

RR-F-221G/GEN  
August 28, 1973  
~~SUPERSEDING~~  
Fed. Spec. RR-F-221F  
July 12, 1968

## FEDERAL SPECIFICATION

FENCING, WIRE, FENCE POSTS AND ACCESSORIES  
(BARBED WIRE, WOVEN WIRE, AND NETTING)

(GENERAL SPECIFICATION)

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

### 1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers the general requirements for barbed wire, woven wire, netting, posts and accessories for the erection of farm field, railroad right-of-way and similar fencing.

### 2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

#### Federal Specifications:

QQ-A-673 - Anodes, Copper.  
QQ-C-521 - Copper Ingot.  
QQ-Z-351 - Zinc Slab, Spelter.

#### Federal Standard:

Fed. Test Method Std. No. 151 - Metals; Test Methods.

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

(Single copies of this specification and other Federal Specifications required by activities outside the Federal Government for bidding purposes are available without charge from Business Service Centers at the General Services Administration Regional Offices in Boston, New York, Washington, DC, Atlanta, Chicago, Kansas City, MO, Fort Worth, Denver, San Francisco, Los Angeles, and Seattle, WA.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

#### Military Standard:

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.

(Copies of Military Specifications and Standards required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply.

FSC 5660

RR-F-2216/GEN

National Motor Freight Traffic Association, Inc., Agent:

## National Motor Freight Classification.

(Application for copies should be addressed to the American Trucking Association, Inc.,  
Tariff Order Section, 1616 P Street, N.W., Washington, DC 20036.)

Uniform Classification Committee, Agent:

## Uniform Freight Classification.

(Application for copies should be addressed to the Uniform Classification Committee, Room  
1106, 222 South Riverside Plaza, Chicago, IL 60606.)

## 3. REQUIREMENTS

3.1 Material.

3.1.1 Base metal. Base metal of fencing shall be commercial quality steel produced by the open-hearth, basic-oxygen or electric furnace process. When copper-bearing steel is specified (see 6.2), the copper content shall conform to the following (see 4.4.2):

Copper, percent, minimum	
Ladle analysis	0.20
Check analysis	.18

3.1.2 Zinc coat. Zinc used in coating fence components shall conform to any of the compositions in QQ-Z-351 (see 4.4.2).

3.1.3 Aluminum coat. Chemical composition of aluminum used in coated barbed wire, farm-field and right-of-way fencing shall be as follows (see 4.4.2):

Copper	- 0.10 percent, maximum.
Iron	- .50 percent, maximum.
Aluminum	- balance.

3.1.4 Copper coat. Copper used in coating barbed wire shall conform to any of the chemical compositions in QQ-A-673 and QQ-C-521 (see 4.4.2).

3.1.5 Plastic coat. Unless otherwise specified (see 6.2), plastic material shall be polyvinyl chloride (PVC).

3.2 Workmanship. All metals shall be free from pits, loose rust and mill scale, cracks and seams to an extent that would be detrimental to the intended end use. Plastic coat shall be free from cuts or cracks that permit access of water to the base metal. All fencing except barbed wire shall be free from sharp edges.

## 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.2 Sampling.

4.2.1 Lot. Unless otherwise specified (see 6.2), a lot shall consist of all fencing and accessories offered for delivery at the same time.

4.2.2 Sampling for visual examination and tests. Sampling for visual examination of the end product shall be in accordance with level S-3 in MIL-STD-105. Sampling for tests shall be in accordance with level S-1.

4.3 Examination.

RR-F-221G/GEH

**MILITARY INTERESTS:**

Custodians:

Navy - YD  
Air Force - 84

User interest:

Navy - MC, CG  
Army - ME, CE

**Military Coordinating Activity:**

Navy - YD

Preparing Activity:

GSA-FSS

**Civil Agency Coordinating Activities:**

COMMERCE - NBS  
HEW - FEC  
INTERIOR - EPA  
USDA - AFS

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Orders for this publication are to be placed with the General Services Administration, acting as an agent for the Superintendent of Documents. See section 2 of this specification to obtain extra copies and other documents referenced herein. Price 10 cents each.

RR-F-221G/GEN

4.3.1 End item examination. Fencing materials shall be examined for defects listed in table I. The Acceptable Quality Levels (AQL's), in accordance with MIL-STD-105, shall be 2.5 percent defective for major defects and 4.0 percent defective for minor defects.

TABLE I. Classification of defects, end item

Defects	Major	Minor
Pits on metals.		X
Loose rust or mill scale on metals.		X
Cracks or seams in metals.	X	
Cuts or cracks in plastic coat.	X	
Sharp edges present, except on barbed wire.		X
Damage or defects affecting function or serviceability.	X	
Damage or defects not affecting function or serviceability.		X

#### 4.4 Test methods.

4.4.1 Frequency of tests. Unless otherwise specified (see 6.2), tests for chemical composition shall be performed on the initial inspection, and thereafter only when changes are made in the material.

4.4.2 Chemical analysis. Chemical analysis shall be in accordance with method 111.1 or 112.1 of Federal Test Method Standard No. 151. In case of dispute, referee analysis shall be by the wet method in method 111.1 (see 3.1.1 to 3.1.4).

#### 5. PREPARATION FOR DELIVERY (see detailed specifications).

#### 6. NOTES

##### 6.1 Intended use.

6.1.1 Barbed wire. Barbed wire is intended for general use wherever barbs are required.

6.1.2 Woven wire. Woven wire fencing is intended for enclosing fields, corrals, and yards, enclosure for protecting livestock, and for right-of-way.

6.1.3 Netting. Netting is intended for poultry fencing.

6.1.4 Posts. Posts are intended for use as line, end, and corner supports and as intermediate braces. U-section posts are also used for sign posts.

##### 6.1.5 Accessories.

6.1.5.1 Stays. Stays are intended for maintaining wire spacings and for additional support of woven wire and barbed wire in spaces between posts.

6.1.5.2 Fasteners. Wire fasteners or clamps are intended for attaching wires and barbed wire to metal posts.

6.1.5.3 Gates. Gates are intended as a means for entrance or egress for fenced enclosures.

6.2 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in procurement documents:

- (a) Title, number, and date of this specification.
- (b) Material (see 3.1.1).
- (c) Size of lot, if different from 4.2.1.
- (d) Frequency of tests, if different (see 4.4.1).

6.3 Detail specifications. The following detail specifications are applicable to this specification:

- RR-F-221G/1 - Fencing Wire (Barbed Wire).
- RR-F-221G/2 - Fencing Wire (Woven Wire and Netting, Fabric).
- RR-F-221G/3 - Fence Posts and Accessories.