Designation: F 1910 – 98 (Reapproved 2003)

Standard Specification for Long Barbed Tape Obstacles[1]

This standard is issued under the fixed designation F 1910; 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 specification covers barbed tape materials and configurations used for security barriers.

2. Referenced Documents

2.1 *ASTM Standards:*

A 176 Specification for Stainless and Heat-Resisting Chromium Steel Plate, Sheet and Strip[2]

A 240 Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels and for General Applications[2]

A 370 Test Methods and Definitions for Mechanical Testing of Steel Products[2]

A 666 Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate and Flat Bar[2]

A 764 Specification for Metallic Coated Carbon Steel Wire, Coated at Size and Drawn to Size for Mechanical Springs[2]

F 1379 Terminology Relating to Barbed Tape[3]

3. Terminology

3.1 Refer to Terminology F 1379.

4. Classification

4.1 Refer to 5.1.8.

5. Ordering/Specifying Information

5.1 Ordering or specifying barbed tape shall include the following information as per sample specification, or by referencing item numbers in Tables 1 and 2 (indicate number of loops, if applicable). Material furnished under this specification shall conform to applicable requirements of current editions of ASTM Standards.

NOTE 1—The following sample specification is provided to assist when specifying or ordering barbed tape material. Actual size and style will vary by individual job requirements.

Sample Specification Only—Barbed tape obstacle shall be 30 in. diameter (±2 in.). Each loop shall consist of 24 (±1) clusters of four needle-sharp barbs on 4 in. centers, each barb measuring a minimum of 1.2 in. in length. The barbed tape shall be fabricated from Series 430 stainless steel with optional hardness. The barbed tape shall be permanently cold–clenched over an austenitic mechanical spring core wire. The wire shall have a diameter of 0.098 in. with a minimum tensile strength of approximately 140 psi. The barbed tape shall have a minimum 230° wrap about the core wire. Adjacent alternate loops shall be clipped together in five (5) locations around the circumference to obtain the concertina effect. Clip spacing of the extended coil shall be 12 ± 2 in. Clips shall be capable of withstanding a minimum pull load of 200 lb. Each coil shall contain 51 loops and cover 25 ± 1 ft.

5.1.1 *Quantity*—The number of units of barbed tape required. For fixed length units, the length per unit should be specified.

5.1.2 *Description*— Barbed tape shall be described as single coil helical, single coil concertina, double coil concertina, or double coil helical.

5.1.3 *Diameter*—The purchaser shall specify the packaged diameter. When double coil products are specified, the inner and outer coil packaged diameters shall be given.

5.1.4 *Barb Length*— Refer to Terminology F 1379 and Tables 1 and 2.

5.1.5 *Coil Loops*—The number of coil loops shall be specified by the purchaser.

5.1.6 *Unit Length*— The purchaser shall specify the installed length and coil spacing, including the coil spacing tolerance.

5.1.7 Number of attachment points, in accordance with Terminology F 1739 and Tables 1 and 2.

5.1.8 *Cross Sections*— The purchaser shall specify the cross sections in accordance with Terminology F 1379.

6. Material

6.1 *Composition*— Barbed tape shall be manufactured from stainless and galvanized steel in accordance with the ASTM standards listed in Section 2. Manufacturers are not necessarily limited to those materials listed.

6.1.1 *Stainless Steel*— Stainless steel strip shall be either ferretic or austenitic. Stainless steel should be ordered to the AISA or UNS designations to ensure the correct chemistry.

6.1.1.1 Ferritic stainless steels shall be produced in accordance with Specification A 176 or Specification A 240.

[1] This specification 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 July 10, 2003. Published September 2003. Originally approved in 1998. Last previous edition approved in 1998 as F 1910 - 98.

[2] *Annual Book of ASTM Standards*, Vol 01.03.

[3] *Annual Book of ASTM Standards*, Vol 01.06.

6.1.1.2 Austenitic stainless steels shall be purchased in accordance with Specification A 666.

7. Dimensions and Permissible Variations

7.1 Permissible variations within coil diameters shall be as specified in Tables 1 and 2 for standard trade sizes.

8. Workmanship, Finish and Appearance

8.1 *Workmanship*— Coil loops shall not be kinked, unless it is part of the design.

8.1.1 Each coil shall be one continuous length properly coiled and firmly tied for shipping. Welds made in the strip prior to forming are permitted. A maximum of three splices per coil are permitted either by overlapping and welding or permanently clamping together with a suitable device designed for the purpose.

8.2 Surfaces shall be smooth and free of rust with no serious defects, such as pits, die marks, and other defects to impair the integrity of the product.

9. Certification

9.1 When specified in the purchase order or contract, a manufacturer's certification of compliance shall be furnished to the purchaser showing the quantity, size and type of barbed tape. The certification of compliance shall state that the representative barbed tape is in accordance with the specification.

10. Keywords

10.1 barbed tape

TABLE 1 Stainless Steel Long Barbed Tape (Reinforced) (See Terminology F 1379, Figs. 2 and 3)

NOTE 1—Maximum barb point radius = 0.005 in.

NOTE 2—Minimum barb length = 1.2 in.

NOTE 3—Maximum barb spacing = 4 in.

Item Number	Description	Barbed Tape Material	Core-Wire Material	Barb Clusters Per Loop	Coil Loops	Coil Loop Spacing ±2.0 in.	Coil Length, ft	Attachment Points
			Helical					
1	18 in. Single Coil Helical	430 SS 0.025 in. Thick	0.098 SS 300 Series 140 KSI (965 MPa)	13	33	12 in. 18 in.	33 50	0 0
2	18 in. Single Coil Helical	430 SS 0.025 in. Thick	0.098 Galvanized Steel Class III	13	33	12 in. 18 in.	33 50	0 0
3	18 in. Single Coil Helical	430 SS 0.025 in. Thick	0	13	33	12 in. 18 in.	33 50	0 0
4	18 in. Type III Single Coil Helical	300 Series SS 0.025 in. Thick	0	13	33	12 in. 18 in.	33 50	0 0
5	24 in. Single Coil Helical	430 SS 0.025 in. Thick	0.098 SS 300 Series 140 KSI (965 MPa)	19 ± 1	33	12 in. 18 in.	33 50	0 0
6	24 in. Single Coil Helical	430 SS 0.025 in. Thick	0.098 Galvanized Steel Class III	19 ± 1	33	12 in. 18 in.	33 50	0 0
7	24 in. Single Coil Helical	430 SS 0.025 in. Thick	0	19 ± 1	33	12 in. 18 in.	33 50	0 0
			Concertina					
8	18 in. Single Coil Concertina	430 SS 0.025 in. Thick	0.098 Galvanized Steel Class III	13	31 51	16 in. 12 in.	20 25	03 03
9	18 in. Single Coil Concertina	430 SS 0.025 in. Thick	0.098 SS 300 Series 140 KSI (965 MPa)	13	31 51	16 in. 12 in.	20 25	03 03
10	24 in. Single Coil Concertina	430 SS 0.025 in. Thick	0.098 Galvanized Steel Class III	19 ± 1	31 51	16 in. 12 in.	20 25	03 03
11	24 in. Single Coil Concertina	430 SS 0.025 in. Thick	0.098 SS 300 Series 140 KSI (965 MPa)	19 ± 1	31 51	16 in. 12 in.	20 25	03 03
12	30 in. Single Coil Concertina	430 SS 0.025 in. Thick	0.098 Galvanized Steel Class III	24 ± 1	31 51	16 in. 12 in.	20 25	03 03
13	30 in. Single Coil Concertina	430 SS 0.025 in. Thick	0.098 SS 300 Series 140 KSI (965 MPa)	24 ± 1	31 51	16 in. 12 in.	20 25	03 03
14	30 in. Single Coil Concertina	430 SS 0.025 in. Thick	0.098 Galvanized Steel Class III	24 ± 1	51 81 101	12 in. 12 in. 12 in.	25 40 50	05 05 05

TABLE 1 *Continued*

Item Number	Description	Barbed Tape Material	Core-Wire Material	Barb Clusters Per Loop	Coil Loops	Coil Loop Spacing ±2.0 in.	Coil Length, ft	Attachment Points
15	30 in. Single Coil Concertina	430 SS 0.025 in. Thick	0.098 SS 300 Series 140 KSI (965 MPa)	24 ± 1	51 81 101	12 in. 12 in. 12 in.	25 40 50	05 05 05
16	40 in. Single Coil Concertina	430 SS 0.025 in. Thick	0.098 Galvanized Steel Class III	31 ± 1	51 81	12 in. 12 in.	25 40	07 07 07
17	40 in. Single Coil Concertina	430 SS 0.025 in. Thick	0.098 SS 300 Series 140 KSI (965 MPa)	31 ± 1	51 81	12 in. 12 in.	25 40	05 05
18	40 in. Single Coil Concertina	430 SS 0.025 in. Thick	0.098 SS 300 Series 140 KSI (965 MPa)	31 ± 1	51 81	12 in. 12 in.	25 40	07 07
19	60 in. Single Coil Concertina	430 SS 0.025 in. Thick	0.098 Galvanized Steel Class III	45 ± 1	51 81	12 in. 12 in.	25 40	09 09
20	60 in. Single Coil Concertina	430 SS 0.025 in. Thick	0.098 SS 300 Series 140 KSI (965 MPa)	45 ± 1	51 81	12 in. 12 in.	25 40	09 09
21	24/30 in. Double Coil Concertina	430 SS 0.025 in. Thick	0.098 Galvanized Steel Class III	43 ± 2	31	16/16 in.	20	3
22	24/30 in. Double Coil Concertina	430 SS 0.025 in. Thick	0.098 SS 300 Series 140 KSI (965 MPa)	43 ± 2	31	16/16 in.	20	3

TABLE 2 Non-Reinforced (See Terminology F 1379, Fig. 1)

Item Number	Description	Barbed Tape Material	Core-Wire Material	Barb Clusters per Loop	Coil Loops	Coil Loop Spacing ±2 in.	Coil Length, ft	Attachment Points	Number of 7 × 7SS Cables
				Double Helical					
23	24/30 GPBTO Type II	300 Series SS 0.025 in. Thick	none	19/24 ± 1	33/33	24/24	66	0	4-3/64
				Concertina					
24	24 in. Single Coil Concertina	300 Series SS 0.025 in. Thick	none	19 ± 1	101	12 in.	50	3	1-3/64 × 5/64
25	30 in. Single Coil Concertina	300 Series SS 0.025 in. Thick	none	24 ± 1	101	12 in.	50	5	1-3/64 × 5/64
26	40 in. Single Coil Concertina	300 Series SS 0.025 in. Thick	none	31 ± 1	101	12 in.	50	7	1-3/64 × 5/64
27	60 in. Single Coil Concertina	300 Series SS 0.025 in. Thick	none	45 ± 1	101	12 in.	50	13	1-3/64 × 5/64