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111

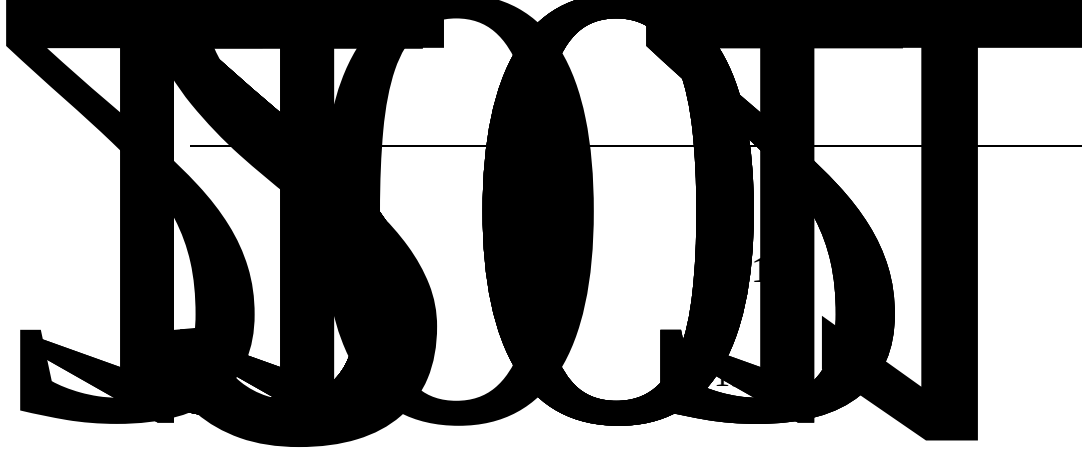
10000 4 n1 61 6 π H̃ , m " H " Đ φ
1 Æ ĵ H2015 6 1604 H ≤ 60 00
Đ

2022 8 2023 1 1 1674



1.1		1
1.2		1
1.3		6
1.4		7
2.1		8
2.2		9
2.3		10
2.4		16





M100

M100

1.2

1.2.1.

1

	8						13		103
2022	11	09							
	9							23	2024
	10	1							
	10							3	2015
	5	29			80		2015	7	1
	11								
16	2008	2	1						
	12							2	2019
								9	1
	13								
30	2015	5	29			80		2015	7
	14							1	
								44	2015
	29				80		2015	7	1
	15								55
2015	3	23				79		2015	7
	16							1	
					<				>
<						>		<	
								>	
	2017	15		2017	3	6			
	17								
		2016	8		2016	2	5		
	18								
					2015				
2015	5		2015	5	1				
	19							2015	
					2015	80		2015	8
								19	
	20								
		2011	95		2011	7	1		
	21								
						2011	142		2011
								7	1

22

2016 62 2016 6 3

23

2014 68 2014 7 11

24

2016 3 2016 4 28

25

<

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2020 3 2020 4 1

26

<

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2019 78 2019 8 12

27

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2019 107

28

<

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2019 62 2019 12 26

29

10



34

2012 11 2 8 30

35

<

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2017 22 2017 11 28

36

341 2021

5 18

37

2017 45 2017 12 23

38

3	M100	GB/T42416-2023	
4		GB 19147-2016	
5		1	GB 19147-2016/XG1-2018
6	E10	GB 18351-2017	
7		GB6944-2012	
8		GB 12268-2012	
9		GB 18218-2018	
10		GBZ/T 230	2010
11		1	1
	GBZ 2.1-2019/XG1-2022		
12		2	GBZ 2.2-2007
13		GB 17914-2013	
14		GB 50058-2014	
15		AQ 3009-2007	
16		GB/T 6441-1986	
17		GB/T 13861-2022	
18		GB 50016-2014	2018
19		GB 50140-2005	
20		GB 50057-2010	
21		GB 12158-2006	
22		GB/T 50610-2010	
23		1	GB/T
22380.1-2017			
24		2	
	GB/T 22380.2-2019		
25		3	GB/T
22380.3-2019			
26		1	GB/T 30040.1-2013

27	-	SH/T
3178-2015		
28	GB 50395-2007	
29	GB/T 29639-2020	
30	GB 50343-2012	
31	(GB/T 12801-2008)	

2024	11	11
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2024 11 28

1925m²

SF	5	1
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5 3 30m³ 2

SF	5	1
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3 EN n., Wb

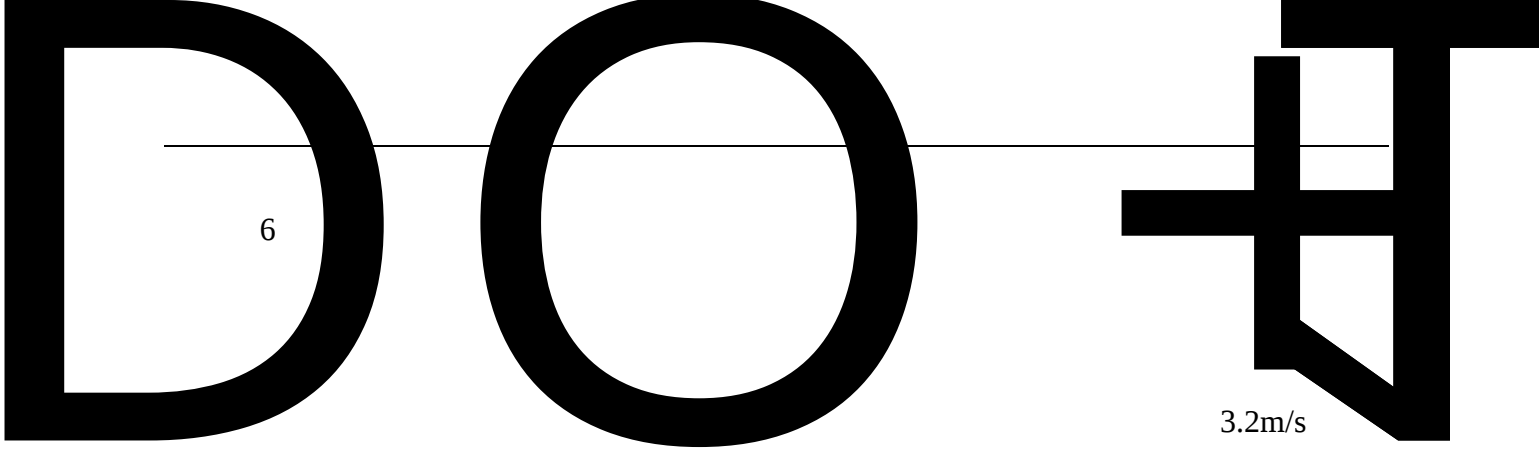
$\frac{1}{2} \cdot \frac{1}{3} = \frac{1}{6}$

x

E

t

	62m	62m	32m	46m
			2.2	
1				7.7
		7		25.2
		1		-12.7
				38.3
				-30.6
				8.3
				6.9
2				69%
				67%
		7		78%
		1		61%
3				101.2kPa
				103.9kPa
				96.9kPa
4				755.4mm
				997.3mm
				520.5mm
				178.8mm
				42.6mm
5				250.0mm



6

3.2m/s

23m/s

7

28.3d

42d

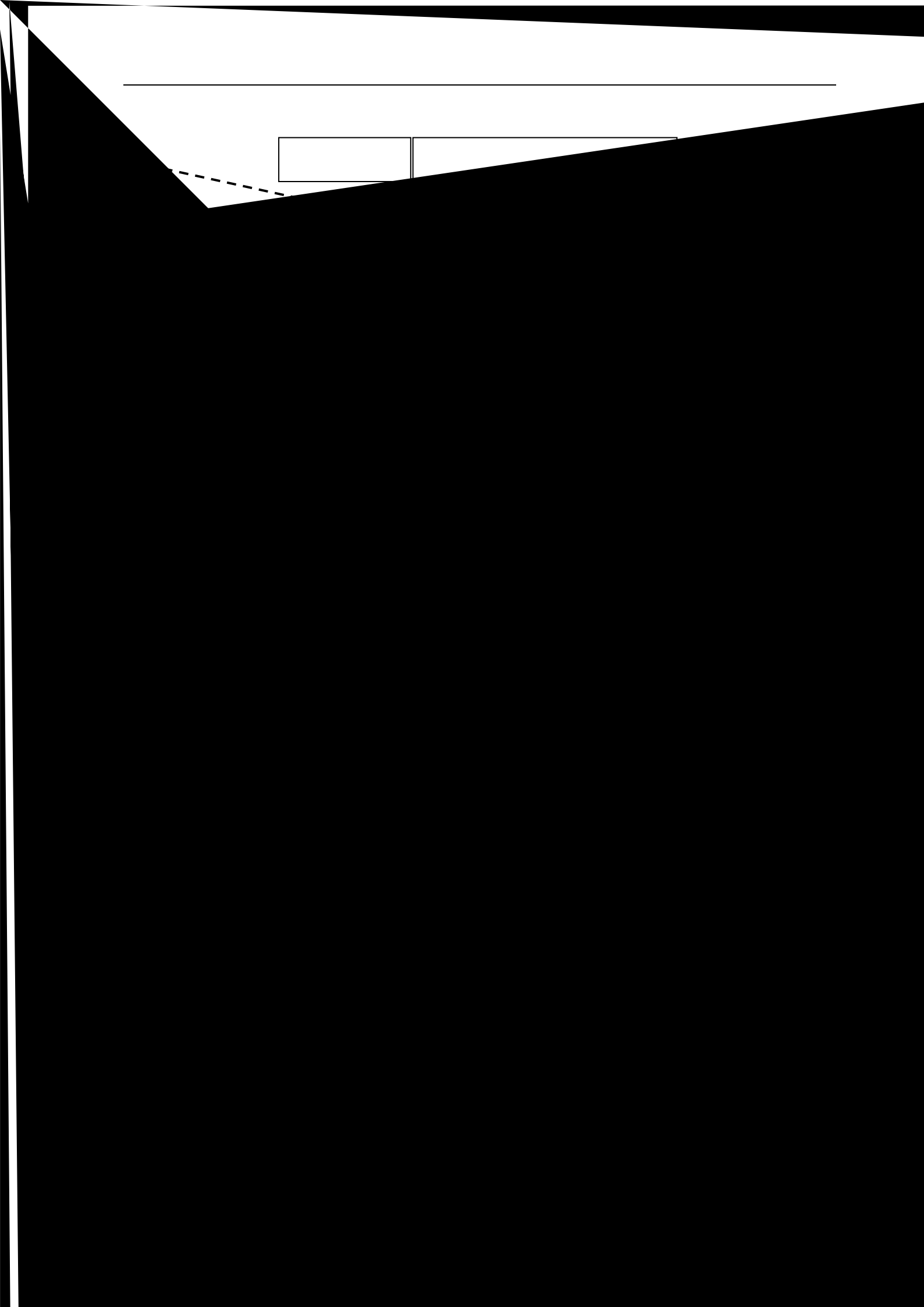
8

7

1.40m

2.3

2.2m



2-1			m		
	1F			8.5	12
	6F			8.5	24
	3F			8.5	20
				8.5	30
				8.5	19
				5.5	26
				11	36
				11	42
	H=10m		0.75	≥5m	32
	1F			17.5	61
	1F			17.5	62
	1F			7	18
	6F			7	33
	3F			7	28
				7	26
				7	15
				5	17
				8.5	27
				10.5	46
				5	32
	H=10m			12.5	62
	1F			12.5	62
	1F			12.5	62
	1F			7	15
	6F			7	25
	3F			7	19
				7	29
				7	20
				5	31
				8.5	41
				10.5	53
				5	37
	H=10m			12.5	70
	1F			12.5	67
	1F			12.5	67
	1F			7	18
	6F			7	28
	3F			7	16
				7	26
				7	18

	3F			8.5	17
				8.5	27
				8.5	17
				5.5	26
				11	36
				11	54
	H=10m		0.75	≥5m	39
	1F			17.5	72
	1F			17.5	69
M100	1F			7	30
	6F			7	44
	3F			7	41
				7	45
				7	29
				5	9
				8.5	19
				10.5	42
	H=10m			5	37
	1F			12.5	62
	1F			12.5	69
M100	1F			7	15
	6F			7	25
	3F			7	19
				7	29
				7	20
				5	31
				8.5	41
				10.5	53
	H=10m			5	37
	1F			12.5	70
	1F			12.5	67
2015 129 4.1 4.2 GB50156-2012 2014 GB50156-2012 2014 GB50156-2021					

2-2

m

"

2.4

2-3

2-3

WI0

1			242.05m ²			
2			404.7m ²			H=6m

2-4

Виды работ и их

2-4

1.		2	30m ³	-		SF
2.		2	30m ³	-		SF
3.	M100	1	30m ³	-		SF
4.		2	SK50QF424K			
5.		1	SK50QF424K			
6.	M100	1	CS30J220X			
7.		1	TLS-2			1
8.		1	UZK-SA-LD			
9.		1	-	-		
10.		1	XFY-VR-M2/ 8A	-	3KW 6m ³ /h	+
11.		19	-	-	10 6 4.5m 2 2.5m 1	3m
12.		6	GT-GEND20		1 M100	

15.					M100	1
					1	
16.		5	-	-	2	1
					1	M100
						1 1

2.5

8

1

2.6

M100

M100

/

M100

15min

M100

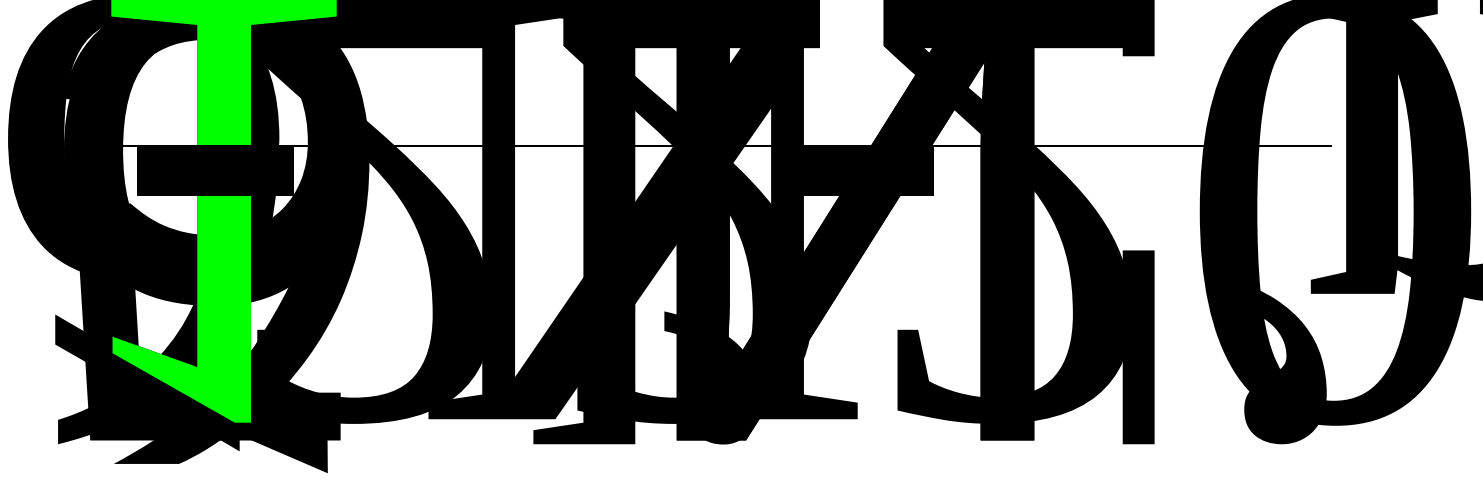
M100

/

M100

/

M100



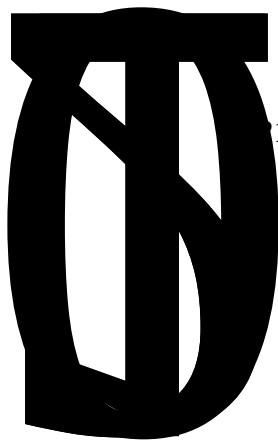
2-4

2-5

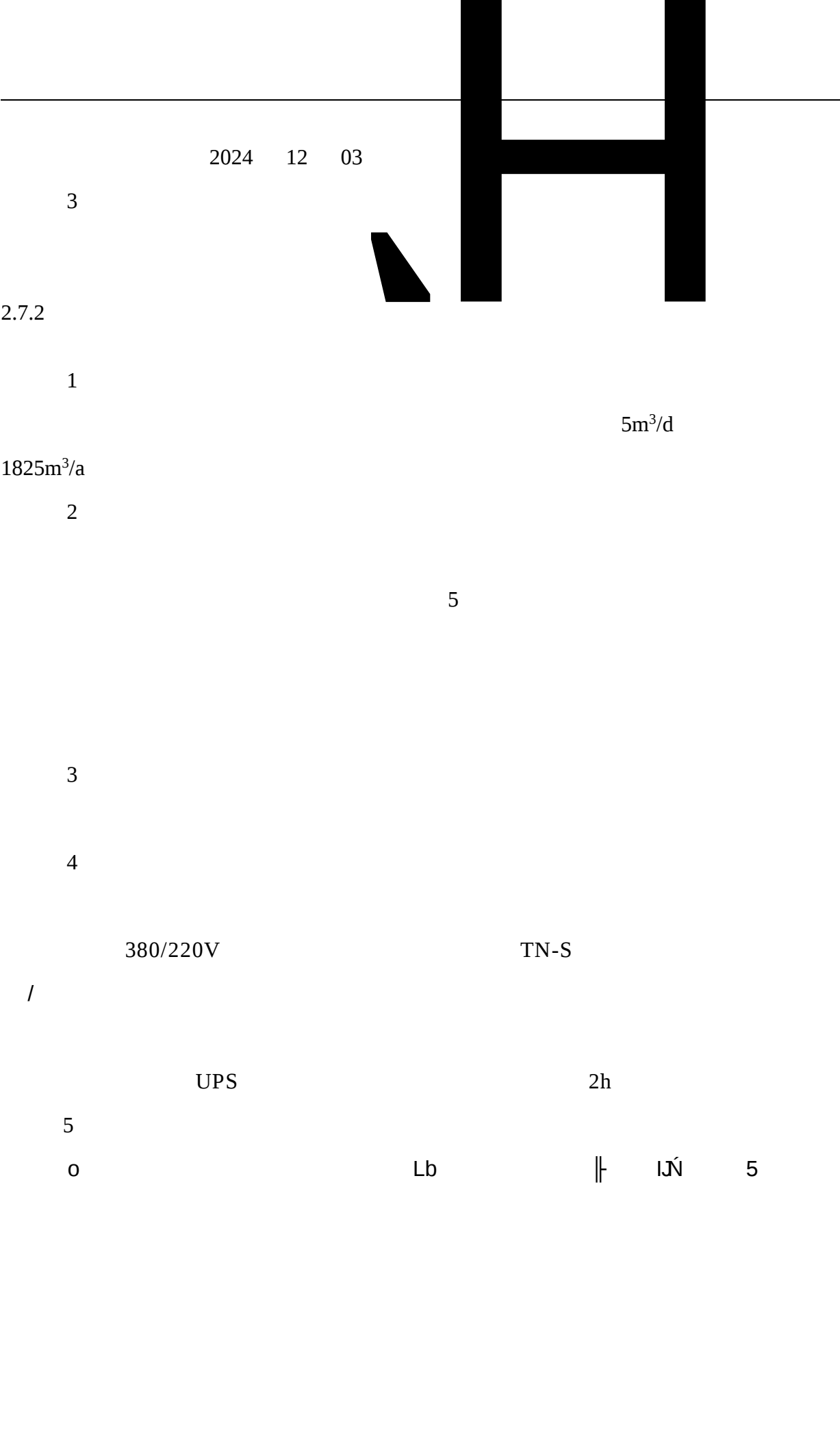
2.7

2.7.1

1



10104750750142N



6

8 / 5kg 2

5kg 8 2kg CO₂ 8 35kg

2 2m³

7

19 6

4.5m 2 2.5m 1

3m 10

M100

90%

6

1 M100 1 / 1 M100

2 1

/

M100

8

2-5

1		5kg	16		

2			8		
3		35kg	2		
4		-	8		
5			3		
6			3		
7		-	1		
8		-	50		
9		-	50		
10		-	2m ³		
11			3		
12		6001CN	3		
13			1		
14		-	1		

3.

M100

3.1

3.1.1

GB18218-2018

1

2

3.1.2

1

2

$$S=q_1/Q_1+q_2/Q_2+.....+q_n/Q_n\geq 1$$

S——

q₁ q₂...q_n——

t

Q₁ Q₂... Q_n——

t

3

3.1.3

3-1

3-1

1		200t
2		5000t
	M100	500t

60m³

0.75

45t

60m³

0.85

51t

M100

30m³

0.79

M100

23.7t

$$S=45/200+51/5000+23.7/500=0.2826<1$$

3.2

3.2.1

3-2

3-2

2*

1B

2

1

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1

1630

1203

86290-81
-5

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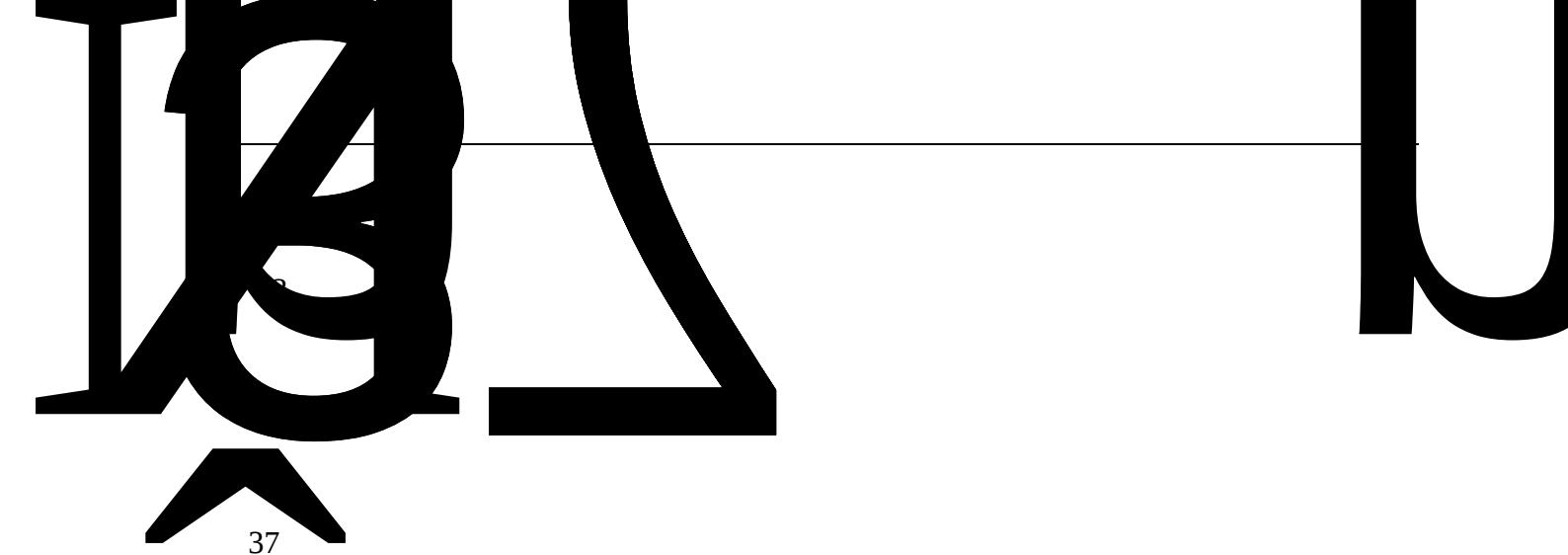
GB 7231

o

5

15min

	4	
PC-TWA	mg/m ³	25
PC-STEL	mg/m ³	50



37

2

3

GB 7231

1

50m

3.2.2

1

M100

2

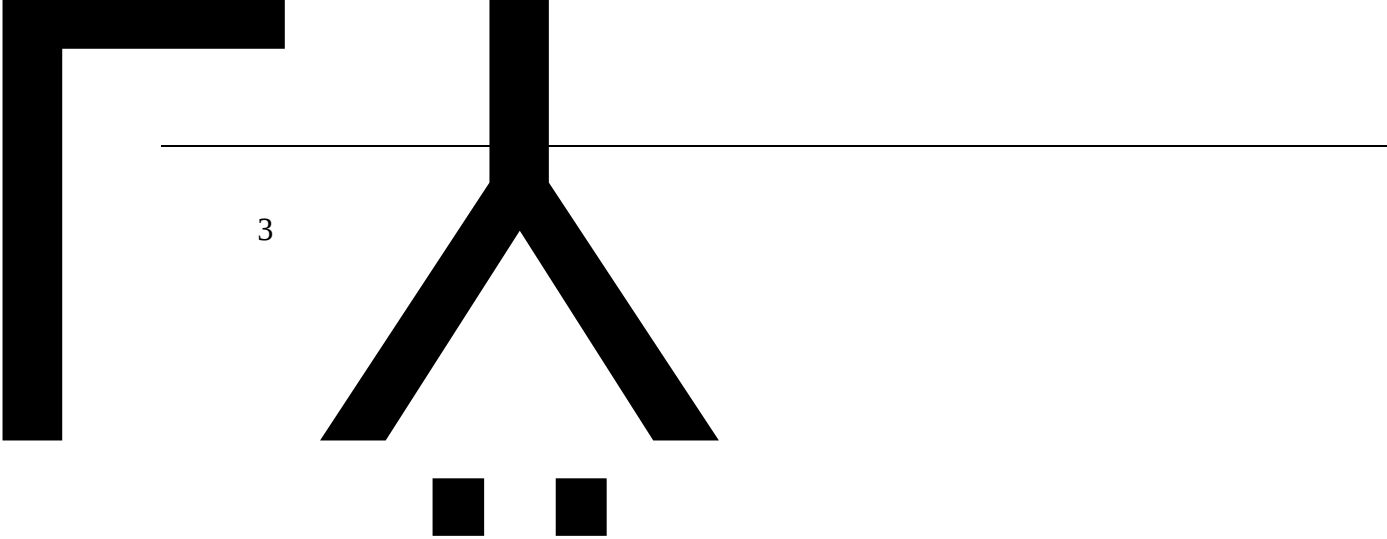
M100

3

M100

1

					/					



3

3.3.3

/

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3.3.4

Ã ÃM100 E-+X+bG.'ó É

3.3.5

3.3.6

Ä

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3.3.7

1

M100

/

2

4.

4.1

M100

8

1

2

3

4

5

6

7

8

4.2

5.

8

5-1~9

5-1

	1		
	2		
	3		
	4		
	5		

5-2

	1		
	2		
	3		
	4 M100		
	1		
	2		
	3		
	4		
	5		
	6		
	7		

8

9

M100

10

11

12

13

14

15

16

17

18

19

20

Maat

M 0

5-3

5

GB50156-2012

2014

14

2.2m

4.0.4

1.5

25m

GB50156-2021

5.0.12

2.3-2

4.0.4

15

GB50156 5.0.14

GB50156-2021

5.0.14

2.3-2

16 5.0.13-1

5.0.11

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GB50156-2021

A

5.0.15

17

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GB50156-2021

5.0.16

		7.1.2		
3		2015 129 7.1.3		
4		2015 129 7.1.4		
5		2015 129 7.1.5		
6		2015 129 7.1.6		
7	GB50156-2012 2014	2015 129 7.1.7	GB50156-2021	
8		GB50156-2021 6.1.1	M100	
9		GB50156-2021 6.1.2		
10	6.1.4 0.08MPa	GB50156-2021 6.1.4	SF	
11	-		SF	

	-		GB50156-2021	
	SH/T3178		6.1.5	
12				
		109Ω		
	109Ω			
			GB50156-2021	SF
			6.1.7	
	A=0.04Vt			
13				
		11.2	GB50156-2021	SF
			6.1.8	
14				SF
			GB50156-2021	
			6.1.9	
15				
		80mm		
	4mm			
			GB50156-2021	
			6.1.	

18			GB50156-2021	
			6.1.13	
19			GB50156-2021	
			6.1.14	
20	90%	95%	GB50156-2021	
			6.1.15	
21			GB50156-2021	
		0.8L/h	6.1.16	
22		SH/T 3022	GB50156-2021	SF
			6.1.17	
23			GB50156-2021	SF
			6.5.1	
24				
	GB 50108			
		200mm	GB50156-2021	SF
		500mm	6.5.2	
25				SF

	100mm 4mm 200mm 10mm 30mm		GB50156-2021 6.5.3		
	26		GB50156-2021 6.5.4		
	27 6.3 5mm 5%		GB50156-2021 6.5.5	M100	
	28 3.5mm		GB50156-2021 6.5.6	3.5mm	
/	1 GB50156-2012 2014 6.2		2015 129	GB50156-2021 6.2	

				7.2.1	
2				2015 129	
				7.2.2	
3					
				2015 129	
				7.2.3	
4					M100
	40	400			
				2015 129	
				7.2.4	
5					

M100

3

2015 129

7.3.3

M100

5

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$$\{ \varrho = A \div \mathbb{E} \mid \varrho \vdash \mathbb{E} \}$$

Q

X 001B50B00E 4150B 00 -0B 40€ 6-1 0V0 BK/ € „ € „D 1 3+0E

8

GB50156-2021

6.3.5

	200mm	150mm		
12		4m	M100	
		2m	GB50156-2021 6.3.9	4m
13		50mm	GB50156-2021 6.3.10	50mm
14				

			0.2m	
19		GB50156-2021 6.3.18		
20	6.3.12			
1. 2.	2.8m/s	GB50156-2021 6.3.19		
21	GB/T21447	GB50156-2021 6.3.20	GB/T21447	

5-5

1	2		M100	
2 4			2 5kg	
1 4	1 6	2015 129 8.1.1		
2	2			
2	1 35			
	65	2015 129 8.1.2	2 35kg	
3	5		8	
2			2m ³	

4

2

2 5kg

1 5kg

1 6L

2 2

1 35kg

15m
D

5

2m³

2

5-6

1	GB50156-2012 2014 11	2015 129 9.1	GB50156-2021 13	
2	90% 95%	2015 129 9.2		
3		GB50156-2021 13.1.1		
4	380/220V	GB50156-2021 13.1.2	380/220V	
5	90min	GB50156-2021 13.1.3	2h	
6	5m 4.5m 3m 4.5m	GB50156-2021 13.1.4		
7		GB50156-2021 13.1.5		

8			/
		GB50156-2021 13.1.6	
9	m "		/
	GB 50058	GB50156-2021 13.1.7	
10	IP44	GB50156-2021 13.1.8	IP44

M'

6

GB50156-2021

13.2.8

7 380/220V

TN-S

380V 0

520120-

1

5.0.1

2

5.0.5

3

5.0.8

1

25%

GB50156-2021

13.4.2

2

$f_j^{2\sim 0}$

	3	GB50156-2021 13.5.4
--	---	------------------------

1

GB50156-2021

14.3.1

5-9				
	5	5	0	0
	37	37	0	0
	29	28	0	1
	58	52	0	6
	16	16	0	0
	34	33	0	1
	18	11	0	7
	20	11	0	9
	217	193	0	24

6.

M100

/

5

6 “ ” “ ” /

7 M100
0
M00 /
M00

8

9

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11 , m " 2018 74

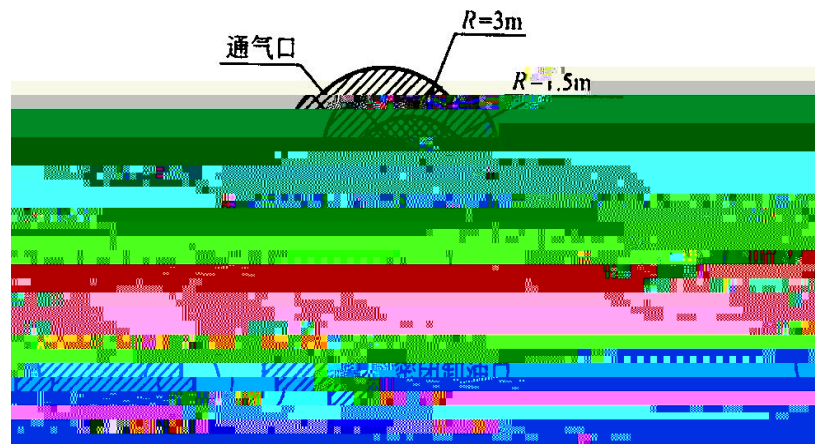
M00

M00

3
1.5m

3m

2



2

5.

3

1

0

2

1.5m 0.75m

0.5m

1

3

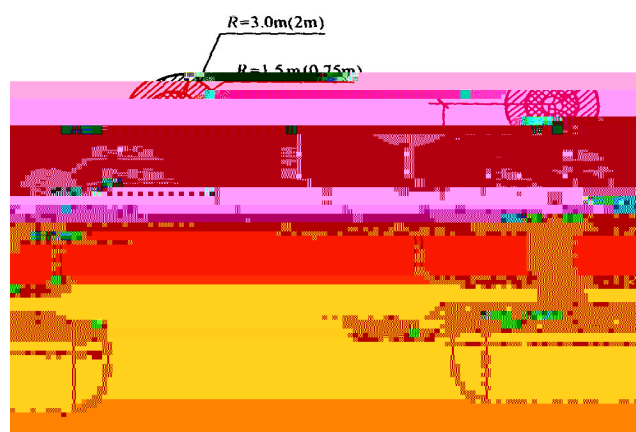
1.5m

1m

3m 2m

1.5m

2



3

SF