

2019

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70 “ +”

71

72

73 **WDGS**

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24

25

26

27

28

29

1

2 120 /

400 /

3

4

5

6

7



6 30

7 30

8

25

26

27

28

1

2

3

4

5

6

7

8

9

10

11 5MW

12

13

14

1

2

3

4

MOX

5

6

7

8

9

10

11

12

13

1

2

3

4

5

6

7

8

9

10

1

2

-

3

4

5

TMCP

6

600

7

8

9

10

11

12

13

14

15

1

2

3

1

2

3

4

5

4

1

200mm

125mm

50mm

2

5

1

500MPa

80%IACS

650MPa

500MPa

2

3

4 10 /

20 /

A 15 /

5

3 /

8

9

10

-

EVOH

PI

POE

11

LCP

PPS

12 5 /

60%

13

(PTPE)

(TPEE)

/

(SEPS)

TPV

14

15

16

-

246

ODP

GWP

ODS

PFOS

PFOA

17

55

18

19

20

50

1                      2000    /

6000    /

3

7

13

14

15

16

1

2

3

4

,

5

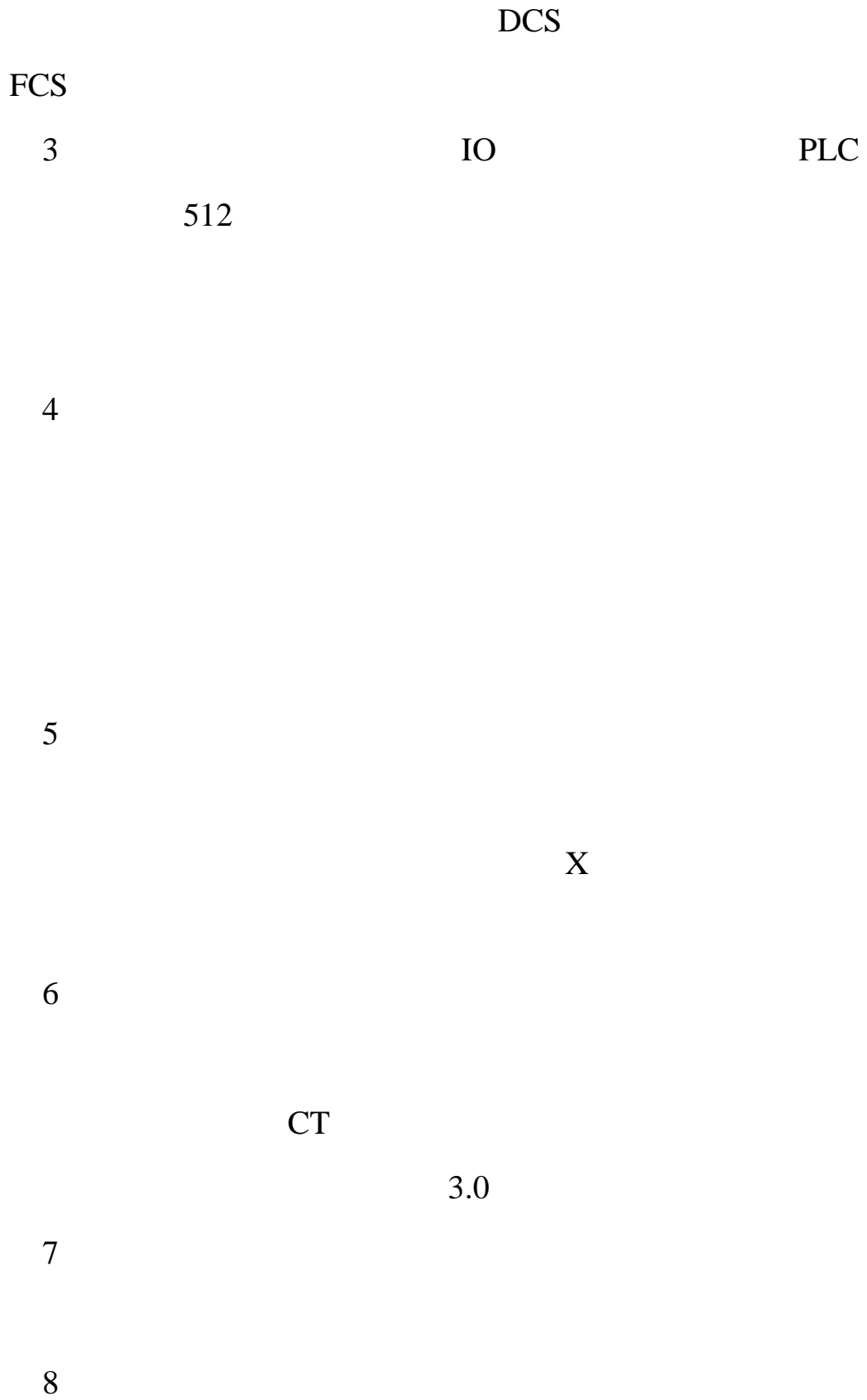
6

7

8

1

2



9

10

11

12

13

16 60

17 60

18 300MW

19 60

20

21 500 kV

22

23

2.5

2.0

24

/N /

10 /

3500

3D

/ 1000KN  
 / 800KN 240KN ·  
 95 /  
 / 25  
 10000KN 4 /  
 16000KN 12000 30000KN  
 8000 25000KN 6000  
 16000KN 12000KN  
 14-18/min 1100mm  
 500mm 1000mm/s 1000mm/s  
 6  
 30600KN  
 12 /min 6-8 /min

27 40

50

28 7

-45 100 17

26.7 73.9 5000

( 105 ) PV

2 (

-54 275 150 / )

31.5 0.25

200

29 500 20

350 270

200

130 / · w/m K

30

31 >2500

>1400 0.02 ,

0.05

32 1

500

33

7.0 /

2.0

34

35

AGV

36 500 /

1000

/

37 18MW

1200

260 /

3000 /  
 38 750  
 16000 / 13000 /  
 787 7 / 0.1  
 75000 /  
 150000 / 0.1  
 1300 400 /  
 250 /  
 300 / 0.1  
 150 / 600 dpi  
 30 / 1000 dpi 100  
 / 300 dpi CTP 35 /  
 750 0.01 3000 dpi  
 10000 / 0.05  
 39 100  
 2  
 3  
 50  
 40  
 40 100

40

41 100

ABS

42

350

3 5

20 30

12 22

20 30

12 22

43

6

44

3 6

4

147

10



2000

400

25

47

48

8000 12000

5000 7000

3000 4000

B

49

ODP 0 GWP

50 12000

51

52

1000

1000

	0.4	/			
	30	3000	/	0.35	/
				60	1000
					30
					5000
	0.4	/			
	30	60	/		
1.4	/				60
					/
	1.2	<sub>1Y gp</sub>			
53					
54					100
					2500
/					
55					

SDA +SCR

<10



1

2

AFC ,

3

4

[

ATS

ATP

ATO ]

5

GIS

6

IGCT

IGBT

SiC

7

8

9

10

11

FAO

12

TACS

13

14

15

16

25kV

17

18

1

LED

C-EPS

R-EPS

2

DCT

AMT 7

7

AT

CVT

80		500mAh/g	2000
	80		12 $\mu$ m
35% 60%		85%	80%
DC/DC	100V 400V		IGBT
750V	300A		
		350W/kg	
3kW/L)	(	0.3g/kW)	(

TCU

ABS

ASR

ESC

OBD

EBS

9

10

1

2 10

1.5

5000

IMO

2000

3000

LNG

3		1	
4			
5	120		1500
	1500		
	15		FPSO 1500
			SPAR
TLP	LNG-FPSO		
		1500	
1500		5	
			FSRU

7

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14 “ ”

15

1

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11

12

13

14

PET

PVA

OPS

15

UV

16

17

20

21

1

2

22

23

-22 HCFC-22 R22

-141b

HCFC-141b

-141b HCFC-141b

24

( NOx 1200mg/m3 )

DCS

25

1.0

26

27

28

29

30

31

32

400

1.5

200

2

200

2

300

2

33

8000



	PSA		UHMWPE	
	300 /		PPS	
PI		PTFE		PBO
	POD		BF	SiCF
	PEEK		HT-AR	]
5				
6				
7				[
				]
8				
9				

10

11

12

PVA

“ ”

13

1

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11

BIM

12

**13**

1

2

3

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18

19

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21

22

23

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25

26

GIS

CIM

1

2

3

4

5

6 7200

6000

200

3000

7

IGCT IGBT



8

9

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7

8

9

1 2.5GB/S

2 155MB/S

3

4

5

NB-IoT

eMTC

6

)

7

8

9 IP

10

11

12

13 32

14 10GB/S

15

16

17

18

19

0.8

BGA

PGA

CSP

MCM)

(LGA)

SIP

FC

WLP

MEMS

20

21

22

23

24

DCS

PLC

SCADA

APC



36

37

38

39

40

41

TFT-LCD  
OLED

LED  
3D

42

43

44

45

46

47

48

TDD

230MHz

LTE-V2X

49

50

51

65 /

22.5%

21.5%

17%

18%

1

2

3

4

5

600mmx400mm

6



12

13

14

15

16

1

2

IT

3

4

5

6

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8

9

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13

PaaS      IaaS      APP      (SaaS)

14

15

16

1

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1

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7

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AGV

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64

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68

1

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1.1

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6

5

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1

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1

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VR

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18

1

2 5 /

3 3 /

4 1000 /

5 ( )

6 ( )

7

8

9 1 /

10

11

12

13

14

15

16

1 30 / 90 /



100 / 20 /  
20 / 10 /  
30 /  
CO2 20% 100 /  
/  
300 /  
3 7 / 20  
30 /

( )

( )

6 / 3 / 1  
/ 100% 5 /  
2 /

7 ( )

8

9

10 1 /

TGIC

11

12

HF

20 /

10 /

4

30

100

100

5

16 300 300  
 1320 /  
 10 /  
 17 1.25  
 1.25 11000 /  
 18 1.65 1.65  
 9000 /  
 19  $2 \times 2.5$  (  
 $< 2 \times 1.25$  )



11

1 200

50%

2 300

3 200

4 1500 /

5 300

100

6 30

7

1 2000 /

,60 /

2 150 /

3 60 /

4 3000 /

5 3 /

1

8 /

6

7 15 /

5 /

15 /

5 /

8 15 /

9 6000 /

10 20000 /

8000 /

11 100 /

12

PCCP

PCCP-L

50

PCCP-E

30

1

C

B1

B2

B12 ( )



6 40

7 700

8 800

9 3.5

10

11

24 220

25 220

26

27

28 8.8

29

560

1.25

30

31 5 /

32

33

34

35 /

36

37

38

39

40

41



# XPS

6	PVC				
7					
7		4000 /			
		5000 /			
8				1/3000	15
				5/1000	
		1/1000		50	
		1/400	8	8	
9				1/3000	300
				1/3000	150
				T	

17 100 /  
60 /  
18  
19 30 / 10  
/  
10 /  
20 5000 3000  
3000  
21



14

20

15

16

17

18

1

1

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4

5

1.1

5

6

1.1

9

7

5

1

40

55

70

200

70

2

1

2

3

200

5

3

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6 4

AT

7

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2021 1

1 2021 1 1

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1

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30 /

30

/

15 /

15 /

9 /

9 /

3

3

4

40

5 6AM M-2.5 PA-3

6 PB2 PB3 PB4

7 PG-27

8 X-1

9 ZYZ ZY3

10

11

3                    5000 /

3000 /

1 /

6.5

4                    1 /

0.5 /

0.5 /

3 /

5000 /

5000

/

5                    0.3 /

100%                1

/                    1.5 /

2 /

10 /

0.3 /

2 /

1.5 /

6

7

1

8

100 /

4 4-

- [DSD ] 2- -4- -5- [CLT ]

1- -8- -3 6- [H ]

9 50 /

1.5 /

3 /

N-

2 4.3 3.8

3

4

5 90 8 10

8-10 2020

32

24 6

6 400 200

100 100

2020 12 31 200

“ ”

100

7

8 30

9 30

10

11

12

13

14

15 €

16

17

18 76

19

20

21

22 6300

3000

23

28 5

29

30 120 2020

12 31

31

32 5000 150

150

33 40 /

1

2

3

4 160KA

5

6

7

8

9

10

11 1 /

12

13

14

15 -

16

17 50

18 4

19

20

21

22

23 20000 / REO

5000

REO /

3

4

( ,

)

5 100

/

20

/

6

7

8

9 1000

/

10 500

/

500

/

100

/

11

12

13

14 SJ1580-3000

15 SQP400500-700500

16 1000

17 100

18

20            1            /

10            /

21

22

23    6×600

24

25

1

2

3            GMP

4

5

6

7

8            CFCs

1

2

3 TQ60 TQ80

4 QT16 QT20 QT25

5 KJ1600/1220

6 3000

7 4000

8 3000

9

10 CFCs

11

12

13

14

15

16

17

18

19

20

21

22 0.25

23

24 SF6

25

26                    5 /

3 /

1

2                    90

120

12	1.76		120 /
13	2		80 /
14		CFCs	
15		CFCs	
16		CTC	
17		CFC	113 TCA
18			
19			
20			
21			
22		150 /	250
23			20
	200 /		
24			5 /

25

26

15

97%

27

28

29

30

31

32

33

1

30

2

1000

80

400

160

200

3

ZD647

ZD721

D101A

ZD681

DJ561

K251

K251A

4 Z114

5 GE186

6 Z261

7

74

8

4 ZD201 ZD301  
 5 TH1 ZT102  
 6 ZDK101  
 7 KMD101  
 8 AZP502 ZSY101  
 TZP101 ZZP101  
  
 9 QY401 2QY404 QYSH401  
 2QY401 DY401  
 10 YX01 YX02 YX03 HX01 HX02  
 HX03 HX04  
 11 PZB401 YZB02 YZB03 YZB04  
 YZB05 YZB06 YZB07  
 12 JB01  
 13 RQ02 RQ03 RQ04  
 14 BB01 YGB02 YGB03 YGB04 YGB05  
 YTB01 YJB02  
 YXB04 YXB05 YXB302  
 15 P401 P402 P801 P802 P803  
 P804  
 16 PE802  
 17 TE102 TE105 TE108

18 TY201

TY401

31 J2101 PZ1920  
4000 PZ1615  
4000 YPS1920  
4000

32 W1101 AJ401

33 DJ01 PRD-01 PRD-02  
DBT-01

34

35 QZ101 QZ201 QZ301 QZ401

36 MD103A

1

2

3

4

5

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7

8

9

10

11

12

GB14470.2

13

130

14

1200kg/h

800kg/h

15

85

16

1.5

2m

17

18

1.0

2m

19

20

21

0.25A

22

23

24 10000

1

1

2

3

4

5

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“ ”

10

11

1

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3

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5

6 “ ”

7

8

1 ( O/W ) -

106 107

/

2

3 24

4

( ) 107

5

203

10%

6

1 G60 G17  
2 P62  
3 K13  
4 U60  
5 N16 N17  
6 L17  
7 C62A C62B  
8 40

1  
2  
3 HRB335 HPB235  
4

1

1

GRC

2 ( )

3 25A

4 S-2

5

8

6

5  
 6 Y-40  
 7 1.98  
 8 CER  
 9 LL-2 LB-3 EU-2 EA-2 CK  
 10 BA BA2 G  
 11 DDZ-I  
 12 GGP-01A  
 13 BLR-31  
 14 WFT-081  
 15 WDH-1E WDH-2E PY5  
 16 BC LCH-511 YCH-211 LCH-311  
 YCH-311 LCH-211 YCH-511  
 17 EWC-01A  
 18 XQWA  
 19 ZL3 X-Y  
 20 DBU-521 DBU-521C  
 21 YB 63 355mm, 660V  
 YBF 63 160mm 380 660V  
 380/660V YBK 100 355mm 380/660V  
 660/1140V  
 22 DZ10 DW10  
 23 CJ8

24 QC10 QC12 QC8 QC8

25 ~~QC10~~ JR9 JR14 JR15 JR16-A B C D JR0

26

43 3

44 A571

45 DS3-10 DS3-30 DS3-50 1000 3000  
5000A DS10-10 DS10-20 DS10-30 1000 2000 3000A

46 SX

47 DD1 DD5 DD5-2 DD5-6 DD9 DD10  
DD12 DD14 DD15 DD17 DD20 DD28

48 SL7-30/10 SL7-1600/10 S7-30/10 S7-1600/10

49 HD6 HD3-100 HD3-200 HD3-400 HD3-600  
HD3-1000 HD3-1500

50 GC DG270-140 DG500-140  
DG375-185

51 S15H-16 S19-16 S19-16C S49H-16  
S49-16C S19H-40 S49H-40 S19H-64 S49H-64

52

53 1-10/8 1-10/7

54 8-18 9-27

55 X52 X62W 320×150

56 J31-250

57 TD60 TD62 TD72

58 E135 2 4 6

4146

59 TY1100

60 165

61

62

63

64

65

1.2

1.2

KJ

JKA

XKT

JTK

TKD

66

10

67

“ ”

68

1

2

3

4

1

2

3

4

5            0.002

6            0.1%

7

8

9

10

11

12

13

14

15

16           0.025

3		>1500			13	2021
1	1					
	18					
2021	1	1				
	19					
			2021	1	1	
20				2026	1	1
21				2%		
		2%		2021	1	1
22				30		5
			2021	1	1	
23					1	60
		5				
2	40	40			10	
			2021	1	1	
24				2021	1	1
25			HCFC-141b			
26						
1					1211	

2 1301

3 1211

4 1211

5 1211

6

7

8 1301

9 1301

10 1301

11 1211

12 1211

13 1211

14 1301

15 1301

16 1301

17 PVC

1

2

3

4

1 59 69 72 TF-3

2 ZH15

3