 3-3 Eutectic Solder Microstructure 11

Figure 3-4 Solder Wire Core Flux Comparison 13

Figure 3-5 Solder Alloy Fracture Toughness Testing Results 14

Figure 3-6 Solder Alloy Drop Shock Testing Results 14

Figure 3-7 Lead-Free Solder Alloy/Component Surface Finish Incompatibility Example 15

Figure 3-8 left: Non-Uniform Solder Joint Microstructure, right: Incomplete Solder Joint Reflow (Head-on-Pillow) 16

Figure 3-9 Component Degradation Due to Lead-Free Soldering Process Incompatibility 16

Figure 3-10 Lead-Free Solder Alloy Attack of Wave Solder Equipment 16

Figure 3-11 Copper Erosion Due to Lead-Free Soldering Processes 17

Figure 3-12 Coating Meniscus on a Lead 27

Figure 4-1 Thermal Shunt 32

Figure 4-2 Component Bridging 33

Figure 5-1 Compound Wire Stripper 49

Figure 5-2 Stripped Wire 50

Figure 5-3 Antiwicking Tool 51

Figure 5-4 Flange Damage 52

Figure 5-5 Flare Angles 52

Figure 5-6 Terminal Mounting – Mechanical 52

Figure 5-7 Terminal Mounting 52

Figure 5-8 Stress Relief 53

Figure 5-9 Wire Wrap 53

Figure 5-10 Wire Wrap Around Terminal Post 53

Figure 5-11 Continuous Runs 54

Figure 5-12 Wire and Lead Wrap Around 54

Figure 5-13 Side Route Connections and Wrap on Bifurcated Terminal 55

Figure 5-14 Bottom Route Terminal Connection 55

Figure 5-15 Top Route Terminal Connection 55

Figure 5-16 Hook Terminal Connections 56

Figure 5-17 Pierced or Perforated Terminal Wire Placement 56

Figure 5-18 Solder Height 57

Figure 5-19 Jumper Wires 62

Figure 6-1 Component Lead Stress Relief Examples 63

Figure 6-2 Side Mounting 63

Figure 6-3 Vertical Mounting of Freestanding Components 64

Figure 6-4 Mounting of Components with Dual Non-Axial Leads 64

Figure 6-5 Typical Configuration of Components with Dual Non-Axial Leads 64

Figure 6-6 End Mounting 64

Figure 6-7 Mounting with Feet on Standoffs 65

Figure 6-8 Non-Resilient Footed Standoffs 65

Figure 6-9 Lead Forming Forces 66

Figure 6-10 Lead Bends 67

Figure 6-11 Through-Hole Mounting Methods 67

Figure 6-12 Via Fill 69

Figure 7-1 Surface Mount Device Lead Forming 70

Figure 7-2 DIP Lead Forming 70

Figure 7-3 Surface Mounted and Butt/I Mounted DIPS ... 71

Figure 8-1 Burned PCB 76

Figure 8-2 Dendrites 76

Figure 8-3 Solder Mask Surface Appearance 77

| | | | | | |
|---------------|--|----|------------|--|-----|
| Figure 8-4 | White Residue | 78 | Table 4-1 | Baking Times and Temperatures (Bare/ Unpopulated PCB) | 35 |
| Figure 8-5 | Frosted Solder Appearance | 78 | Table 4-2 | Common Screen Parameters | 39 |
| Figure 8-6 | Average Tin Whisker Density | 87 | Table 4-3 | Common Screening Problems and Solutions ... | 39 |
| Figure 8-7 | Average Tin Whisker Density | 88 | Table 4-4 | Physical Properties of Vapor Phase Reflow Fluids | 41 |
| Figure 10-1 | Cure Windows of Primer Cure | 93 | Table 4-5 | Advantages and Disadvantages of Vapor Phase Soldering | 41 |
| Figure 10-2 | Conditions that Influence the Extent of Primer Cure | 93 | Table 4-6 | Thermal Data for Electronic Materials | 42 |
| Figure 10-3 | Influence of Temperature and Humidity | 94 | Table 4-7 | Problems and Solutions in Vapor Phase Soldering | 43 |
| Figure 10-4 | Conformal Coating Family Trees | 95 | Table 4-8 | IR Radiation | 44 |
| Tables | | | | | |
| Table 1-1 | Metric Prefixes | 3 | Table 4-9 | Advantage and Disadvantages of IR Soldering | 44 |
| Table 1-2 | Conversion Formulae | 3 | Table 4-10 | Characteristics of Infrared Sources for SMT Soldering | 44 |
| Table 3-1 | Common Physical Property Values for Eutectic or Near Eutectic Tin/Lead Solder | 12 | Table 5-1 | Allowable Strand Damage | 50 |
| Table 3-2 | Lead-Free Solder Alloys | 13 | Table 5-2 | Hook Terminal Wire Placement | 56 |
| Table 3-3 | Lead-Free Solder Alloys and Their Melting Temperatures | 13 | Table 5-3 | Pierced or Perforated Terminal Wire Placement | 56 |
| Table 3-4 | Levels of Allowable Solder Impurities for Sn60Pb40 and Sn63Pb37 Solders (Weight %) | 18 | Table 6-1 | Component to Land Clearance | 63 |
| Table 3-5 | Test Requirements for Flux Classifications (from J-STD-004B w/Amendment 1) | 22 | Table 6-2 | Components with Spacers | 65 |
| Table 3-6 | Flux Identification System (from J-STD-004B w/Amendment 1) | 22 | Table 6-3 | Lead Bend Radius | 66 |
| Table 3-7 | Mesh Size vs. Particle Size for Solder Powders Used in Solder Paste | 24 | Table 6-4 | Protrusion of Leads in Supported Holes | 68 |
| Table 3-8 | Recommended Viscosities of Solder Pastes | 25 | Table 6-5 | Protrusion of Leads in Unsupported Holes | 68 |
| Table 3-9 | Effects of Parameters on Viscosity | 25 | Table 8-1 | Equivalency Values from MIL-STD-2000 | 82 |
| | | | Table 8-2 | Flux Identification | 84 |
| | | | Table 10-1 | Preferred Conformal Coating Removal Methods | 102 |

Handbook and Guide to Supplement J-STD-001

Δ 0.1 GENERAL

Δ 0.1.1 Scope This Handbook is a companion reference to the J-STD-001 *Requirements for Soldered Electrical and Electronic Assemblies* (Standard) and is intended to provide supporting information.

Additional detailed information can be found in documents referenced within the Standard (and this Handbook). Users are encouraged to reference those documents to better understand the applicable subject areas.

Although this Handbook uses mandatory terminology (e.g., **shall**, **must**, etc.), nothing within this Handbook is considered mandatory unless this document is specified as a mandatory requirement in the contract documentation.

The intent of this Handbook is to capture “how and why” information and give more background for the specification limits and how they were derived. In addition, other supporting information is provided to give a broader understanding of the process considerations needed for the production of acceptable hardware. The target user of this Handbook is a Process or Manufacturing Engineer.

NOTE: The revision of this Handbook (“F”) was revised in an attempt to align with the base document/Standard (J-STD-001 also rev “F”). Please check for the latest revision or for any amendment(s) that may include changes that could alter explanations for how and why, or more detailed discussions on criteria.

Δ 0.1.2 Purpose The Handbook describes materials, methods, and verification criteria that, when applied as recommended or required, will produce quality soldered electrical and electronic assemblies. The intent of the Handbook is to explain the “how-to,” the “why,” and fundamentals for these processes, in addition to implementing control over processes rather than depending on end-item inspection to determine product quality.

The J-STD-001 and the IPC-HDBK-001 do not exclude any acceptable process used to make the electrical connections, as long as the methods used will produce completed solder joints conforming to the acceptability requirements of the Standard.

Δ 0.2 FORMAT (Using This Handbook)

This Handbook provides guidance on the J-STD-001F requirements. The section and paragraph numbers in this Handbook refer and correspond to the section and paragraph numbers in J-STD-001F. However, the information provided in this Handbook is applicable to Users of any previous version of J-STD-001.

Although this document will not provide discussion on each of the differences between J-STD-001F and J-STD-001FS, it may provide information on certain topics addressed in J-STD-001FS, i.e., lead-free mitigation, that may need to be considered in a general soldering process. This information will be included in the applicable section of this Handbook and not highlighted in any manner.

A cross reference listing, provided as Appendix D to this Handbook, will assist Users with identifying related paragraphs in previous revisions of J-STD-001. This cross reference listing includes identification of the associated Space Applications Electronic Hardware Addendum paragraphs for revisions E (ES) and D (DS).

Information concerning the appendices in J-STD-001 is either addressed in the body of this Handbook or covered more thoroughly in another document. An appendices guide is included at the end of Section 13 that links the topics discussed in the appendices of J-STD-001 to the appropriate supplemental information.

Where used verbatim, text that is directly quoted from a standard is italicized. In this Handbook, the word “Standard” refers specifically to J-STD-001 Revision F.

NOTE: References in the text of this Handbook (not text quoted from a Standard) referring only to Sections, Tables, and Figures in this Handbook will be annotated accordingly (see Example 1). If the reference is to a Section, Table, or Figure in the Standard, it will be followed by “of the Standard” (see Example 2).

Example 1: For more information on lead trimming, see 5.2.0.5.

Example 2: For more information on surface mount components, see Table 7-2 of the Standard.