

STN	Letectvo a kozmonautika Optické káble s vonkajším priemerom plášťa 125 µm Časť 102: Káble s polotuhou štruktúrou, s vláknom GI 62,5 µm/125 µm, vonkajším priemerom 1,8 mm Norma na výrobok	STN EN 4641-102 31 1847
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Aerospace series - Cables, optical 125 m diameter cladding - Part 102: Semi-loose 62,5 m125m GI fibre nominal 1,8 mm outside diameter - Product standard

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. 07/25

Obsahuje: EN 4641-102:2025

Oznámením tejto normy sa ruší

STN EN 4641-102 (31 1847) z júna 2009

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Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2025

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 4641-102

May 2025

ICS 49.090

Supersedes EN 4641-102:2009

English Version

**Aerospace series - Cables, optical 125 μm diameter
cladding - Part 102: Semi-loose 62,5 μm /125 μm GI fibre
nominal 1,8 mm outside diameter - Product standard**

Série aérospatiale - Câbles, optiques, diamètre
extérieur de la gaine optique 125 μm - Partie 102 :
Câble à structure semi-libre, fibre à gradient d'indice
62,5 μm /125 μm , diamètre extérieur 1,8 mm - Norme
de produit

Luft- und Raumfahrt - Lichtwellenleiterkabel,
Claddingdurchmesser 125 μm - Teil 102: Halbfester
Leiteraufbau GI 62,5 μm /125 μm , Faser
Kabelaußendurchmesser 1,8 mm - Produktnorm

This European Standard was approved by CEN on 20 January 2025.

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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 member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION
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EN 4641-102:2025 (E)

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European foreword

This document (EN 4641-102:2025) has been prepared by ASD STAN.

After enquiries and votes carried out in accordance with the rules of this Association, this document has received the approval of the National Associations and the Official Services of the member countries of ASD-STAN, prior to its presentation to CEN.

This document shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2025, and conflicting national standards shall be withdrawn at the latest by November 2025.

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

[This document supersedes EN 4641-102:2009.]

The main changes with respect to the previous edition are as follows:

- EN 4641-102 (P1), 02/2009 — Update to correct mandrel diameter for tests 405 and 406 in Table 4. Addition of the requirements EN 2591-100 for launch condition and suppression of the part below Table 4 for launch condition.

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

EN 4641-102:2025 (E)**1 Scope**

This document specifies the general characteristics, conditions for qualification, acceptance and quality assurance for a fibre optic cable with a 62,5 µm/125 µm graded index fibre nominal, 1,8 mm outside diameter and of semi-loose buffer construction.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2424, *Aerospace series — Marking of aerospace products*

EN 2591-100, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 100: General*

EN 2812, *Aerospace series — Stripping of electric cables*

EN 3745-100, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 100: General*

EN 3745-201, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 201: Visual examination*

EN 3745-202, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 202: Fibre dimensions*

EN 3745-203, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 203: Cable dimensions*

EN 3745-205, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 205: Cable longitudinal dimensional stability*

EN 3745-301, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 301: Attenuation*

EN 3745-302, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 302: Numerical aperture*

EN 3745-303, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 303: Bandwidth*

EN 3745-305, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 305: Immunity to ambient light coupling*

EN 3745-306, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 306: Variation of attenuation during temperature cycling*

EN 3745-401, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 401: Accelerated ageing*

EN 3745-404, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 404: Thermal shock*

EN 3745-405, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 405: Low/high temperature bend test*

EN 3745-406, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 406: Cold bend test*

EN 3745-407, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 407: Flammability*

EN 3745-410, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 410: Thermal life*

EN 3745-411, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 411: Resistance to fluids*

EN 3745-412, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 412: Humidity resistance*

EN 3745-501, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 501: Optical fibre proof test*

EN 3745-503, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 503: Scrape abrasion*

EN 3745-504, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 504: Micro bending test*

EN 3745-505, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 505: Cable tensile strength*

EN 3745-506, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 506: Impact resistance*

EN 3745-507, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 507: Cut-through*

EN 3745-508, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 508: Torsion*

EN 3745-509, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 509: Kink test*

EN 3745-510, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 510: Bending test*

EN 3745-511, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 511: Cable to cable abrasion*

EN 3745-512, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 512: Flexure endurance*

EN 3745-513, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 513: Crush resistance*

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EN 3745-515, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 515: Buffer insertion force*

EN 3745-516, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 516: Severe cable bend test*

EN 3745-517, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 517: Cable tie clamping test*

EN 3745-601, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 601: Smoke density*

EN 3745-602, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 602: Toxicity*

EN 3745-701, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 701: Strippability*

EN 3745-703, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 703: Durability of manufacturer's marking*

EN 3745-705, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 705: Contrast measurement*

EN 3909, *Aerospace series — Test fluids and test methods for electrical and optical components and sub-assemblies*

EN 4641-001, *Aerospace series — Cables, optical, 125 µm diameter cladding — Part 001: Technical specification*

TR 4647,¹ *Aerospace series — Termination procedure for EN 4639 optical contact*

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¹ Published as ASD-STAN TR, available at: <https://www.asd-stan.org/>.