VRLA batteries
- NP
- NPH
- NPW
- RE
  - RE5-12
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- REW
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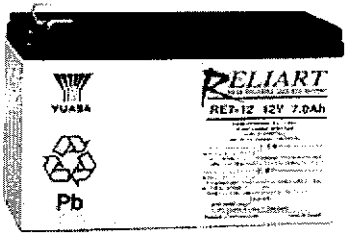
Battery Type: RE7-12



1.	Nominal Voltage:	12V
2.	Dimension	
	Length:	151±1 mm
	Width:	65±1 mm
	Height:	94±1 mm
	Total Height:	97.5±2 mm
3.	Weight(Approx.)	5.51Pounds(2.50kg)
4.	Nominal Capacity:	
	20hr rate of 0.35A TO 10.5V	7.0AH
	3hr rate of 1.75A TO 10.02V	5.25H
	1hr rate of 4.2A TO 9.6V	4.2AH
5.	Internal resistance:	19mΩ~25mΩ
6.	MAX charged current:	0.25CA (1.75A)
	MAX discharged current:	105A(5 sec)
7.	Operation temperature range	
	Charge	5℉ TO 104℉(-15℃ TO 40℃)
	Discharge	5℉ TO 122℉(-15℃ TO 50℃)
8.	Storage temperature range	5℉ TO 104℉(-15℃ TO 40℃)
9.	Floating charge:	13.65±0.15V
10.	Expected life(25℃)	3~5 years in float charging
11.	Sealed construction	
	Can be operated, charged or stored in any position without leakage.	
	Can not be charged while the terminal is downward.	
12.	Standard terminal:	Faston Tab 187/250
13.	Housing material:	ABS(FR)

PRODUCT SAFETY DATA SHEET Issue 2 - October 1996

Prepared following the Guidelines in Appendix 1 of the HSE publication L62 - Guidance on regulation 6 of the Chemicals (Hazard Information and Packaging) Regulations 1994.

1. PRODUCT IDENTIFICATION

Name : Valve Regulated Lead Acid (VRLA) Battery

Classification : Batteries, wet, non-spillable, electric storage
Substance Identification No. UN 2800

Manufacturer's Name / Address

Yuasa Battery (UK) Ltd.
Unit 22 Rassau Industrial Estate
Ebbw Vale
Blaenau Gwent NP3 5SD
UK

For further information contact the manufacturer :

Technical Division
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2. COMPOSITION

Component	Approx. % by Wt. or volume	Air Exposure Limits (mg/m^3) O.E.L.
Lead and lead alloy metals	35%	N / A
Lead inorganic compounds	40%	0.15 mg/m^3 as dust in air.
Electrolyte - Sulphuric Acid (up to 40%$^w/_w$)	15%	1 mg/m^3 as mist in air.
Separator - Glass Fibre	2%	5 mg/m^3 and 2 fibres / ml. as fibres in air.

3. HAZARDS IDENTIFICATION

Sulphuric Acid (up to 40%$^w/_w$) Severe IRRITATION and DAMAGE to internal tissues if swallowed, causes IRRITATION of eyes and skin and may cause BURNS and DERMATITIS.

R35 Causes severe burns (15% & above)
R36/38 Irritating to eyes and skin (5% to 15%)

No specific antedotal treatment, symptomatic support required.
No known delayed effects after single exposure apart from consequences of local tissue damage.

Lead inorganic compounds TOXIC by ingestion or inhalation of dust, vapour or fume.

R61 May cause harm to the unborn child
R20/22 Harmful by inhalation and if swallowed
R33 Danger of cumulative effects

Glass mat separator Fibres may cause IRRITATION to skin or eyes upon exposure, and to internal tissues if inhaled or swallowed.

4. FIRST AID MEASURES

4.1 INHALATION

Sulphuric Acid : If mist is inhaled, remove from exposure and to fresh air immediately. If there are any breathing difficulties take to hospital.

Lead : Remove from exposure, wash out mouth and wash nose and lips. Take to hospital.

Glass fibres : If fibres have been inhaled, remove to fresh air. If irritation persists, take to hospital.

4.2 INGESTION

Sulphuric Acid : Wash mouth out with plenty of water, do not allow to swallow.
Then give plenty of water to drink. DO NOT INDUCE VOMITING.
Take to hospital immediately.

Lead compounds : Take to hospital immediately.

4.3 EXPOSURE OF EYES

Sulphuric Acid : Wash out immediately with copious amounts of water for at least 15 minutes, holding the eye open if necessary. Take to hospital.

Lead compounds : Wash out immediately with copious amounts of water for at least 15 minutes, holding the eye open if necessary. Take to hospital.

4.4 EXPOSURE OF SKIN

Sulphuric Acid : Wash off skin immediately with copious amounts of water for at least 15 minutes. Remove all contaminated clothing, which must be washed thoroughly before re-use. Remove and dispose of contaminated footwear.

Lead compounds : Wash off skin thoroughly with soap and water.

5. FIRE FIGHTING MEASURES.

Batteries on charge may emit hydrogen gas that is highly flammable and will form explosive mixtures in air from 4% to 76%, which may be ignited by a spark at any voltage, especially from the batteries themselves.

Batteries on charge must be isolated from power source before attempting to put out a fire, by switching off the power before disconnecting the batteries from the power source.

Batteries in use will be part of an electrical circuit and so water must never be used to put out a fire.

Damaged batteries may expose negative plates (grey) colour, that may ignite if allowed to dry out. These plates may be wetted down with water after the battery has been removed from all electrical circuits.

Use extinguisher types : CO_2, Dry Powder.

Hazardous decomposition products : Carbon monoxide, sulphur dioxide, sulphur trioxide, lead fume and vapour, toxic fumes from decomposition of battery case materials.

Special precautions : Use self-contained breathing apparatus and full acid resistant protective clothing.

6. ACCIDENTAL RELEASE MEASURES.

These batteries are designed not to leak under normal conditions. If, however, electrolyte does leak out of any battery for any reason, it should be absorbed onto dry sand, earth or other inert material and must not be allowed to enter any drains. If possible, neutralise any leaked electrolyte using soda ash, sodium bicarbonate, sodium carbonate or calcium carbonate powder and then wash thoroughly with water. Collect absorbed material and place in an inert sealed container for disposal, see Section 13.

Exposed lead materials must be placed in an inert sealed container for disposal, see Section 13.

7. HANDLING AND STORAGE.

Store batteries in a cool and dry area with an impervious surface. Store under roof and protect against adverse weather conditions. Protect against physical damage and exposure to organic solvents. Do not allow metal objects to contact both terminals at the same time, as this will cause damage, may cause injury and may cause a spark, see Section 5.

Large batteries should be handled and moved using mechanical means to prevent risk of injury.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION.

Under normal conditions, where there is no damage and no visible trace of liquid or solid deposit on the batteries, they may be handled without any additional P.P.E. Where there are any signs of damage or liquid or solid deposits, rubber gloves and acid resistant clothing must be worn when handling the batteries and affected packaging to protect against the effects of any acid electrolyte that may be present. If it is suspected that free acid electrolyte is present, then safety glasses must be worn, and if large amounts are present, chemical goggles or face shield should be used.

9. PHYSICAL AND CHEMICAL PROPERTIES.

The undamaged product is a manufactured item in an inert plastic case, which will burn if subjected to high temperatures. Some battery types are made in flame retardent plastic, see technical Specification.

Batteries on charge may emit hydrogen gas, which is highly flammable and forms explosive mixtures in air, see Section 5.

Electrolyte is a clear liquid with little or no smell, which contains sulphuric acid up to 40% in water in a fully charged battery. Leaked electrolyte may dry out to form white patches or patches of other colours, usually green or brown, if metals have been attacked, which may be acidic.

In damaged batteries, lead plates can be grey or brown, with varying amounts of white. Grey material may ignite if left to dry out.

10. STABILITY AND REACTIVITY.

The undamaged product is stable up to 60 ^{o}C, see Section 9.

11. TOXICOLOGICAL INFORMATION.

Sulphuric Acid : LD50 2140 mg/kg oral, rat LC50 0.51 mg/l inh rat

Lead compounds : No specific data

12. ECOLOGICAL INFORMATION.

Sulphuric Acid : Toxic to fish and algae. Concentrations greater than 1.2 mg/l as 100% sulphuric acid may be lethal to fish. Lowering pH below about 5 would induce fatalities in aquatic life.

Lead compounds : No specific data

13. DISPOSAL INFORMATION.

UNDAMAGED & DAMAGED BATTERIES : Store in impervious inert container and send to smelter for recycling. Must be treated as special waste, therefore contact supplier for assistance.

ABSORBED SPILLED ELECTROLYTE : Place in sealed inert container. Treat as special waste. Contact supplier for assistance.

14. TRANSPORT INFORMATION.

VRLA batteries, see Section 1, supplied by Yuasa Battery (UK) Ltd. are exempt from requirements of:

14.1 IATA Dangerous Goods Regulations, because they meet ICAO Special Provision A67 as Class 8, Group lll, UN No. 2800, Batteries, wet, non-spillable, electric storage

14.2 International Maritime Dangerous Goods (IMDG) Code Amendment 27-94, which incorporates the ICAO Special Provision A67, for any special conditions. Other relevant general conditions apply.

14.3 European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).

15. REGULATORY INFORMATION.

Batteries supplied by Yuasa Battery (UK) Ltd. are subject to The Batteries and Accumulators (Containing Dangerous Substances) Regulations 1994 and are marked in accordance with the requirements of Regulation 4.

16. OTHER INFORMATION.

To ensure safe use of VLRA batteries supplied by Yuasa Battery (UK) Ltd., the following precautions must be observed :

16.1 Never install batteries in a gas-tight enclosure as gases may be generated during use.

16.2 Batteries must always be charged on a voltage-regulated charging system and adequate ventilation provided, to avoid the build-up of ignitable gases. Contact your YUASA battery supplier for advice.

16.3 Never short-circuit battery terminals as sparks and arcs produced can injure personnel and are a fire hazard.

16.4 Do not charge batteries above + 50 ^{o}C, or discharge or store above + 60 ^{o}C.

16.5 Under extreme conditions of charging equipment malfunction and or battery failure, high voltage and high temperature conditions may occur causing the evolution of Hydrogen Sulphide (H_2S) gas, which is toxic. If detected by its odour of rotten eggs (at extremely low concentrations), switch off the charging equipment, evacuate all personnel from the area and ventilate well. Seek advice before attempting to re-start charging.