c

1.1 1
1.2 1
1.3 5
1.4 5

2.1 7
2.2 7
2.3 7
2.4 9
2.5 9
2.6 10
2.7 11

3.1 14
3.2 15
3.3 19

4.1 25
4.2 25

1.

1.1

1.2

1.2.1.

1 2021 9 1

2 2021 4 29

3 591 2013 12 7

645

4 708 2019 4 1

5 2025

14 34 2025 5 28

6 103

2022 11 9

7 3 2015

5 29 80 2015 7 1

8

[redacted]

[redacted]

[redacted]

36 <

> 2017 5 2017 9 13

37

2016 11 2016 7 6

38

2018 21

2018 8 31

1.2.2.

1 GB 50156-2021

2 GB 6944-2025

3 GB 12268-2025

4 GB 18218-2018

5 GB 17914-2013

6 GB 55036-2022)

7 GB 50058-2014

8 AQ 3009-2007

9 GB/T 6441-1986

10 GB/T 13861-2022

11 GB 50016-2014 2018

12 GB 50140-2005

13 GB 55037-2022

14 GB 50057-2010

15 GB 12158-2024

16 GB/T 50610-2010

17 GB 20952-2020

18 GB 50395-2007

19 GB/T 29639-2020

20 (

21 (3-2023)

22 J/T 9007-2019

23 022)

24 AQ 3018-2008

25 GB 30871-2022

26 XF/T 3004-2020

27 - SH/T 3178-2015

28 GB/T 13869-2017

29 AQ 8001-2007

1.2.3.

1 2005 4

2 2002 11

3 2003 7

1.3

1

2

54%

3

101.6Kpa

4

658mm

5

4.6m/s

25.7m/s

6

23.4d

7

15.0cm

1.17m

8

7

0.10g

2.3

2.2m

6.5m

1

4

10m 0.2m 1.2m

0.6m 6m

0.6m 6m

18m 4 50mm

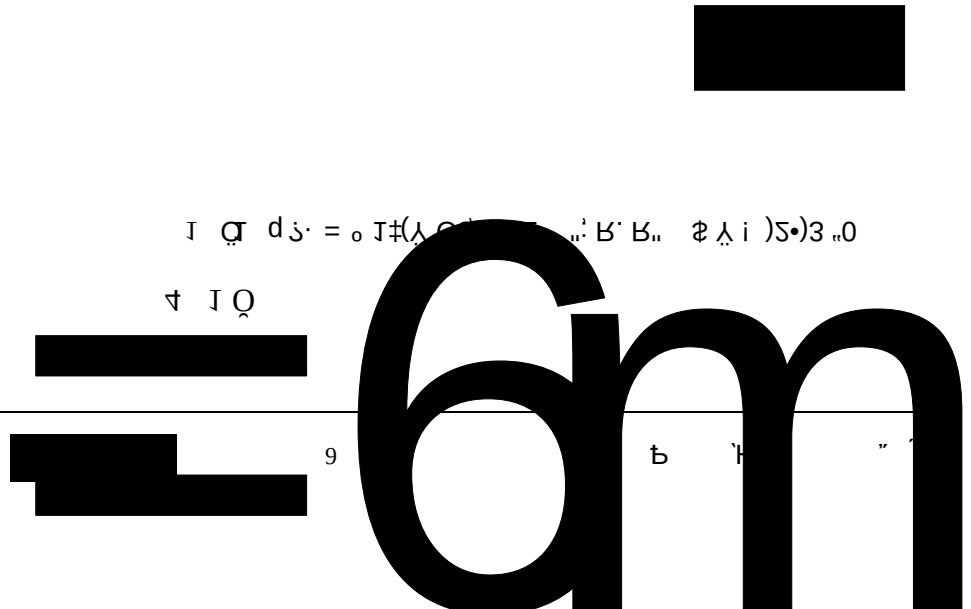
4m

2.4

2.4-1

2.4-1

1	105m^2	
2	198m^2	H=6m
3	20m^2	



2.6

1

5min

2

3

1

2

1.0 1.2

2.6-1 2.6-2 2.6-3 2.6-4

2.6-1

2.6-2

2.6-3

2.6-4

2.7.1

1

P

2023 02 11 2026 02 10

3

LNFYJC/B/TY2025003421

2025 09 19

3

2.7.2

1

2

5

3

4

380/220V TN-S

UPS

5

3.

3.1

3.1.1

GB18218-2018

1

2

Q_1 $Q_{2...}Q_n$—— t

3

3.1.3

3.1-1

3.1-1

1		200t
2		5000t

$60m^3$ 0.75

45t $30m^3$ 0.89 26.7t

S=45/200+26.7/5000=0.23034<1

3.2

3.2.1

2* 1B 2

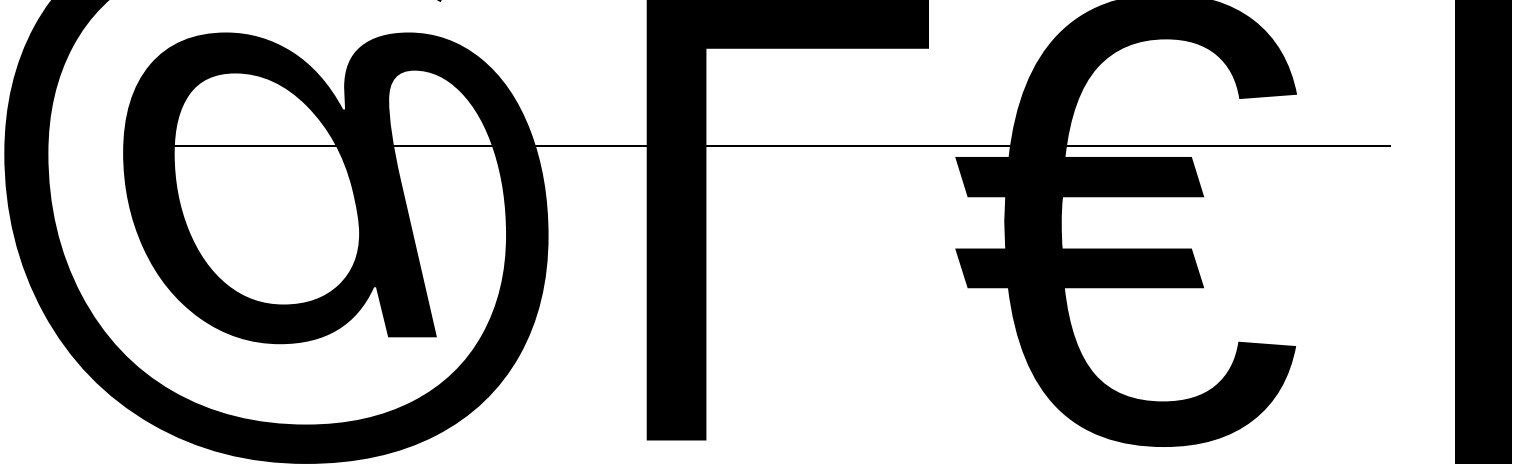
1 - 2 - 2

1630

92 95 98 3

=1 0.72 0.775 =1 3 4 -46 1.4% 7.6%

415 530 0.813MPa



PC-TWA

2

3

1000m^3

15min

50m

300m

1674

-18 =1 0.87 0.9

282-338

0.6%~7.2%

5 0 -10 60 -20

50 -35 -50 45

1			
2			
3			
4			
5			
6			
7			

3.3.1

1

70m

6 46

2

1987 2 4

1986 5 2

3.3.5

3.3.6

4.

.1

5.

8

5-1~9

5-1

	1		
	2		
	3		
	4		
	5		

5-2

	1		
	2		
	3		
	1		
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		

4

2

GB50156-2021

GB 50966 3.0.5

3 GB

50156 3.0.15 GB50156-2021 30m^3

3.0.9

4

GB50156-2021

3.0.25

12

5

GB50156-2021

3.0.27

1

GB50156-2021

4.0.1

2

GB50156-2021

4.0.2

3

GB 50156 4.0.4 GB50156-2021

4.0.4 2.3-1

4

GB50156-2021

4.0.12

5

GB50156-2021

4.0.13

1

GB50156-2021

5.0.1

2

4m

6m

8%

11

2.2m

4.0.4 1.5 25m

GB50156-2021
5.0.12
2.3-1

4.0.4

12
GB50156 5.0.13 GB50156-2021 2.3-2
5.0.13

13 5.0.13-1
5.0.11
GB50156-2021
A 5.0.15

14
C GB50156-2021
5.0.16

		GB50156-2021 6.1.2		
	3	GB 50156-2021 6.1.3	SF	
	4 6.1.4 0.08MPa	GB50156-2021 6.1.4	SF	
	5 - - SH/T3178	GB50156-2021 6.1.5	SF	
	6 GB/T 51344	GB 50156-2021 6.1.6	SF	
	7 $10^9\Omega$ $10^9\Omega$ A=0.04Vt	GB50156-2021 6.1.7	SF	
	8 11.2	GB50156-2021 6.1.8	SF	
	9	GB50156-2021 6.1.9	SF	
	10 80mm 4mm	GB50156-2021 6.1.10	SF	

11

		GB50156-2021 6.2.2		
	3	GB50156-2021 6.2.3		
	4	GB50156-2021 6.2.4		
	5	GB50156-2021 6.2.5		
	6 “ ”	GB 50156-2021 6.6.1		
	7	GB 50156-2021 6.6.2		
	8 6.2 1 2 3 4 5	GB 50156-2021 6.6.4		
	9	GB 50156-2021 6.6.5		
	10 1 2 3 4 5	GB 50156-2021 6.6.6		

1

GB50156-2021

6.3.1

2

GB50156-2021

6.3.2

25mm

25mm

8

50mm

100mm 45°

T

GB50156-2021

150mm 6.3.8

200mm

GB 50156-2021

6.3.12 GB/T8163

GB/T8163 4mm

4mm

4mm

108Ω·m

1010Ω

13

GB50156-2021

6.3.1

10mm

30mm

	1 35kg 15m 5 $2m^3$ 2 $2m^3$		2 $2m^3$ 6	
	2 GB50140	GB50156-2021 12.1.2	8kg 4 5kg CO_2 5 GB50140	
	1 0.25m 0.25m	GB50156-2021 12.3.2		
	2	GB50156-2021 12.3.3		
	1 GB/T2893.5 GB2894 GB13495.1 GB15630	AQ3010-2022 4.4		
	2 GB/T 50493	AQ3010-2022 4.5		

3

13.1.4 m "

4.5m

5m

4.5m

3m

	0.5mm 0.65mm 0.7mm			
	5	GB50156-2021 13.2.7		
	6	GB50156-2021 13.2.8		
	7 380/220V TN-S 380V TN-C-S	GB50156-2021 13.2.9		
	8 30Ω	GB50156-2021 13.2.10		
	9	GB50156-2021 13.2.11		
	10 5	GB50156-2021 13.2.12		
	11	GB50156-2021 13.2.13		
	12	GB50156-2021 13.2.14		

13

100 ɣ GB50156-2021
13.2.15

14

1 GB50156-2021 1
13.2.16

1

GB50395-2007
5.0.1

2

GB50395-2007
5.0.5

3

5-7

1

140kw

GB50156-2021

2m 14.1.3

2

12

5

GB50156-2021

14.1.4

300cm^2/m^2 2

3

GB50156-2021

14.1.5

1

GB50156-2021

14.2.1

2

0

GB50009

GB/T 50011

3

0.15 0.2m

1.2m

1.2m

0.2m

0.6m

GB50156-2021

14.2.3 0.6m

100mm

0.5m

4

GB 50016 GB50156-2021

14.2.4

5

GB50156-2021

14.2.7

6

GB50156-2021

14.2.9

7

300m^2

GB50156-2021

14.2.13

11

5.0.13

25m

6 “ ” “

”

7

8

9

10

11

2018 74

12

7.

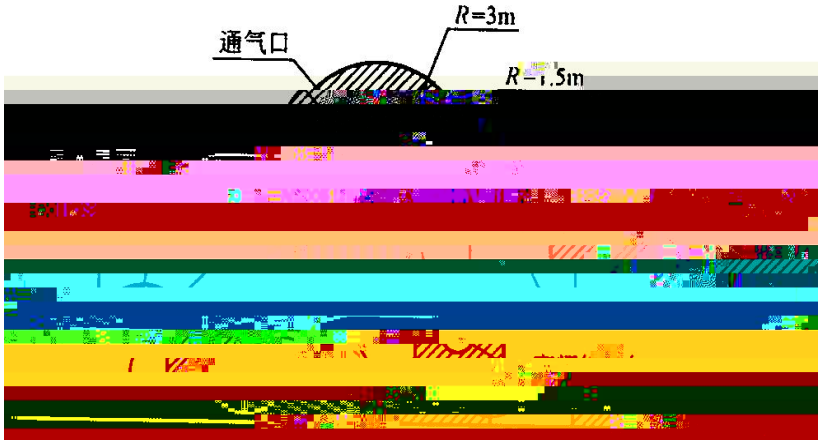
GB50156-2021

1 0

2 2 1

3 3m

1.5m 2



2

5. 3

1 0

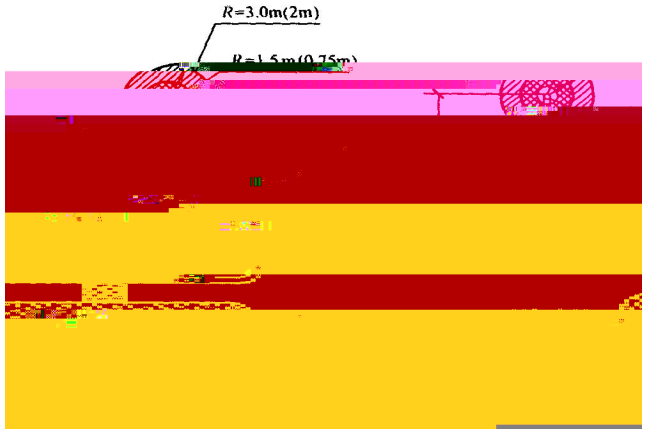
2 1.5m 0.75m

0.5m 1

3 1.5m 1m

3m 2m 1.5m

2



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