ICS 49.060, 49.140 SLOVENSKÁ TECHNICKÁ NORMA September 2019

STN	**Zabezpečovanie výrobkov kozmického programu Lisovanie vysoko spoľahlivých elektrických spojení**	**STN EN 16602-70-26** 31 0542

Space product assurance - Crimping of high-reliability electrical connections

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/19

Obsahuje: EN 16602-70-26:2019

Oznámením tejto normy sa ruší
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EUROPEAN STANDARD
NORME EUROPÉENNE
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EN 16602-70-26

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ICS 49.060; 49.140

Supersedes EN 16602-70-26:2014

English version

Space product assurance - Crimping of high-reliability electrical connections

Assurance produit des projets spatiaux - Sertissage de connections électriques haute fiabilité

Raumfahrtproduktsicherung - Falten von hochzuverlässigen elektrischen Verbindungen

This European Standard was approved by CEN on 9 November 2018.

CEN and CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN and CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN and CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN and CENELEC members are the national standards bodies and national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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European Foreword

This document (EN 16602-70-26:2019) has been prepared by Technical Committee CEN-CENELEC/TC 5 “Space”, the secretariat of which is held by DIN.

This standard (EN 16602-70-26:2019) originates from ECSS-Q-ST-70-26C Rev.1.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2019, and conflicting national standards shall be withdrawn at the latest by September 2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN16602-70-26:2014.

The main changes with respect to EN16602-70-26:2014 are listed below:

- Implementation of ECSS Change requests
- Several Figures replaced by new Figures
- Clause 3 "Terms, definitions and abbreviated terms" updated
- Nomenclature added as clause 3.4
- Titles of clauses 5.1.2.3, 5.2, 5.2.4, 5.2.5, 5.3, 5.3.2, 5.4.3.2, 5.4.3.3 changed
- Several changes in the Clause 5.3 “Requirements for crimp configuration qualification”
- Several changes in clause 5.4 “Test methods”
- Clause 5.5.2 “Personnel training and certification” updated
- Clause 5.5.4 “Visual inspection “updated
- Several changes in clause 5.5.5 “Shift performance inspection and test for harness manufacturing”
- Clause 5.5.9 "Special crimping activities at spacecraft level, modifications and repairs” added
- All Figures from Issue C replaced
- Annex A "Crimp configurations and tools" updated
- Annex B "Examples of typical ultimate axial strength" added

This document has been prepared under a standardization request given to CEN by the European Commission and the European Free Trade Association.

This document has been developed to cover specifically space systems and has therefore precedence over any EN covering the same scope but with a wider domain of applicability (e.g. : aerospace).

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This Standard specifies:

- Requirements for the following crimping wire connections intended for high reliability electrical connections for use on spacecraft and associated equipment operating under high vacuum, thermal cycling and launch vibration:
  - — removable contacts, single wire
  - — removable contacts, multiple wires
  - — coaxial contacts, ferrules
  - — lugs and splices.

    NOTE These are the most commonly used crimping wire connections and are represented in Figure 1-1.
- The general conditions to be met for the approval of connections other than the above mentioned ones.

    NOTE Additional forms of crimps, not covered in this standard, are listed (not exhaustively) in the informative Annex A.
- Product assurance provisions for both the specific and the generic connections mentioned above.
- Training and certification requirements for operators and inspectors (clause 5.5.2), additional to those specified in ECSS-Q-ST-20.

This standard may be tailored for the specific characteristics and constraints of a space project, in conformance with ECSS-S-ST-00.

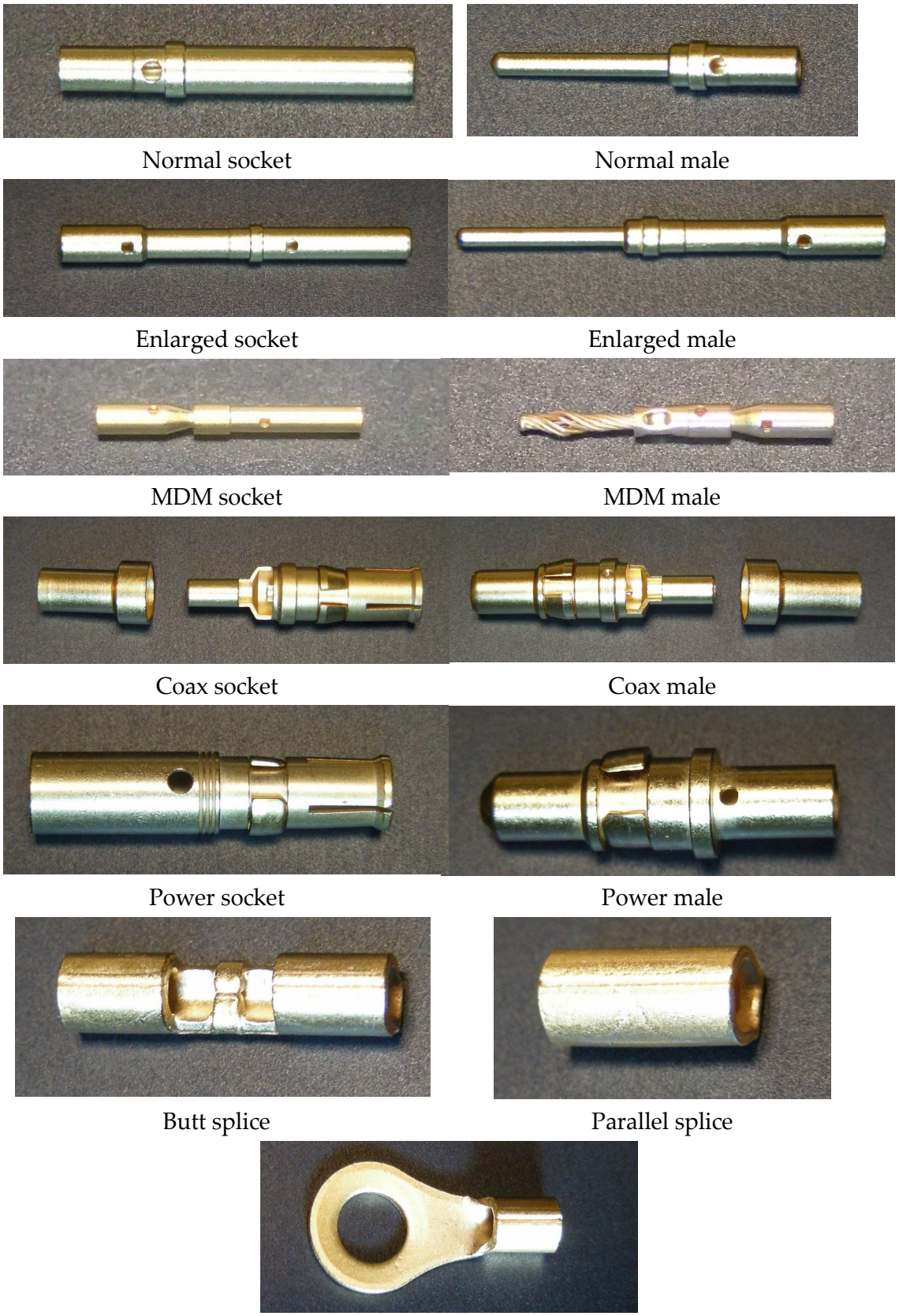

Figure 1-1: Example of interconnections described in this Standard

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Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this ECSS Standard. For dated references, subsequent amendments to, or revisions of any of these publications do not apply. However, parties to agreements based on this ECSS Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references the latest edition of the publication referred to applies.

EN reference	Reference in text	Title
EN 16601-00-01	ECSS-S-ST-00-01	ECSS system - Glossary of terms
EN 16602-10-09	ECSS-Q-ST-10-09	Space product assurance - Nonconformance control system
EN 16602-20	ECSS-Q-ST-20	Space product assurance - Quality assurance
EN 16602-60	ECSS-Q-ST-60	Space product assurance - Electrical, electronic and electromechanical (EEE) components
EN 16602-60-05	ECSS-Q-ST-60-05	Space product assurance – General requirements for hybrids
EN 16602-70	ECSS-Q-ST-70	Space product assurance - Materials, mechanical parts and processes
EN 16602-70-08	ECSS-Q-ST-70-08	Space product assurance - Manual soldering of high-reliability electrical connections
EN 16602-70-38	ECSS-Q-ST-70-38	Space product assurance - High-reliability soldering for surface-mount and mixed technology
EN 16602-70-71	ECSS-Q-ST-70-71	Space product assurance - Data for selection of space materials and processes
	SAE-AS-22520, 24 October 2011	Crimping tools, , wire termination, General specification for
	SAE-AS-7928B 10 March 2011	Terminals, lugs, splices, conductor, crimp style, copper, general specification for
	ISO 7500-1:2004	Metallic materials - Verification of static uniaxial testing machines - Part 1: tension/compression testing machines - Verification and calibration of the force-measuring system

EN reference	Reference in text	Title
	ESCC 3901, Issue 2 May 2013	ESCC generic specification No. 3901 Wires and cables, electrical, 600V, low frequency