

Connector sets and interconnect components to be used in optical fibre communication systems — Product specifications —

**Part 6-1: Type SC-RJ terminated on
IEC 60793-2 category A1a and A1b
multimode fibre**

The European Standard EN 50377-6-1:2002 has the status of a
British Standard

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National foreword

This British Standard is the official English language version of EN 50377-6-1:2002.

The UK participation in its preparation was entrusted by Technical Committee GEL/86, Fibre optics, to Subcommittee GEL/86/2, Interconnecting devices and passive components, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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**Connector sets and interconnect components to be used
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category A1a and A1b multimode fibre**

Jeux de connecteurs et composants
d'interconnexion à utiliser dans les
systèmes de communication
par fibres optiques -
Spécifications de produit
Partie 6-1: Type SC-RJ câblés sur fibres
multimodales de catégorie A1a et A1b
de la CEI 60793-2

Steckverbindersätze und
Verbindungsbauelemente für
Lichtwellenleiter-
Datenübertragungssysteme -
Produktnormen
Teil 6-1: SC-RJ-Abschluss an
Mehrmodenfasern des Typs A1a und A1b
nach IEC 60793-2

This European Standard was approved by CENELEC on 2002-03-01. 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.

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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

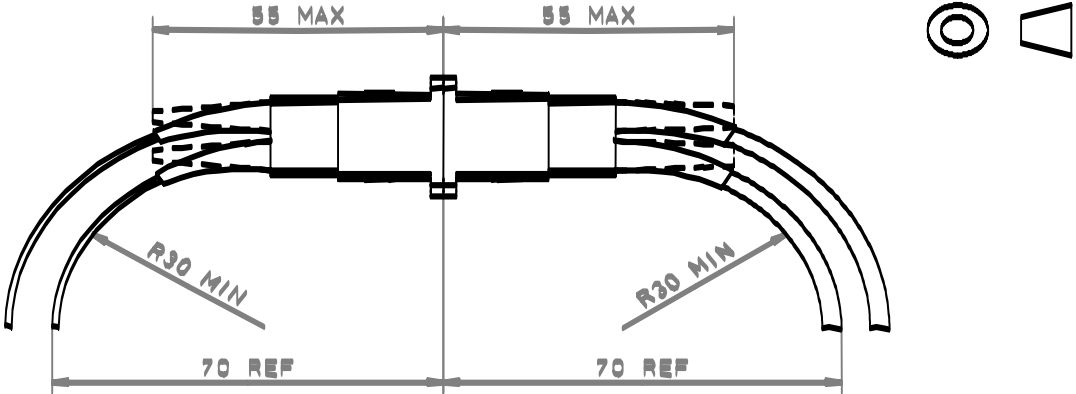
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with the EN have to be withdrawn (dow) 2005-03-01

Annexes designated "informative" are given for information only.
In this standard, annexes A and B are informative.

Connector sets and interconnect components to be used in optical fibre communication systems – Product specifications			
Part 6-1: Type: SC-RJ terminated on IEC 60793-2 category A1a and A1b multimode fibre			
Description		Performance	
Coupling mechanism:	push-pull	Application:	For use in Customer Premises IEC Category C Environment
Configuration:	plug / adaptor / plug	Attenuation Grade: (Random Mate)	M: max. 0,75 dB mean $\leq 0,35$ dB $\leq 0,50$ dB for ≥ 95 % of measurements
Fibre Category:	IEC 60793-2 type A1a, A1b	Return Loss Grade: (Random Mate)	M: ≥ 20 dB
Cable Type	see 3.1		
Related documents: EN 50173 Information Technology - Generic cabling systems EN 61300-x-xx Fibre optic interconnection devices and passive components - Basic test and measurement procedures EN 61754-4 Fibre optic connector interfaces - Part 4: Type SC connector family EN 186000-1 Generic specification: Connector sets for optical fibres and cables - Part 1: Requirements, test methods and qualification approval procedures IEC 60793-2 Optical fibres - Part 2: Product specifications IEC 60794-2 Optical fibre cables - Part 2: Product specification (indoor cable) IEC 61753-022-2 Fibre optic interconnecting devices and passive component performance standard Part 022-2: Fibre optic connectors terminated on multimode fibre for category C - Controlled environment ISO/IEC 11801 Information Technology - Generic cabling for customer premises			
Outline and maximum dimensions: 			

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1 Scope

1.1 Product definition

This European Standard contains the initial, start of life dimensional, optical, mechanical and environmental performance requirements which a terminated and assembled multimode resilient alignment sleeve SC-RJ connector set (plug / adaptor / plug) must meet in order for it to be categorised as an EN standard product.

Product marking details are given in 3.5.

1.2 Intermateability

Products conforming to the requirements of this specification will intermate and give the specified level of random attenuation and random return loss performance provided the same fibre type is used. The intention is that this will be true irrespective of the manufacturing source(s) of the product.

1.3 Operating environment

The tests selected combined with the severities and durations are representative of an indoor environment typically, but not limited to, that found in generic cabling on commercial premises as defined as in ISO/IEC 11801 and EN 50173 and specified as IEC Category C.

1.4 Reliability

Whilst the anticipated service life expectancy of the product in this environment is 20 years, compliance with this specification does not guarantee the reliability of the product. This should be predicted using a recognised reliability assessment programme.

1.5 Quality assurance

Compliance with this specification does not guarantee the manufacturing consistency of the product. This should be maintained using a recognised quality assurance programme.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 50173	Information Technology - Generic cabling systems
EN 61300-x-xx (Series)	Fibre optic interconnection devices and passive components - Basic test and measurement procedures
EN 61300-2-1	Part 2-1: Tests - Vibration (sinusoidal)
EN 61300-2-2	Part 2-2: Tests - Mating durability
EN 61300-2-4	Part 2-4: Tests - Fibre/cable retention
EN 61300-2-6	Part 2-6: Tests - Tensile strength of coupling mechanism
EN 61300-2-12	Part 2-12: Tests - Impact
EN 61300-2-17	Part 2-17: Tests - Cold
EN 61300-2-18	Part 2-18: Tests - Dry heat - High temperature endurance
EN 61300-2-19	Part 2-19: Tests - Damp heat (steady state)
EN 61300-2-22	Part 2-22: Tests - Change of temperature
EN 61300-2-42	Part 2-42: Tests - Static side load for connectors
EN 61300-3-6	Part 3-6: Examinations and measurements - Return loss
EN 61300-3-23	Part 3-23: Examinations and measurements - Fibre position relative to ferrule endface
EN 61300-3-34	Part 3-34: Examinations and measurements - Attenuation of random mated connectors
EN 61754-4	Fibre optic connector interfaces - Part 4: Type SC connector family
EN 186000-1	Generic specification: Connector sets for optical fibres and cables - Part 1: Requirements, test methods and qualification approval procedure

IEC 60793-2 Optical fibres - Part 2: Product specifications

ISO/IEC 11801 Information Technology - Generic cabling for customer premises

3 Description

The SC-RJ connector is a duplex plug connector set of plug / adaptor / plug configuration characterised by two cylindrical, spring loaded butting ferrules of 2,5 mm nominal diameter and a push-pull coupling mechanism. The optical alignment mechanism of the connector is of a resilient sleeve style.

3.1 SC-RJ plug

The plug features two cylindrical zirconia ceramic ferrules and a push-pull coupling mechanisms. Alternative materials that have material properties directly compatible with zirconia may be used for the ferrules, but the endface and performance requirements must be met under all conditions.

The plug housing has a single male key which is used to limit the relative rotation between mated plugs. A cover (dust cap) to protect the ferrule endface when the plug is in the unmated condition is provided.

3.2 SC-RJ adaptor

The adaptor consists of two zirconia ceramic resilient alignment sleeves and two push-pull coupling mechanisms, one for each sleeve. Alternative materials that have material properties directly compatible with zirconia may be used for the sleeves.

The mounting style is a rectangular flange with 2 hole fixing.

The adaptor can either connect to a SC-RJ plug or to two simplex SC plugs according to EN 61754-4. The adaptor housing has three female keys which are used to limit the relative rotation between mated plugs. One key is used to position the SC-RJ plug and the other two keys are used to orientate the two simplex SC plugs.

Covers (dust caps) are provided to protect each duplex port of the adaptor.

3.3 Materials

Materials which are not specified or which are not specifically described are left to the discretion of the manufacturer.

3.4 Dimensions

Outline dimensions and other dimensions necessary to ensure intermateability or which affect performance are specified. All other dimensions are left to the discretion of the manufacturer. Where the mating face limit dimensions are not in agreement with an IEC Interface Standard this is clearly stated.

3.5 Colour and marking

Marking of the product shall be in accordance with 2.6.2 of EN 186000-1 in the following order of precedence:

- identification of manufacturer;
- manufacturing date code: year / week;
- manufacturers part number;
- variant identification number.

The preferred colour scheme is given in Table 1.

Table 1 - Preferred colour scheme

Delatch housing SC simplex plug	Delatch housing SC-RJ plug	Adaptor
beige or black	beige or black	beige or black