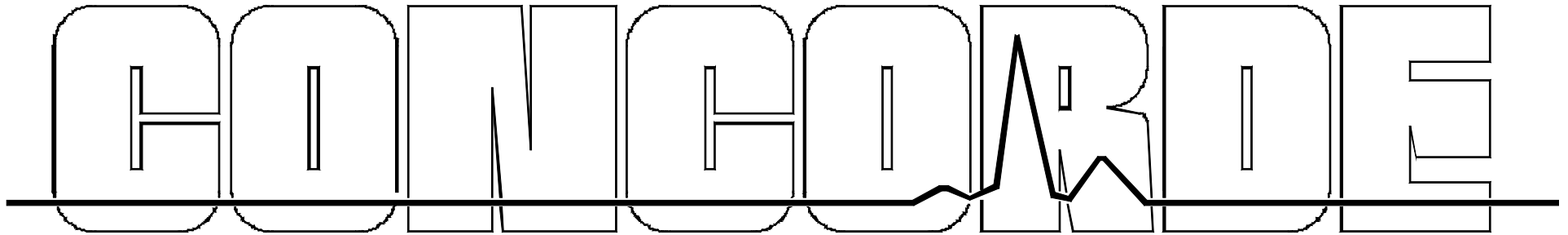


... the heart of your system. ®



Concorde Battery Corporation

2009 San Bernardino Road
West Covina, California, USA 27106

RG-125 & RG-126

24 VOLT 3.5 Ah, VALVE REGULATED, LEAD-ACID, AIRCRAFT BATTERY

DECLARATION OF DESIGN PERFORMANCE

TO THE REQUIREMENTS OF

RTCA DO-293 and IEC 60952

**Applications: Fixed and Rotary Wing Aircraft, Fuselage Mounted
Short Bros. Ltd. Model No. SD3-30, SD3-60; BH.125, DH.125 and HS.125 Multiple Models.**

Note: Applications may not be a complete list of all applications for this battery type.

The item or Technical Data contained herein has been reviewed and approved for general release on the basis that it contains no Export-controlled information.

| Characteristic | RTCA DO-293 IEC 60952 | Requirement/Performance | Test Report / Reference |
|----------------------------------|--|---|-------------------------|
| Description | <p>The RG-125 and RG-126 series are both 24 volt, 3.5Ah, valve regulated lead-acid aircraft batteries for emergency power. They both consist of twelve 2 volt cells connected in series. The cells are enclosed by an epoxy fuse coated aluminum container and cover. The RG-125 and RG-126 are identical in construction except to the mounting provisions that are built into the container. The battery hold down on the RG-125 is incorporated into the outer housing. The RG-126 has no hold down feature.</p> <p>The electrolyte is a sulfuric acid and water solution and is absorbed within the battery plates and separators. There is no free electrolyte. See Material Safety Data Sheet for hazardous material identification and precautions.</p> <p>The RG-125 and RG-126 are substantially identical both electrically and mechanically. The mechanical differences are limited to the hold down on the RG-125 and the connector.</p> | | |
| Format | IEC 60952-2 | Concorde Drawing No. RG-125 Concorde Drawing No. RG-126 | |
| Connector | IEC 60952-2 | The battery is equipped with a military specification circular connector: RG-125 - MS3102A 20-24S RG-126 - MS3102A 16-10P | |
| Mass | | 5.4 Kg (11.95 lbs.) Max. | |
| Charging method | IEC 60952-1, 4.3 | Constant potential at 28.25 +/- 0.25 V | |
| Any auxiliary requirement: | | None | |
| Ventilation | DO-293, 1.9 IEC 60952-2 | Battery is not equipped with vent tubes | |
| Flammability | IEC 60952-2 | Outer container is fire resistant | |
| Unspillability | | Non spill | |
| Electrical Performance | | | |
| Rated Capacity | DO-293, 2.2.2 IEC 60952-1, 5.1.1 | 3.5 Ah | |
| Capacity at -18°C | DO-293, 2.2.3 IEC 60952-1, 5.1.2 | 3.0 Ah when discharged at the C ₁ rate. | |
| Capacity at -30°C | DO-293, 2.2.4 IEC 60952-1, 5.1.3 | 2.0 Ah when discharged at the C ₁ rate. | |
| Capacity at +50°C | DO-293, 2.2.5 IEC 60952-1, 5.1.4 | 4.5 Ah when discharged at the C ₁ rate. | |
| Power Rating +23°C | DO-293, 2.2.6.1 IEC 60952-1, 5.2.1.1 | N/A, for engine starting batteries only | |
| Power Rating -18°C | DO-293, 2.2.6.2 IEC 60952-1, 5.2.1.2 | N/A, for engine starting batteries only | |
| Power Rating -30°C | DO-293, 2.2.6.3 IEC 60952-1, 5.2.1.3 | N/A, for engine starting batteries only | |
| Rapid Discharge Capacity at 23°C | DO-293, 2.3.1 IEC 60952-1, 5.3.1 | 2.0 Ah, when discharged at a 10C ₁ rate. | |

| Characteristic | RTCA DO-293 IEC 60952 | Requirement/Performance | Test Report / Reference |
|-----------------------------------|---|--|-------------------------|
| Rapid Discharge Capacity at -30°C | DO-293, 2.3.2 IEC 60952-1, 5.3.2 | 0.6 Ah, when discharged at a 10C ₁ rate. | |
| Charge Retention | DO-293, 2.4 IEC 60952-1, 5.4 | +23 C - Rating value for design = 95% | |
| | | +50 C - Rating value for design = 60% | |
| Storage | DO-293, 2.5 IEC 60952-1, 5.5 | DO-293 - 1 year storage life test. Battery delivers 100% of rated capacity after 1 year of storage. | |
| Charge Stability | DO-293, 2.6 IEC 60952-1, 5.6, Class I | OK. Max temperature on charge was 50°C. Charge current fell during the entire charge period. Capacity at end of test was greater than the C ₁ rating. | |
| Short-circuit Current | DO-293, 2.7 IEC 60952-1, 5.7 | Peak current = 321 A at 1 sec Last recorded current = 18 A at 17 sec | |
| Charge Acceptance | DO-293, 2.8 IEC 60952-1, 5.8 | +23 C = 68 % | |
| | | -18 C (battery with heaters only) N/A | |
| | | -40 C (battery with heaters only) N/A | |
| Insulation Resistance | DO-293, 2.9.1 IEC 60952-1, 5.9.1 | All samples successfully met the test requirements. | |
| Dielectric Strength | DO-293, 2.9.2 IEC 60952-1, 5.9.2 | All samples successfully met the test requirements. | |
| Duty Cycle Performance | DO-293, 2.10 IEC 60952-1, 5.10 | N/A | |
| Water consumption Test | DO-293, 2.11 IEC 60952-1, 5.11 | N/A | |
| Overcharge Endurance | DO-293, no requirement IEC 60952-1, 5.12 | Not Tested | |
| Cyclic Endurance | DO-293, 2.12 IEC 60952-1, 5.13 | 100 cycles. | |
| Deep Discharge | DO-293, 2.13 IEC 60952-1, 5.14 | All samples successfully met the test requirements. | |
| Induced Destructive Overcharge | DO-293, 2.14 IEC 60952-1, 5.15 | All samples successfully met the test requirements. | |
| Electrical Emissions | DO-293, 2.15 IEC 60952-1, 5.16 | N/A, Battery contains no active electronics. | |
| Environmental Performance | | | |
| Vibration | DO-293, 3.1 IEC 60952-1, 6.1 | Random vibration per Curve C, Section 8, DO-160E, 1 hour per axis. OK | |
| Acceleration | DO-293, no requirement IEC 60952-1, 6.2 | Not tested | |
| Operational Shock | DO-293, 3.3.1 IEC 60952-1, 6.3, Class I | Category B, DO-160E - OK | |

| Characteristic | RTCA DO-293 IEC 60952 | Requirement/Performance | Test Report / Reference |
|-----------------------|--|--|-------------------------|
| Crash Safety Shock | DO-293, 3.3.2 IEC 60952-1, 6.4, Class I | Category B, DO-160E, Impulse and sustained - OK. Sustained per DO-160E Table 7-1, Aircraft Type 5, Test Type R, 20g's in each orientation. | |
| Explosion Containment | DO-293, 3.4 IEC 60952-1, 6.4 | All samples successfully met the test requirements. | |
| Gas Emission | DO-293, no requirement IEC 60952-1, 6.5 | OK - 0.15% H ₂ | |
| Altitude | DO-293, 3.5 IEC 60952-1, 6.6 | Tested to 20,621m (67,654 ft) IAW DO-293. - OK | |
| Rapid Decompression | DO-293, 3.5.2 IEC 60952 no reqmt | Tested from 2,300m (8,000 ft) to 20,621m (67,654 ft) IAW DO-293. - OK | |
| Temperature Shock | DO-293, 3.6 IEC 60952-1, 6.7 | Tested from +85°C to -55°C IAW DO-293. Sample successfully met the test requirements. | |
| Fungus Resistance | DO-293, 3.7 IEC 60952-1, 6.8 | DO-160D Category F. All samples successfully met the test requirements. | |
| Humidity | DO-293, 3.8 IEC 60952-1, 6.9 | Qualified to DO-293 and DO-160E, Category B. | |
| Fluid Contamination | DO-293, 3.9 IEC 60952-1, 6.10 | Test was performed on representative material samples. Fluids tested: Fuels Aviation Jet A fuel Aviation piston engine fuel (100LL AVGAS) Hydraulic fluids Mineral based (MIL-H-5606) Non-mineral based synthetic (MIL-PRF-83282 and MIL-PRF-87257) Lubricating oils Mineral based (MIL-L-6081) Ester based synthetic (MIL-L-23699) Internal combustion engine SAE 15W40 Solvents and cleaning fluids Isopropyl alcohol (TT-I-735) Denatured alcohol De-icing fluid Ethylene Glycol Propylene Glycol AMS 1424 (SAE AEA Type I) AMS 1428 (SAE AEA Type VI) Insecticides - none Sullage - none Disinfectants (heavy duty phenolics) - none Coolant dielectric fluid - none Fire extinguishants - none | |
| Salt Spray | DO-293, 3.10 IEC 60952-1, 6.11 | Qualified to DO-293 and DO-160E, Category S. | |

| Characteristic | RTCA DO-293 IEC 60952 | Requirement/Performance | Test Report / Reference |
|--|---|---|-------------------------|
| Physical Integrity at High Temperature | DO-293, 3.11 IEC 60952-1, 6.12 | All samples successfully met the test requirements. | |
| Flammability | DO-293, no requirement IEC 60952-1, 6.13 | Not tested. Fire resistant by definition, see FAR 1.1 | |
| Electrolyte Resistance | DO-293, 3.12 IEC 60952-1, 6.14 | All samples successfully met the test requirements. | |
| Thermal Sensors | DO-293, 3.13 IEC 60952-1, 6.15 | N/A | |
| Component Qualification tests | DO-293, 3.14 IEC 60952-1, 6.16 | All samples successfully met the test requirements. | |
| Battery Airtightness | DO-293, no requirement IEC 60952-1, 6.17 | N/A | |
| Cell Baffle | DO-293, no requirement IEC 60952-1, 6.18 | N/A, applies only to Ni-Cd batteries only. | |
| Strength of Receptacle | DO-293, 3.15 IEC 60952-1, 6.19 | N/A | |
| Handle Strength | DO-293, 3.16 IEC 60952-1, 6.20 | N/A | |

N/A = Not Applicable

Authentication:

Manufacturer. Concorde Battery Corporation

Signed:
Name of signatory: John B. Timmons, PE
Title or Function: Vice President Engineering