

Ress-3-6



RESS Status of Korea

2011. 1.

교통안전공단
자동차성능연구소



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1. Korean Safety Regulations of RESS

Status

- **Promulgation : 1. 23. 2009.**

Article	Description
Article 2 Definition	"Traction Battery" means the storage of electrical energy to propel a vehicle.
Article 18-3 Traction Battery (RESS)	General Structural Requirements 1. A traction battery shall be separated from the occupant compartment by the wall or protecting plate 2. A traction battery shall have functions to protect overcharging and to cut over-current against the designed limits 3. A traction battery shall not be exploded or ignited under physical, chemical, electrical shock and heat prescribed by the Minister

1. Korean Safety Regulations of RESS

Technical Requirements

Tests	Procedures	Specimen
Heat Exposure	Exposed to 80 °C heat for 4 hour	package or system
Mechanical Shock (Drop)	Drop from 4.9 m high	package or system
Fire Resistance	Exposed to flame of 890 to 900 °C for 2 min	package or system
External Short circuit	Closed circuit with total resistance of 50 mΩ or less for 1 hour	System
Overcharge	Charge up to 150% SOC	System
Over-discharge	Discharge with 1C rate	System
Immersion	Immerse completely in the sea water	package or system

3. Comparison Table

Technical Requirements

Test	GTR (RESS)	ISO -12405	Korean
Vibration	0	0 (Reliability)	
Thermal shock	0	0 (Reliability)	
Humidity / Moisture Exposure	0		
Mechanical Shock	0	0 (Reliability)	0 (4.9m drop)
Fire Resistance	0		0
External Short circuit	0	0 (Abuse test)	0
Overcharge	0	0 (Abuse test)	0
Over-discharge	0	0 (Abuse test)	0
Over-temperature	0		
Protection against direct contact	0		
Emission	0		
Immersion	0		0
Dust	0		
Dewing		0 (Reliability)	
Marking	0		

2. Test Facilities

Explosion-proof Chamber



Heat Exposure

Overcharge

External Short circuit

Over-discharge

2. Test Facilities



Fire Resistance

Immersion



2. Test Facilities



Mechanical Shock (Drop)



2. Test Facilities

❖ Specifications

- **Over-Charge & Over-Discharge System**
 - Voltage/Current : 1,000 VDC / 50 ADC, 1 ch
 - Voltage Output : -100 V ~ 1,000 V
- **Charge & Discharge System**
 - Voltage/Current : 450 VDC / 200 ADC, 2 ch
 - Power : 90 kW
 - Voltage Output : 10 V~ 450 V
 - Current Output : 2ch, max 200 A /ch
- **Chamber**
 - 1,800mm(W), 1,500mm(D), 1,000(H)

3. Test Scene



Fire Resistance



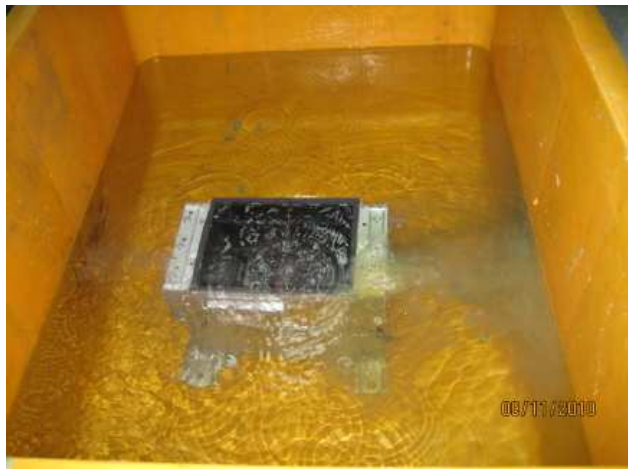
3. Test Scene



Mechanical Shock (Drop)

3. Test Scene

Immersion



3. Test Scene

Over-discharge





Thank you!

