

DIN EN 16602-70-18:2015-02 (E)

Space product assurance - Preparation, assembly and mounting of RF coaxial cables; English version EN 16602-70-18:2014

Table of contents

- Foreword5**
- Introduction.....6**
- 1 Scope.....7**
- 2 Normative references8**
- 3 Terms, definitions and abbreviated terms.....9**
 - 3.1 Terms from other standards.....9
 - 3.2 Terms specific to the present standard9
 - 3.3 Abbreviated terms.....9
- 4 Principles and prerequisites of reliable soldered or crimped cable connections 10**
 - 4.1 Principles of reliable soldered or crimped semi-rigid cable connections 10
 - 4.2 Prerequisites for assembly and mounting of semi-rigid coaxial cables 10
 - 4.3 Alternative coaxial cable technologies 11
- 5 Requirements..... 12**
 - 5.1 Preparatory conditions..... 12
 - 5.1.1 Facility cleanliness 12
 - 5.1.2 Environmental conditions 12
 - 5.1.3 Lighting requirements..... 13
 - 5.1.4 Equipment and tools 13
 - 5.2 Material selection..... 15
 - 5.2.1 Solder 15
 - 5.2.2 Flux..... 16
 - 5.2.3 Solvents 16
 - 5.2.4 Cable selection 17
 - 5.2.5 Connector selection 17
 - 5.3 Preparation of semi-rigid cable 18
 - 5.3.1 General 18
 - 5.3.2 Inspection of cable 18
 - 5.3.3 Cutting cable to initial oversize length 18

5.3.4	Cable forming and minimum bend radius	18
5.3.5	Preconditioning heat treatment.....	19
5.3.6	Trimming cable to final length	20
5.3.7	Stripping the cable ends.....	21
5.3.8	Inspection of stripped cable ends.....	21
5.4	Preparation for soldering assembly of semi-rigid cables	22
5.4.1	General.....	22
5.4.2	Degolding and pretinning	22
5.4.3	Solder preforms	23
5.5	Assembly of connectors to RF coaxial cables	24
5.5.1	Solder assembly of semi-rigid cables	24
5.5.2	Crimp assembly of semi-rigid cables and other assembly techniques	28
5.5.3	Completed assemblies.....	28
5.6	Mounting of cables.....	29
5.6.1	Semi-rigid cables with straight solder-type connectors	29
5.6.2	Semi-rigid cables with right-angle connectors	30
5.6.3	Other cable mounting technologies	30
5.7	Process verification.....	31
5.7.1	General.....	31
5.7.2	Temperature cycling.....	31
5.7.3	Vibration.....	31
5.8	Quality assurance.....	31
5.8.1	Data	31
5.8.2	Nonconformance.....	32
5.8.3	Calibration.....	32
5.8.4	Traceability	32
5.8.5	Workmanship standards.....	32
5.8.6	Inspection	32
5.8.7	Operator and inspector training and certification	33
Annex A (normative) Logbook – DRD		34
A.1	DRD identification.....	34
A.1.1	Requirement identification and source document.....	34
A.1.2	Purpose and objective.....	34
A.2	Expected response	34
A.2.1	Scope and content	34
A.2.2	Special remarks	34
Annex B (normative) Workmanship standards		35

B.1	Overview	35
B.2	Illustrations	35
Annex C	(informative) Graphical information	37
C.1	Overview	37
C.2	Typical cable cut-off fixture	37
C.3	Typical cable-forming tool	38
C.4	Approved and non-approved straight solder-type cable-end connectors	39
C.5	Method of producing solder performs	40
C.6	Centre contact assembly	40
Bibliography	41

Figures

Figure B-1	: Photograph showing non-captive nut and preferred solder fillet	35
Figure B-2	: Microsection through preferred solder fillet, revealing full penetration of solder path	35
Figure B-3	: Unacceptable solder fillet dimensions	36
Figure C-1	: Typical cable cut-off fixture	37
Figure C-2	: Typical cable-forming tool	38
Figure C-3	: Approved and non-approved straight solder-type cable-end connectors	39
Figure C-4	: Method of producing solder preforms	40
Figure C-5	: Centre contact assembly	40

Tables

Table 5-1	: Design rules for minimum bend radius	19
Table 5-2	: Preconditioning heat treatment process	20