

-
/

189 18.04.2013.

16

2012 .

2016 ,

. . . , 3, 720040,
: 996 312 62 56 79
E-mail: sooronbaev@inbox.ru

- 1.
- 1.1.
- 1.2.
- 1.3.
- 1.4.
- 1.5.
- 2.
- 3.
- 4.
- 5.
- 6.
- 6.1.
- 6.2.
- 7.
- 8.
- 8.1.
- 8.2.
- 8.3.
- 8.4. ..
- 8.5.
- 9.
- 10. ()
- 11.

- 1.
- 2. (CRB-65,
SMART-COP).....
- 3.

Mycoplasma pneumoniae .),

()

15

(BTS, 2004, 2009),

(ERS, 2005, 2011),

(IDSA/ATS, 2007),

()
2005, 2010).

(2003,

1.1.

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- „ . . . „

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- „ . . . „ -

• „, . . . „,

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- „, . . . „

• „, . . . „, . . .

- „, . . . „, . . .

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• ” . . . ,
(. ,)



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, , , . . .
, ,
”
, ,
» «

1.2.

- 1.
- 2.

1.3.

« »:
www.guideline.gov
Evidence-Based Medicine (EBM) Guidelines:www.ebm-guidelines.com,

www.brit-thoracic.org.uk
www.ajrcm.atsjournals.org

1.4.

, 6. ,
, ,
, .

1.5.

D (SIGN). ,
, ,
, ,
, . ,

		, , .
		, .
		,
D		.

2.

– (,) (;)
(1, 2).
« » « » ,
– (1). X (- ,
1992 .)
(.1).

1.

(1992 .)

J13	, <i>Streptococcus pneumoniae</i>
J14	, <i>Haemophilus influenzae</i>
J15	(: , <i>Chlamydia</i> spp. – J16.0 « » - 48.1)
J15.0	, <i>Klebsiella pneumoniae</i>

J5.1	,	<i>Pseudomonas</i> spp.
J15.2	,	<i>Staphylococcus</i> spp.
J15.3	,	
J15.4	,	
J15.5	,	<i>Escherichia coli</i>
J15.6	,	
J15.7	,	<i>Mycoplasma pneumoniae</i>
J15.8		
J15.9		
J16	,	(: - 70,
	- 59)	
J16.0	,	<i>Chlamydia</i> spp.
J16.8	,	
J17*	,	
J17.0*		(: -
	42.0, - 22.1, -	
	54.8, - 43.0, - 022.2, - 721.2,	
	- 031.), - 37.)	
J17.1*	,	- 25.0, -
	(: - 01.2)	
J17.2*		
J17.3*		
J17.8*		(: - 70, - 78,
	- 100, - 69.8)	
J18		

*

« » ,

,

(20-30%

,

48-72 , « -

» « - »,)

50-70% (1, 3, 4).

,

;

(. 2.).

<p>I. ():</p> <p>a) ;</p> <p>b) ;</p> <p>c) ;</p> <p>d) ;</p> <p>e) .</p> <p>II. -</p> <p>:-</p> <p>:</p> <p>·</p> <p>(/);</p> <p>·</p> <p>III. /</p>	<p>I. ():</p> <p>II. -</p> <p>III. :</p> <p>a) ;</p> <p>b) ,</p> <p>·</p>	<p>I. :</p> <p>II. a) :</p> <p>b) 3 ;</p> <p>()</p> <p>2 90</p> <p>c) ;</p> <p>d) ;</p> <p>e) 30 ;</p> <p>f) ;</p> <p>/ .</p>

(healthcare-associated pneumonia).

(1, 2, 3).

3.

48

4

14

-
-
-
-

(,);
(,)

Streptococcus pneumoniae,

(*Legionella* spp. ()
(, *Staphylococcus* spp.)

4.

40-60%

(*Streptococcus pneumoniae*) – 30-50%

3-

(*Chlamydomphila pneumonia*, *Mycoplasma pneumonia*, *Legionella pneumophila*). *Mycoplasma Pneumonia* *Chlamydomphila pneumonia*, (4, 6), (*L.pneumophila*,

Haemophilus influenza (2-11%) *Moraxella catarrhalis* (3-22%),

(3-5%)

Staphylococcus aureus *Klebsiella pneumoniae*, *Staphylococcus aureus*

aeruginosa

Pseudomonas aeruginosa (*Enterobacteriaceae* *Pseudomonas*) (4, 7, 8, 9, 10).

(11, 12, 13).

B,

(6).

C. pneumoniae

25%.

M. pneumoniae

Legionella spp.,

(); *S. aureus*

(.3) (6).

3.

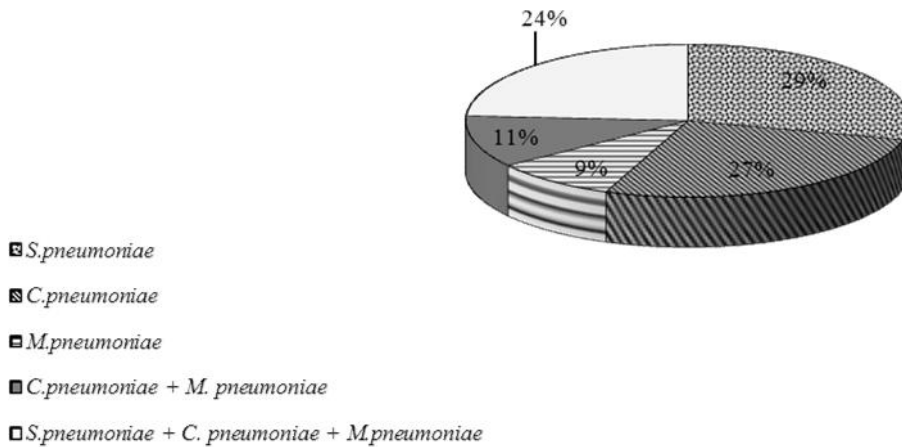
(%) (L. Mandell ., 2000)

--	--	--

<i>S. pneumoniae</i>	5	17,3	21
<i>H. influenzae</i>	2,3	6,6	-
<i>S. aureus</i>	-	2,9	7,4
<i>M. pneumoniae</i>	24	13,7	-
<i>C. pneumoniae</i>		10,1	-
<i>L. pneumophila</i>	-	1,3	5,8
	-	4,1	8,8
	48		35,6

() , « » (. 2)
 (7).

, (C.
pneumoniae, *M. pneumoniae* *L. pneumophila*).
 (,),
 , - (9).
M.pneumoniae, *H.influenzae* *S.pneumoniae*,
 77,9% ()
 42,7% ,
 ()
 3, 4.



2.

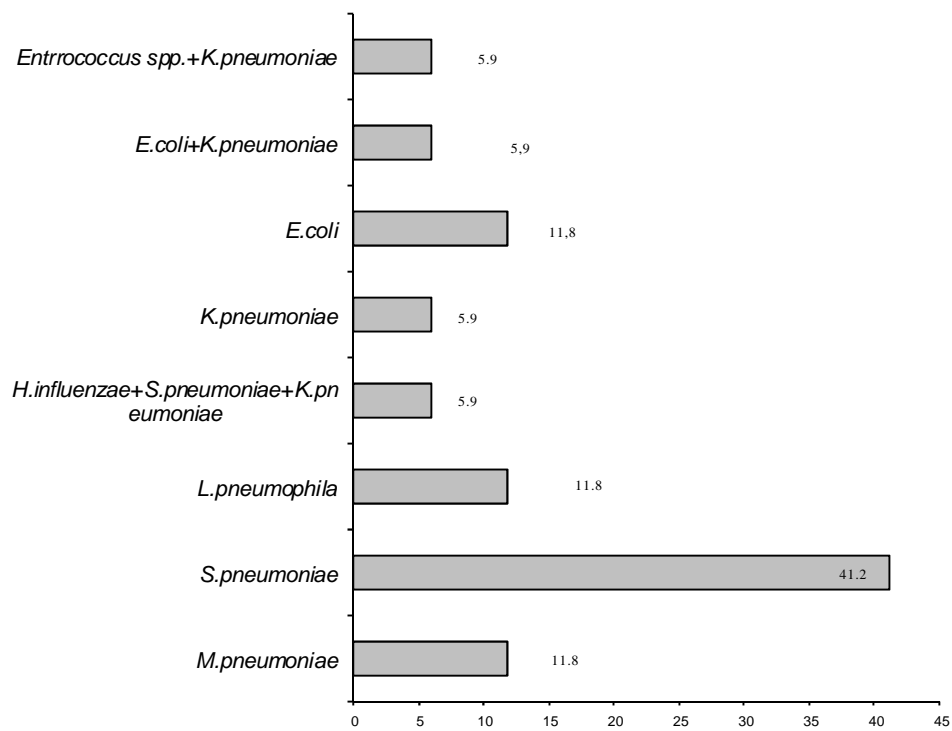
, 2003)

(. . , . . ,



3.

(%, n=109) (. . . , 2010)



		<i>Enterobacteriaceae</i>
	:	<i>S. pneumoniae</i> <i>Legionella</i> spp. <i>S. aureus</i> <i>Enterobacteriaceae</i>

5.

Pneumoniae,
60%,
I-II, III-IV (15),
III (15), 10%,
2,8%.
S. pneumoniae 10%,
(MLS-
S. pneumoniae),

6.

S. pneumoniae

(I-III, 1999 – 2009)

	/ , %	, %	/ , %	, %	/ , %	, %
	1999-2003 . (n=791)		2004-2005 . (n=913)		2006-2009 . (n=715)	

	7,8	1,9	6,9	1,2	9,1	2,1
	0	0,1	0	0,3	0,4	0
/	0	0	0	0,3	0,4	0
/	1,4	0,4	0,9	1,1	0,4	0,6
	-	-	-	-	2,2	4,6
	-	-	-	-	6,2	6,7
	-	-	-	-	0	0
	0,1	8,1	0,2	6,4	1,0	3,6
	0,5	7,6	0,2	6,2	0,9	6,4
	0,5	7,5	0,3	6,1	1,6	5,7
	-	-	-	-	1,1	4,1
	0,5	3,3	0,4	3,9	0,6	6,0
	1,0	1,0	0,9	3,6	1,0	5,3
	0,1	2,8	0	3,6	0,2	4,3
	0	0	0	0,1	0	0
	0,3	0	0,1	0	0	0
	-	-	-	-	0	0
	-	-	-	-	6,4	1,4
	2,4	24,9	4,8	24,8	3,1	21,5
-	26,3	5,4	29,1	11,8	22,4	16,6
	0	7,7	0	5,9	0	7,1
	0	0	0	0	0	0

: / -

, -

H. Influenzae,

-

-II,

H. influenzae

2003-2005 .

5,4%.

(
,
5,0%.
(29,8%

/
(. 7).
H. influenzae
).

III

7.

H. influenzae

(II, 2004-2005 ., n=258)

	/ , %	, %
	4,6	0,8
/	0	0
	0	0
	0	0
	0	0
	0	0
	2,7	2,3

-	17,4	12,4
	4,3	0,4

: / - , -

6.

«...» ()

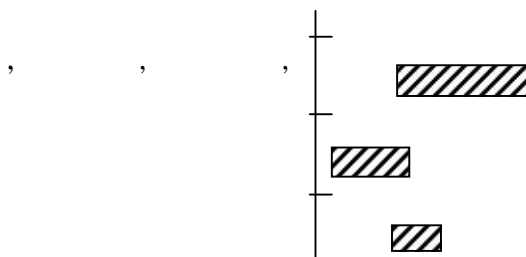
«...» ()

25% 50-70%, 65

10-25%

(20%)

. 5.



5.

(J.P.Metlay, M.J.Fine, 2003) (16).

14

(11,12).

(1,2,6).

- 1. ()
- 2.)
- 3.) (),)

()

(,)

3-6

_____:

•

() (1, 2, 6).

•

() (6, 18).

6.1.

1.

(6):

•

-
-
-
-
-
-

S. pneumoniae; (– *H. influenzae*)

(2 2)
 1. (,)

Legionella spp. , *M. pneumoniae*, *S. pneumoniae*
 (),

L. pneumophila (I) *S. pneumoniae*
L. pneumophila I 80-95%
L. pneumophila I 99%. 70 90%,
L. pneumophila
L. pneumophila

β - (,),
L. pneumophila
 (50-
 80%) (> 90%)

() .

C.pneumoniae, *M.pneumoniae*

L.pneumophila.

_____ :

- (/) ,
« » ,
() ()
(6);
- () (6, 17, 18-28)
- () (6, 18, 29, 30, 31).
- *C.pneumoniae*, *M.pneumoniae* *L.pneumophila*
() (32, 33, 34, 35, 36, 37).
- I- *L.pneumophila*
() (38, 39, 40, 41, 42, 43).

6.2.

15×10⁹/
3×10⁹/ (1, 2, 6, 18). 25×10⁹/
(, , .)
/ , ,
/ .
,
,
<90%

.() ;

) (> 1,0

) (« » - (, « » . . (44,45,46,47,48)

_____:

• () (49, 50, 51, 52).

• () (29).

7.

() (1, 2, 6, 18)

) ($t^0 > 38,0^\circ$);
) ;
) (/ ,
) $> 10 \cdot 10^9 /$ / (> 10%).

) (/ () (1, 2, 11, 12, 6, 18).

/ (/

() (5).

() (1, 6, 53-56) – 8.

() (1, 11, 12, 18, 57, 58, 59, 60, 61).

().

() (62, 63, 64, 65).

25-60% () (6, 17, 18).

8.

	<i>S. pneumoniae</i> , (-)
	(- <i>K. pneumoniae</i>)
/	<i>S. pneumoniae</i> , <i>H. influenzae</i> , <i>M. catarrhalis</i> , <i>Legionella</i> spp.
	<i>S. pneumoniae</i> , <i>S. aureus</i>
	<i>S. pneumoniae</i> , <i>Enterobacteriaceae</i> , <i>H. influenzae</i> , <i>S. aureus</i> , <i>C. pneumoniae</i> ,
	<i>S. pneumoniae</i> , <i>S. aureus</i> , <i>S. pyogenes</i> , <i>H. influenzae</i>
	<i>P. aeruginosa</i> , <i>B. cepacia</i> , <i>S. aureus</i>
	<i>S. aureus</i> ,
(,)	
	<i>L. pneumophila</i>
(,)	<i>S. pneumoniae</i> , <i>M. pneumoniae</i> , <i>C. pneumoniae</i>

,)
---	---

_____:

- () (1, 2, 6, 11, 12).

8.

· ,
 () (67, 68, 69).

- (. 3) (1-3).
-
-

_____:

- (,) (, -)
 (,) (70, 71, 72).
- (4) () (6, 18).

8.1.

s-

. β-

S.pneumoniae,

S.pneumoniae

, -

β-

S.pneumoniae,

H.influenzae,

β-

β-

H.influenzae

M.catarrhalis,

S.aureus

(*K.pneumoniae*

.),

β-

80-90 / /

2011 .

1000

62,5

2

.2

.),

(

(

/

)

-

2

S.pneumoniae,

III

S.pneumoniae,

, *H.influenzae*, *M.catarrhalis*,

III

β-

« »

(*M.pneumoniae*, *C.pneumoniae*, *L.pneumophila*).

S.pneumoniae

« »

(*M.pneumoniae*,

C.pneumoniae, *L.pneumophila*).

β-

(,),

« »

(),
S.pneumoniae in vitro,
H.influenzae.

, β-
S.aureus *H.influenzae*,
(,).
(,
).

, β-
(6, 15, 18).
II (,)
S.pneumoniae « » ()
Legionella spp.

(*M.pneumoniae*, *C.pneumoniae*, *L.pneumophila*)
H.influenzae
S.pneumoniae

(MRS)
() (15).

Acinetobacter spp. *P.aeruginosa*
(6).
(*M.pneumoniae*, *C.pneumoniae*, *Legionella spp.*).

8.2.

(11, 12). () () (1, 2, 6, 18).

PORT (Pneumonia Outcomes Research Team), (PSI – pneumonia severity index),

(2). PSI , pH

CRB-65 (2). 4 : , 3 ()

RB-65 CRB-65 PORT. PORT. CRB-65 (72-80).

1. 60 ; 30/ ; < 90 ; 125/ ; < 35,5° 39,9° ;

2. < 4,0 10⁹/ > 20,0 10⁹/ ; SaO₂ < 92% (), < 60 / > 50 ; > 176,7 / > 7,0 / (= ,

() (18, 29) .

9. ,
2 ,

9.

2	3 <i>S. pneumoniae</i> <i>M. pneumoniae</i> <i>C. pneumoniae</i> <i>H. influenzae</i>	1
/ 2	3 <i>S. pneumoniae</i> <i>H. influenzae</i> <i>C. pneumoniae</i> <i>S. aureus</i> <i>Enterobacteriaceae</i>	/ , / ± (, ,)

:¹
(*C. pneumoniae*, *M. pneumoniae*).

« »

,).

(, ,)

3

2

).

(D) (1, 11, 12)

, *in vitro*

,

() (2, 6).

« »

(*M.pneumoniae*, *C.pneumoniae*).

(,

, , ,) /

3 2 ,

(/ (82, 83).

“ ” , ((6).

II

((<60)

60

() (84, 85, 86, 87).

(6).

_____ :

• () (1, 11, 12, 16, 18)

• (.), (') (1, 69).

48-72

).

4

10.

().

()

10.

I	II	
		« » (<i>C. pneumoniae</i> , <i>M. pneumoniae</i>)
/ /		« » (<i>C. pneumoniae</i> , <i>M. pneumoniae</i>)
	/ /	- (-)

β- : , .

48-72

- < 37,8⁰C;
- 100/ ;
- 24 ;
- 90 . ;
- O₂ 90% PaO₂ 60 .

6, 12).

7 () (1,

J.Z. Li , 2007 (85),
(>7)

(7)

- β- , ().

G. Dimopoulos

., 2008 (88),

(3-7)
(7-10).

S.aureus, *P.aeruginosa*.

(. 11).

11.

(37,0-37,5°)	,
(,)	1-2
	1-2 ,
	3-4 ()
	,
,	

(D) (2, 12).

(D) (1, 11, 12).

_____ :

• 5 (),

1 (48 -72) (6);

• () (6).

•	(,)	
•		

: 1

), , (SMART-COP (/ 2).

2-4

().

().

13.

3. () III (/ ,) / '), II (, « » (β- (β- ±)).

13.

--	--	--

1	<i>S. pneumoniae</i> <i>H. influenzae</i> <i>C. pneumoniae</i> <i>S. aureus</i> <i>Enterobacteriaceae</i>	$\begin{matrix} / , , \pm & & 2 \\ / , / \pm & & 2 \\ / & / \pm & 2 \\ / & / , / \pm & 2 \\ / , / \pm & & 2 \\ / , / \pm & & 2 \\ / , / \pm & & 2 \end{matrix}$
	<i>S. pneumoniae</i> <i>Legionella spp.</i> <i>S. aureus</i> <i>Enterobacteriaceae</i>	$\begin{matrix} / & / + & 2 \\ / + & & 2 \\ / + & & 2 \\ / + & & 2 \\ / + & & 2 \end{matrix}$

1

2

(,) .

P.aeruginosa (, 7

), / , ,

(,), / .

II-III . / ,

(,). / , ,

();

4 (.)

S.pneumoniae.

(,), .

(-)

(,) .

III

48-72

,

() (1, 6, 18).

14.

I	II	
	II-III , +	« » (<i>C. pneumoniae</i> , <i>M. pneumoniae</i> , <i>Legionella</i> spp.), (-) <i>S.aureus</i>
		« » (<i>C. pneumoniae</i> , <i>M. pneumoniae</i> , <i>Legionella</i> spp.)
III		« » (<i>C. pneumoniae</i> , <i>M. pneumoniae</i> , <i>Legionella</i> spp.), (-)

- : , 2-3 ;
- (, , , ,) : 1 ;
- () :
- : 2-3 ; - .

7 . 48-72 .
() .
) (),

10-
P.aeruginosa (14
7-14
() .

(1, 2, 6).

8.5.

2- :

($<37,5^{\circ}\text{C}$)

8 ;

-
-
-
-
-

/ , , / , , , , :
, , , , , , , , , ,
, (: , ,
, /).

_____ :

- () (6).
- ,
- , () (6).
- :
, () (18).
- () (18).

9.

); ();
); ;
); / ;
); - ;) ;
); ;
); , , ;
); , ;
); .

) - (.

spp. - , - *Bacteroides* spp., *F. nucleatum*, *Peptostreptococcus*
S. aureus.

/ , / , / ,
/ / . : III-IV
, +
, , , 3-4

()¹⁾

).

),
pyogenes, S. aureus H. influenzae. , S. pneumoniae, S.

III-IV

- / , -
/ III-IV , / , / ,
4-6 .

10.

« »

3-5

72

(6).

« »

(.15).

15.

72	
• (, /) ;	
• / ;	
• (/	
•);	
• - ,	
(, ,),	
72	
• ;	
• (, ()) ;	
• (/ ,	
• , ,);	
• (, , ,)	
72	

¹ > 25 000/ (/ <7,1) /

• (/
•);
• ;
• (, ,)

« » ,
,
: 65 ; ; ; ;
(*L. pneumophila*, *S. aureus*,);
().
,
(, , « »)
(: , ,) ,
,
, - (. 16).

16.

• () ..
•
•
•

•
•
•
•
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•
•

/
• ()
•
•
•
•
•
•

>30

()

(..

),

.

«

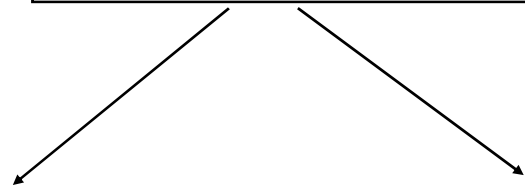
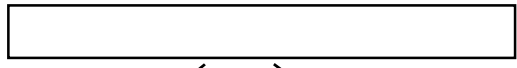
»

.

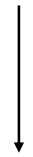
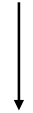
«

»

.6.



(, , .)



.6.

«

»

.

«

»

.

.

,

,

.

S. pneumoniae

23-

23

S. pneumoniae () .

()
() .

(. .)
65

50

).

() .

:

• 50 ;

• , ;

• ()

• - ;

• ,

() , -) ; ,

• II III .

:

• ,

•

• () ,

•

() (18).

_____ :

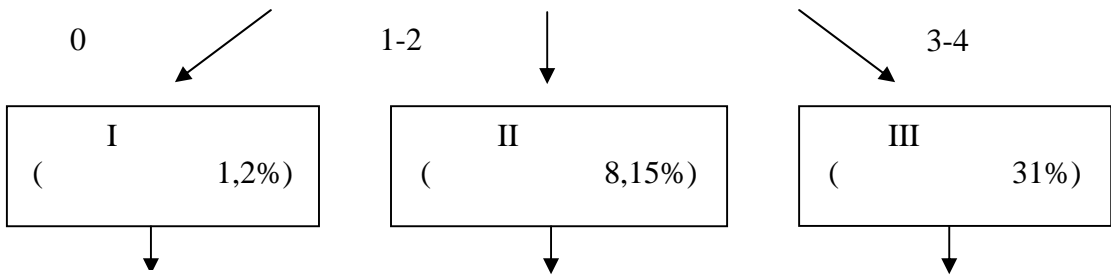
• / 50 /

() (18).

1. .
 2. ,
 3. ,
 4. , - . , ,
2 .
-
1. .
 2. 2% . 70% , 1-
 3. (/ 10,0
1:5-1:10).
 4. .

(**CRB-65**)

•	(Confusion)
•	30/ (Respiratory rate)
•	< 90 60 . .
•	(lood pressure)
•	≥ 65 (65)



SMART-COP (P.G.P.Charles , 2008)

S	< 90 . .	2
M		1
A	< 3,5 / *	1
R	> 50 ≥ 25/ ≤ 50 ≥ 30/	1
T	≥ 125/	1
C		1
O	PaO ₂ * < 70 . . SpO ₂ < 94% PaO ₂ /FiO ₂ <333 ≤ 50 PaO ₂ * < 60 . . SpO ₂ < 90% PaO ₂ /FiO ₂ <250 > 50	2
P	pH* < 7,35	2
-		

.* SMRT-CO

• **SMART-COP**

0-2	
3-4	(1 8)
5-6	(1 3)
≥ 7	(2 3)

• **SMRT-CO**

0	
1	(1 20)
2	(1 10)
3	(1 6)
≥ 4	(1 3)

	-	2 . 4-6	
	-	1,2 . 2	
	0,5-1 3	-	
		1-2 4	-
/	0,625 3 1 - 2 2	1,2 3-4	
/	-	1,5 3-4	
/	1 3 2 2	1,5 3	
/	-	3,2 3	
/	-	4,5 3	
II			
	0,5 2	0,75-1,5 2-3	
III			
	0,4 1	---	
	-	1-2 2-3	
	-	1-2 1	
IV			
	-	1-2 2	
/	-	2-4 2	
	-	0,5 3-4	
	-	0,5 3-4	
	-	1 1	
	0,25 ¹ - 0,5 1 2 2	0,5 1	1
	0,5 2	0,5 2	
	1 1		

	1 2 0,5 3		
	3 2	1,5 3	
		0,5-1,0 4	
	0,3-0,45 4	0,3-0,9 3	
	0,5-0,75 2	0,4 2	. - ' Mg, Ca, Al
	0,5 1	0,5 1	- . ' Mg, Ca, Al
	0,4 1	0,4 1	
	320 1	-	
	-	15-20 / 1	
		0,3-0,45 2	1
	0,5 3	0,5 3	
	0,6 2	0,6 2	

: ¹

- 0,5 ; ²

1.
:
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