



Designation: F1911 – 05 (Reapproved 2023)

Standard Practice for Installation of Barbed Tape¹

This standard is issued under the fixed designation F1911; 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 This practice covers the installation procedure for barbed tape.

1.2 The primary purpose of this practice is to guide those responsible for or concerned with the installation of barbed tape on chain link fences, masonry walls, roofs or used as ground barriers. This standard is not intended to cover aspects of perimeter security for establishing levels of product performance or give analysis relating to various design comparisons.

1.3 This standard involves the use of material, that may cause injury, including exposure to hazardous materials, and operation of specialized equipment.

1.4 The values stated in inch-pound units are to be regarded as standard. No other units of measurement are included in this standard.

1.5 *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.*

1.6 *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 *ASTM Standards:*²

F1379 Terminology Relating to Barbed Tape

F1910 Specification for Long Barbed Tape Obstacles

F1916 Specifications for Selecting Chain Link Barrier Systems With Coated Chain Link Fence Fabric and Round

Posts for Detention Applications (Withdrawn 2008)³

3. Terminology

3.1 Refers to Terminology F1379.

4. Significance and Use

4.1 This practice is intended to provide standard requirements utilizing specialized equipment and hand tools.

4.2 Ensure that the barbed tape is fabricated from acceptable material and well constructed. Field verification of the barbed tape's acceptability shall be in accordance with the project's specifications and this specification.

5. Site Preparation

5.1 The owner shall specify the location in which the barbed tape shall be installed by furnishing drawings or personal instruction.

5.2 Barbed tape obstacles shall be in accordance with Specification F1910 barbed tape specifications.

NOTE 1—Refer to Terminology F1379 for barb configuration and cross sections.

6. Installation

6.1 When the specifications are unclear, refer to these instructions or contact the owner for information covering placement, coil attachment, splicing, etc.

6.2 *Non-Reinforced (Concertina):*

6.2.1 *Description*—Barbed obstacle capable of being permanently or temporarily installed. Barbed tape used for some temporary installations shall have the ability of being recovered and used repeatedly.

6.2.2 *Top of the Fence Installation*—Barb Arms are recommended for top of the fence installations. Single 45° barb arms with a single strand of barbed wire or tension wire located in the outer position of the arm will support coils deployed at the top of the fence. Barb arms are positioned so that arms are out of reach from the approach side. “V” arms are not recommended for security applications where climbing is a threat or

¹ This practice is under the jurisdiction of ASTM Committee F14 on Fences and is the direct responsibility of Subcommittee F14.40 on Chain Link Fence and Wire Accessories.

Current edition approved Sept. 1, 2023. Published September 2023. Originally approved 1998. Last previous edition approved in 2019 as F1911 – 05 (2019). DOI: 10.1520/F1911-05R23.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.

where only one row of barbed tape is specified. Two rows of barbed tape are recommended where “V” arms are specified. See Fig. 1.

6.2.2.1 *Deployment*—Stretch the coils out and allow them to rotate (spiral) naturally around their central axis. Allowing the coil to rotate will ensure that there is no mechanical stress within the obstacle before tying. Locate the coil loops uniformly at the specified coil spacing. The coil spacing is predetermined by one or more permanently attached cables running the entire length of the roll. The number of cables depends largely on the diameter and application. Coil loop spacing for non-reinforced products are generally 12.0 in. See Fig. 2.

6.2.2.2 *Tie Points*—Before making the final attachment to the fence, inspect the coils for tangles and proper coil spacing. Attach the first ties to the single strand of barbed wire, cable or tension wire located in the barb arm. Tie parallel coil loops at the desired spacing, determined by the spacer cable. Attach the second tie points to the top of the chain link at the desired spacing. Tie wires for detention applications are stainless steel 16 gauge minimum, for commercial and industrial applications stainless steel 18 gauge minimum is adequate. Large stainless steel hog rings with a minimum cross section of 12½ gauge, may be used. Hog rings are not recommended where electronic

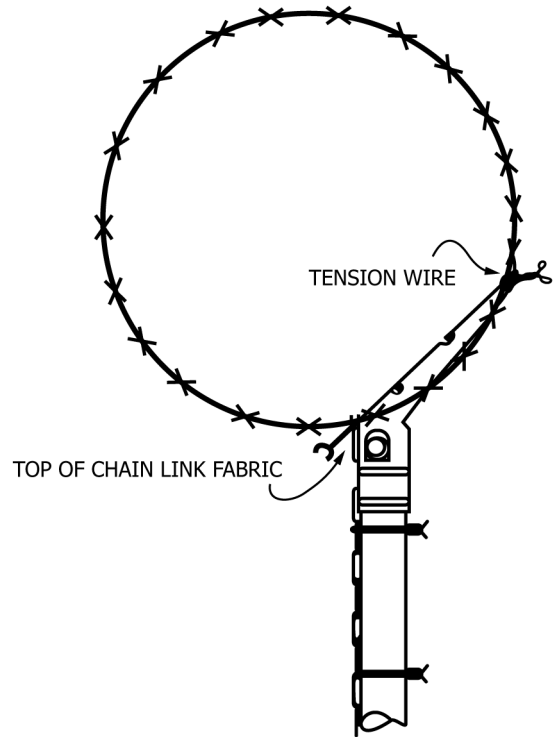


FIG. 2 45° Arm Installation Wire Reinforced and Non-Wire Reinforced Barbed Tape Concertina

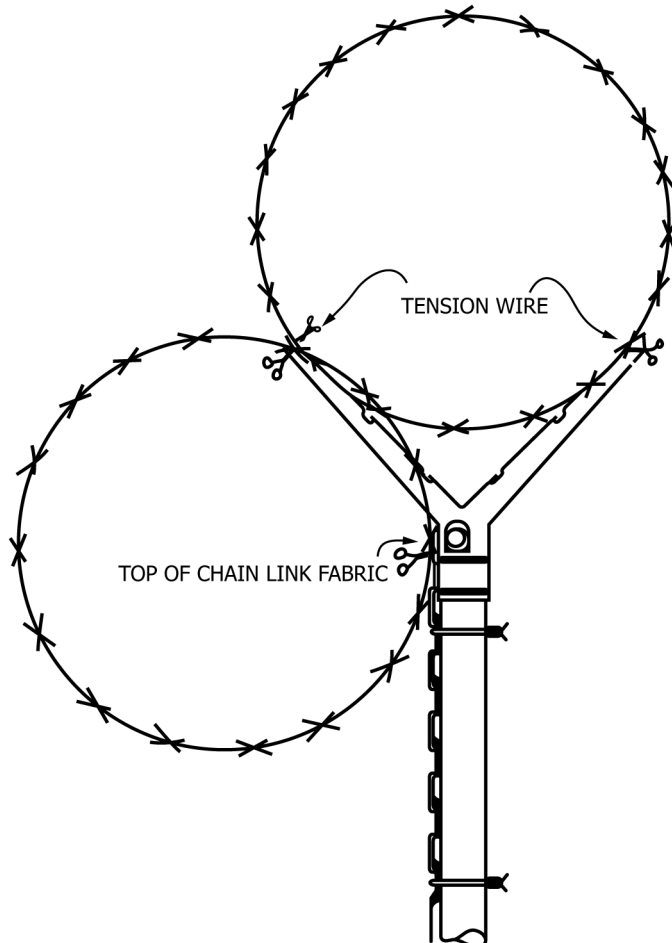


FIG. 1 “V” Arm Installation Wire-Reinforced and Non-Reinforced Barbed Tape Concertina

detection is an integral part of the barrier system. For high security application, the hog ring cross section must be strong enough to prevent opening the ring by pulling on the barbed tape.

6.2.3 *Side of The Fence Installation*—Coils shall be installed horizontally on the approach side of the fence. Design criteria will obviously change depending on the threat.

6.2.3.1 *Deployment*—Follow deployment instructions described for top of the fence (6.2.2.1).

6.2.3.2 *Tie Points*—Before making the final attachment to the fence, inspect the coil for tangles and proper coil loop spacing. Improper coil loop spacing and tangles will reduce the coil’s specified yield length. Attach the parallel coil loops to the fence fabric at the desired spacing determined by the spacer cables. Every coil intersecting the fence need not be tied. Ties for detention applications are stainless steel 16 gauge minimum; for commercial and industrial applications stainless steel 18 gauge minimum is adequate. Large stainless steel hog rings capable of providing an overlapping wrap around both the chain link and barbed tape may be used. Hog rings are not recommended where electronic detection is an integral part of the barrier system.

6.2.4 *Bottom of the Fence Installation*—Ground barriers are coils placed horizontal, in vertical stacks at the base of the fence and tied consecutively together. Stacked coils are tied approximately 36 in. to 48 in. on center (o.c.) to adjacent rows. See Fig. 3.

6.2.4.1 *Deployment*—Follow deployment instructions described in (6.2.2.1).

6.2.4.2 *Tie Points*—Follow tying instructions from 6.2.3.2.