



**THE PAPERLESS
INSTALLATION**

-
**Browser Technology for
Installers**

**17th September 2002
Botanical Gardens
Birmingham**

Cabling Design Standards
Installation Standards
Testing Standards
Industry Body Recommendations
Test Results
WorkSmart
Browser Integration



THE PAPERLESS INSTALLATION

Mike Gilmore, The Cabling Partnership

The Paperless Installation

The Cabling Partnership

www.it-cabling.com

e-Ready Building

www.e-readybuilding.com

PO Box MT65, LEEDS, LS17 8YD, United Kingdom
Tel: +44 (0) 113 232 3721 Fax: +44 (0) 113 232 3724

Mike Gilmore, Senior Partner



Secretary: ISO/IEC JTC1 SC25 WG3: Generic Cabling
Member: ISO/IEC JTC1 SC25 Project Team: SOHO



Convenor (1994-2002): CENELEC TC215 WG1: IT Cabling



Chairman: BSI TCT7/-/1: IT Cabling
Chairman: BSI TCT7/-/3: IT Cabling Support Group
Technical and Standards Director, Fibreoptic Industry Association

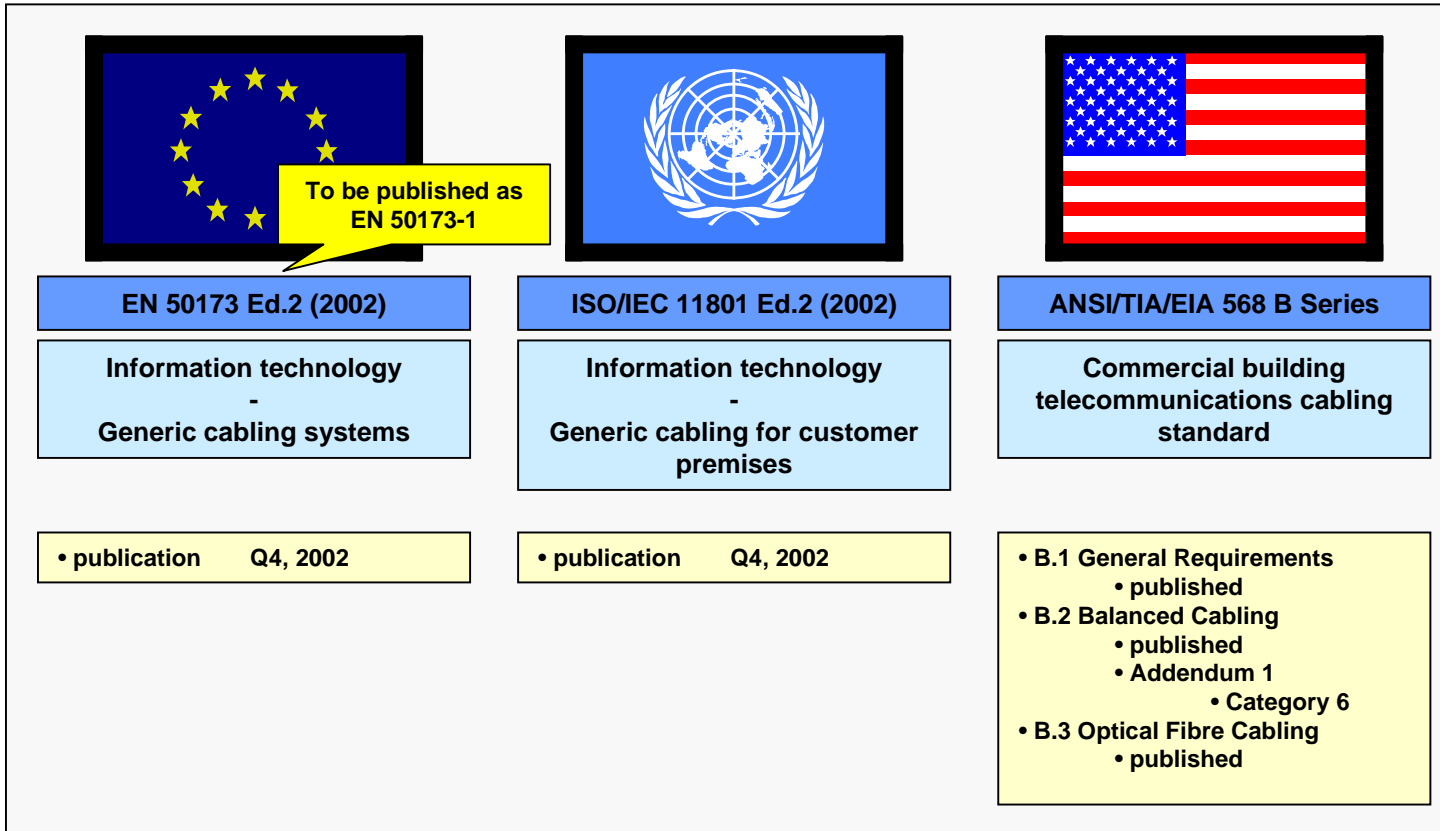
mike.gilmore@btinternet.com



THE PAPERLESS INSTALLATION

Mike Gilmore, The Cabling Partnership

Cabling Design Standards - A Dead End?





THE PAPERLESS INSTALLATION

Mike Gilmore, The Cabling Partnership

Market Conditions - A Bleak Future?

Balanced		Optical Fibre	
Unscreened	Screened	MMF	SMF
Category 5 (1995)		OM1	OS1
Category 5 (2000)		OM2	
Category 5 (2002) ~ Category 5e		OM3	
Category 6			
Category 7			
Category 6e?	Category 8?		

Established standards

Commoditisation

No high-margin "rabbits"

Balanced		Optical Fibre	
Unscreened	Screened	MMF	SMF
Wireless Category 5 (2002) Category 6 Category 7			OS1
		OM3	








Technology Squeeze
Margin Reduction



THE PAPERLESS INSTALLATION

Mike Gilmore, The Cabling Partnership

Installation Standards - Increasing Regulation






	BS EN 50174-1 (2001)	Information technology - Cabling installation- Part 1: Specification and Quality Assurance
	BS EN 50174-2 (2001)	Information technology - Cabling installation- Part 2: Installation planning and practices inside buildings
	BS 6701	Code of Practice for the installation of apparatus intended for connection to certain telecommunications systems
	BS 7718	Code of Practice for the installation of fibre optic cabling
	IEC 60825-1 A.1 (2001)	Safety of Laser Products Part 1: Equipment classification, requirements and users guide
	IEC 60825-2	Safety of Laser Products Part 2: Safety of optical fibre communication systems
	BS 7671	Requirements for electrical installations: IEE Wiring Regulations: Sixteenth Edition



THE PAPERLESS INSTALLATION

Mike Gilmore, The Cabling Partnership

Testing Standards - Spoilt for Choice?

 <p>BS EN 61280-4-2</p>	<p>Fibre optic communication subsystem basic test procedures - Part 4-2: Fibre optic cable plant - Single-mode fibre optic cable plant attenuation</p>
 <p>BS EN 50346 (2002)</p>	<p>Information technology - Cabling installation- Testing of installed cabling</p>
 <p>IEC 61280-4-1</p>	<p>Fibre optic communication subsystem basic test procedures - Part 4-1: Fibre optic cable plant - Multimode fibre optic cable plant attenuation</p>
 <p>ANSI/TIA/EIA-526-14-A</p>	<p>OFSTP-14A Optical Power Loss Measurement of Installed Multimode Fiber Cable Plant (ANSI/TIA/EIA-526-14A-98)</p>
 <p>ANSI/TIA/EIA-526-7</p>	<p>OFSTP-7 Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant (ANSI/TIA/EIA-526-7-98)</p>





THE PAPERLESS INSTALLATION

Mike Gilmore, The Cabling Partnership

Industry Body Recommendations

The FIA Technical Support Documents

- providing interpretation
- delivering guidance
- “fast-track” standardisation

 	
THE FIBREOPTIC INDUSTRY ASSOCIATION www.fibreoptic.org.uk	
TSD	DESIGN
2000-1-1	OPTICAL FIBRE CABLING: LAN APPLICATION SUPPORT GUIDE
2000-1-3	OPTICAL FIBRE CABLING: DARK FIBRE SUPPORT GUIDE
TSD	OPERATION
2000-3-3	POLARITY MAINTENANCE
TSD	INSTALLATION
2000-4-2-1	TESTING OF INSTALLED CABLING: ATTENUATION USING LSPM EQUIPMENT
2000-4-2-2	TESTING OF INSTALLED CABLING: ATTENUATION USING OTDR EQUIPMENT
TSD	SAFETY
2000-5-1	OPTICAL POWER: SAFETY LEVELS
2000-5-2	OPTICAL FIBRE: HANDLING OF PROCESSING CHEMICALS
2000-5-3	OPTICAL FIBRE: DISPOSAL OF WASTE
MODELLING TOOLS	
CABLING STRUCTURES COST MODEL	



THE PAPERLESS INSTALLATION

Mike Gilmore, The Cabling Partnership

Test Results - Basic

Fluke Cable Manager - MIKTEMP.fcm (2 Reports)

Cable ID:	Date / Time:	Site:	Length(m)	Summary:
1	12/04/2002 12:56:50...	ASHFORD	19.0	PASS
2	12/04/2002 12:59:35...	ASHFORD	19.0	PASS

Fluke Cable Manager - Ispm.fcm (70 Reports)

Cable ID:	Date / Time:	Site:	Length(m)	Summary:	Headroom:
0-32-1	14/08/2002 10:50:24...	ASHFORD	104.7	PASS	0.34
0-32-2	14/08/2002 10:50:24...	ASHFORD	104.7	FAIL	-0.02

Test Standard: TIA 568B Fiber FTA410/20 Cable Type: Multimode 50.0 μm

Loss Delay: 514 ns

104.7 (m) PASS Limit 2000.0 (m)

Setup: n = 1.4725, Number of Adapters: 2, Number of Splices: 0, Near End DSP-FTA S/N: 7786725, Far End DSP-FTA S/N: 7786732

	850 nm	1300 nm
Result	PASS	FAIL
Loss (dB)	1.30	1.68
Loss Limit (dB)	1.87	1.65
Loss Margin (dB)	.57	-.02
Reference (dBm)	-22.65	-23.42

14/08/2002 10:20:30am

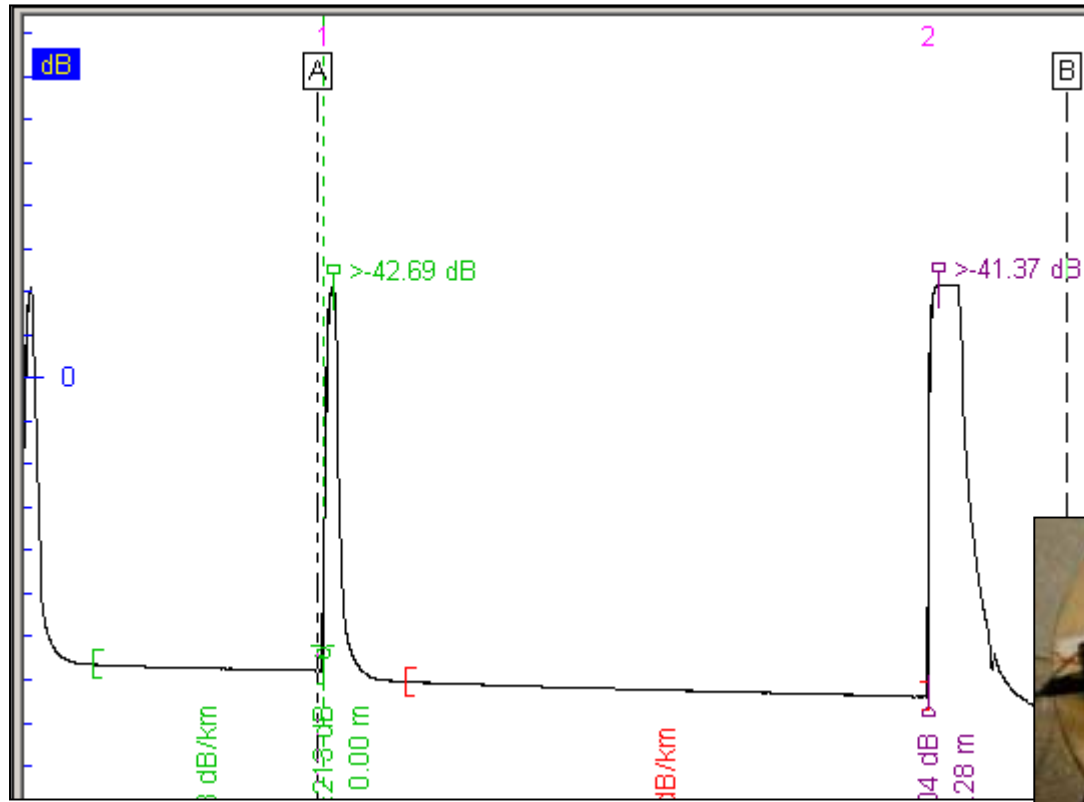




THE PAPERLESS INSTALLATION

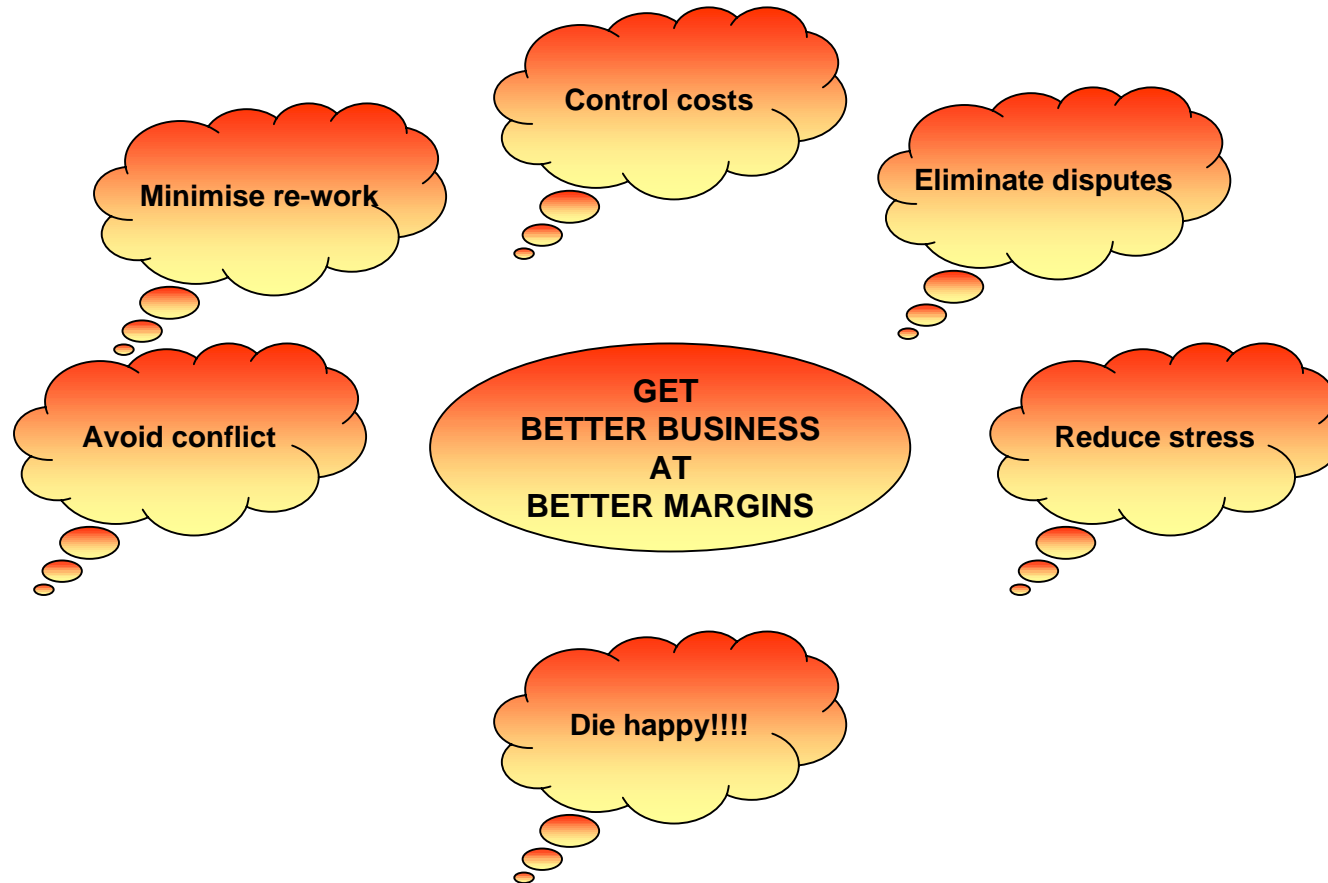
Mike Gilmore, The Cabling Partnership

Test Results - Advanced





The Dreams of Installers Worldwide





THE PAPERLESS INSTALLATION

Mike Gilmore, The Cabling Partnership

WorkSmart

BE PRO-ACTIVE, NOT REACTIVE

- read the standards
- obtain expert advice
- produce statements of compliance
- develop a specification checklist
- produce accurate method statements for all aspects of the installation process
 - define the in-feed requirement
 - dictate the alternative
- produce the foundations for the generic User Guide

MANAGE THE RESOURCE

- identify the true leaders
- identify an office-based project co-ordinator
- train each person appropriately in your procedures

INVEST IN SOFTWARE

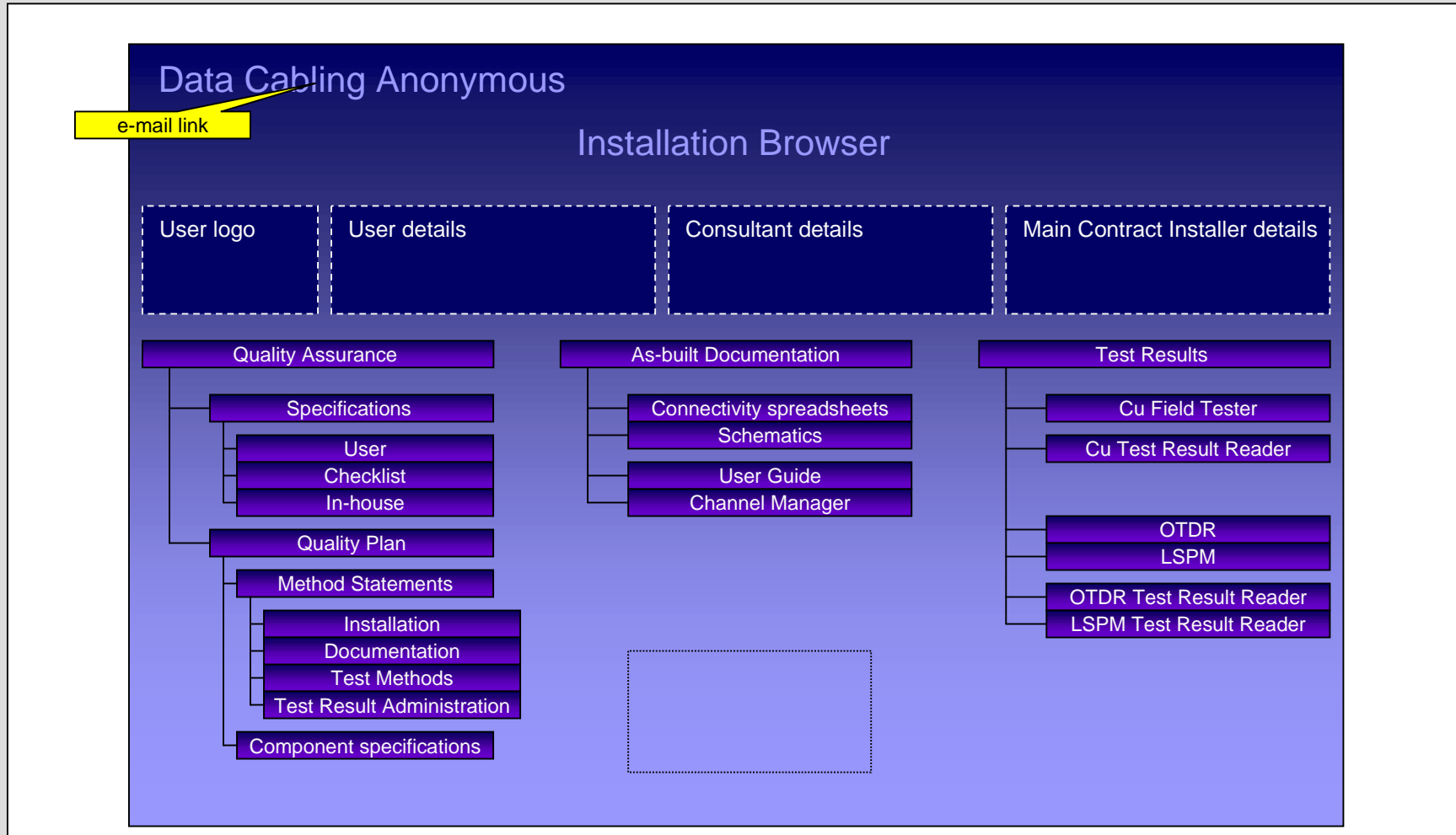
- web-browser production
- pdf creation
- CD production
- test result readers



THE PAPERLESS INSTALLATION

Mike Gilmore, The Cabling Partnership

Browser Integration





Thank you for your time