Test Report issued under the responsibility of:

TEST REPORT
IEC 60896
Stationary lead-acid batteries —
Part 21: Valve regulated types — Methods of test
Part 22: Valve regulated types — Requirements

Report Reference No. ..... :	200600437SHA-001
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Testing Laboratory ..... :	Intertek Testing Services Shanghai
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Applicant's name ..... :	DESA GLOBAL ENDUSTRIYEL URUNLER ITHALAT IHRACAT SANAYI VE TICARET LIMITED SIRKETI
Address ..... :	melih gökçek bulvarı 138-22 yenimahalle – ankara，Turkey
Test specification:	
Standard ..... :	IEC 60896-21:2004, IEC 60896-22:2004, Clause 6.11, 6.17
Test procedure ..... :	Testing
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	TTRF_EN60896_A
Test Report Form(s) Originator ..... :	Intertek ETL SEMKO shanghai
Master TRF ..... :	Dated 2010-11

Test item description..... :	SEALED LEAD ACID BATTERY
Trade Mark ..... :	DESA
Manufacturer ..... :	FIRSTPOWER TECH. CO. LTD.
Model/Type reference ..... :	DS 12 V-26 Ah
Ratings ..... :	12 V 26 Ah

Testing procedure and testing location:		
☒ **Testing Laboratory**:	Intertek Testing Services Shanghai	
Testing location/ address.....:	Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China	
☒ **Associated Laboratory:**		
Testing location/ address.....:		
Tested by (name + signature) .....:	William Liu	
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☐ Testing procedure: TMP		
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Testing location/ address.....:		
☐ Testing procedure: WMT		
Tested by (name + signature) .....:		
Witnessed by (+ signature).....:		
Approved by (+ signature).....:		
Testing location/ address.....:		
☐ Testing procedure: SMT		
Tested by (name + signature) .....:		
Approved by (+ signature).....:		
Supervised by (+ signature) .....:		
Testing location/ address.....:		
☐ Testing procedure: RMT		
Tested by (name + signature) .....:		
Approved by (+ signature).....:		
Supervised by (+ signature) .....:		
Testing location/ address.....:		

Marking:

DS 12V-26 Ah

Note: Other models have similar label except model name and ratings.

Test item particulars..... :	Valve regulated lead acid battery
Possible test case verdicts:	
- test case does not apply to the test object..... :	N/A
- test object does meet the requirement..... :	P (Pass)
- test object does not meet the requirement ..... :	F (Fail)
Testing..... :	
Date of receipt of test item..... :	2020-06-08
Date (s) of performance of tests..... :	2020-06-08 to 2020-08-10

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.
Determination of the test conclusion is based on IEC Guide 115 in consideration of measurement uncertainty.
Throughout this report a point is used as the decimal separator.

General product information:

The battery is valve regulated type stationary lead-acid battery for general use.
parameters were provided by manufacturer

Model	DS 12V-26 Ah
Parameter	12 V 26 Ah
Sample Number	7
C_{10} (Ah) (25℃ 1.80V/cell)	26 Ah
I_{10} (A)	2.6 A
C_8 (Ah) (25℃ 1.75V/cell)	23 Ah
I_8 (A)	2.9 A
C_3 (Ah) (25℃ 1.7V/cell)	18 Ah
I_3 (A)	6 A
C_1 (Ah) (25℃ 1.60V/cell)	16 Ah
I_1 (A)	16 A
$C_{0.25}$ (Ah) (25℃ 1.60V/cell)	12 Ah
$I_{0.25}$ (A)	48 A
Fully charge	15 V 5.2 A 20 h
Floating charge	13.5 V - 13.8 V
Commissioning (if need)	No need
Dimensions (mm)	166x175x125 mm
Weight (kg)	8.8 kg

IEC 60896-21:2004, IEC 60896-22:2004			
Clause	Requirement + Test	Result - Remark	Verdict

4 FUNCTIONAL REQUIREMENTS

4.1 Overview

The following requirements are grouped into safe operation, performance and durability needs.

4.2 Safe operation characteristics

Test clause	Measures	Purpose
6.1	Gas emission	To determine the emitted gas volume
6.2	High current tolerance	To verify the adequacy of current conduction cross- sections
6.3	Short circuit current and d.c. internal resistance	To provide data for the sizing of fuses in the exterior circuit
6.4	Protection against internal ignition from external spark sources	To evaluate the adequacy of protective features
6.5	Protection against ground short propensity	To evaluate the adequacy of design features
6.6	Content and durability of required markings	To evaluate the quality of the markings and the content of the information
6.7	Material identification	To ensure the presence of material identification markings
6.8	Valve operation	To ensure the correct opening of safety valves
6.9	Flammability rating of materials	To verify the fire hazard class of battery materials
6.10	Intercell connector performance	To verify the maximum surface temperatures of the connectors during high rate discharges

4.3 Performance characteristics

Test Clause	Measures	Purpose
6.11	Discharge capacity	To verify the available capacities at selected discharge rates or discharge durations.
6.12	Charge retention during storage	To provide storage duration data
6.13	Float service with daily discharges	To determine cyclic performance under float charge conditions
6.14	Recharge behaviour	To determine the recovery of capacity or autonomy time after a power outage

4.4 Durability requirements

Test Clause	Measures	Purpose
6.15	Service life at an operating temperature of 40 °C	To determine the operational life at elevated temperatures
6.16	Impact of a stress temperature of 55 °C or 60 °C	To determine the influence of high stress temperatures on cell or monobloc battery life
6.17	Abusive over-discharge	To determine the expected behaviour when excessive capacity is discharged
6.18	Thermal runaway sensitivity	To determine the expected times to establish a condition of escalating current and temperature
6.19	Low temperature sensitivity	To determine the sensitivity toward damage induced by electrolyte freezing
6.20	Dimensional stability at elevated internal pressure and temperature	To determine the propensity of the cell or monobloc to be deformed by internal gas pressure and at elevated temperatures
6.21	Stability against mechanical abuse of units during installation	To determine the propensity of the cell or monobloc battery to fracture or leak when dropped.

4.5 Test result requirements

The test results required to verify the characteristics defined in 6.1 to 6.21

IEC 60896-21:2004, IEC 60896-22:2004			
Clause	Requirement + Test	Result - Remark	Verdict
5	**TEST SET-UP (IEC 60896-21:2004)**		N/A
5.1	Accuracy of measuring instruments		N/A
5.1.1	Voltage measurements		N/A
	The instruments used shall be of an accuracy class 0,5 or better where required. The resistance of the voltmeters shall be at least 10 000 Ω/V.		N/A
5.1.2	Current measurements		N/A
	The instruments used shall be of an accuracy class 0,5 or better where required.		N/A
5.1.3	Temperature measurement		N/A
	The instruments used shall have a resolution of 1 K. The absolute accuracy of the instruments shall be 1 K or better where required.		N/A
5.1.4	Time measurements		N/A
	The time measurements shall have of an accuracy of ±1 % or better where required.		N/A
5.1.5	Length measurements		N/A
	The instruments used shall have an accuracy of ±0,1 % or better where required.		N/A
5.1.6	Weight measurements		N/A
	The instruments used shall have an accuracy of ±1 % or better where required.		N/A
5.1.7	Gas volume measurements		N/A
	The instruments used shall have an accuracy of ±5 % or better where required.		N/A
5.1.8	Gas pressure measurements		N/A
	The instruments used shall have an accuracy of ±10 % or better where required.		N/A
5.2	Selection of test units		N/A
	The units to be used for type testing according to this part of IEC 60896 shall be selected in accordance with the procedures as standard specified		N/A
5.3	General test features and rules		N/A
5.3.1	The test units shall not undergo any maintenance operations such as water or electrolyte additions or withdrawals during the entire duration of a test.		N/A

IEC 60896-21:2004, IEC 60896-22:2004			
Clause	Requirement + Test	Result - Remark	Verdict
5.3.2	The test units shall be tested in the position specified by the manufacturer in the relevant technical documentation of the product range except for those cases in which a particular position is specified in the test clause. The position used in any given test shall be reported in the relevant test documentation.		N/A
5.3.3	The test units shall always be tested fully charged with the method and duration of charge being exclusively that specified by the manufacturer in the relevant technical documentation of the product range except for those cases in which a particular method or duration is specified in the test subclause. The charge methods and duration used in each test shall be reported in the relevant test documentation.		N/A
5.3.4	Whenever there is a significant change in a specified design feature, material, manufacturing process, relevant quality inspection and test procedures of the manufacturing location(s) of a product range, the relevant type test(s) shall be repeated to ensure that the affected product range continues to be in compliance with the defined Safe operation, Performance and Durability requirements for the intended application.		N/A
5.3.5	Each test and test set-up shall be documented with photographs that give a clear image of the test units and their identification numbers.		N/A
5.4	Number of test units		N/A
5.4.1	The number of units to be tested is summarized below		N/A

Test Clause	Measures	Number of test units
6.1	Gas emission	6 cells or 3 monobloc batteries
6.2	High current tolerance	3 cells or 3 monobloc batteries
6.3	Short circuit current and d.c. internal resistance	3 cells or 3 monobloc batteries
6.4	Protection against internal ignition from external spark sources	3 valve assemblies
6.5	Protection against ground short propensity	1 cell or 1 monobloc battery
6.6	Content and durability of required markings	3 samples
6.7	Material identification	1 cover or 1 case sample
6.8	Valve operations	3 cells or 3 monobloc batteries
6.9	Flammability rating of materials	1 sample per material
6.10	Intercell connector performance	6 cells or 6 monobloc batteries

Test Clause	Measures	Number of test units
6.11	Discharge capacity	5 x 6 cells or 5 x 6 monobloc batteries
6.12	Charge retention during storage	6 cells or 6 monobloc batteries
6.13	Float service with daily discharges	6 cells or 3 monobloc batteries
6.14	Recharge behaviour	3 cells or 3 monobloc batteries

N/A

IEC 60896-21:2004, IEC 60896-22:2004			
Clause	Requirement + Test	Result - Remark	Verdict

	<table><tr><th>Test Clause</th><th>Measures</th><th>Number of test units</th></tr><tr><td>6.15</td><td>Service life at an operating temperature of 40 °C</td><td>3 cells or 3 monobloc batteries</td></tr><tr><td>6.16</td><td>Impact of a stress temperature of 55 °C or 60 °C</td><td>3 cells or 3 monobloc batteries</td></tr><tr><td>6.17</td><td>Abusive over-discharge</td><td>4+3 cells or 4+3 monobloc batteries</td></tr><tr><td>6.18</td><td>Thermal runaway sensitivity</td><td>6 cells or 6 monobloc batteries</td></tr><tr><td>6.19</td><td>Low temperature sensitivity</td><td>3 cells or 3 monobloc batteries</td></tr><tr><td>6.20</td><td>Dimensional stability at elevated internal pressure and temperature</td><td>1 cell or 1 monobloc battery</td></tr><tr><td>6.21</td><td>Stability against mechanical abuse of units during installation</td><td>2 cells or 2 monobloc batteries</td></tr></table>		N/A
5.5	Suggested test sequence		N/A
	Multiple tests on the same units are allowed. However, the test sequence should be planned carefully to ensure that the execution of one test does not disturb or unduly influence the outcome of a subsequent test or cause hidden safety problems. In some cases, a test clause may proscribe a sequence of tests. Separate units may be used for each test unless otherwise specified. The manufacturer makes the final decision on the test sequence. The adopted test sequence shall be recorded in the relevant test documentation.		N/A
5.6	Customer test		N/A
5.6.1	The test units and test to be used for acceptance or commissioning tests shall be selected and defined by a joint agreement between the battery supplier and battery user.		N/A
	For an acceptance or commissioning capacity test, a discharge at the 3 h rate to a final voltage of 1,70 Vpc or as agreed upon between battery supplier and battery user, shall be selected.		N/A

6	**TEST METHODS AND REQUIREMENTS AND CHARACTERISTICS**		N/A
6.1	Gas emission	Refer to table 6.1	N/A
6.2	High current tolerance	Refer to table 6.2	N/A
6.3	Short-circuit current and d.c. internal resistance	Refer to table 6.3	N/A
6.4	Protection against internal ignition from external spark sources	Refer to table 6.4	N/A
6.5	Protection against ground short propensity	Refer to table 6.5	N/A
6.6	Content and durability of required markings	Refer to table 6.6	N/A
6.7	Material identification	Refer to table 6.7	N/A
6.8	Valve operations	Refer to table 6.8	N/A
6.9	Flammability rating of materials	Refer to table 6.9	N/A
6.10	Intercell connector performance	Refer to table 6.10	N/A

IEC 60896-21:2004, IEC 60896-22:2004			
Clause	Requirement + Test	Result - Remark	Verdict
6.11	Discharge capacity	Refer to table 6.11	P
6.12	Charge retention during storage	Refer to table 6.12	N/A
6.13	Float service with daily discharges	Refer to table 6.13	N/A
6.14	Recharge behaviour	Refer to table 6.14	N/A
6.15	Service life at an operating temperature of 40 °C	Refer to table 6.15	N/A
6.16	Impact of a stress temperature of 55 °C or 60 °C	Refer to table 6.16	N/A
6.17	Abusive over-discharge	Refer to table 6.17	P
6.18	Thermal runaway sensitivity	Refer to table 6.18	N/A
6.19	Low temperature sensitivity	Refer to table 6.19	N/A
6.20	Dimensional stability at elevated internal pressure and temperature	Refer to table 6.20	N/A
6.21	Stability against mechanical abuse of units during installation	Refer to table 6.21	N/A
ANNEX A	**(NORMATIVE) USER STATEMENT OF REQUIREMENTS (IEC 60896-22)**		N/A
1)	Application description information		N/A
	Application summary		N/A
	Load (in A or W) and autonomy time profile(s)		N/A
	Minimum and maximum system float voltage		N/A
	Maximum or boost charge system voltage available Y/N If yes what value?		N/A
	Minimum system discharge voltage or low voltage disconnect Y/N If yes what value?		N/A
	Expected minimum and maximum operating temperatures and their duration per year		N/A
	Any other relevant information or operational requirements such as duration and frequency of power outages, of diagnostic discharges and of energy cost saving actions		N/A
2)	Product specification information		N/A

Product safe operation in service		Compliance information mandatory
6.1	Gas emission (at float voltage and at 2,40 Vpc)	Data requested
6.2	High current tolerance	Pass
6.3	Short circuit current and d.c. internal resistance	Data requested
6.4	Internal ignition from external spark sources	Pass
6.5	Protection against ground short propensity	Pass
6.6	Content and durability of required markings	Pass
6.7	Material identification	Pass
6.8	Valve operation	Pass
6.9	Flammability rating of materials	Data requested
6.10	Intercell connector performance	Data requested

N/A

IEC 60896-21:2004, IEC 60896-22:2004			
Clause	Requirement + Test	Result - Remark	Verdict

Product performance in service		Compliance information mandatory or on as-needed basis					
6.11	Discharge capacity	Data for	C_{10}	C_8	C_3	C	$C_{0.25}$
6.12	Charge retention during storage	Pass					
6.13	Float service with daily discharges	Value to be requested as function of service environment					
6.14	Recharge behaviour	Pass					

N/A

Product durability in service		Compliance information mandatory or on as-needed basis
6.15	Service life at an operating temperature of 40 °C	Value to be requested as function of service environment
6.16	Impact of a stress temperature of 55 °C or 60 °C	Value to be requested as function of service environment
6.17	Abusive over-discharge	Value to be requested if service environment warrants
6.18	Thermal runaway sensitivity	Pass and show data
6.19	Low temperature sensitivity	Value to be requested if service environment warrants
6.20	Dimensional stability at elevated internal pressure and temperature	Show data
6.21	Stability against mechanical abuse of units during installation	Pass

N/A

ANNEX B	**(NORMATIVE) SUPPLIER STATEMENT OF PRODUCT RANGE TEST RESULTS (IEC 60896-22)**		N/A
1)	General product type information		N/A
	Product manufacturer		N/A
	Manufacturing site of tested product		N/A
	Product name		N/A
	Product model range		N/A
	Product comprising the above model range		N/A
	Product tested		N/A
2)	Product test performance information		N/A

Product safe operation in service		IEC 60896-21 test clause result	
6.1	Gas emission (at the float voltage and at 2,40 Vpc)		
6.2	High current tolerance		
6.3	Short circuit and d.c. internal resistance		
6.4	Internal ignition from external spark sources		
6.5	Protection against ground short propensity		
6.6	Content and durability of required markings		
6.7	Material identification	Case	Cover
6.8	Valve operation	Before	After
6.9	Flammability rating of materials	Case	Cover
6.10	Intercell connector performance		

N/A

Product performance in service		IEC 60896-21 test clause result				
6.11	Discharge capacity	C_{10}	C_8	C_3	C	$C_{0.25}$
6.12	Charge retention during storage					
6.13	Float service with daily discharges	Cycles	C_{af}		C_{ab}	
6.14	Recharge behaviour	24 h		168 h		

N/A

IEC 60896-21:2004, IEC 60896-22:2004			
Clause	Requirement + Test	Result - Remark	Verdict

			N/A

Product durability in service		IEC 60896-21 test clause result	
6.15	Float service life at 40 °C	Days with C_3 rate test at 40 °C	
6.16	Impact of stress temperature of 55 °C or 60 °C	Days with C_3 rate test at 55 °C or 60 °C Days with $C_{0.25}$ rate test at 55 °C or 60 °C	
6.17	Abusive over-discharge		
6.18	Thermal runaway sensitivity		
6.19	Low temperature sensitivity		
6.20	Dimensional stability at elevated internal pressure and temperature		
6.21	Stability against mechanical abuse of units during installation		

	Company name: Company officer: Address/phone/fax/e-mail: Signature/date/place: Document established as reply for RFI:		N/A

IEC 60896-21:2004, IEC 60896-22:2004			
Clause	Requirement + Test	Result - Remark	Verdict

Table 6.11	**Discharge capacity**	**Verdict:**	**Pass**
Test method:			

Capacity $C_{0.25}$ (0,25 h rate)

1. The discharge shall be started within 1 h to 24 h after fully charged.
2. Discharged with a constant current $I_{0.25}$ to U_{final} = 1.60 Vpc.
3. Recorded discharge time and calculated capacity.
4. Corrected the capacity to temperature of 25 °C. θ is the initial temperature,

$$C_{a25\,°C} = C\,/[1+\lambda\,(\theta - 25)] \quad \text{in Ah}, \ (\lambda = 0{,}01)$$

Capacity C (1 h rate)

1. The discharge shall be started within 1 h to 24 h after fully charged.
2. Discharged with a constant current I_1 to U_{final} = 1.60 Vpc.
3. Recorded discharge time and calculated capacity.
4. Corrected the capacity to temperature of 25 °C. θ is the initial temperature,

$$C_{a25\,°C} = C\,/[1+\lambda\,(\theta - 25)] \quad \text{in Ah}, \ (\lambda = 0{,}01)$$

Capacity C_3 (3 h rate)

1. The discharge shall be started within 1 h to 24 h after fully charged.
2. Discharged with a constant current I_3 to U_{final} = 1.70 Vpc .
3. Recorded discharge time and calculated capacity.
4. Corrected the capacity to temperature of 25 °C. θ is the initial temperature,

$$C_{a25\,°C} = C\,/[1+\lambda\,(\theta - 25)] \quad \text{in Ah}, \ (\lambda = 0{,}006)$$

Capacity C_8 (8 h rate)

1. The discharge shall be started within 1 h to 24 h after fully charged.
2. Discharged with a constant current I_8 to U_{final} = 1.75 Vpc .
3. Recorded discharge time and calculated capacity.
4. Corrected the capacity to temperature of 25 °C. θ is the initial temperature,

$$C_{a25\,°C} = C\,/[1+\lambda\,(\theta - 25)] \quad \text{in Ah}, \ (\lambda = 0{,}006)$$

Capacity C_{10} (10 h rate)

1. The discharge shall be started within 1 h to 24 h after fully charged.
2. Discharged with a constant current I_{10} to U_{final} = 1.80 Vpc.
3. Recorded discharge time and calculated capacity.
4. Corrected the capacity to temperature of 25 °C. θ is the initial temperature,

$$C_{a25\,°C} = C\,/[1+\lambda\,(\theta - 25)] \quad \text{in Ah}, \ (\lambda = 0{,}006)$$

Model name:	DS 12 V-26 Ah					
Requirements	$C_a \geq 95\%C_{rt}$					
Sample No:	Capacity C_{10} (Ah)	Capacity C_8 (Ah)	Capacity C_3 (Ah)	Capacity C_1 (Ah)	Capacity$C_{0.25}$ (Ah)	Remark
C_{rt}	26	23	18	16	12	—
$95\%C_{rt}$	24.7	21.85	17.1	15.2	11.4	—
1	31.56	31.30	27.65	23.79	16.70	P
2	30.10	30.09	27.15	22.48	15.87	P
3	31.96	32.42	29.19	24.70	17.90	P
4	30.84	31.00	27.97	23.71	17.22	P
5	28.05	29.34	27.02	22.94	16.77	P
6	30.87	31.06	28.08	23.89	17.36	P

IEC 60896-21:2004, IEC 60896-22:2004			
Clause	Requirement + Test	Result - Remark	Verdict

Table 6.17	**Abusive over-discharge**	**Verdict:**	**Pass**
Test method:			

Each battery has an actual capacity Ca ≥ C_3 and was fully charged.

One of the 4 units shall be discharged, at a unit temperature of 18 °C to 27 °C, with a current of I10 for 3 h and then connected to the remaining 3 fully charged units in series and with the intercell connectors giving, between each units, an air gap of 10 mm or as specified in the appropriate technical documentation of the product range.

unbalanced string over-discharge test (four fully charged batteries string)

1. This four unit string shall then be discharged, with all unit temperatures between 18 °C to 27 °C, with a current I = I_{10} (U_{final} 1,80 V_{pc}) until the voltage of the three, initially fully charged units reach a total voltage of U_{final} of 3 × n × 1,70 V_{pc} where n is the number of cells in this substring.
2. After the discharge and a 24 h ± 0,1 h stand in the discharged state, the four unit string shall be recharged in series for 168 h ± 0,1 h with a current limited to I = 2,0 I_{10} and a voltage limited to the float voltage specified by the manufacturer for either 20 °C or 25 °C.
3. At the end of the 168 h ± 0,1 h of charge, the units shall be subjected, as a four unit string, to a capacity test with a constant current of I = I_3 to a U_{final} of 4 × n × 1,70 V_{pc} and the capacity Ca corrected to 20 °C or 25 °C.
4. The capacity Ca of the string shall be referenced to the rated capacity Crt (3 h – U_{final} 1,70 Vpc at the selected reference temperature) as shown below and gives the unbalanced over-discharge C_{aod} capacity ratio. This value shall be reported.

   C_{aod} = Ca / Crt

cyclic over-discharge test (three fully charged batteries string)

1. The units shall be discharged individually or as a string, with all unit temperatures between 18 °C to 27 °C and with a constant current of I = I_{10} to a voltage U_{final} of n × 1,25 V_{pc} where n is the number of cells per unit or string.
2. After the discharge and a 1 h ± 0,1 h stand in the discharged state, the units shall be recharged for 168 h ± 0,1 h with a current limited to I = 2,0 I_{10} and a voltage limited to the float voltage specified by the manufacturer for either 20 °C or 25 °C.
3. The sequence outlined above shall be repeated 5 times.
4. At the end of the fifth 168 h ± 0,1 h of charge, the units or the string shall be
5. subjected to a capacity test with a constant current of I = I_3 to U_{final} of n × 1,70 V_{pc} and the capacity Ca corrected to 20 °C or 25 °C.
6. The capacity Ca of each unit or of the string shall be referenced to the rated capacity Crt (3 h – U_{final} 1,70 Vpc at the selected reference temperature) as shown below and gives the cyclic over-discharge C_{aoc} capacity ratio. This value(s) shall be reported

   C_{aoc} = Ca / Crt

IEC 60896-21:2004, IEC 60896-22:2004			
Clause	Requirement + Test	Result - Remark	Verdict

6.17 Abusive over-discharge				Pass
Model name:	DS 12 V-26 Ah			
Requirement:	C_{aod} (%) ≥ 80%, C_{aoc} (%) ≥ 90%			
C_a (Ah)	24.91	C_a (Ah)	27.42	
C_{rt} (Ah)	18	C_{rt} (Ah)	18	
C_{aod} (%)	138.39	C_{aoc} (%)	152.33	

IEC 60896-21:2004, IEC 60896-22:2004			
Clause	Requirement + Test	Result - Remark	Verdict

Photos:

Overview

Overview


IEC 60896-21:2004, IEC 60896-22:2004			
Clause	Requirement + Test	Result - Remark	Verdict

Photos:

Overview