	99				
	66555960		66555566		300462
	99				
	—			—	
				C3660	
	500		( )	—	
	50		5		10%
				2017 11	

1.1

1.1.1

99 285166m^2

50

2 2 30 /

2017 11

1.1.2

1.1.2.1

99

1 2

1-2

		*		
1		64	/	
2		62	/	
3		60	/	
4		50	/	
5		150	/	
6		40	/	
7		40	/	
8	30	30	/	
9	36	36	/	
10		30	/	

1.1.5

1-3

		*					
1		15%LPET 25%PP 60%PET			100 /	30	--

LPET PP PET

1-4

1		LPET				130	377.9
2		PP		0.9		170	328-410
3		PET		1.68		250	353

10kV

1.1.6.3

1.2

1.2.1

1-6

				*
40	2010 038 40	24 24 40		
	2010 098	2 50		
40	2010 146 40	2 40		
	2015 45	150		
	2015 46	2 60		
	2015 47	30 36		
	2015 49			

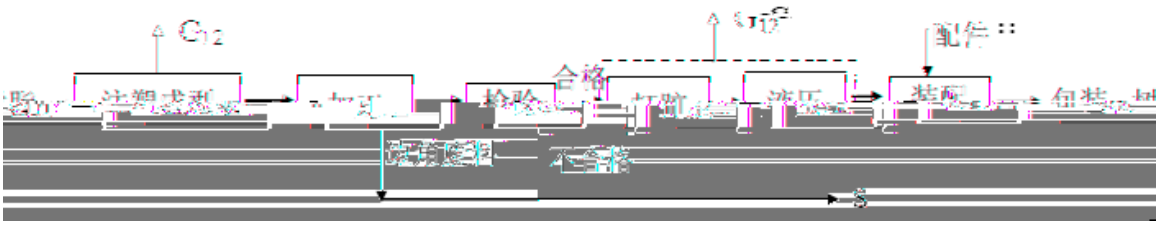
		64 / 62 /		

1.2.2

6

1.2.2.1

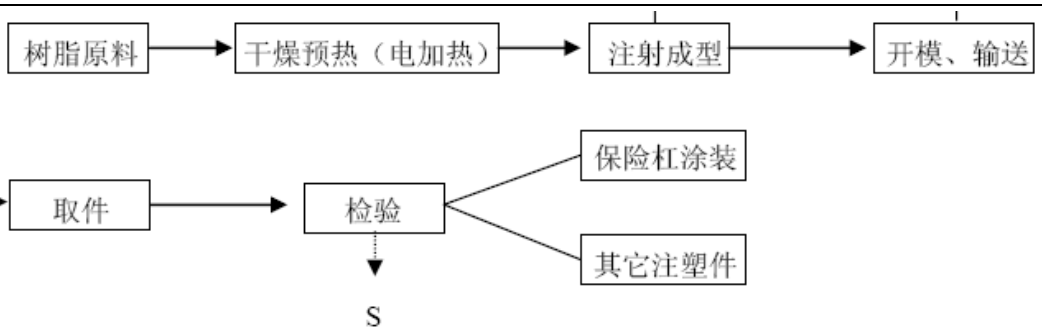
1



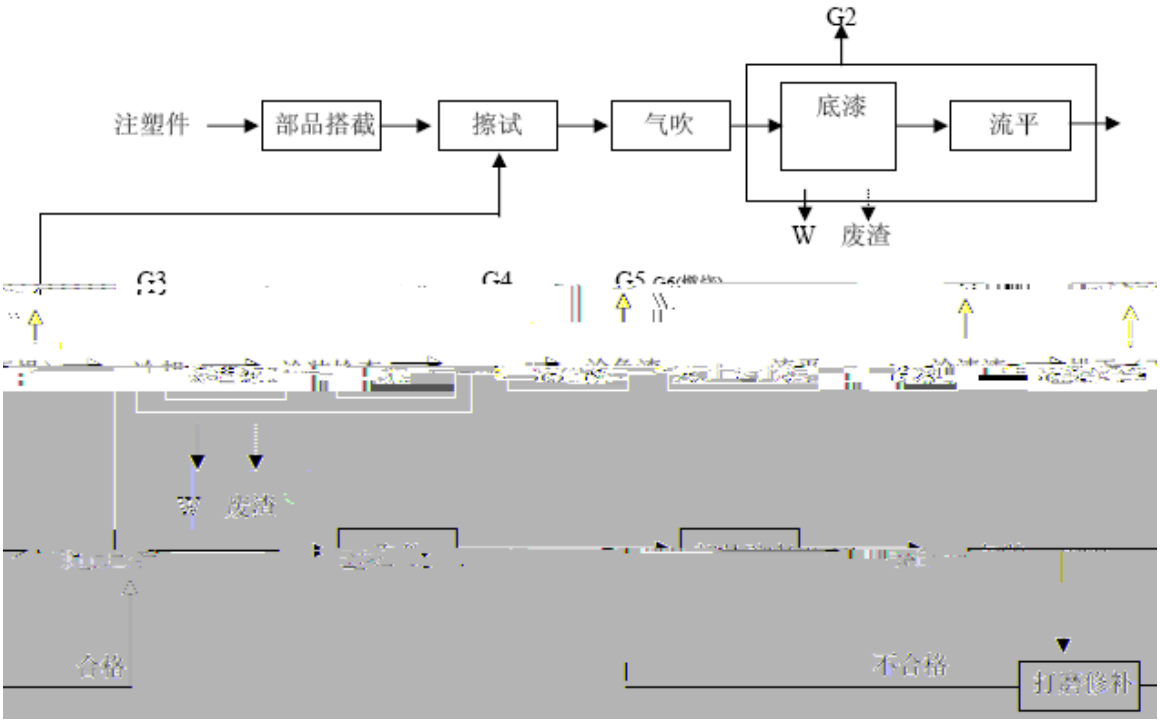
1-1

G

2


树脂原料
干燥预热（电加热）
注射成型
开模、输送
取件
检验
保险杠涂装
其它注塑件
S

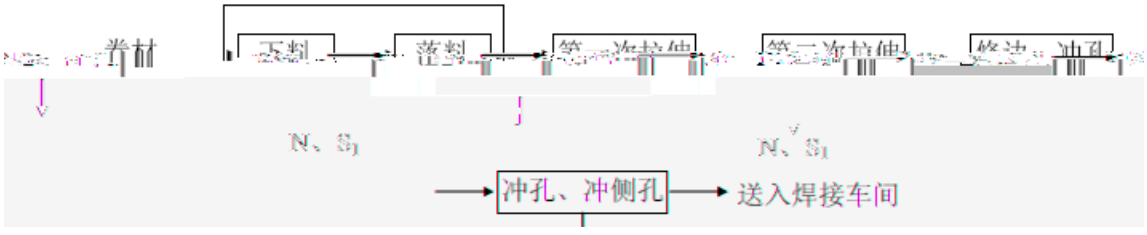
1-2


G2
注塑件
部品搭截
擦试
气吹
底漆
流平
W
废渣
G3
G4
G5
废渣
合格
不合格
打磨修补

1-3

G W S

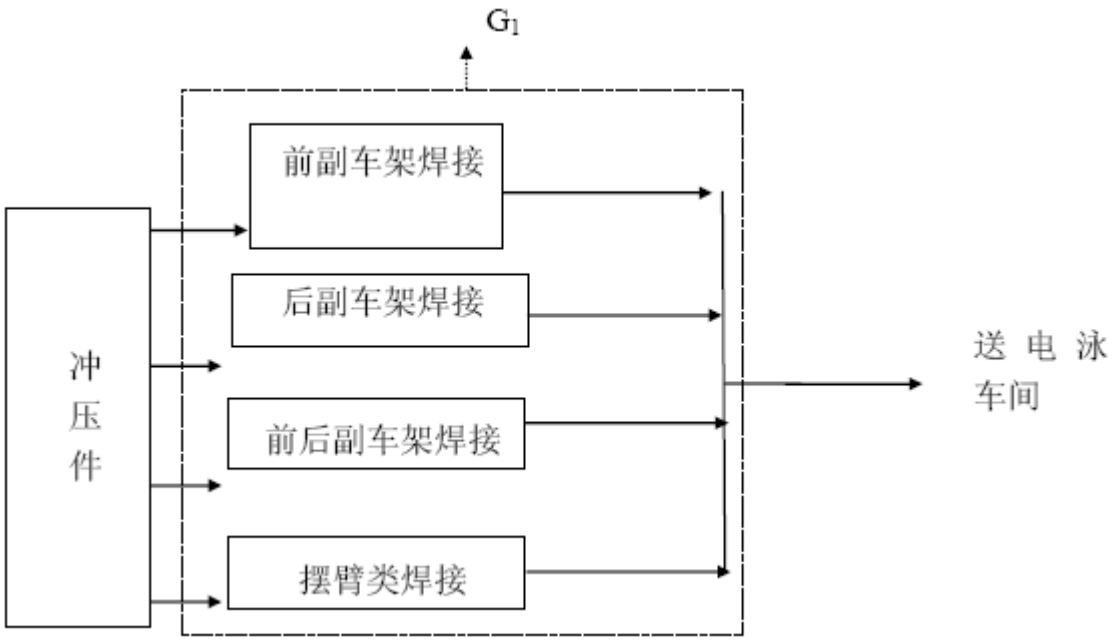
1


卷材
下料
落料
第一次拉伸
第二次拉伸
修边、冲孔
N、S1
N、S1
冲孔、冲侧孔
送入焊接车间

1-4

S

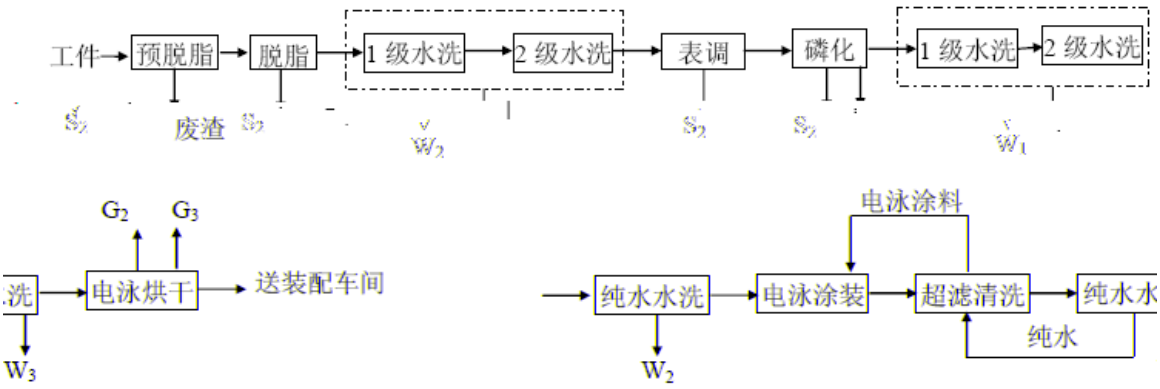
2



1-5

G

3



1-6

G W S

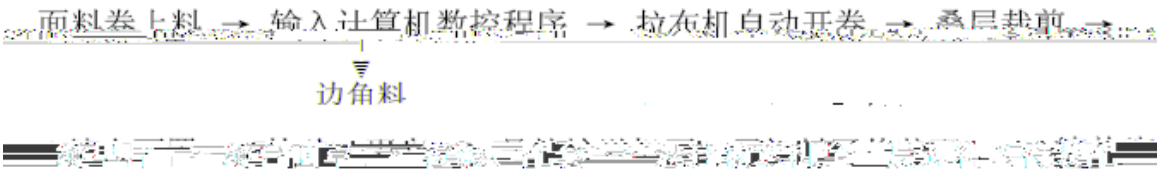
4

丝。 钻铰孔→铣下球销面、钻铰孔→铣节臂面，钻铰孔→铣 ABS 面，钻孔攻

1-7

S

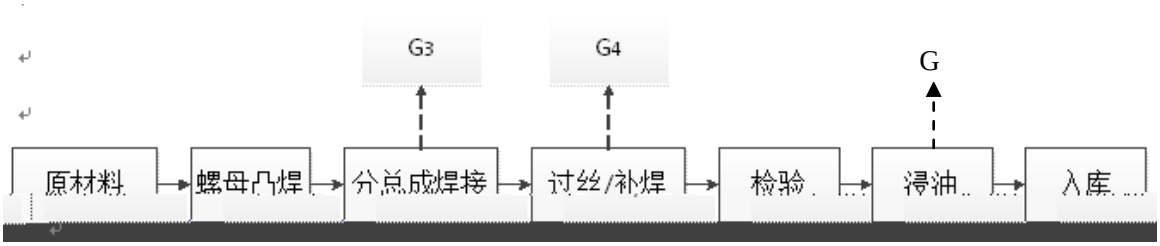
5



1-10

S

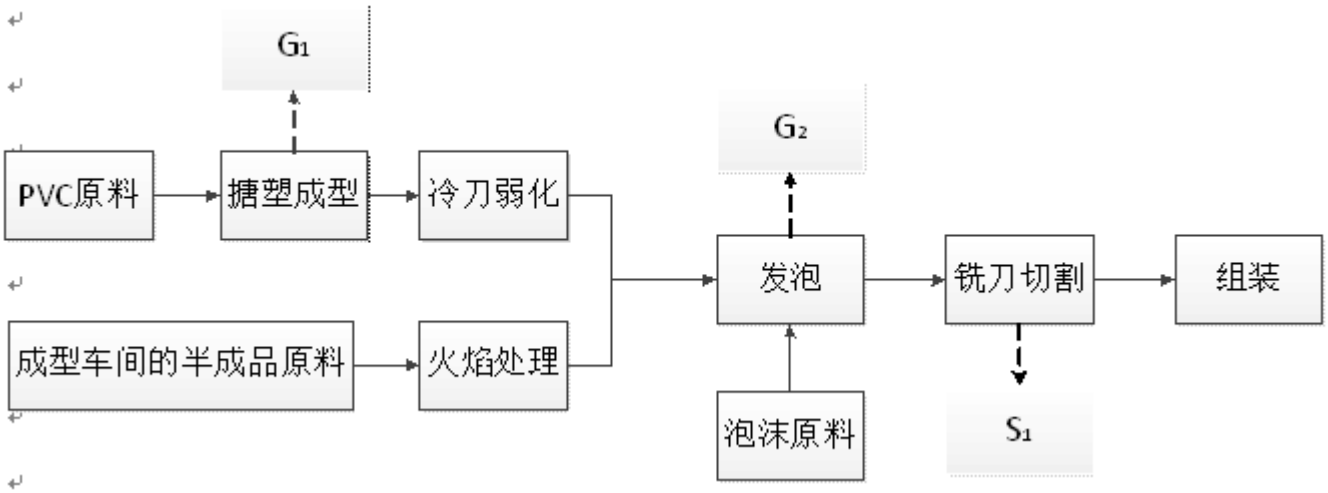
3



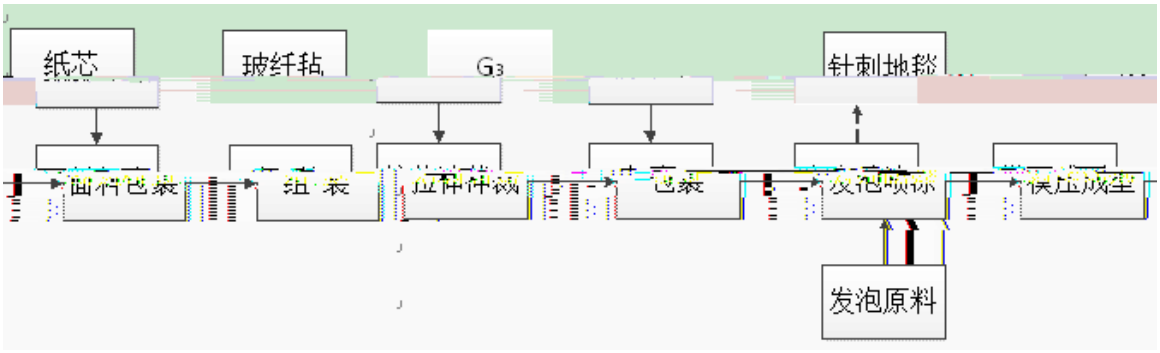
1-11

G S

4



1-12



1-13

G S

1.2.2.2

1-7

		*	
1		64	/
2		62	/
3		60	/
4		50	/
5		150	/
6		40	/
7		40	/
8	30	30	/
9	36	36	/

1.2.3

1

1-7

				m	
		VOCs	P1-1	55	+
		VOCs	P1-2	55	+
		VOCs	P1-3	55	+

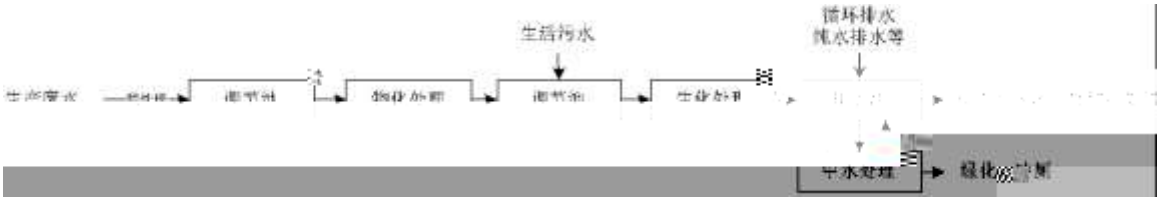
		VOCs SO_2 NO_X	P2		
		VOCs	P3		

			P1-1	18	
			P1-2	18	
			P1-3	18	
			P1-4	18	
			P1-5	18	
			P1-6	18	
			P2-1	18	
			P2-2	18	
			P2-3	18	
			P2-4	18	
			P2-5	18	
			P2-6	18	
			P3	18	

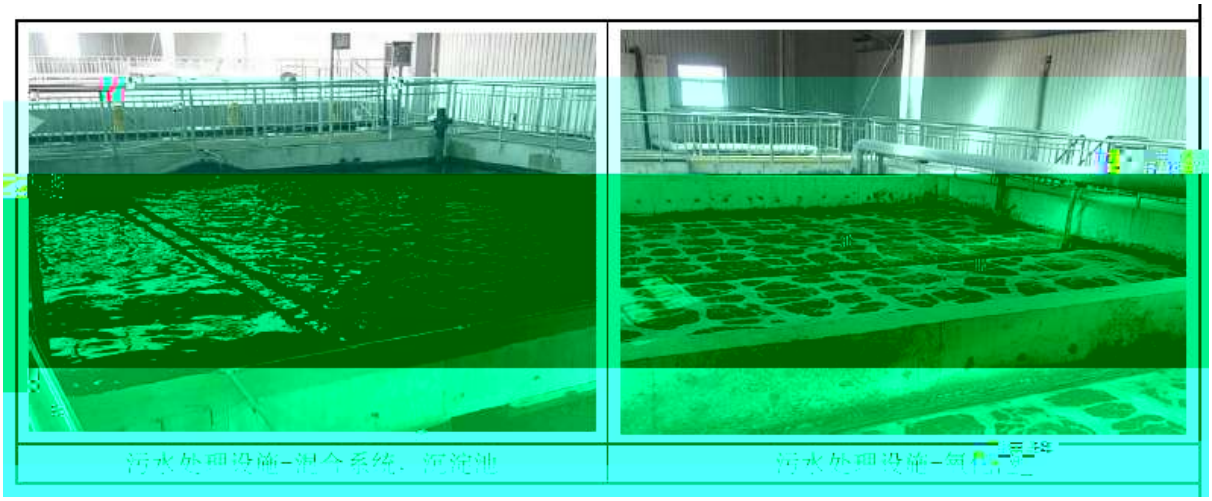
*

2

+ + $50m^3/h$



1-14



1-15

3

70~85dB A

4

1.2.4

1

2016 8 2017 4

85%

1-7

				*		*	
				mg/m ³	kg/h	mg/m ³	kg/h
1		P1-1		8.06	8.04×10^{-1}	40	59
				9.97	1.68	70	20
			VOCs	118	10.3	60	39
		P1-2		0.57	2.50×10^{-2}	40	59
				0.35	9.75×10^{-3}	70	20
			VOCs	10.0	2.79×10^{-1}	60	39

	40	P1-3		0.17	6.44×10^{-3}	40	59
				1.52	5.76×10^{-2}	70	20
			VOCs	26.9	9.84×10^{-1}	60	39
		P2		0.24	1.46×10^{-3}	40	4.4
				0.39	6.53×10^{-3}	70	1.4
			VOCs	20.7	1.21×10^{-1}	50	2.6
		P3		0.68	8.06×10^{-3}	40	4.4
				1.44	1.66×10^{-2}	70	1.4
			VOCs	13.6	1.56×10^{-1}	60	2.6
		P4		25.7	5.65×10^{-1}	40	59

ȯ

		P1					
		P2	VOCs	0.851	8.92×10^{-3}	80	2.0
		P3		5.8	--	10	--
				3L	--	25	--
				112	--	150	--
		P4		7.0	--	10	--
				3L	--	25	--
				120	--	150	--
		P5		6.7	--	10	--
				3L	--	25	--
				134	--	150	--
		P6		7.0	--	10	--
				3	--	25	--
				115	--	150	--
		Pu P7	VOCs	0.953	5.31×10^{-4}	80	2.0
			VOCs	0.851	--	2.0	--
7		P9	VOCs	9.72	1.36×10^{-1}	80	3.1
				550	--	1000	--

1 VOCs DB12/524-2014 2 “ ” “ ” VOCs DB12/524-2014 2 “ ” “ ” VOCs DB12/524-2014 2 “ ” VOCs DB12/524-2014 2 “ ” “ ”

2

3

4 50%

5

6

P

1 Q=Q1+Q2

Q

Q1 Q2 1 2

2

$$h=\sqrt{\frac{1}{2}(h_1^2+h_2^2)}$$

h

h1 h2 1 2

1 P_{1-1} P_{1-2}

P_{1-3} P 1

2 P4 P5

P6 P8

P 2

3 P2 P3

P 3

4 P_{1-2} P_{1-3} P_{1-5}

P_{1-6} P 4

5 1 2 P 5

6 P_{2-1} P_{2-2} P

6

7 P_{2-3} P_{2-4} P_{2-5}

P_{2-6} P 7

1-8

			kg/h	**kg/h**
P 1	55m		14.73	196
			0.83	59

			1.74	20
		VOCs	11.56	39
P 2	55m		9.26	196
			0.81	59
			1.45	20
		VOCs	25.66	39
P 3	16m		2.56	5.7
P 4	15m		0.39	3.5
P 5	15m		0.13	1.8
P 6	15m		0.007	3.5
P 7	15m		0.042	3.5

VOCs DB12/254-2014

“ +RTO ”

2017 12

2

2017 2 14 3 3

1-9

	pH	7.45mg/L	6~9 mg/L	
		22.5 mg/L	35 mg/L	
		0.16mg/L	3.0 mg/L	
		0.14 mg/L	100mg/L	
		0.04L mg/L	20 mg/L	
		26 mg/L	400 mg/L	
		8.7 mg/L	300 mg/L	

DB12/356-2008

3

1-10 dB(A)

1	1		54	51	65	55
2	1		55	50	65	55
3	1		60	51	65	55

GB12348-2008 3

4

		31.1	8.42
		71.3	17.46
		332	22.70
	VOCs	--	170.70
	CODcr	98.5	4.46
		6.8	2.48
		3.9	0.005

VOCs

SO_2 NOx

1.2.7

1

2

3

1.2.8

“ ”

DB12/356-2008

GB12348-2008

Ϗ ə ˛ Ì ˛

2.1

2.1.1

39 °24 ~38 °34 118 °03 ~117 °19

2270 153

TEDA

48km^2 28km TEDA

18km 15km 12km 12km

8km 4km 3km

2.1.2

1~3

1/10000

2m 1m 1/6000 1/10000

4m 2m

-0.5m

2.1.3

3.4m/s

11.7 30.7 40.3 -20.3 0

4644 15 4139 206

584.8mm 76% 240.3mm

1469.1mm 2.4 5 184.6mm 12 28.5mm

1.9 2898.8 64.7%

128.8kcal/cm^2

2.1.4

1.3

1.5mm C1-Na

C1.SO4-Na

85m HCO3-Na 1.5g/1

2.1.5

4%-7% PH 8

0.1% 195890 86.3%

1%

5~6% pH 8.21~9.25

2.1.6

2004 11

GB3095-2012

< >

[2010]398 3

GB3096-2008 3

2.2

2.2.1

1984 12 6

2014 “ ”

2015 “ ”

416

2.2.2

“ ”

“ ” “ ”

“ ”

“ 2025 ” “ + ” “

”

“ ”

“ 5+1+N ”

160 70 30

80

2014 1437.39

19.6%

2020

3000 2006 22

2.2.3

“ ” “

”

“

”

3.1

3.1.1

2016

3-1 mg/m^3

SO_2	2016	0.020	0.06
NO_2		0.047	0.04
PM_{10}		0.101	0.07
$PM_{2.5}$		0.066	0.035

k æ ˈl

99

2500m

3

3-3

			m		
1			720		17000
2			950		23000
3			1900		8000

1.

GB3095-2012

		mg/m^3			
1	PM_{10}	--	0.15	0.07	
2	$PM_{2.5}$	--	0.075	0.035	
3	SO_2	0.5	0.15	0.06	GB3095-2012
4	NO_2	0.2	0.08	0.04	

2.

P224 “ 2mg/m^3 ” VOCs

		mg/m^3			
1		2.0	--	--	P224

3. 3

GB3096-2008 3

dB	dB	
65	55	GB3096-2008 3

1

“ ”

VOCs

VOCs

VOCs VOCs 0.5kg/

30 / 0.5×30×40%=0.006t/a

4-1 t/a

VOCs	0.006	0	0.006

2

SO_2 NO_X

CODcr

4-2 t/a

			*				
		0.3	--	0	0	--	0
		1.3	0.07	0	0	0.07	0
	SO_2	2.7	0.11	0	0	0.11	0
	NOx	7.8	2.14	0	0	2.14	0
		31.1	8.42	0	0	8.42	0
		71.3	17.46	0	0	17.46	0
		332	22.70	0	0	22.70	0
	VOCs	--	170.70	0.006	0	170.706	+0.006
	COD	98.5	4.46	0	0	4.46	0
		6.8	2.48	0	0	2.48	0
		3.9	0.005	0	0	0.005	0

VOCs

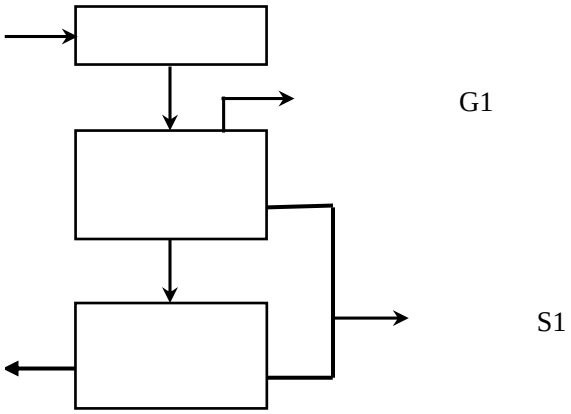
5.1

5.1.1

5.1.2

5.1.2.1

200 50



5-1

5.2

5.2.1

5.2.2

1

G_1

G_1

VOCs

20m P $_1$ 17580Nm^3/h

>99%

ž

60%~90% 60%

VOCs 1×10^{-3}kg/h 0.029mg/m^3

>99%

2

3

L_1 75dB(A)

4

S_1 10t/a

S_2

0.1t/a HW49 900-041-49 “

”

2016

S_3

2016

“ HW49 ”

900-041-49“ ”

1 100kg VOCs

15kg/a 60%

0.2kgVOCs/kg 2

0.1t/2a 2 /

5-1

S2		HW49	900-041-49	0.1t/a					1	T/In	
S3		HW49	900-041-49	0.1t/2a					2	T/In	

T In

	G_1	VOCs	0.072mg/m^3 2.5×10^{-3}kg/h	0.029mg/m^3 1×10^{-3}kg/h
		--	--	--
	S_1		10t/a	0t/a
	S_2		0.1t/a	0t/a
	S_3		0.1t/2a	0t/a
	L_1		75	60
	--			

7.1

7.2

7.2.1

VOCs

20m P 1 P 1

P9 15m

7.2.1.1

7-1

	P 1						
	m	m	Nm^3/h		mg/m^3	kg/h	
G_1	20	0.5×0.5	35160	VOCs	0.029	1×10^{-3}	

7.2.1.2

7-2

	m

7.2.1.5

>99%

7.2.2

7.2.3

15 dB A

7-5

			dB(A)	

$$L_p = 10 \times \lg\left[\sum_{i=1}^{n} 10^{\frac{L_{PI}}{10}}\right]$$

L_p dB(A)

L_{pi} i dB(A)

n

7-7

	dB(A)	dB(A)		dB(A)		dB(A)		
	17.7	55	51	55.2	51.1	65	55	
	21.9	54	51	54.1	51.2	65	55	
	22.5	55	50	52.1	50.1	65	55	
	24.4	60	51	60.1	51.2	65	55	

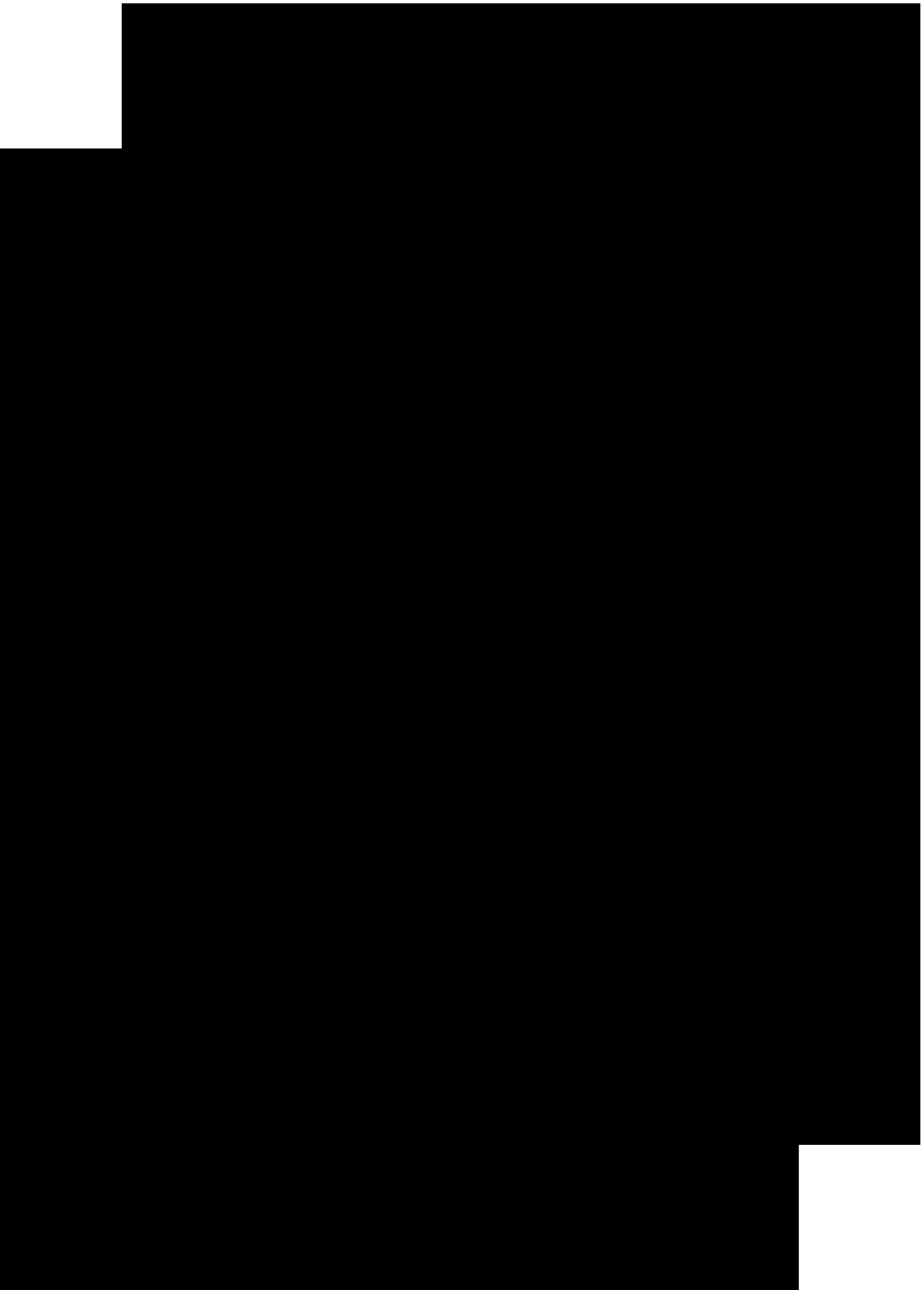
50.1~60.1dB(A) GB12348-2008 3

7.2.4

7.2.4.1

7-8 *ïTMkGß7D¿Gwhß0*ïTMkGßrtHDwr#ßBwP0ßß&Æ

S1		10t/a			--	
S2		0.1t/a		HW49	900-041-49	
S3		0.1t/2a		HW49	900-041-49	



49 HW15 48

HW49

3

2

4

HW49 900-041-49

0.1t/2a

7.2.5

7.2.5.1

“ ”

VOCs

VOCs

VOCs VOCs 0.5kg/ 30 /

60% 0.5×30×40%=0.006t/a

7-10 t/a

VOCs	0.006	0	0.006

7.2.5.2

SO_2 NO_X

CODcr

7-11 t/a

			*			
		0.3	--	0	0	--	0
		1.3	0.07	0	0	0.07	0
	SO_2	2.7	0.11	0	0	0.11	0
	NOx	7.8	2.14	0	0	2.14	0
		31.1	8.42	0	0	8.42	0
		71.3	17.46	0			

		6.8	2.48	0	0	2.48	0
		3.9	--	0	0	--	0

VOCs

7.2.6

[2002]71

[2007]57 <

>

1

1 20m 0.5m

2

(GB 18599-2001)

3

GB15562.1~2-1995

2m

7.2.7

1

7-12

	P 1	--	VOCs	1 /
		--		1 /

	1m		A	1 /

2

7-13

		P 1	VOCs	DB12/524-2014
				DB 12/-059-95
		--	--	--

--

	P 1	VOCs	——	
		——	——	——
	S_1			
	L_1			

9.1

50

30 / 2017 11

9.2

2011 2013

2015

9.3

2016

SO_2 GB3095-2012

NO_2 $PM_{2.5}$ PM_{10} GB3095-2012

2017 3

GB3096-2008 3

9.4

9.4.1

VOCs

20m VOCs

DB12/524-2014

VOCs

9.4.2

9.4.3

GB12348-2008

9.4.4

9.5

9.6

50 5 10%

9.7