

**IRISH STANDARD** 

I.S. EN 50290-2-1:2005

ICS 33.120.10

National Standards Authority of Ireland Glasnevin, Dublin 9 Ireland

Tel: +353 1 807 3800 Fax: +353 1 807 3838 http://www.nsai.ie

**COMMUNICATION CABLES PART 2-1:** 

**COMMON DESIGN RULES AND** 

CONSTRUCTION

Sales

http://www.standards.ie

This Irish Standard was published under the authority of the National Standards Authority of Ireland and comes into effect on: April 18, 2005

NO COPYING WITHOUT NSAI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

© NSAI 2005 Price Code I

Údarás um Chaighdeáin Náisiúnta na hÉireann

This is a free page sample. Access the full version online.

## **EUROPEAN STANDARD**

## EN 50290-2-1

# NORME EUROPÉENNE

# **EUROPÄISCHE NORM**

February 2005

ICS 33.120.10

English version

# Communication cables Part 2-1: Common design rules and construction

Câbles de communication Partie 2-1: Règles de conception communes et construction Kommunikationskabel Teil 2-1: Allgemeine Entwurfund Konstruktionsregeln

This European Standard was approved by CENELEC on 2004-10-01. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

# **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 the Technical Committee CENELEC TC 46X, Communication cables.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50290-2-1 on 2004-10-01.

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) 2005-10-01

 latest date by which the national standards conflicting with the EN have to be withdrawn

(dow) 2007-10-01

This European Standard has been prepared under the European Mandate M/212 given to CENELEC by the European Commission and the European Free Trade Association.

### Contents

Ir	itro	duction	5		
1	S	Scope	6		
2	N	Normative references	6		
3	ט	Definitions	6		
4	C	Common design rules	6		
	4.1				
	•	1.1.1 Conductor materials			
		1.1.2 Optical fibres			
		k.1.3 Taping / fillers			
		1.4 Insulating and sheathing materials			
		k.1.6 Armour			
	4.2				
	4	2.1 General design			
	4	4.2.2 Sheathing	10		
	4	2.3 Marking	10		
5	R	Register of symbols used	11		
Ī					
6	M	Material constants	13		
	6.1	Table of material constants relating to dielectric and sheath and their values			
		for different materials			
	6.2	<b>5</b>			
	6.3				
	_	Table of construction constants relating to inner conductor			
	6.4	3 · · · · · · · · · · · · · · · · · · ·			
	6.5				
	6.6				
		6.6.1 Coaxial cables			
	6	6.6.2 Balanced cables	18		
7		Standard values of characteristic impedance and outer diameter of dielectric for			
	С	coaxial cables	18		
	7.1	Impedance of coaxial cables	18		
	7.2	Nominal diameters over dielectric of coaxial cables	18		
8	C	Coaxial cable construction details	20		
	8.1	General	20		
	8.2				
	8.3	Stranded inner conductor	20		
	8.4				
	8.5				
	8.6				
	8.7 8.8				
	8.9				
_					
9		Standard values of characteristic impedance and outer diameter of dielectric or symmetrical cables	23		
	9.1	Impedance of symmetrical cables	23		
1	0	Symmetrical cable construction details	24		
	10.1	1 Attenuation	25		

11 Cor	Common characteristics		
11.1	Weight calculation	25	
12 Cal	culation of electrical properties	26	
12.1	DC resistance of conductors and screen, per unit length	26	
12.2	Permissible voltages	26	
	Test voltage, dielectric, u <sub>t</sub>		
12.2.2	Discharge test voltage, dielectric, u <sub>d</sub>	27	
12.2.3	Test voltage, sheath	27	



	This is a free preview.	Purchase the e	entire publication	at the link below:
--	-------------------------	----------------	--------------------	--------------------

**Product Page** 

- Dooking for additional Standards? Visit Intertek Inform Infostore
- Dearn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation