1 TYPE EXAMINATION CERTIFICATE

2 **Product or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU – Annex VIII**

3 Type Examination Certificate No.: **EMT16ATEX0041X**

4 Product: **Ex ec 1400Ah 24V VRLA Battery Enclosure Type 5116-EXBE**

5 Manufacturer: **JCE Group (UK) Ltd.,**

6 Address: **Blackburn Business Park, Aberdeen, AB21 0PS, United Kingdom**

7 This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Element Materials Technology certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014.

The examination and test results are recorded in the confidential report **TRA-032554-33-00A**.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012/A11:2013 EN 60079-7:2015

Except in respect of those requirements listed at section 18 of the schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

11 This TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of this product shall include the following:

Ex II 3 G Ex ec IIC T6/T5 Gc -20 °C ≤ Ta ≤ +50 °C T6

-20 °C ≤ Ta ≤ +55 °C T5

This certificate and its schedules may only be reproduced in its entirety and without change. This certificate is issued in accordance with the Element Materials Technology Ex Certification Scheme.

S P Winsor, Certification Manager

Issue date: 2016-11-15

Unit 1, Pendle Place, Skelmersdale, West Lancashire, WN8 9PN, United Kingdom
Element Materials Technology Warwick Ltd.
Registered in England and Wales. Registered Office: 5 Fleet Place, London, EC4M 7RD
Company Reg No. 02536659

13 SCHEDULE TO TYPE EXAMINATION CERTIFICATE

14 EMT16ATEX0041X

15 Description of Product

The 5116-EXBE Battery enclosure consists of a battery housing unit. The housing unit comprises of a body manufactured from 4 mm 316 Stainless Steel and lid manufactured from 3 mm 316 Stainless Steel. The lid is secured via 14 x M6 stainless steel bolt, washer and spring washer arrangement. The enclosure is provided with a 40 mmø earth boss and M10 stainless steel earth stud welded to the enclosure body. Earthing connection is made via double insulated ring crimp earth conductor retained via a M10 nut and spring washer arrangement.

Internally 12 x 2V 1400 Ah Sonnenschein A612/1415 VRLA cells are housed and connected in series via 70 mm^2 insulated intercell connections. Battery terminals are connected by the manufacturer via ring lugs crimped onto the conductor. The lugs are attached to the battery terminals via an M8 bolt provided by the battery manufacturer. A torque of 20 Nm is applied to the connection arrangement, the terminal and conductors are then fitted with an insulating cover. This cover is bonded to the termination with silicone sealant. The enclosure internals are lined with 2 mm Tufnol or PVC fixed to the internal walls with silicone sealant.

The equipment is provided with two +ve and two –ve 35mm^2 cable tails which are fed into the enclosure through suitably approved Ex cable glands provided by the manufacturer. The intercell cable connectors are considered short non-rigid connections and batteries are retained in position via 15 mm PVC spacers.

The battery enclosure shall be connected to equipment via a suitably rated Ex approved battery isolator. The end user must also ensure that the associated equipment limits the output to 200 A via means of a suitably rated fuse or circuit breaker.

Charging the batteries in the hazardous area is permitted only when the equipment is connected to compliant battery charger located in a safe area, type 5166-SBCP, incorporating current limited charge regulator, in combination with a MCCB.

Where the external charger is not supplied by manufacturer, the equipment is marked with a warning label, the battery shall not be charged in a hazardous area.

16 Test report No. (associated with this certificate issue): TRA-032544-33-00A.

17 Specific Conditions of Use

1. Only suitably rated ATEX certified Cable glands, blanking elements and thread adapters are to be used in conjunction with the equipment.
2. Equipment must not be installed in locations where it may be susceptible to impacts or excessive vibration.
3. Field wiring external to the battery enclosure shall be terminated by means of a type protection listed in EN 60079-0 or in a safe area.
4. The 5116-EXBE Battery Enclosure shall be connected to interconnected equipment via suitably rated Ex type battery isolator.
5. Interconnected equipment shall limit discharge current to maximum 200 A via a suitably rated safety device.

18 Essential Health and Safety Requirements (Directive Annex II)

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	**Subject**
None	None

13 SCHEDULE TO TYPE EXAMINATION CERTIFICATE

14 EMT16ATEX0041X

19 Drawings and Documents

The list of controlled technical documents is given in Appendix A to this schedule.

20 Routine Tests

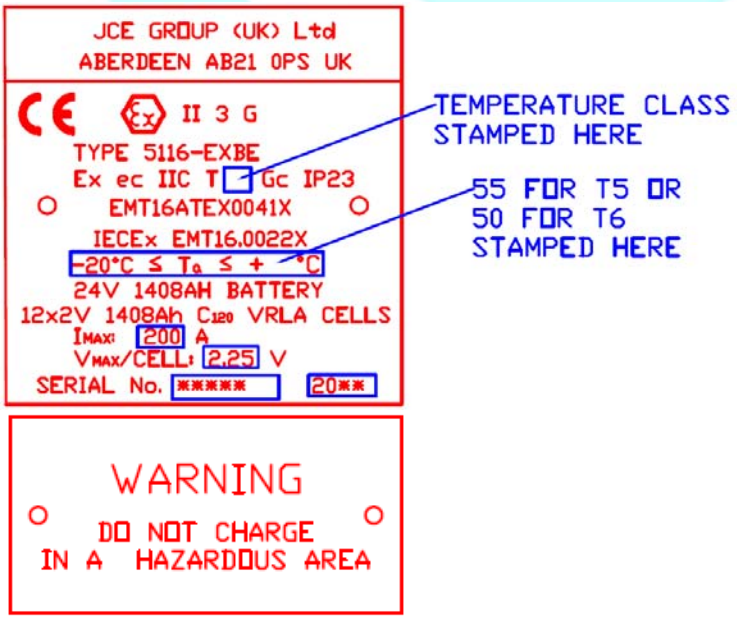
1. The battery shall be subjected to the test of insulation resistance and is considered satisfactory if the resistance is at least 1 MΩ when tested in accordance with Clause 6.6.2 IEC 60079-7. The resistance shall be measured firstly between the +ve battery cable and the battery enclosure (earth) and secondly between the +ve battery terminal and the battery casing.

21 Specific Conditions for Manufacture

None.

22 Photographs

23 Details of Markings



Warning label fitted when equipment is not supplied with an approved charger

24 Details of Variations to this Certificate

None

25 Notes to CE marking

In respect of CE Marking, Element Materials Technology accepts no responsibility for the compliance of the product against all applicable Directives in all applications.

26 Notes to this certificate

Element Materials Technology certification reference: **TRA-032544-32-00**.

Throughout this certificate, the date format yyyy-mm-dd (year-month-day) is used.

27 Conditions for the validity of this certificate

This certificate remains valid for so long as:

(i) The equipment listed in section 4 is manufactured in accordance with the documents listed in Appendix A of this certificate.

(ii) The standards listed in section 9 of this certificate continue to satisfy the Essential Health and Safety Requirements of Annex II of Directive 2014/34/EU and the generally acknowledged state of the art (e.g. as determined by the publishers of those standards).

APPENDIX A - TECHNICAL DOCUMENTS

Title:	Drawing No.:	Rev. Level:	Date:
5116-EXBE 1408Ah 24VDC Ex ec Battery Certification Drawing (Sheets 1 to 3)	5116-101	2	2016-11-08
EXBE-5116 Battery Enclosure Installation and Maintenance Information (2 sheets)	5116-IM	2	2016-11-07