Designation: F3296 – 19

Standard Practice for Commercial Application of Electric Security Fences[1]

This standard is issued under the fixed designation F3296; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 The purpose of this practice is to provide advice for the selection and use of electric security fences to deter, detect, and delay an unauthorized breach of the perimeter in a commercial application.

1.2 *Units*—The values stated in SI units are to be regarded as the standard. No other units of measurement are included in this standard. The tolerance on physical dimensions is ±10 % unless otherwise specified.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *BSI Standard:*[2]

BS EN 60335-2-76 Household and similar electrical appliances – Safety – Part 2-76: Particular requirements for electric fence energizers

2.2 *IEC Standards:*[3]

IEC 60335-1 Household and similar electrical appliances – Safety – Part 1: General requirements

IEC 60335-2-76 Household and similar electrical appliances – Safety – Part 2-76: Particular requirements for electric fence energizers

2.3 *NFPA Standard:*[4]

NFPA 70 National Electrical Code

2.4 *UL Standard:*[5]

UL 69 Standard for Electric-Fence Controllers

3. Terminology

3.1 *Definitions:*

3.1.1 *electric fence energizer, n*—electrical device that is used to convert continuous power to a short-duration pulse using a fast-discharge electrical storage unit; it is also known as a controller.

3.1.2 *electric security fence zone, n*—predetermined section of the fence line that is monitored separately from another section of the fence line.

3.1.3 *gripple, n*—wire torque-tensioning device that incorporates a ceramic roller as the main tension ratchet part.

3.1.4 *pulse, n*—burst of electricity for a short period of time on a regular interval as opposed to continuous power.

3.1.5 *pulse rate, n*—number of pulses per second.

3.1.6 *security alarm panel, n*—device that detects a drop in the power of the pulse and, based on a specific algorithm, initiates an alarm.

4. Significance and Use

4.1 Electric security fences, in view of their high-deterrent impact, are a safe method to reduce security costs or enhance existing security. They are deployed in a wide variety of environments and geographies. In particular, electric security fences are used to decrease the need for security guards and other security systems.

4.2 This practice provides information to users and manufacturers of electric security fences, filling a void.

4.3 International standards exist at the International Electrotechnical Commission (IEC) and the British Standards Institution (BSI) (see Section 2) that cover some aspects of these systems.

[1] This practice is under the jurisdiction of ASTM Committee F33 on Detention and Correctional Facilities and is the direct responsibility of Subcommittee F33.06 on Control Systems.

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[2] Available from British Standards Institution (BSI), 389 Chiswick High Rd., London W4 4AL, U.K., http://www.bsigroup.com.

[3] Available from International Electrotechnical Commission (IEC), 3, rue de Varembé, 1st Floor, P.O. Box 131, CH-1211, Geneva 20, Switzerland, http://www.iec.ch.

[4] Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169-7471, http://www.nfpa.org.

[5] Available from Underwriters Laboratories (UL), 2600 N.W. Lake Rd., Camas, WA 98607-8542, http://www.ul.com.