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3	(.....)	2
3.1	-
100	2
3.1.1	2
3.1.2	2
3.1.3	4
3.1.4	12
3.1.5	15
3.2	-	17
3.2.1	17
3.2.2	17
3.2.3	18
3.2.4	20
3.2.5	22
4	24
4.1	24
4.2	24
4.2.1	24
4.2.2	24
(.....)	(.....)	
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Information technologies. Structured cabling systems. Main system elements installation. Test methods

—2010—01—01

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2.2 ...

2.3 : , (ΠΑ).
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23 , , (CENELEC)

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100

3.1.1

100

») «Pass/FaH»

3.1.2

3.1.2.1

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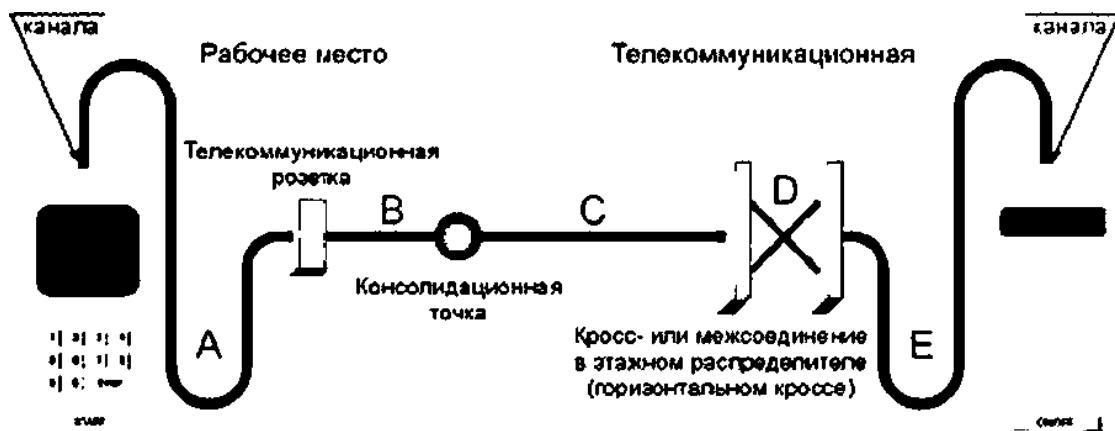
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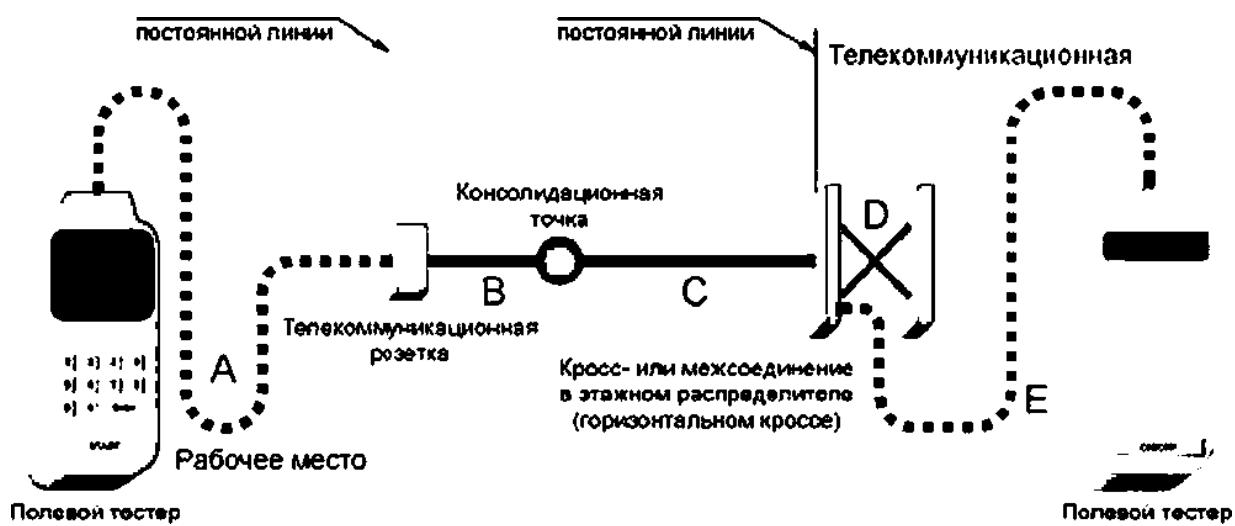
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100 %-



		£ 90
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		£ 5
	D+E	£ 5
	A+D+E	£ 10
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2. ()



+ £ 90

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3.1.3

3.1.3.1

- (568 / 563)
- (L);
- (IL);
- , - (NEXT);
- , - (PSNEXT);
- , - (ELFEXT);
- , - (PSELFEXT);
- (RL);
- (PD);
- (PDS).

»

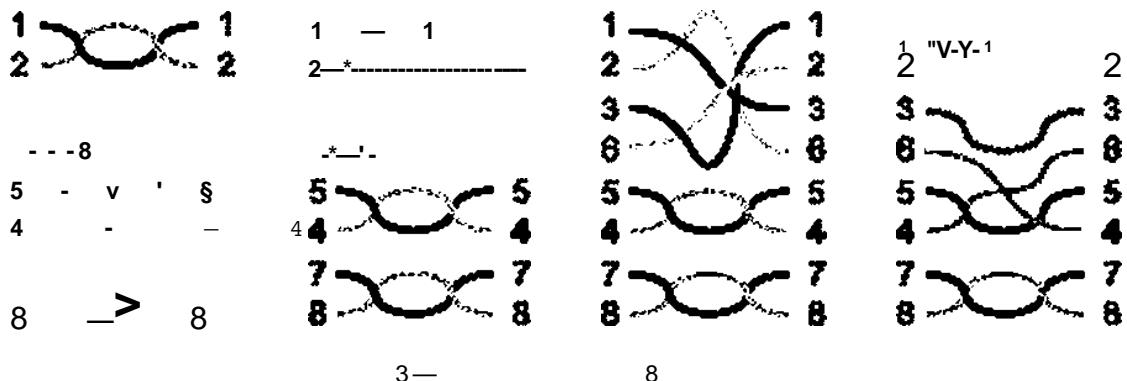
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3.1.3.2

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3.



«Tip/Ring» «T/R»).

3.1.3.3

(NVP) 10 %.

(Nominal Velocity of Propagation. NVP).

NVP

Pass/Fail.
(1 2)

Pass/Fail

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90 (100 (

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3.1.3.4

8

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			5°C	6
1.0	2.2	2.1	2.1	1.9
4.0	4.5	4.0	3.9	3.5
8.0	6.3	5.7	5.5	5.0
10.0	7.1	6.3	6.2	5.5
16.0	9.1	8.0	7.9	7.0
20.0	10.2	9.0	8.9	7.9
25.0	11.4	10.1	10.0	8.9
31.25	12.9	11.4	11.2	10.0
62.5	18.6	16,5	16.2	14.4
100.0	24.0	21.3	21.0	18.6
200.0	—	31,5	—	27.4
250.0	—	35.9	—	31.1

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20 *

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NEXTrbcto*k*.asn»**ie — 20 IOQ $10^{***} \gg +10$ NEXTtemWtObjW
 « ~ , . (4)

	. NEXT. .			
	5		\$	6
1.0	>60	65.0	>60	65.0
4.0	53.5	63.0	54.8	64.1
	48.6	58.2	50.0	59.4
10.0	47.0	56.6	48.5	57.8
16.0	43.6	53.2	45.2	54.6
20.0	42.0	51.6	43.7	53.1
25.0	40.3	50.0	42.1	51.5
31.25	38.7	48.4	40.5	50.0
62.5	33.6	43.4	35.7	45.1
100.0	30.1	39.9	32.3	41.8
200.0	—	34.8	—	36.9
250.0	—	33.1	—	35.3

3.1.3.6 (PSNEXT).

PSNEXT

$$\text{PSNEXT} = -10 \quad \log_{10} \frac{*i**}{+10 \text{ io} +10} \quad . \quad (5)$$

$X_{i-2} X -$

NEXT

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PSNEXT

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PSNEXT*, >20 tog 10 20 + 2-10 » (6)

PSNEXT[†]noccaMHj, -20 log' 10 » 0 20 PSNEXT[†]Koningm (7)PSNEXT 57 57
PSNEXT 3.

PSNEXT

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PSNEXT

	PSNEXT.			
	Se		So	
				6
1.0	>57	62.0	>57	62.0
4.0	50.5	60.5	51.8	61.8
8.0	45.6	55.6	47.0	57.0
10.0	44.0	54.0	45.5	55.5
16.0	40.6	50.6	42.2	52.2
20.0	39.0	49.0	40.7	50.7
25.0	37.3	47.3	39.1	49.1
31.25	35.7	45.7	37.5	47.5
62.5	30.6	40.6	32.7	42.7
100.0	27.1	37.1	29.3	39.3
200.0	—	31.9	—	34.3
250.0	—	30.2	—	32.7

3.1.3.7

(FEXT)

(ELFEXT)

FEXT —

ELFEXT

FEXT

ELFEXT = FEXT — IL

(8)

ELFEXT

12

ELFEXT
ELFEXT

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ELFEXT

ELFEXT, - :24	(12	12)
FEXT{ - *2>	FEXTjn^i ~ ILfnapa2i	FEXT<4pa1-napa2)-1)
FEXT inapai -)	FEXTjf^aj^juJi "1	FEXT^napai,apa3)-1	1)
FEXT -)	FEXTjf^irfujaai —	FEXT^napai-nap»*)-1)
- 2 (^» 2 » 11 * « 11	^(" -)-^ 2)	
FEXT 2- >	FEXT _{(AMa2} wtapa3i "1	^ .)-1	2)
(4 2 41	(11 2 "M-< » 4	^"(" -)" ^ 2)	
FEXT _{(fW3<a4(j}	^ ^ ^) — ILpiapat)	FEXT(napa3-napa1)-1)
FEXT(-)	FEXT _{(fem3} ap _{4,2i} — 1 2	FEXT^napa3,apa2>-1)
FEXTjfjpaj^p^p^}	FEXT) \ 41-^ a	(.)-1	>
FEXTin^i^epjij	FEXTjf^pajjjpa^i — 1	FEXT(nap*4-napa1)-1	«)
FEXTjfjp^i^ep^,	FEXTjf^aa^paji - 1 2	^ ^ .)-1	*4>
FEXT (njpat »3)	FEXTjfppaa^pppsi — 1	FEXT<napa4-napa3)-H-snapa*)	
—	,	FEXT(patr1 (—)- 2(, — »	
(2()-pair 1 (», ELFEXT.	FEXT	-
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ELFEXT

Fl FFFXT_{ItOM, >20} 10 eLXTK16wb -t- 4 • 10 ^{fEXW«TO«,} . (»)

ELF , , , ^-20 log 10 - + 3-10 - - . . (10)

FEXT ELFEXT
ELFEXT 5

5

	ELFEXT.			
	5	6	\$	
1.0	57.4	63.3	58.6	64.2
4.0	45.4	51.2	46.6	52.1
8.0	39.3	45.2	40.6	46.1
10.0	37.4	43.3	38.6	44.2

		» ELFEXT. .		
Se		So		
16.0	33.3	39.2	34.5	40.1
20.0	31.4	37.2	32.6	38.2
25.0	29.4	35.3	30.7	36.2
31.25	27.5	33.4	28.7	34.3
62.5	21.5	27.3	22.7	28.3
100.0	17.4	23.3	18.6	24.2
200.0	—	17.2	—	18.2
250.0	—	15.3	—	16.2

3.1.3.8

PSELFEXT —

(PSELFEXT)

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PSELFEXT

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PSELFEXT

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» PSELFEXT

ELFEXT.	: 8 <4	4)
ELFEXT. : {L}	ELFEXT. - ,		
PSELFEXT _(napa1·L)	ELFEXT _(napa1·L) <% »oa3.R. napal-L). { -R -)		
P3ELFEXT _(napa2.i)	ELFEXT [^] p ^j n 2-1) (-R. 2-). (-R 2-1)		
PSELFEXT _(napa3·L)	ELFEXT [^] p ^j .g _ .) naoa2-R. -L). { - -1)		
PSELFEXT _(napa4·L)	ELMT<nap ⁱ -R. 4- . naoa2-R.). (-R. -1)		
ELFEXT. , (R)			
PSELFEXT{ -R}	ELFEXT _(napa2.L, napai-R) . -4. napal ^{*R} . {napa4.i. naoai.R}		
PSELFEXT _(napa2·L)	ELFEXT _(napa2·L neptj.R) . .. napai-R). <napa4.i. naoai-R)		
PSELFEXT()	ELFEXT _(napa4·L) < 2-4. -). <napa4-L -R)		
PSELFEXT{)	ELFEXT _(napa4·L) .R). 2 . napai-R). (-L. naoaa-R)		
«L» — FEXT	(«Local»). «R» — («Remote»).	ELFEXT.	PSELFEXT.

$$\text{PSELFEXT}_{\text{KeMaf}} \quad -20 \log \quad 10 \quad \quad \quad +4-10 \quad \quad \quad \mathbf{20} \quad \quad \quad \cdot \quad \cdot \quad \quad (11)$$

PSELFEXTTM - 20 tog 10 - <>----- + 3 • 10 56. . . (12)

PSELFEXT

7.

7— PSELFEXT

	PSELFEXT. ,			
	5		\$	
10	54.4	60.3	55.6	61.2
4.0	42.4	48.2	43.6	49.1
8.0	36.3	42.2	37.5	43.1
10.0	34.4	40.3	35.6	41.2
16.0	30.3	36.2	31.5	37.1
20.0	28.4	34.2	29.6	35.2
25.0	26.4	32.3	27.7	33.2
31.25	24.5	30.4	25.7	31.3
62.5	18.5	24.3	19.7	25.3
100.0	14.4	20.3	15.6	21.2
200.0	—	14.2	—	15.2
250.0	—	12.3	—	13.2

3.13.9

100BASE-T4.100VGAnyLAN. 10003ASE-T .),

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8.

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	5	6	\$	
10	17.0	19.0	19.0	19.1
4.0	17.0	19.0	19.0	210
8.0	17.0	19.0	19.0	210
10.0	17.0	19.0	19.0	21.0

	Se	6	So	
16.0	17.0	16.0	19.0	20.0
20.0	17.0	17.5	19.0	19.5
25.0	16.0	17.0	18.0	19.0
31.25	15.1	16.5	17.1	18.5
62.5	12.1	14.0	14.1	16.0
100.0	10.0	12.0	12.0	14.0
200.0	—	9.0	—	11.0
250.0	—		—	10.0

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3.1.3.10

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3.1.3.11

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3.1.4

3.1.4.1

3.1.4.2

3.1.4.3

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3.1.4.4

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1.4.

NEXT

RL

NEXT RL

NEXT RL

1.4.

3.1.4.5

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3.1.4.6

Level —

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Level III —

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III

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(Level

Level 1)

, IL, NEXT, PSNEXT, ELFEXT, PSELFEXT RL

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5 6 (TIA)

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	II-E	II
	±1.9	±1.4
NEXT	±3.6	±2.9
PSNEXT	±3.9	±3.2
ELFEXT	±4.4	±3.4
PSELFEXT	±4.7	±3.7
	±2.7	±2.9

PD, PDS, L DCR

10.

10

	PDS, L OCR	
	-	III
(PD) (%)	±5 {±4)	±5 {±4)
(PDS).	±10	±10
(L). {%)	±1 {±4)	±1 {±4)
» (OCR). (%)	±1 (±1)	±1 (±1)

0.3

RL

RL

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• III —

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3.1.5

3.1.5.1

Pass/Fail

Pass/Fail («

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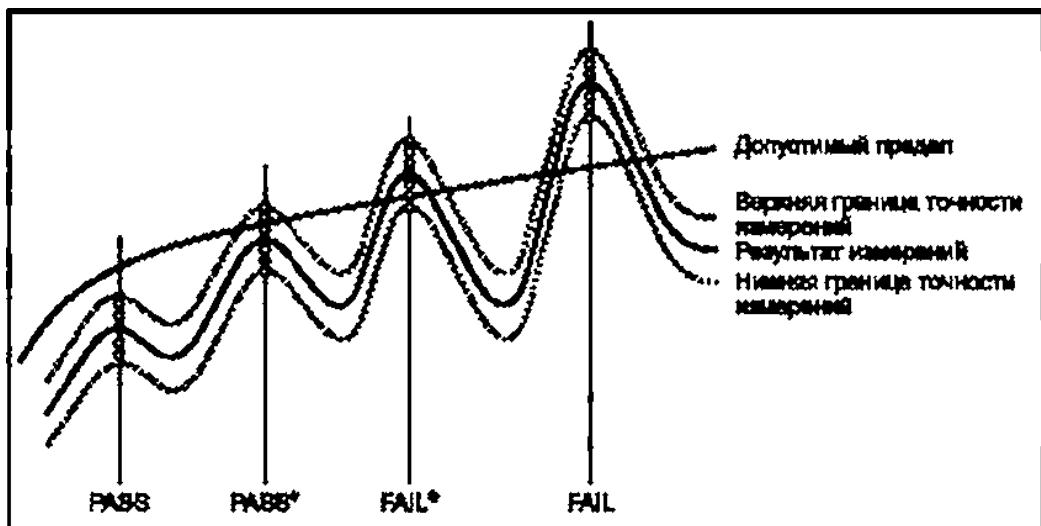
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«*».

Условные обозначения

PASS — «

»: FAIL — «

»: PASS* — «

»

»; FAIL* — «

4 —

PASS, PASS*. FAIL, FAIL*

PASS.

Pass

Fail

FAIL,

PASS

PASS

PASS*. FAIL*

FAIL —

3.1.5.2

3.1.5.3

PASS FAIL

11.

11—

	PASSFAIL		PASS/FA1L
	()		PASS/FA1L
	PASSFAIL		
	()		()
	PASSFAIL		PASS/FA1L
			()
NEXT.	()	NEXT.	()
	PASSFAIL		PASSFAIL
	()		()

ELFEXT. -	() RASS/FAIL	ELFEXT. -	()
	()		().

3.2

(62,5/125 50/125)

LED 850 1300

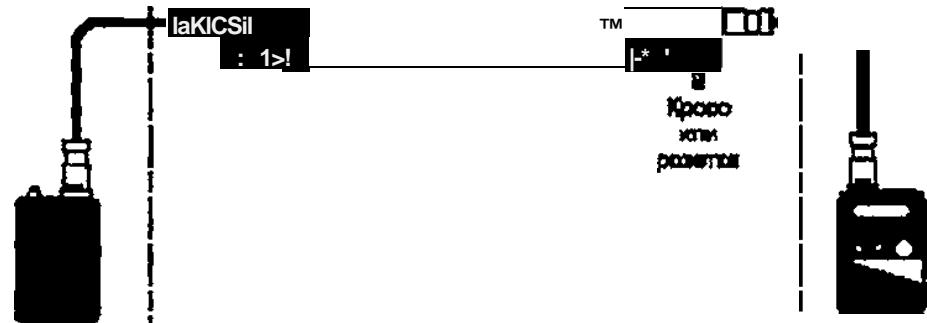
1310 1310 1550 . . 1550
WDM 1310 1550 . , 1550
, 1310 .
1550 .

(OTDR. Optical Time Domain Reflectometer)

3.2.2

• : [CD] ([]) [BD]
([I[C]]; [BD] ([]) [I[C])
[FD] ([]); [CD] ([]) [FD]
([]);

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3.2.3

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3.2.3.1

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3.2.3.2

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3.2.3.3

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3.2.3.4

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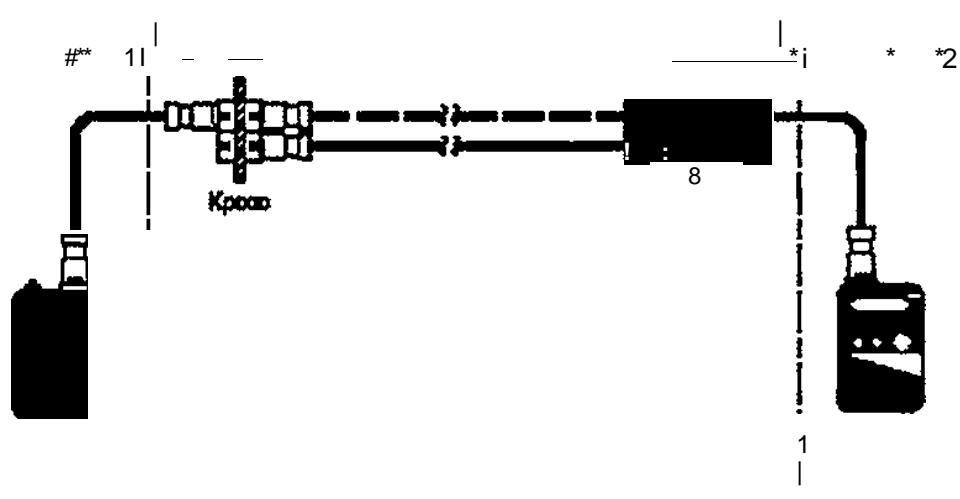
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3.2.3.

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3.2.4.5.

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62.5		20	22
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3.2.4.2

(90)

850 1300

2.00 —
2.75 —

) 90 (

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3.2.4.3

850 1300 —
1310 1550 —

3.1.3.

3.1.3

3.2.4.4

850 1300

3.3

4.1

fi

850

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300
3.2.4.5

1 1
90 *TM».,. IUi,«ru. (13)—(15):

$$IL_{\text{линей}} = IL_{\text{кабель}} + IL_{\text{Коммекторы}} + IL_{\text{Муфты}}, \quad (13)$$

$IL_{\text{Кабель}}$ —

3.5	/	—	850
1.5	/	—	1300
0.5	/	—	1310
0.5	/	—	1550
1.0	/	—	1310
1.0	/	—	1550

$$11- \quad 10 \sim 11 \quad « \quad » \quad »0« \quad (14)$$

$$N_{T_{11} \sim T_{10}} = 75, \quad ;$$

$$IL_{\text{Коммектор}} = 75, \quad ; \quad (15)$$

$N_{\text{Муфты}}$ —

.0.3

3.2.4.6

3.2.5

3.2.5.1

3.2.5.4 3.2.5.5.

(OTOR)

3.2.5.2

3.2.5.3

1 5

3.2.5.4

(InGaAs)—

(, , ,)

1 5 %,

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±0.2

20*

3.2.5.5

(1300 1550 — 665 ()). 820.850 870 (LED () , ,)

LED.

70

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± 0.2

20 * (8).

13.

3.2.5.6

(OTDR)

13	jFWHM _i
850 1 30	30—
1300 1 20	100—140

OTDR.

OTDR

OTDR

OTDR

OLTS (Optical Loss Test Set)

OTDR

OTDR

4

4.1

4.2

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4.2.1

4.2.2

4.2.2.1

/

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« » « »

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NVP

«PASS».

(
)—«PASS*»;
(
)—«FAIL*»;
—«FAIL».

4.2.2.2

3.2.5.

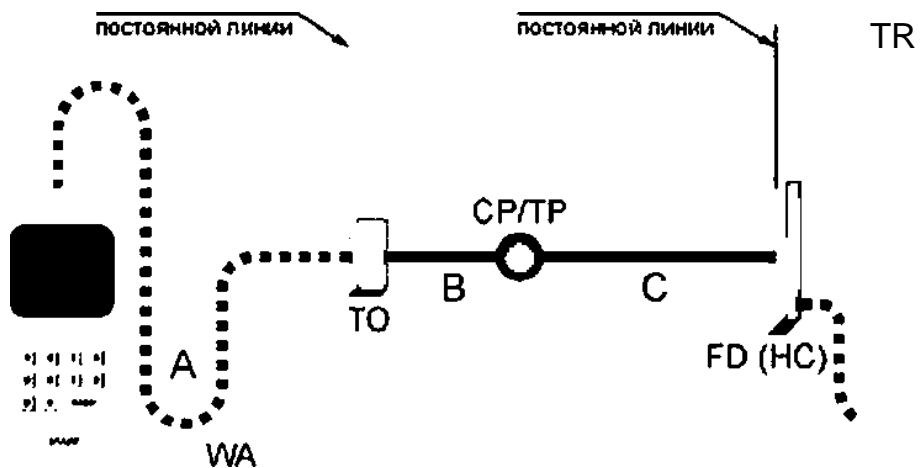
4.2.2.3

(,),

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+ £90

D—
 WA— (work — group area):
 —1 1 > (leCecuinniuniatiuii uillet),
 / — (consolidation point) / (transition
 point):
 FD(HC)— (floor distributor):
 TR— (telecommunication room)

.1 —

TR/ER/EF

TR/ER/EF

CD(MC)
BD (1C)



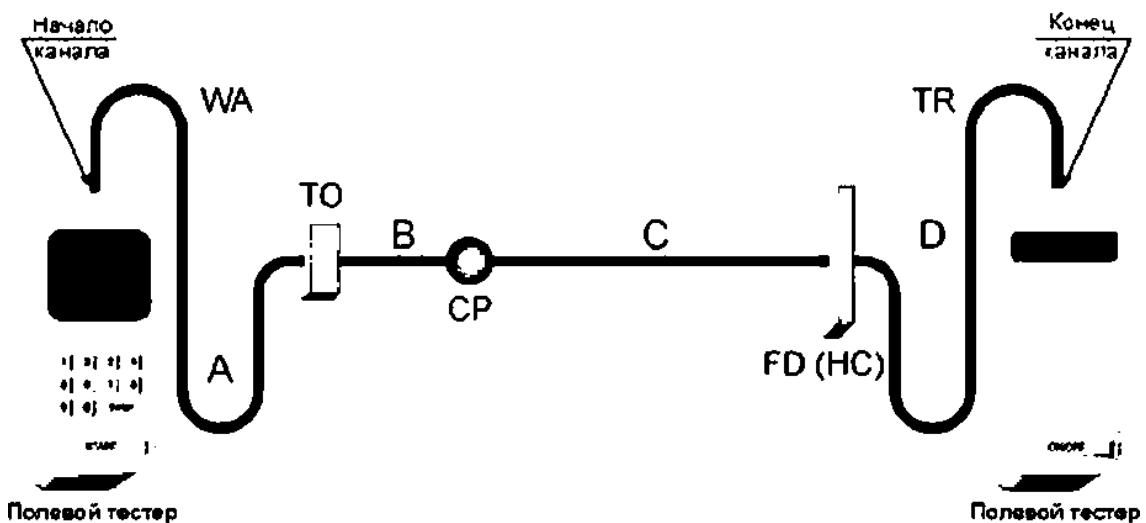
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»J •!
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BD(IC)
FD ()*

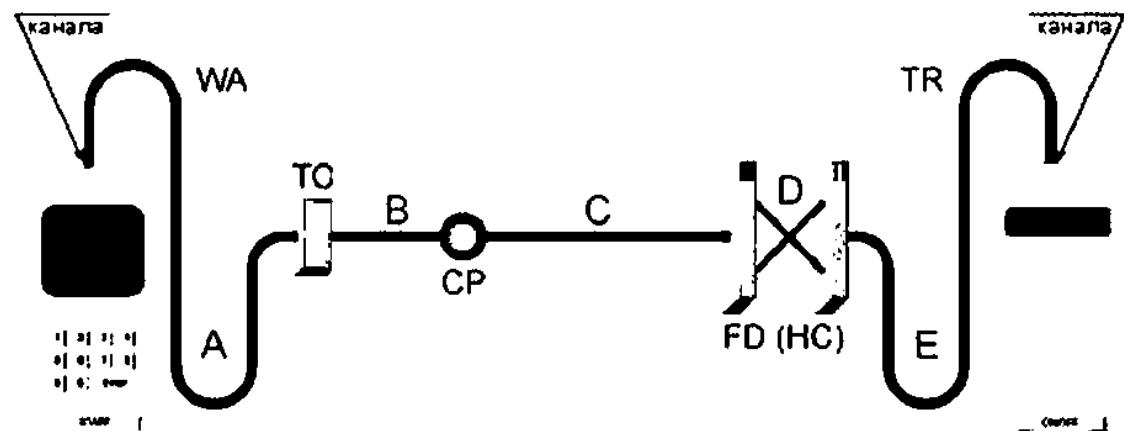
— : :
— : :
— ;
TR — { , — telecommunication room);
ER — (, — equipment room);
EF — { (entrance facility):
 ()— (, — campus distributor);
 (1C)— (building distributor);
FO ()— (floor distributor)

£ 90

.2—



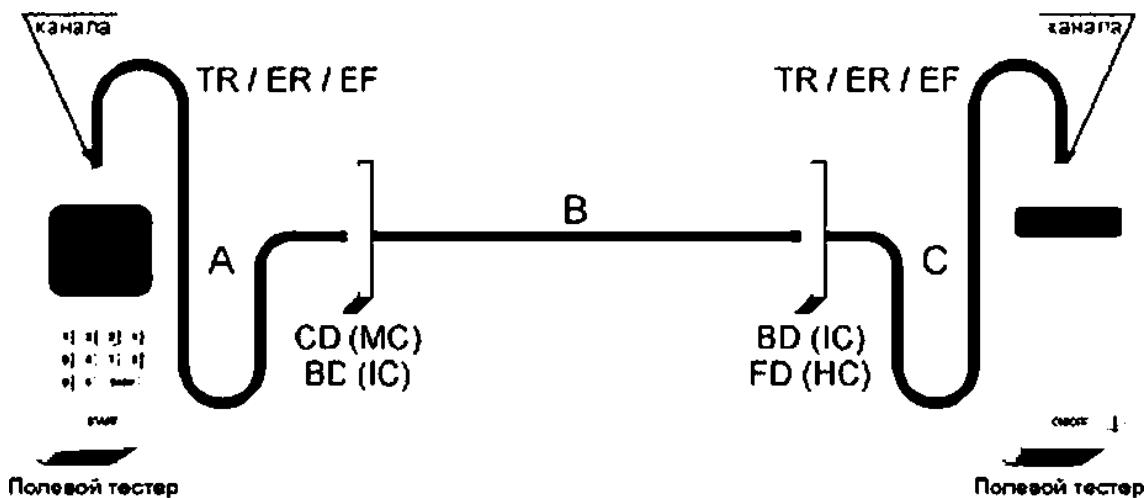
—	;	+	£ 90
—	:	A+B+C+D	£ 100
—	:	£ 5	£ 22
—	;	D	£ 5
WA—	(work — group area);	A+D	10
—	{telecommunication		£ 27
outlet);			
/ —	{consolidation point) /		
	(transition point);		
FD(HC) —	(floor distributor):		
TR —	(, —		
telecommunication room)			



B+C	£90
A+B+C+D+E	£ 100
A	£ 5
D+E	£ 5
A+O+E	£ 10
	£ 27

WA— (work — group area);
 — {telecommunication
 outlet):
 / — (consolidation point):
 FD(HC)— (floor distributor);
 TR— (telecommunication room)

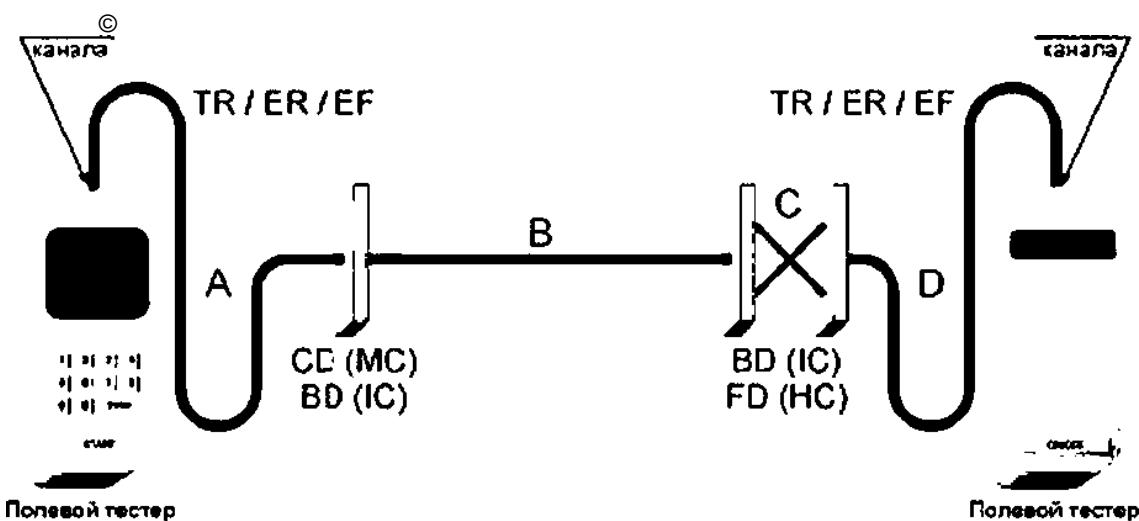
A.4— 'ft 2
 (- TR)



— : £ 90
 — : £ 100
 — : £10 £27

TR— (, — telecommunication room);
 ER— (equipment room);
 EF— (entrance facility);
 CD (MC)— (, - campus distributor);
 BD (1C)— (building distributor);
 FD ()— (floor distributor)

.5— 1 () (1C) (1C) FO()



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 — ; * : ; S 90

 — ; : ; A+B+C+DS 100

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 TR — (/ : ; —

 telecommunication room);

 ER — (—

 equipment room);

 EF — (entrance facility):

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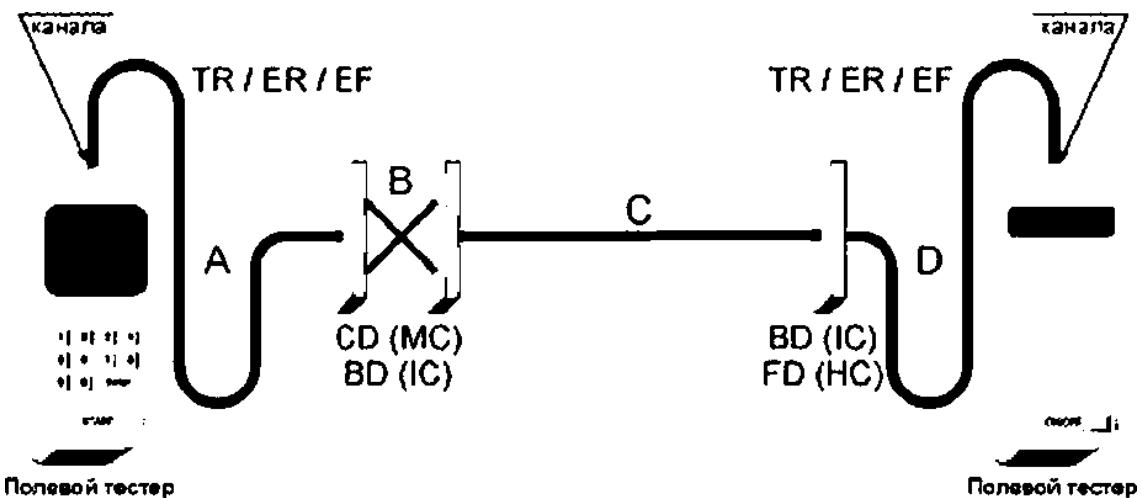
 — campus distributor);

 (1C) — (building distributor):

 FO () — (floor distributor)

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 (CD () BD (IC) - (IC) FD ()



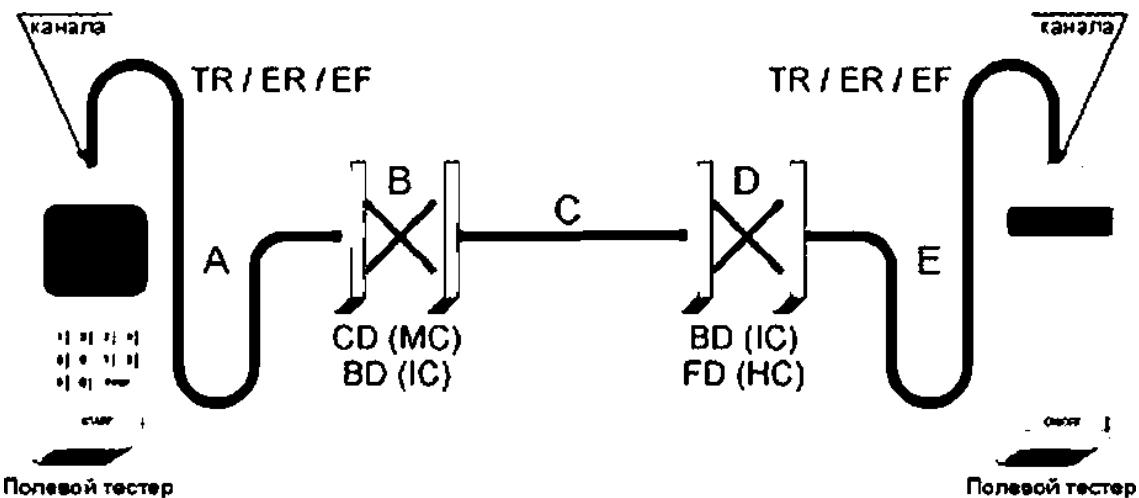
— 8 ; :
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 TR — { , —
 telecommunication room);

ER — (equipment room);

EF — { entrance facility);
 CD (MC) — (,
 — campus distributor);
 BD (1C) — (building distributor);
 FD () — (floor distributor)

& 90
 A+B+C+D £ 100
 A+B+D £ 10 £ 27

.7— 3
 (- CD () (1C) 8 BD (1C) FD ()



— : : £ 90
 — : : A+B+C+D+E S 100
 — : : A+B+D+E £ 10 £ 27
 D— ;
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 TR— (, -
 — telecommunication);
 ER— (—
 equipment room);
 EF— (entrance facility):
 ()— (,
 — campus distributor):
 (1C)— (building distributor):
 FO ()— (floor distributor)
 .8— Me 4
 (- () (1C) (1C) FD ())

ISO/IEC 11801 Information Technology Generic Cabling for Customer Premises¹¹

ANSI/TIA/EIA-526-14-A Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant — OFSTP-14

ANSI/TIA/EIA-526-7 Optical Power Loss Measurement of Installed Single-Mode Fiber Cable Plant — OFSTP-7

53245—2008

621.315:006.354

35.020

19.03.2009 06.08.2009 60x84%.
.. . 4,65. .- . 3,90. 213 .. *. 561

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vxw1v.90st1nfo.ru <nfo@goelinfo.ru ..
. 246021 , . . 256.