



SLOVENSKI STANDARD
SIST EN 188202:1999

01-maj-1999

Family Specification: A1b graded index multimode optical fibres

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Familienspezifikation: Mehrmoden-Lichtwellenleiter - Kategorie A1b

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ICS:

33.180.10 ~~33.180.10~~ Fibres and cables

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 188202

September 1995

ICS 33.180.10

Descriptors: Quality, electronic components, optical fibres

English version

**Family Specification:
A1b graded index multimode optical fibres**

(n'existe pas encore en français)

Familienpezifikation:
Mehrmoden-Lichtwellenleiter
Kategorie A1b

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This European Standard was prepared by Working Group CLC/TC CECC/WG 28.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 188202 on 1995-07-04.

This standard completes the Sectional Specification published as EN 188200.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 1996-07-15
 - latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 1997-07-15
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1. Introduction

Definitions and test methods are given in EN 188000, Generic Specification: Optical Fibres, and in EN 188200, Sectional Specification: A1 category graded index multimode fibres.

2. Dimensions

The dimensions of A1b (62,5/125 μm) graded index multimode fibres are given in Table I and Table II.

Table I - Coating dimensions

Parameter	Values	Units
Primary coating diameter	245 \pm 10	μm
Primary coating non-circularity	\leq 6	%
Cladding/primary coating concentricity error	\leq 12,5	μm

Table II - Glass dimensions

Parameter	Values	Units
Core diameter	62,5 \pm 3	μm
Core non-circularity	\leq 6	%
Core/cladding concentricity error	\leq 3	μm
Cladding diameter	125 \pm 2	μm
Cladding non-circularity	\leq 2	%

3. Optical Parameters

The optical parameters of A1b (62,5/125 μm) graded index multimode fibres (attenuation, modal bandwidth and numerical aperture) are given in Table III. Ranges of possible attenuation and bandwidth values are suggested at both 850 nm and 1300 nm. The actual values at both wavelengths (or just at one of these wavelengths) are to be agreed between user and manufacturer.

Note: Multimode fibres can in general be optimized in bandwidth either for 850 nm or 1300 nm or between these wavelengths, depending on the refractive index profile parameter, g (see clause 1.4.1 in EN 188000), see figure 1. Due to this optimization it is practically impossible to produce fibres at extreme high bandwidths at both 850 nm and 1300 nm, like 300 MHz.km at 850 nm and also 1000 MHz.km at 1300 nm.

Table III - Optical parameters

Parameter	Values	Values	Units
Wavelength	850	1300	nm
Attenuation (maximum)	2,8 to 3,5	0,7 to 1,5	dB/km
Modal bandwidth (min)	160 to 300	400 to 1000	MHz.km
Numerical aperture	0,275 ± 0,015		

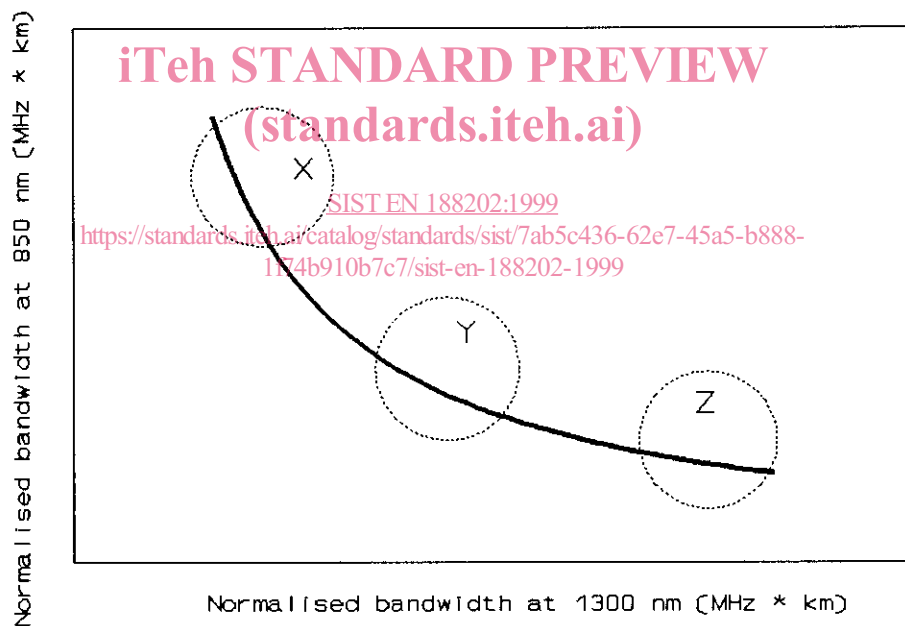


Figure 1. Possible relation between the bandwidth at 850 nm and at 1300 nm for Al_b multi-mode fibres. The indicated regions correspond to bandwidth optimization at either 850 nm (region X), or at 1300 nm (region Z) or between these wavelengths (region Y).