

1 Operating instructions for safe functioning

1.1 Warning

The Z Series Pyrotechnic Squib are Category T2 Articles “For use only by persons with specialist knowledge”, classified as UN0432, Articles Pyrotechnic and when packaged for transport are 1.4S. Article to be used in accordance with written instructions and national regulations. All explosive materials are dangerous and must be carefully handled and used following approved safety procedures either by or under the direction of competent, trained, and experienced persons, and in accordance with applicable state and local laws, regulations and ordinances. If, after carefully reading this entire leaflet, you have any questions or doubts as to how to use any explosive product, do not use it before consulting your supervisor, or Event Horizon Pyrotechnics Ltd.

1.2 Application and use

1. The Z Series Squib distributed by Event Horizon Pyrotechnics Ltd. has been issued the EU-type examination certificate satisfying the Annex I of Directive 2013/29/EU on pyrotechnic articles. The article is in conformity with parts 1 to 5 of EN16256{2012} as detailed by the Declaration of Conformity.
2. The Electric Ignition Z16, Z16A, Z17, Z17A produce a brief burst of orange sparks that fade quickly and exhibit minimal smoke.
3. Products mentioned in this leaflet are for professional T2 use only.
4. They are for use in special effects motion picture and television production only.
5. The responsible person (operator) must have prior experience using this product for its intended purpose before use.
6. Not for use in blasting, mining, tunneling, construction, or excavating operations of any kind.
7. Do not use until all hazard analysis, hazard communication, and safety planning have been completed.
8. Not for use under water. Must be kept dry at all times.
9. May be used in temperatures from 0° to 50°C (32° to 122°F).
10. When used to simulate sparking or electrical short circuits, all precautions must be taken to ensure no debris or materials located around the devices spark radius catch on fire. After use, fire watch of sufficient time must be observed to eliminate the chance of a fire.
11. The minimum safe distance is provided on the Packaging label.
12. Safety distance shall also consider best available safety measures according to the effect, performance characteristics, specific parameters and surrounding conditions as assessed by the T2 operator.
13. Minimum all fire currents are as follows (1.70A - Z16), (1.73A – Z16A), (1.57A – Z17), (1.22A – Z17A). We recommend an Amperage of at least 2 Amps to ensure complete firing.
14. Gasses can be harmful in high concentrations, use in a well-ventilated location.

1.3 Electric circuit preparation

1. Make sure that all leg wire ends are clean before connecting.
2. Do not remove leg wire shunt until ready to make connection.
3. Keep the firing circuit completely insulated from ground or other conductors.
4. For checking the circuit values use only instruments approved for use with explosives.
5. Never make the final hook up to power source until all personnel are clear of the use area.

1.4 Protecting from sources of stray electricity and RF

1. Never use Zs or any other explosives during a thunderstorm.
2. Never handle or use Zs: when stray currents are present:
 - a. during electrical storms;
 - b. if static electricity is present
3. Use safe distance when radio frequency transmitters (RF) are present. See Institute of Makers of Explosives (IME) publication 20 (available as a fee download).

2 Misfires

1. Wait at least 15 minutes with misfires before returning to the use area. Follow local regulation.
2. Misfires should be handled by a trained, competent and experienced person familiar with the use and design.
3. Always shunt the naked leg wires of a misfired electric igniters by twisting them together to protect against RF sources of electrical energy.



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3 Storage and handling procedures

3.1 Storage

1. Shelf life of 36 months is expected provided all storage conditions are met during this time frame.
2. Be sure magazines are securely locked and protected from weather, fire and theft.
3. Keep the inside of the magazine clean, dry, cool and well ventilated.
4. Always rotate stocks of explosive material so the oldest material in the magazine is used first.
5. Store with compatible materials.
6. Zs must be stored in an environment with relative humidity not exceeding 80% and temperatures between 0°C and +50°C (32 to 122°F).
7. Do not remove Zs from inner package until ready to use.
8. Return unused devices to the original inner package for storage.

3.2 Transportation

1. Always follow state and local directives and regulations concerning transportation.
2. When transporting the Zs using motor vehicles, transport them in their original packing.
3. Transport only the required amount of Zs to the use area.
4. Do not leave a vehicle containing Zs unattended.
5. When transporting by foot, Zs must be located in the original sealed shipping box or an approved day box.

3.3 Handling

1. Keep explosive materials away from children, unauthorized persons and livestock.
2. Never cut into or disassemble a Z for any reason.
3. Do not compress or bend a Z.
4. Do not pull on lead wires from the attachment point.
5. Read and understand the Safety Data Sheet (SDS) prior to use.
6. Do not allow devices to come into contact with stray electrical charges and avoid friction or impact.

3.4 Shipping

1. Transport as Articles Pyrotechnic UN0432 per IATA, ADR, IMDG and US DOT regulations.
2. If repackaging use only original packaging as the shipping approvals are tied to specific boxes.
3. You must follow De La Mare Engineering, Inc. for Z's Igniters, UN0432, Packaging and Closure Instructions before offering for transport.

4 Disposal procedures

1. Handle defective or damaged Zs with special care.
2. Defective or damaged Zs present a greater hazard than explosive material in good condition.
3. Consult with Event Horizon Pyrotechnics Ltd. before returning any defective Zs.
4. Expired, defective or damaged Zs determined to be waste must be disposed of in accordance with local regulations.
5. Never allow Zs to enter wastewater, watersheds, ground water, lakes, rivers, or ocean.

5 Contact Details

1. Event Horizon Pyrotechnics Ltd., The Old Brewery, Stagman Lane, Ashcott, Somerset, TA7 9QW. United Kingdom.
2. Telephone: +44(0)1458 210280
3. e-mail: info@precisionenergetics.co.uk
4. web: <http://www.precisionenergetics.co.uk/>



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We Event Horizon Pyrotechnics Ltd	
Address	The Old Brewery, Stagman Lane, Ashcott, Somerset, TA7 9QW, UNITED KINGDOM
Telephone	+44 (0)1458 210280
Email	info@precisionenergetics.co.uk
declare under our sole responsibility for the article	
Article Name	De La Mare Z-16 / Z-16A / Z-17 / Z-17A
Product Description	Pyrotechnic Squib
Product Registration Number	0589-T2-0153 (Z16 & Z16A) / 0589-T2-0152 (Z17 & Z17A)
Batch Test Report Reference	EHXXXXXR0XX (EH Internal Project Document reference)
that all the essential requirements set out in Annex I of Directive 2013/29/EU on pyrotechnic articles has been demonstrated	
The article is in conformity with the following relevant Union harmonisation legislation	Directive 2013/29/EU on pyrotechnic articles
and that the article is in conformity with the following harmonised standards and/or other normative documents or technical specifications	
1. EN 16256-1:2012, Pyrotechnic articles - Theatrical pyrotechnic articles - Part 1: Terminology 2. EN 16256-2:2012, Pyrotechnic articles - Theatrical pyrotechnic articles - Part 2: Categories of theatrical pyrotechnic articles 3. EN 16256-3:2012, Pyrotechnic articles - Theatrical pyrotechnic articles - Part 3: Requirements for construction and performance 4. EN 16256-4:2012, Pyrotechnic articles - Theatrical pyrotechnic articles - Part 4: Minimum labelling requirements and instructions for use 5. EN 16256-5:2012, Pyrotechnic articles - Theatrical pyrotechnic articles - Part 5: Test methods	
The following Notified Body issued the EU-type examination certificate	
Description of intervention	Conformity Assessment according to Module B
Notified Body name	'Bundesanstalt für Materialforschung und -prüfung' (BAM)
Address	BAM, Unter den Eichen 87, 12205 Berlin, GERMANY
Identification number	0589
Number EU-type examination certificate	0589.PYR.0791/17 (Z16/Z16A) 0589.PYR.0789/17 (Z17/Z17A)
Date EU-type examination certificate	16 March 2018
and the following Notified Body performed the intervention as described below	
Description of intervention	Conformity Assessment according to Module E
Notified Body name	CerTrust
Address	CerTrust Kft, 2120 Dunakeszi, Madách Imre utca 33, Hungary
Identification number	2806
Number EU-type examination certificate	2.3/2349/17
Date EU-type examination certificate	2019-09-30
Notes	
Hazard Class	1.4S
SDS	EH15006R004, SDS Z Electric Squib
Operate in accordance with Safety Instructions	EH15006R003, Z Series Operating Instructions



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Signed for and on behalf of Event Horizon Pyrotechnics Ltd Somerset, United Kingdom

Name		Signature
Function	<i>Director or QM</i>	
Date of Release		

6 Revision History

Rev.	Summary	Person	Date
1	Initial Issue	T. Pritchard	12/09/2017
2	Revised	T. Pritchard	04/10/2017
3	Added bullet 13 into section 1.2 and updated the DoC template	T. Pritchard	27/09/2021