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INTERSTATE COUNCIL FOR STANDARDIZATION, METROLOGY AND CERTIFICATION (ISC)

21014— 2022

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	TJ	
	UZ	

», 2022

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2					1
3					2
3.1			,	,	2
3.2			,	,	c
3.3	,		,		
3.4			,		
					46
					48
	()			50
	()		- 51	
				61	

(de), (f) , (fr) , (fr)

IV

Steel and alloy metal products. Surface defects. Terms and definitions

— 2022—09—01

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2

: 19200 .

¹) 58765—2019 « . .

3.1 ,

,

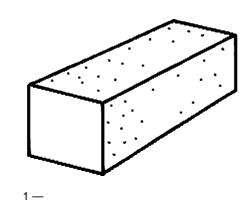
3.1.1 :

, Rolled-in scale

Blister

 $(\ _{2}, \ N_{2}, \ _{2})^{'}$ -

(1, .1).



- ,

3.1.3 (.):

Bended crust 2, .2).

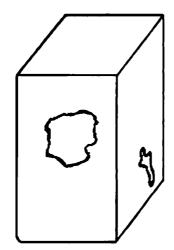


Рисунок 2 — Завороты корочки

1 2	«	, »	,	
3 .1.4	, (. ,):	,	Lapping
**	»(3,	.).	,	
1 2 ,	3 — -		,	
3 .1.5	· :	, (, 4,	Non-metallic inclusion

.4).

3

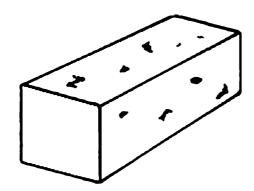


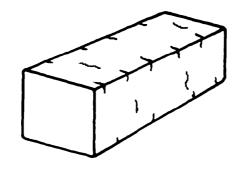
Рисунок 4 — Неметаллические включения

3 .1.6 :

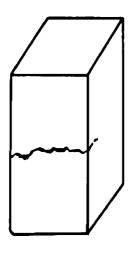
(Cross crack

,

. .) (5, .5).



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5 —

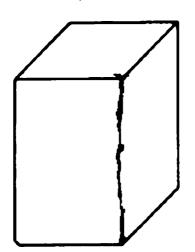
1 .1.7 3): 6). 6— 1 2 3 .1.8): 7, (.6).

Рисунок 7 — Пояс

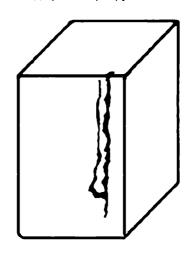
3 .1.9

Longitudinal crack

(8, .7).



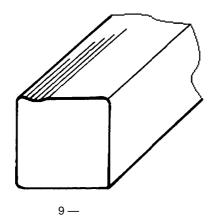
a — дефект по ребру заготовки



8 —

.1.10):), .8).

9,



3 .1.11 (.):

en Groove

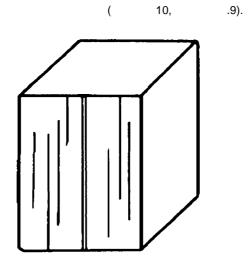


Рисунок 10 — Риска

> -(11, .10).

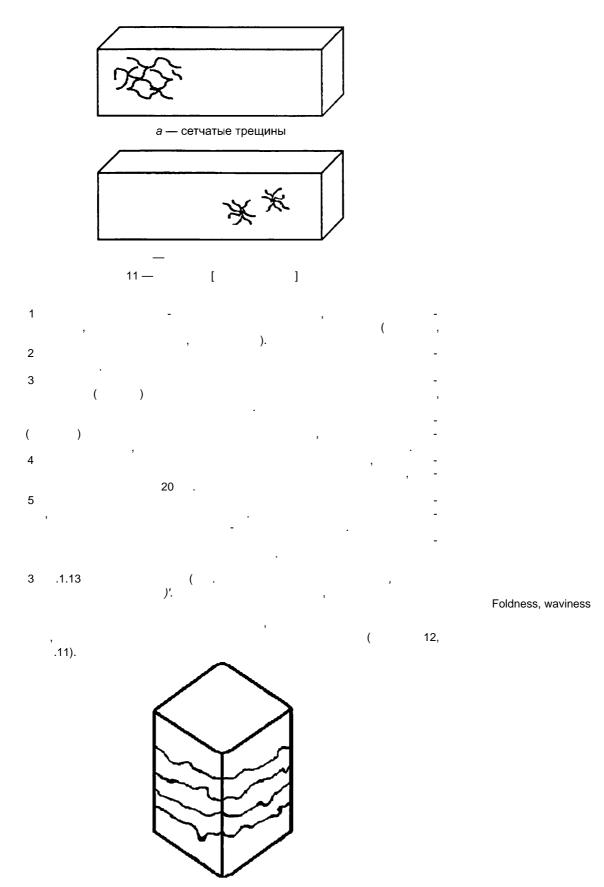
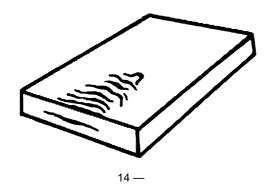
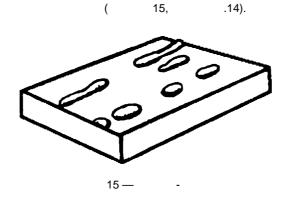


Рисунок 12 — Складчатость

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3 .1.14
                                                                                       Stress crack
                                               . 12).
1
2
3
                     (
                                                                        );
4
3.2
3.2.1
                                                         ):
                                                                   de
                                                                                       Haarriss, Schuppe
                                                                                       Hairline, Spill
                                                          .13).
                                            13,
                                                                                       Fissure capillaire
                                                                                 fr
                   a — дефект на плоском прокате
                                13 —
                                                                 , de
3 .2.2
                                                                                       Grober anbruche
                                                                                       Pipe
                                               14).
```



3 .2.3 - de Beizblase, Geschlos-



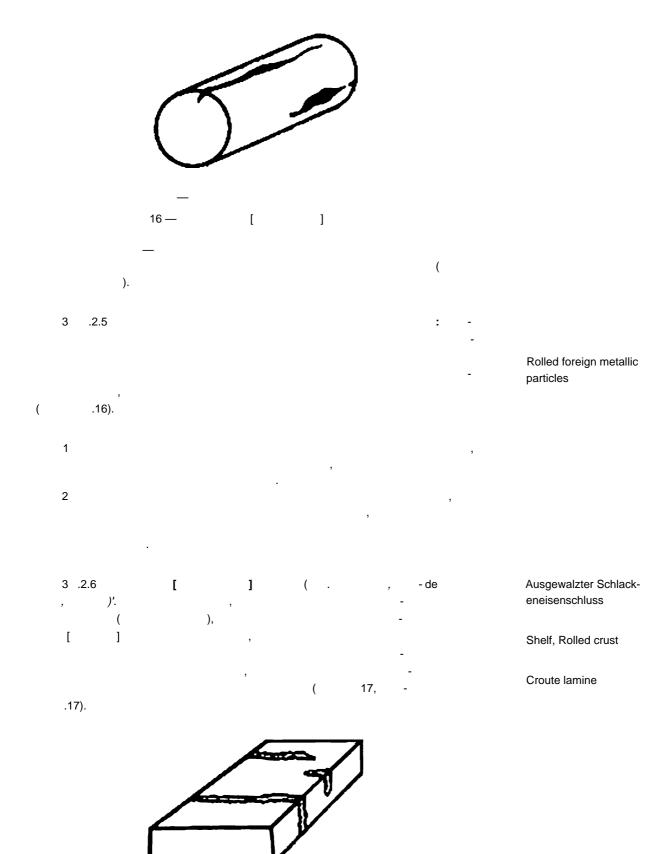
- 3 .2.4 []
- 16, .15).

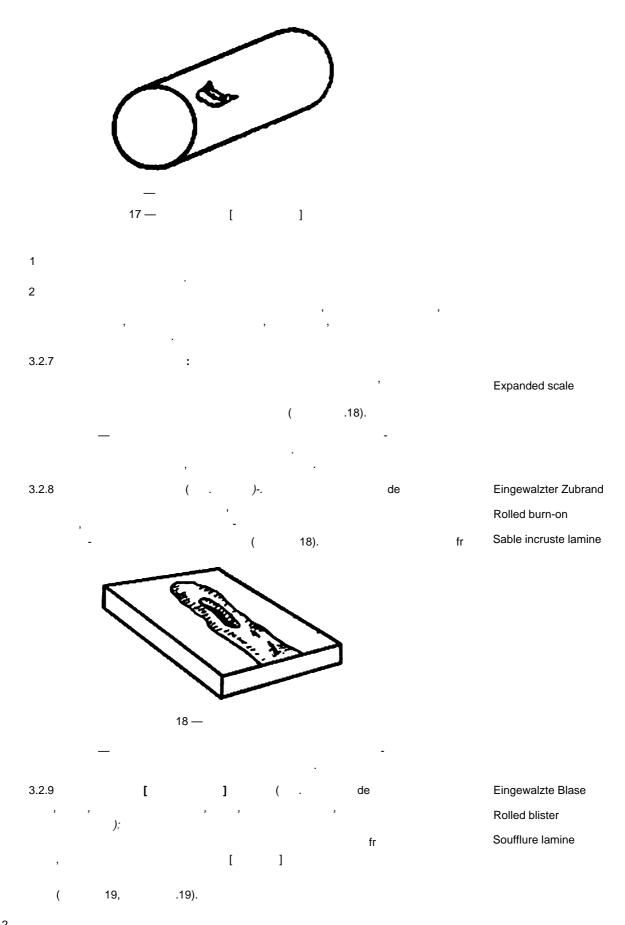


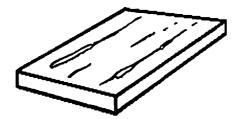
а — дефект на плоском прокате

- sene Blasen (Beulen)
- Delamination

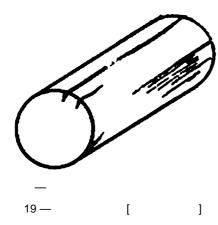
- de Eingewaltzter Sand Lind Eingewaltzte Schlacke
- 0 Rolled slag patch, Sand mark
- fr Contamination lamine







a — дефект на плоском прокате

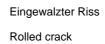


1 .

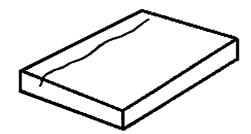
2 ,

,

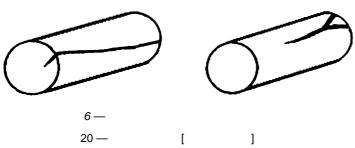
3 .2.10 [] (. . de , ...):



Fissure lamine



a — дефект на плоском прокате

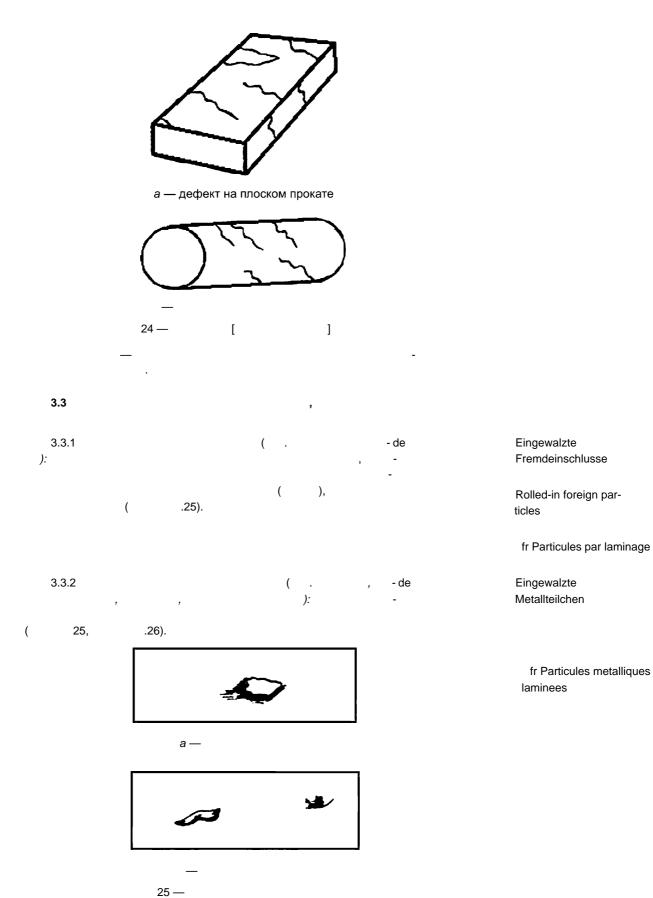


```
1
3
     .2.11
                                         ]
                                                                      21,
    .21).
   Рисунок 21 — Раскатанные [раскованные] сетчатые трещины
3 .2.12
                                                           , de
                                                                                  Dopplung
                                                                                  Delamination
                                                           , fr
                                                                                  Exfoliation
    22,
                .22).
                  a — дефект на плоском прокате
```

22 —

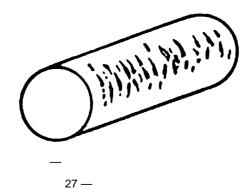
1 2 3 4 , de 3 .2.13 [] Schale): Sliver, Rolled scab Repliure de lingot 23, .23). а — дефект на плоском прокате 23 — [3 .2.14] [, de Brandriss Von Blocken, Queraufbruche Ingot hot tear 24, .24). fr Crique

[



Einwaizzunder, Zund-3.3.3 de ereinwalzungen), Rolled-in scale 26, .27). Scories de laminoir 26 — 3.3.4 Brandriss de): Hot tears 27, .28). Crique fr

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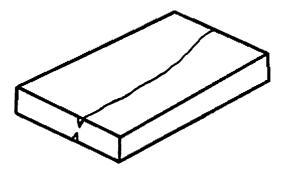
3 .3.5

28, .29).

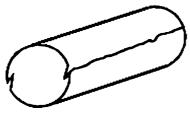
Uberwalzung de

Lap

Repliure de laminage



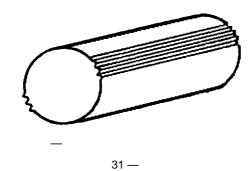
a — дефект на плоском прокате



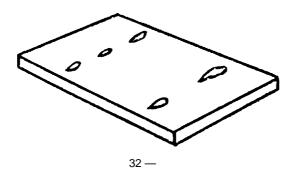
28 —

1

2 Uberschmiedung 3.3.6): de Forging fold 29, .30). Repliure de forgeage Рисунок 29 — Заков 3.3.7 Folded edge fr Bord lamine (30). Рисунок 30 — Затянутая кромка)′. 3.3.8 de Faltelungen Wrinkles Rides 31, .31).



3 .3.9 Anbruche Surface tears Cassures, Dechirures 32, .32).

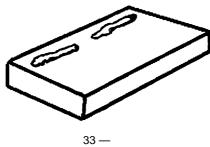


1 2

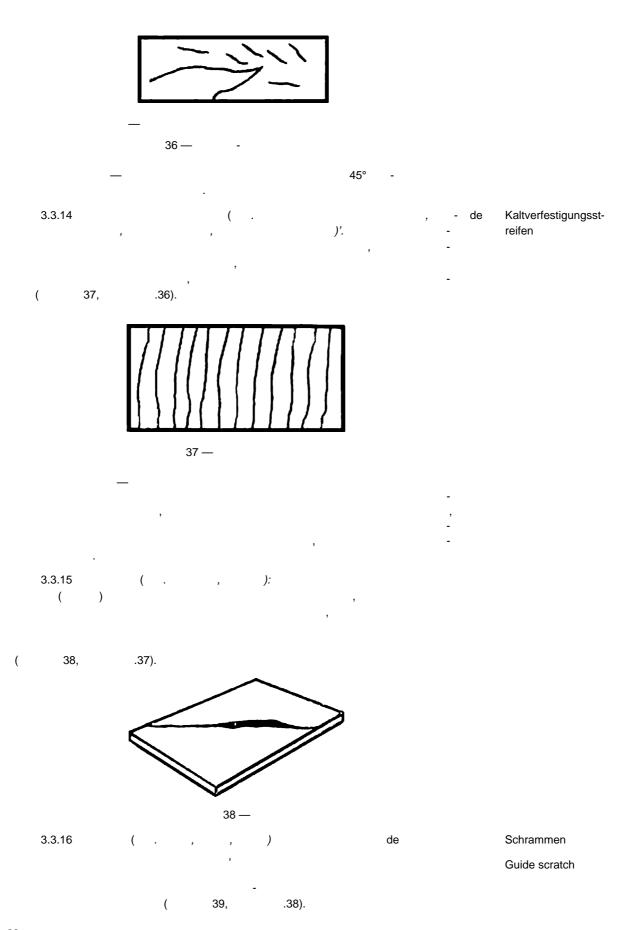
3 .3.10 , de .33).

Indentations and rollmarks 33, fr Marques du cylinde de laminoir

Eindruke



1 2 3.3.11 Abplatzter Zunder de Exfoliating scale 34). fr Calamine detachante 34 — 3.3.12)′. Langseinschnitt - de Rolled kink Coupe de laminage 35, .34). 35 — 3.3.13 de Gleitlinien, Fliesslinien)'. Slip bands Bandes de glissement 36, .35).



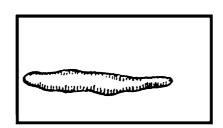
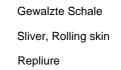
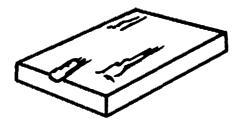


Рисунок 39 — Продир

3.3.17 de fr

40, .39).

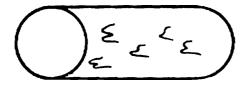




а — дефект на плоском прокате



 δ — дефект на ленте



40 —

3.3.18

.40).

Rolling crack

3.3.19	:			Protector
,		, (.41).	
3.3.20	, ,	, 1(.	de ,	Verunreinigungsf- lecken
,	, ,	,): ,		Dirt spots
	()	ft-	Taches de crasse
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.42).		(41,	
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		rugue		
		Summer of the second	ገ	
)	
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3.3.21	- (.		, de	Lunker
	<i>).</i>	,		
42,	.43).		ft-	Soufflure de surface
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	}			
	<u> </u>			
	42 –	-		
1				
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3.3.22		:		
	,	.44).	,	
	(. 44).		

24

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3.3.23
                                                                    , de
                                                                                           Zundernarben
                                           ):
                                                                                           Pitting, Scale pits
    ,
(
                                                                                           Scories de puit
             43,
                           .45).
                           43 —
3.3.24
                                                                        de
                                                                                           Ausgewalzte abdriicke
                                                                                           Rolled indentations
                                                       44).
                                                                                    f_{r}
                                                                                           Marques laminees
                          44 —
1
2
3 .3.25
                                                                , de
                                                                                           Kantenriss
                                                                                           Cracked edge
                   ),
                                                                   fr
                                                                                           Crique sur les bords
                                        45,
                                                      .46).
```

45 —

(

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1
2
3 .3.26
                                                                                  Riefe
                                                                                  Groove, Guide mark
                                                           - fr
                                                                                  Rainure
                               46,
                                           .47).
                  а — дефект на плоском прокате
                           46 —
1
2
3
3 .3.27
                                                                                  Graue Flecken
                                                           , de
        ):
                                                                                  Gray spots
                                                          fr
                                                                                  Taches grises
      (
               47).
                    Рисунок 47 — Серые пятна
```

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3 .3.28
                                                                                         Abdrucknetz
                                                               , de
     ):
                                                                                          Net shaped roll marks
                                                                                          Reticule des marques
(
        48,
                     .48).
                                48 —
                                                                                          Durchgangsbruche
    3
        .3.29
                                                           ):
                                                                                   de
                                                                                         Through tears
                                                                                          Ruptures, Trouees
                                                                                   fr
(
        49,
                     .49).
                      Рисунок 49 — Сквозные разрывы
    1
    2
    3.3.30
                                                                     de
                                                                                          Loch
                                                                                          Pigeon hole
                                                                                          Cavite
                                                    50,
                                                                  .50).
```

50 —

3.3.31	(.	, - de	Spannungsriss
,	, , — "	, -): ,	_ Stress crack
,	, (51,	- - fr .51).	Crique de tension
	а — дефект на плоском п	прокате	
6—			
_	54		
_	51 — -	-	
3.3.32	(. ,	,):	de Walznat
,		, ,	Ridge
52,	.52).		fr Sailie

52 —

28

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3.3.33
                                                               - de
                                                                                       Anlauffarben
                                                                                       Heat tints, Oxidation
                                                                                       tints
                                                        fr
                                                                                       Couleurs de recuit
    53,
                 .53).
                  Рисунок 53 — Цвета побежалости
1
               , 08
                                        , 09 2, 09 2
                         , 65 , 10
                                                            .),
2
                                                                , de
3 .3.34
                                          ):
                                                                                       Schuppenheit
                                                                                       Rippled surface
                                  54,
                                               .54).
                                                                               fr
                                                                                       Ecailles
                              54 —
1
2
```

	3.4			,			
	3.4.1	(. ,):		de		Einbeulungen
		, ,			,		Compression marks Handling marks
(55,	.55).	_			fr	Empreinte de choc
			_				
			~ /				
			55 —				
	3.4.2	(. <i>):</i>	,	,	de		Scharte
	,	7-	,		fr		Hacks Breche
	(),			"		Бтеспе
	,	,					
	()			,			
(56,	.56).		- -			
			56 —				
	-	_					
	3.4.3	(.	,): ,			Anschwemmung des
	57).				(-		
		ammana	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Samo			
		ဿဿဿ	ganningin ganningin	CONTRACTOR OF THE PROPERTY OF			
		ंक क्षेत्र ेक	the bound	*33805b			
			57 —				

3.4.4	(.	,	,)-, de		Pressgrat
, ,	,		(58,	-		Burr
.57).		^				fr	Bavure
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				lke.			
			العلاءان	Mark The Park			
			Militale				
	а — д	ефект на пло		_			
				TIME			
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	_						
		58 —					
3.4.5	(.	-		,):	
		-				, -	Fracture
(.58).						
3.4.6	.00).	(.):	de		Matte Flache
,)				Dull surface
		(,	,	- fr		Surface terne
,		,			-		
	_						
			«		»		
3.4.7	-	(.	,):	- de	Durchstiche
	,	:			_		Pricks
	·				, fr		Piqures
	, (59,	, .59)).	-		
	<	•					
		59 —	-				

3.4.8 Slime deposit 60). fr Depot de boue 9 **©** 60 — Unzureichendes 3.4.9 - de Beizen Underpickling (61, .60). Decapage insuffisant fr 61 – 3.4.10): Zunderreste de Scale residue .61). 62, fr Restes de calamine 6 — 62 —

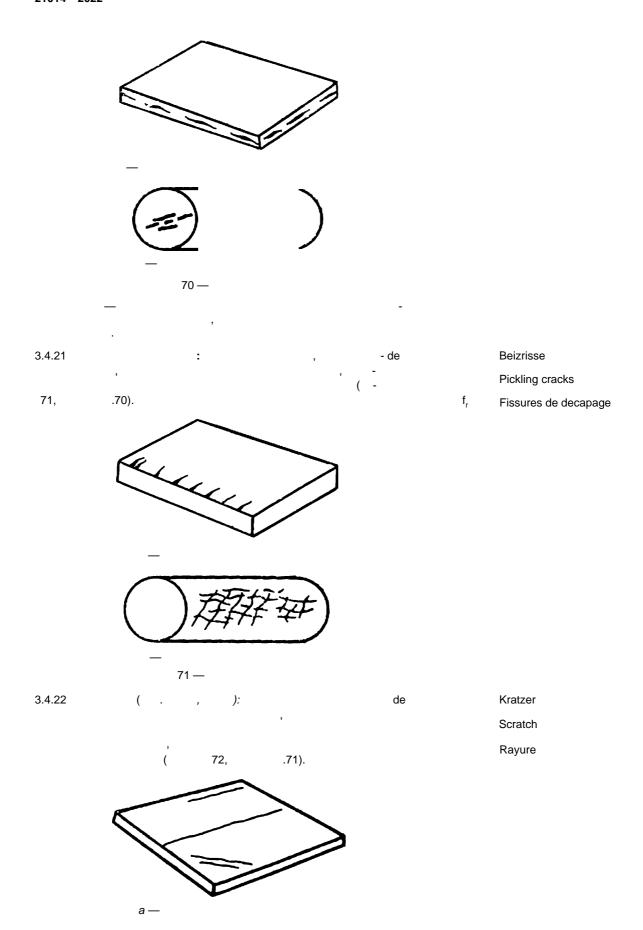
3.4.11		(, ,)-, de		Rattermarken
			, -	-		Pickling tints
		,		- fr		Nuances de decapage
1	<i>(</i> ::					
,	(«	»).		,		
2 3.4.12	,		١.			Knicke
,	(.	, ,):	- de -		Cross breaks, Coil breaks
-	(63,	.62).		fr	Pliage
		63 —		, -	,	
3.4.13		(.	,	- de -		Oberflachenuverhitzung
, , (.63).			-	fr	Surface overheating Surchauffe de la surface
3.4.14	(.	,		, de		Uberbeizung
,	,):				Overpickling
		,				
,		, (64,	.64).			
	_	\sim				
		64 —				

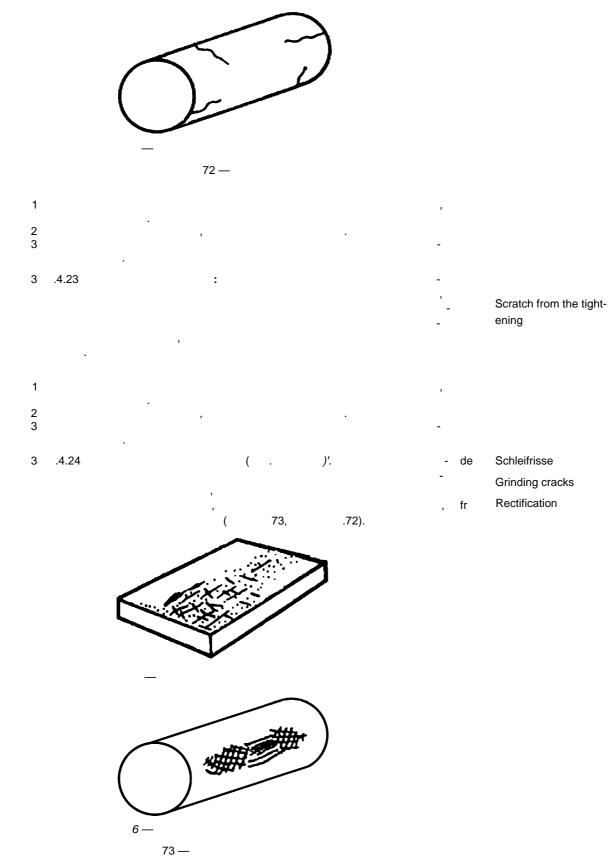
S-

```
3.4.15
                                                                                        de Fleckenaufkohlung
                                                                                           Spot carburization
                                                                                        fr Taches de carburisation
                                                                           65,
       .65).
                             65 —
     3.4.16
                                                                                        de Eisenrostflecken
               ):
                                                                                              Rust spots
                                                                                        en
                                                                                        fr
                                                                                              Taches de rouille
(
         66,
                       .66).
                                  66 —
     3.4.17
                                                                                        en Sticker patches
                                                                                        fr Taches d'adhesion du
                                                                                              soudage
        (
                 67,
                               .67).
                                67 —
```

```
3.4.18
                                                                           - de
                                                                                                  Rauhigkeit, Ratter-
                                                                                                     a rke
                                                                                                  Pitted surface
                                                                      68,
          .68).
                                                                                          fr
                                                                                                  Surface grelee
                         a —
                                        68 —
     3.4.19
                                                                                                  Schleifstellen
                                                                         , de
                                                                )′.
                                                                                                 Grinding traces
                                                                          fr
                                                                                                  Marques de degrossi-
                          69).
                                                                                                 sage abrasif
                              69 —
     3.4.20
                                                                             de
                                                                                                 Stirnriss
                                                                                                  End crack
                                                                                                  Fissure sur l'extremite
                                                                          fr
                       .69).
(
         70,
```

a —





3.3.26
3.4.19
3.3.10
3.3.21
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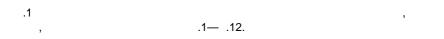
.4 :

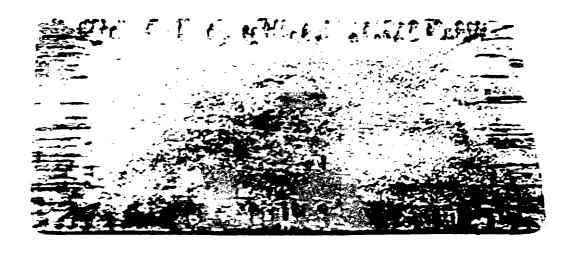
Minor defect, small defect

Local defect

Individual (single) defect

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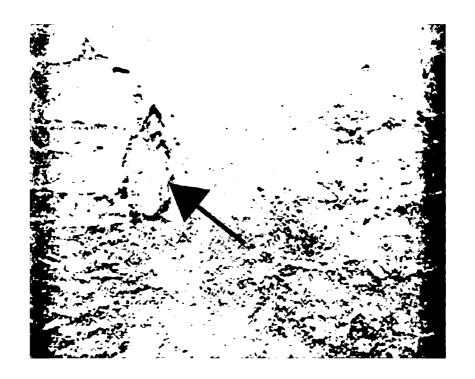






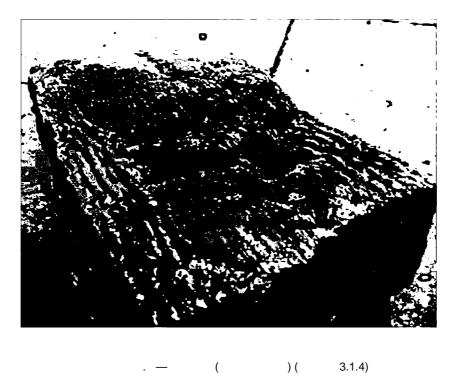


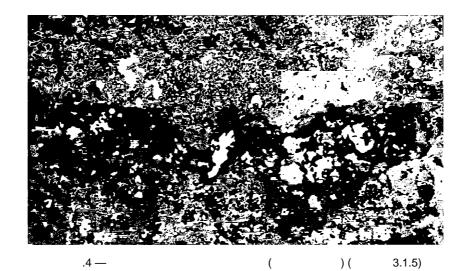
.1 — (3.1.2)

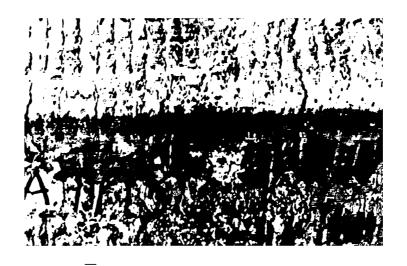


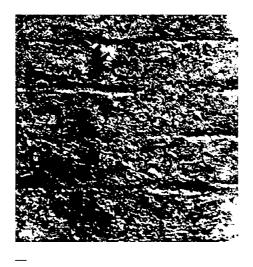




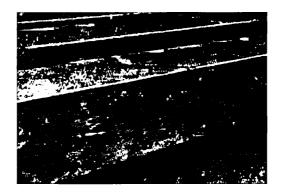


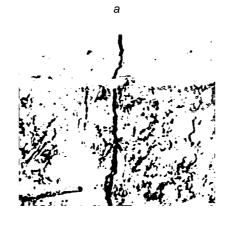




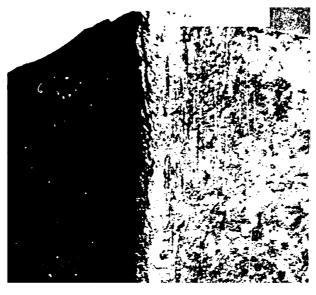


.5 — (3.1.6)

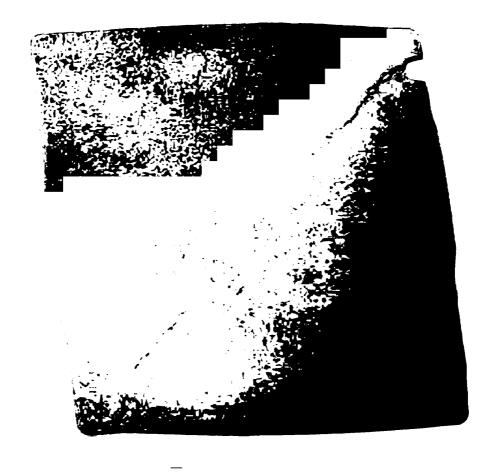


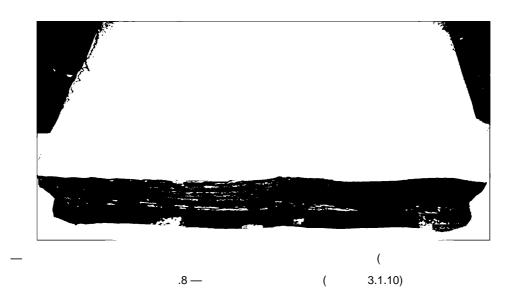




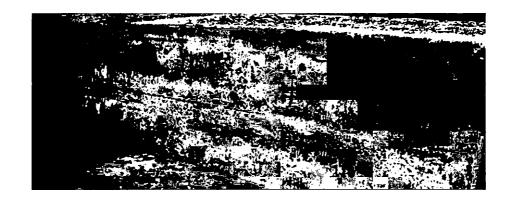


.7— ()(3.1.9)

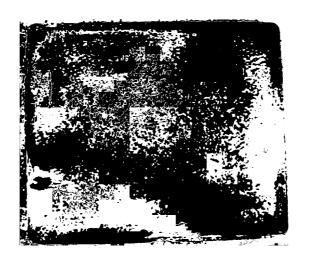




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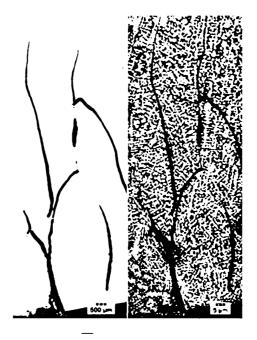






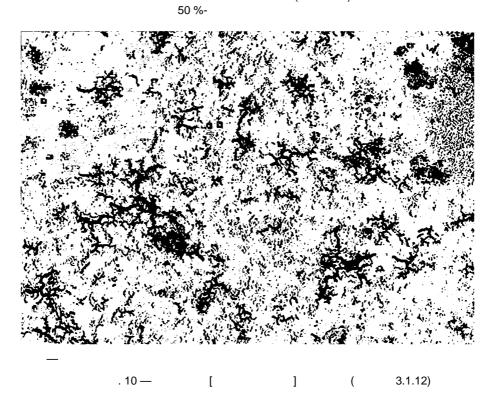
.9 — (3.1.11)

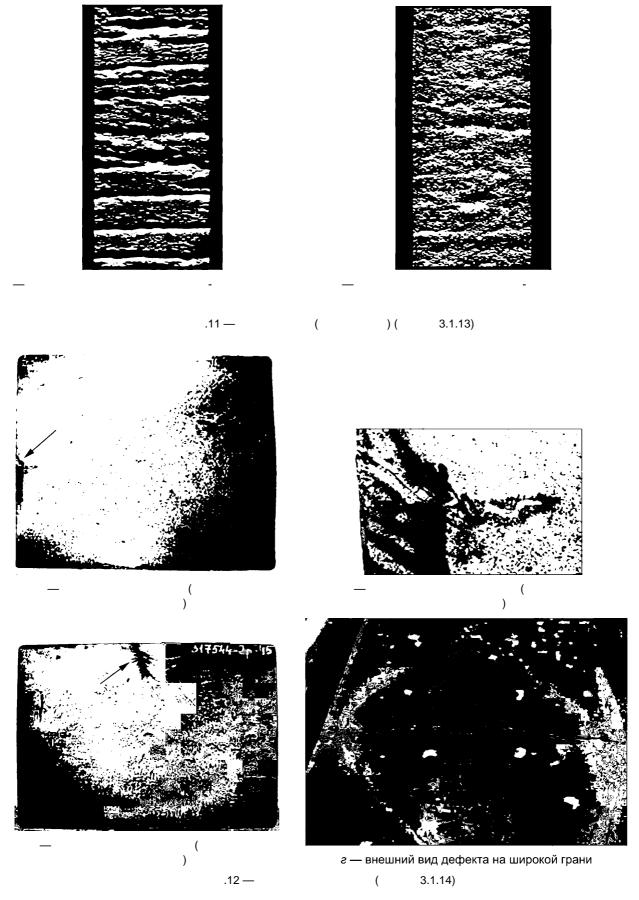












.2 , , .13— .24.

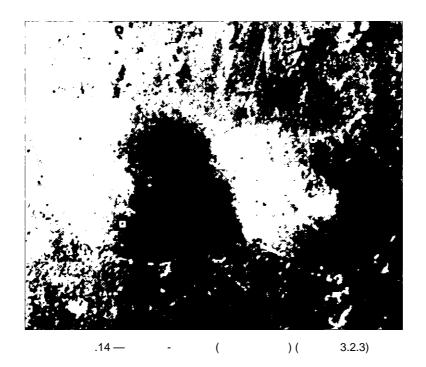


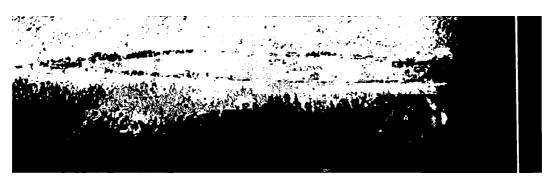


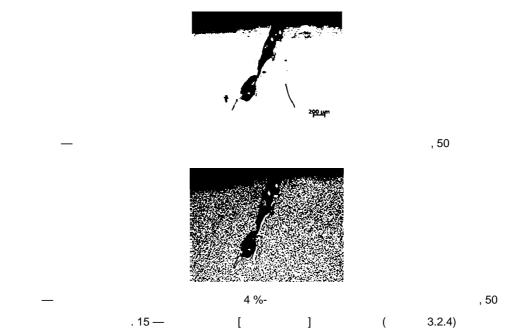
 δ — внешний вид дефекта на обточенной поверхности

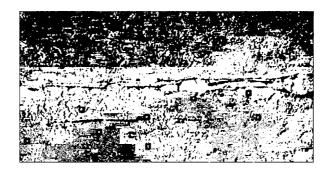


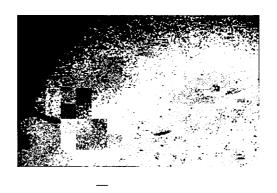


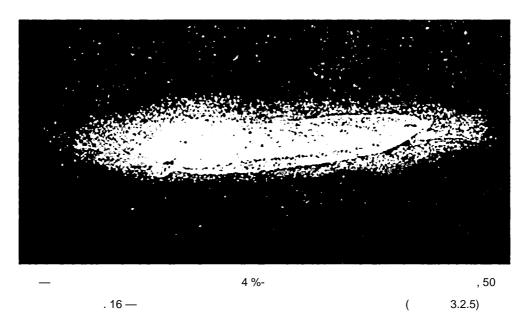












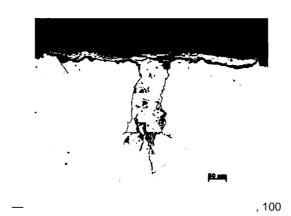


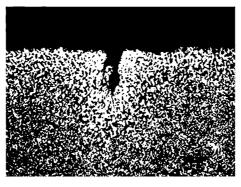


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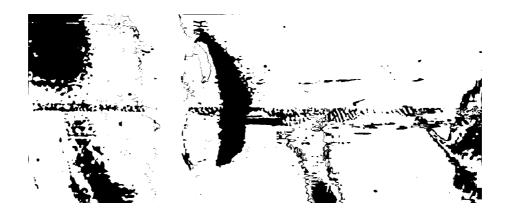




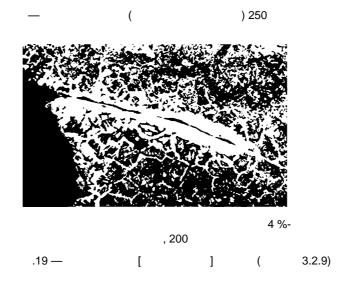


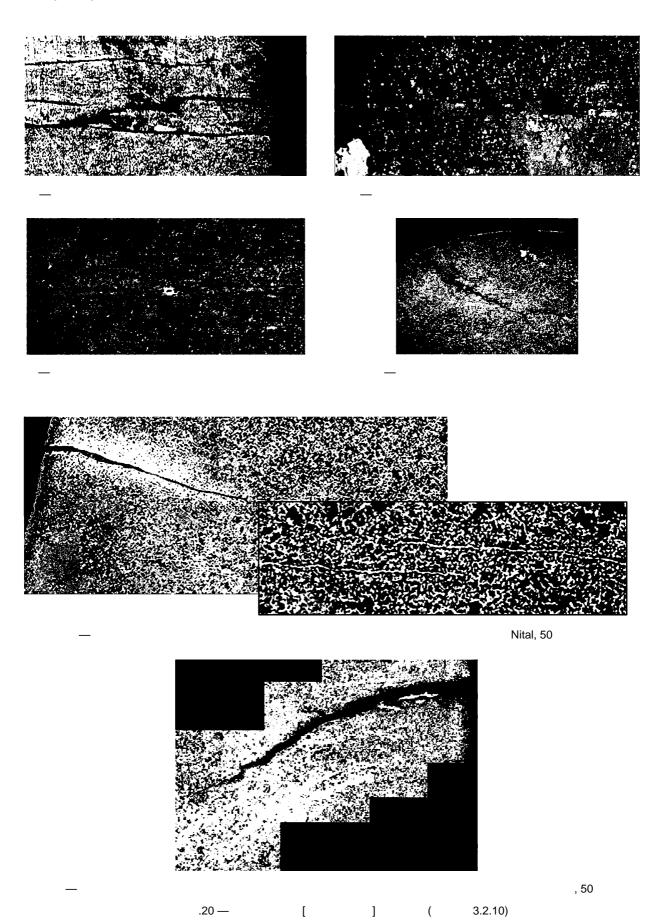
 4 %

 . 18 - (3.2.7)

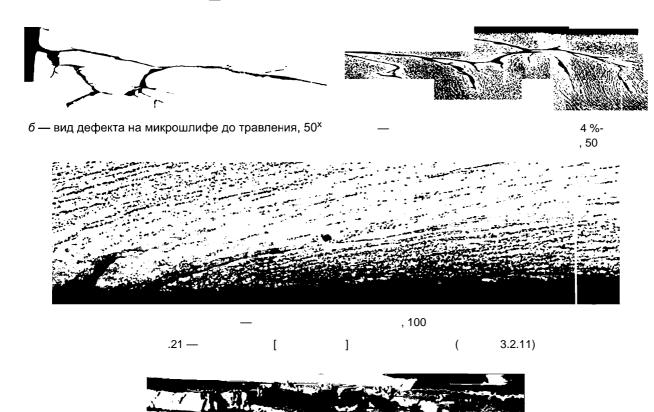






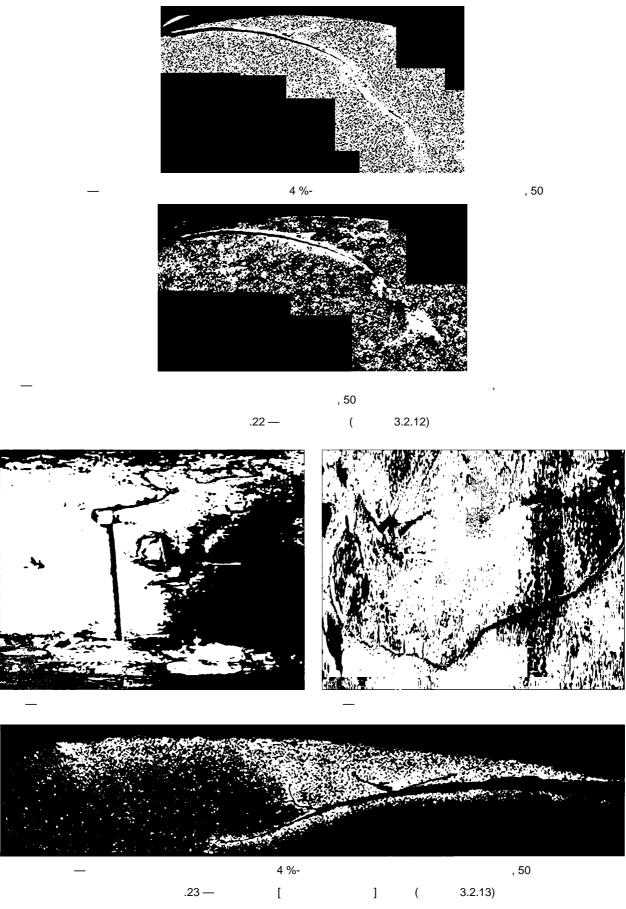


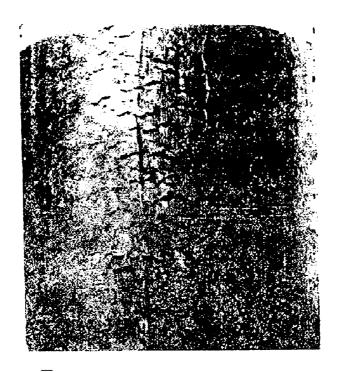








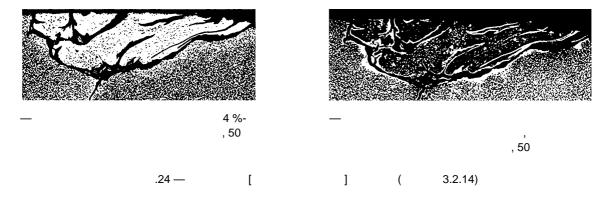








 ε — поперечный макротемплет



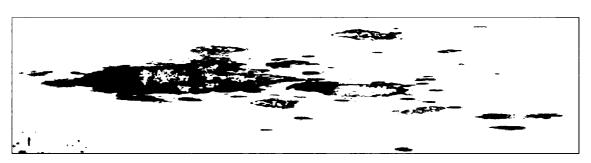
.25— .54.



.25 — () (3.3.1)



a — внешний вид дефекта на металлопродукции



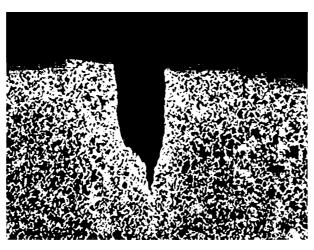
— 4 %-, 50

.26 — (3.3.2)



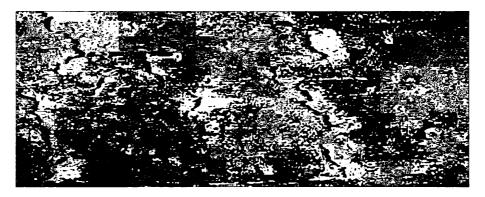






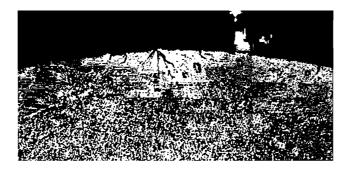
 —
 4 %

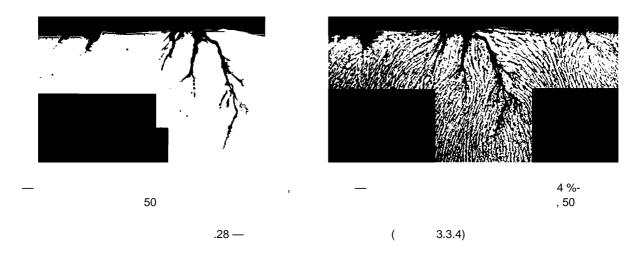
 .27 —
 (3.3.3)



a — внешний вид дефекта на металлопродукции





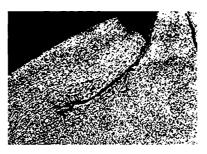


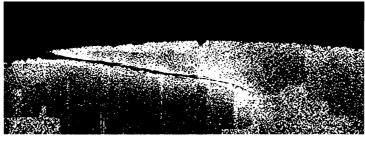




 δ — внешний вид дефекта на металлопродукции



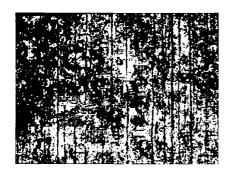


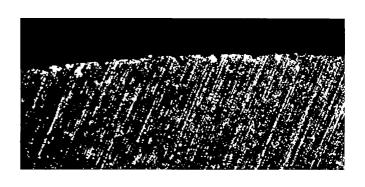


__ 4 %- ,50 .29 __ (3.3.5)









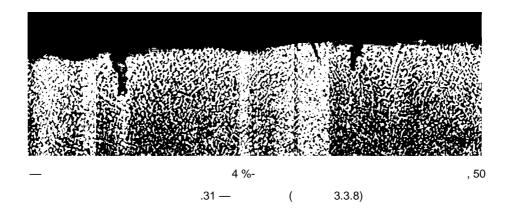
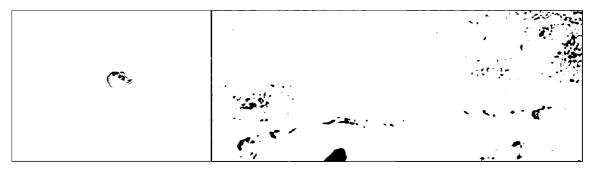
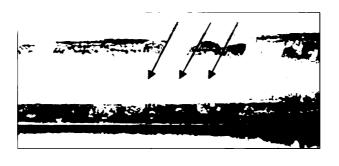


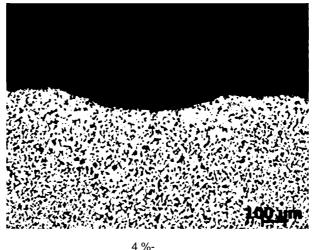


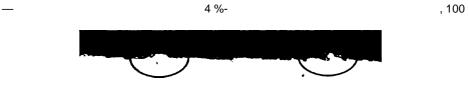
Рисунок Б.32 — Надрывы (внешний вид) (термин 3.3.9)

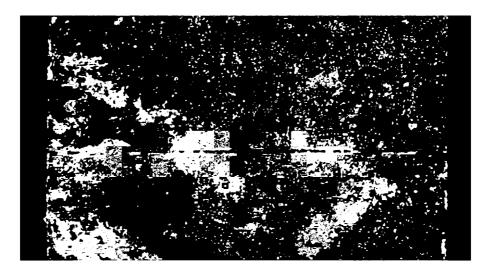


а — внешний вид дефекта в виде углублений



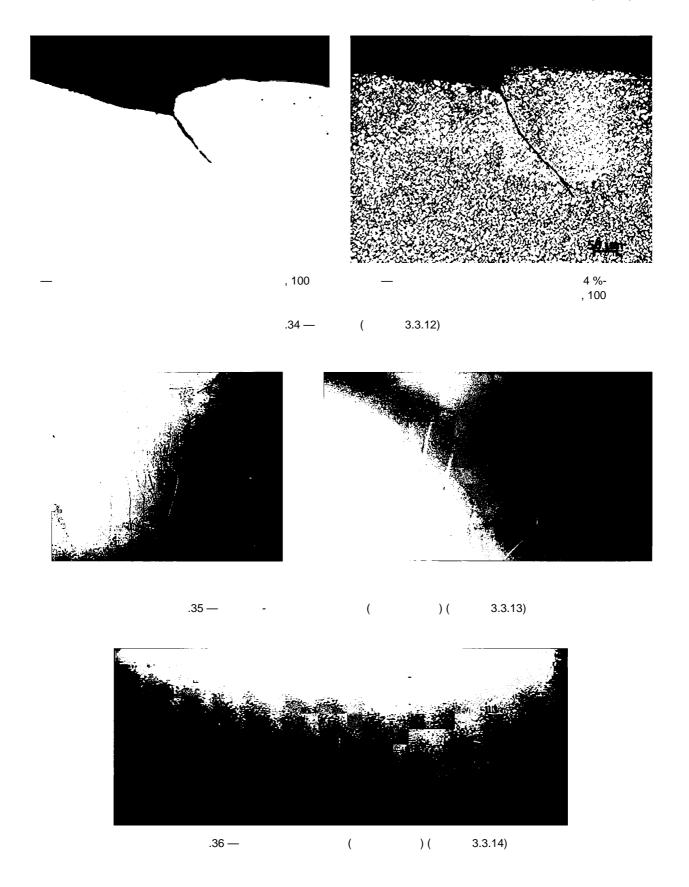


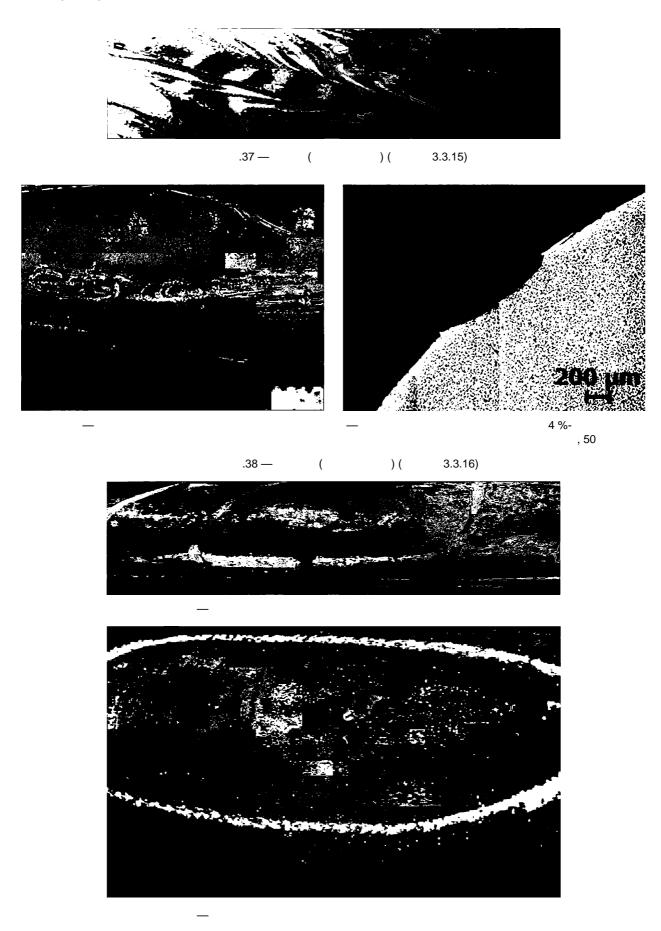




a — внешний вид дефекта на металлопродукции



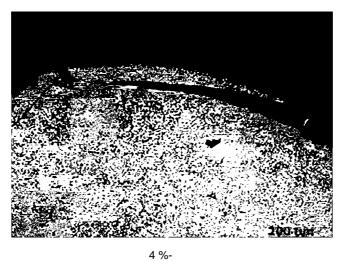






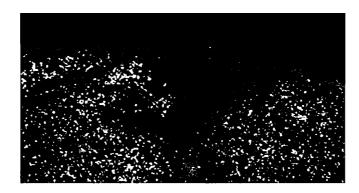


- 50



4 %- , 50 .39 — (3.3.17)





 δ — поперечный макротемплет



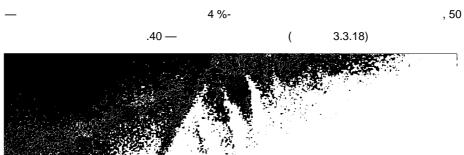
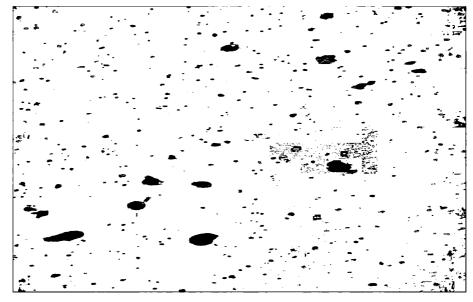
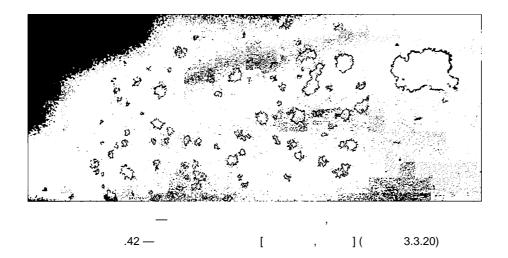


Рисунок Б.41 — Протектор (внешний вид) (термин 3.3.19)

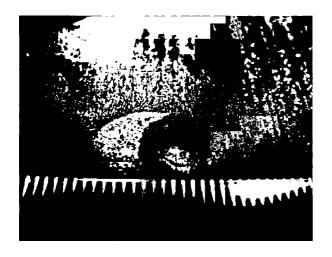


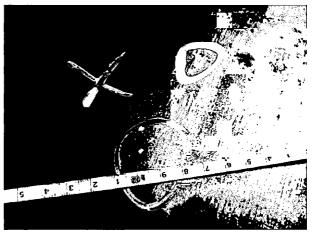
a — внешний вид пятен загрязнения











.43 — - () (3.3.21)



.44 — () (3.3.22)

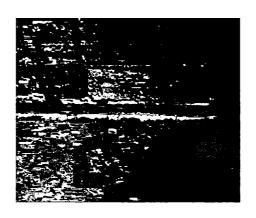


()(3.3.23)

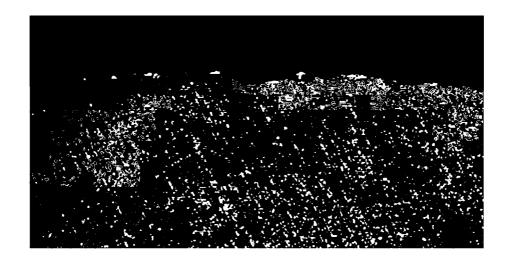


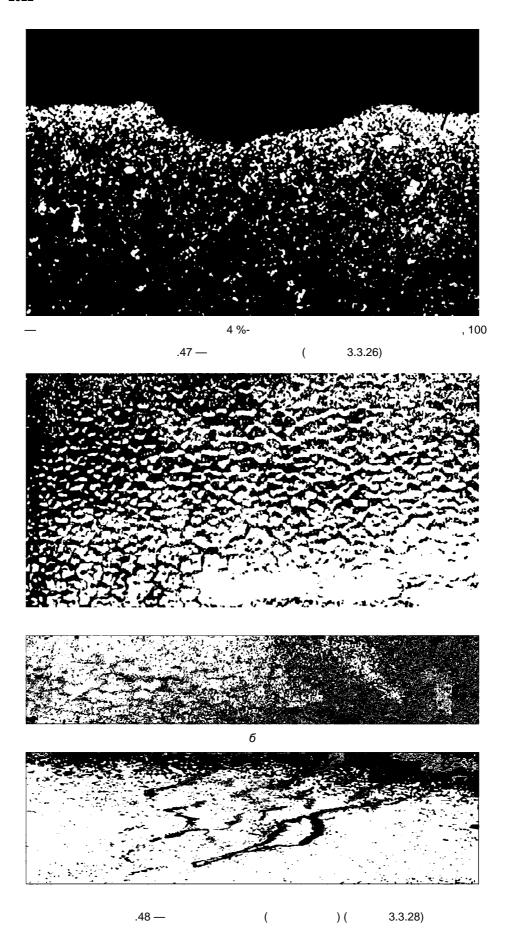
.46 — (3.3.25)











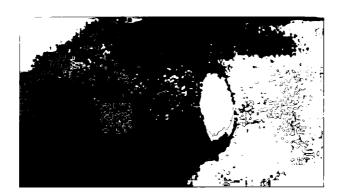


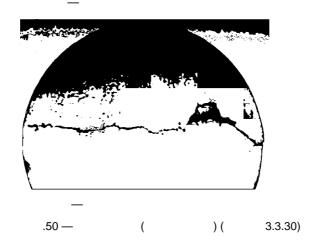


.49 — () (3.3.29)

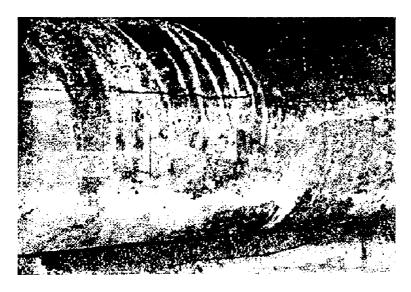


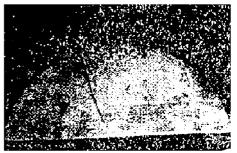


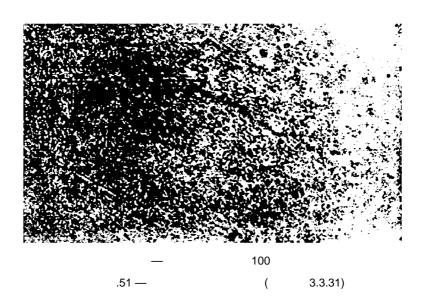






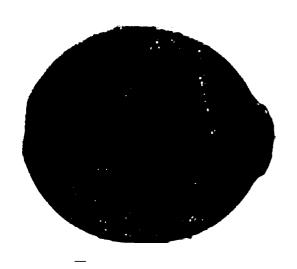


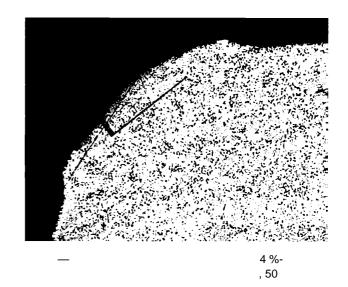




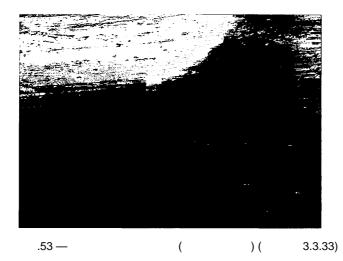


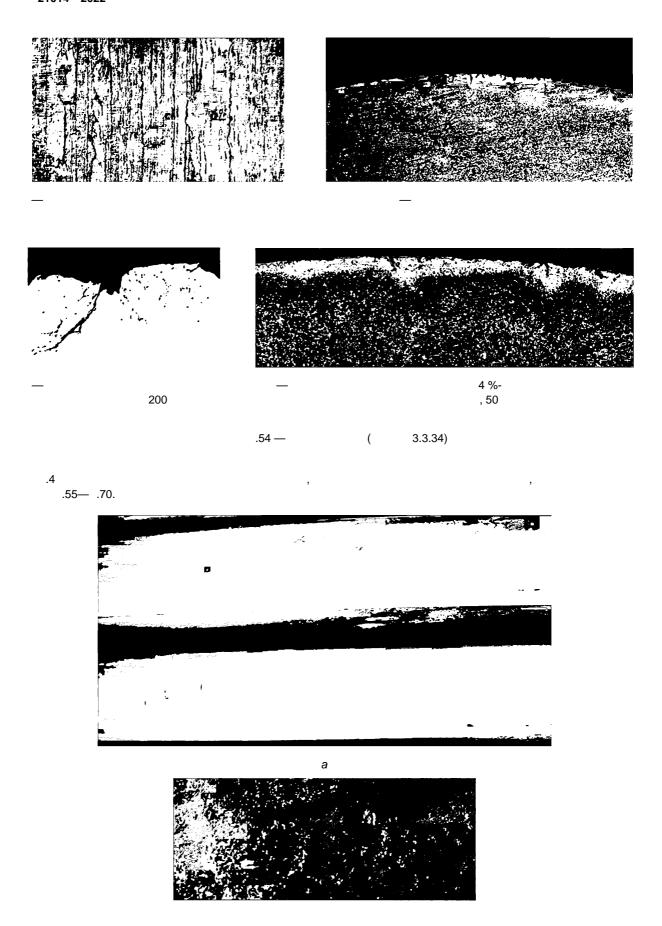




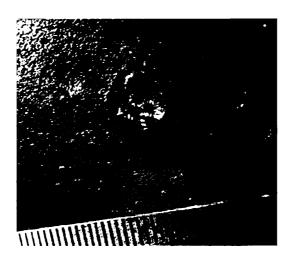


.52 — (3.3.32)

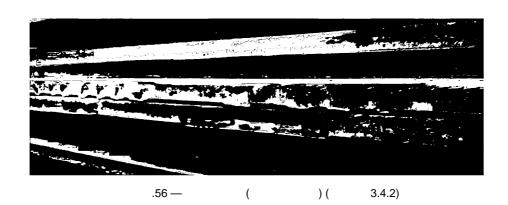








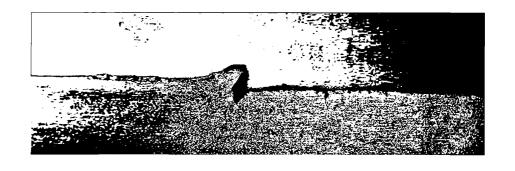
.55 — ()(3.4.1)



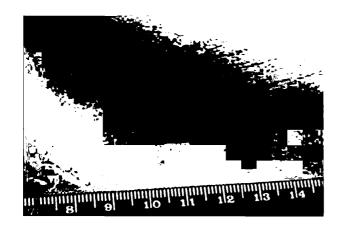
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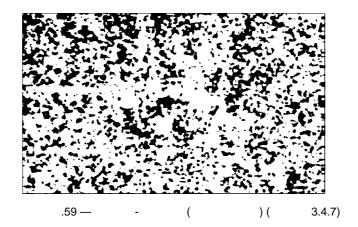


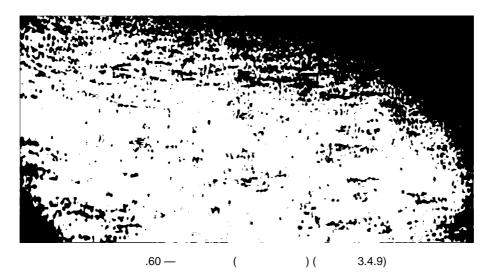
.57 — ()(3.4.4)





.58 — () (3.4.5)

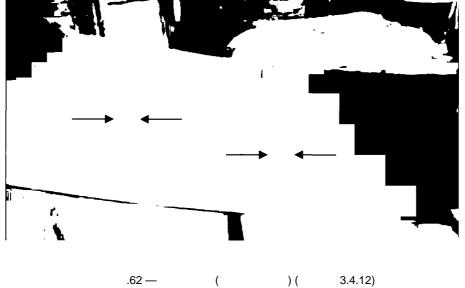




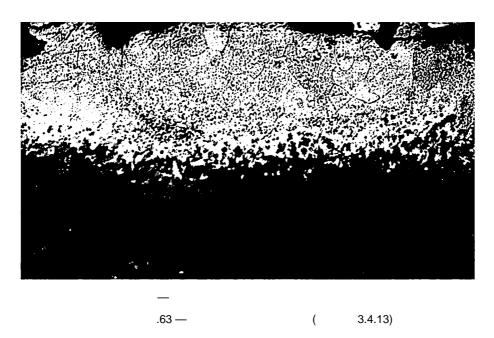


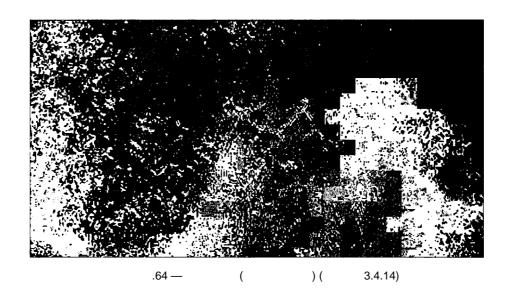
.61 — () (3.4.10)







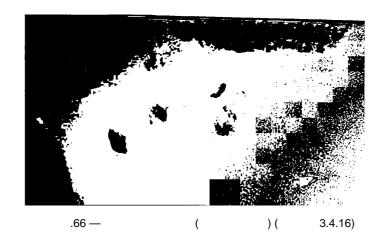






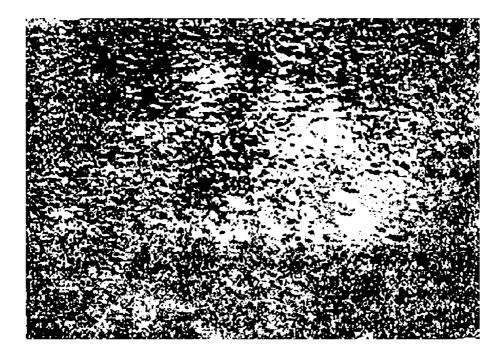


.65 — ()(3.4.15)



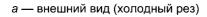


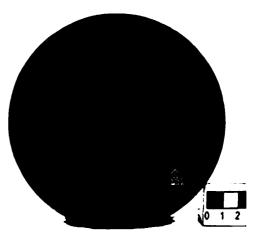




.68— ()(

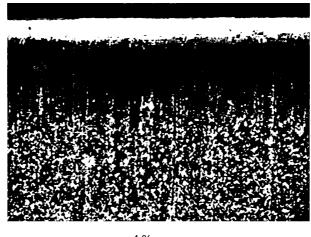






3.4.18)

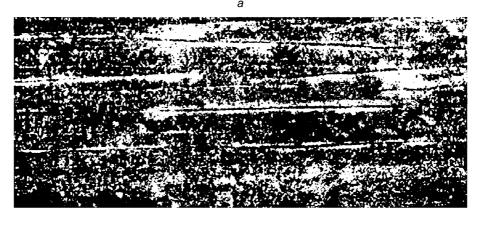
б — внешний вид (холодный рез)



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 4 %

 .69 —
 (3.4.20)

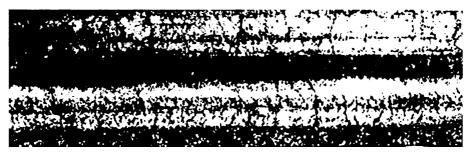




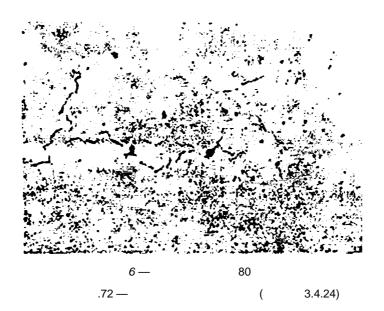
.70 — () (3.4.21)







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001.4:669.1-122.004.6:006.354 77.080.01

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