

SECTION R12

Fencing

R12 01 Scope

Under this Specification, the Contractor shall construct barbed wire, woven wire or combination barbed and woven wire fence on metal posts at such locations as shown on the Drawings or directed by the Engineer.

R12 02 Designs and types

The fence shall be constructed in accordance with the designs shown on the Drawings or as set forth in the Special Specification of Particular Application. The type to be used at any given location shall be as the Drawings or Specification indicate or as the Engineer's Representative orders.

Galvanizing shall be in accordance with AASHTO M232. Painting shall be in accordance with Clause R14 12.

R12 03 Posts

Fence posts shall be of metal as indicated on the Drawings or as set forth in the Special Specification of Particular Application. They shall conform with the following requirements:

Metal posts and bracings shall be new and shall be the standard products of reputable and recognized manufacturers. They shall be either galvanized or painted with a durable and protective paint. End, corner, gate and line or intermediate posts, wire and metal bracing shall be as called for on the Drawings or in the Special Specification of Particular Application.

R12 04 Barbed wire

Barbed wire shall be new, standard, galvanized barbed wire of two main strands of steel wire with 2-point barbs of steel wire wrapped twice around one of the main strands at intervals or approximately 10cm. Unless otherwise indicated on the Drawings or stated in the Special Specification of Particular Application, the main strands shall be of 2·5mm wire and the barbs shall be 2mm wire. Barbed wire shall be in accordance with ASTM A1.

R12 05 Woven wire

Woven wire shall be new standard, galvanized rectangular-woven wire comprised of horizontal or bar wires and vertical or stay wires. The spacing of the horizontal and vertical wires shall be as indicated on the Drawings or as set forth in the Special Specification of Particular Application. Unless otherwise indicated on the Drawings or stated in the Special Specification of Particular Application, the top and bottom horizontal wires shall be 3·15mm and the intermediate horizontal wires and all vertical wires shall be 2·5mm. Woven wire shall be in accordance with ASTM A116.

R12 05A Chain link fencing

Chain link fencing shall be in accordance with BS 1722 (Part 1) and as shown on the Drawings or as stated in Special Specification of Particular Application.

R12 06 Staples, fence stays and tie wires

Fence staples, stays and tie wires shall be new, standard, galvanized materials conforming to the following requirements:

Staples shall be made from 3·15mm or heavier wire and shall be at least 4cm in length. Tie wires shall be made from 2mm or heavier wire and shall be of sufficient length to be tied effectively.

R12 07 Concrete footings

When called for by the Drawings or in the Special Specification of Particular Application, metal end posts, metal corner posts, metal gate posts, metal post braces and certain of the metal line posts shall be set in concrete footings. The footings shall be of Class E concrete furnished and placed in accordance with the applicable provisions given in Section B8.

The concrete footings may be either poured in place or precast, as the Contractor may elect. If the Contractor elects to pour the footings in place, the footings for posts and braces shall not be less than 30cm across and to a depth as shown on the Drawings. The concrete shall be poured around the posts or brace ends after the posts and braces have been brought to and firmly held in proper central position. The surface of the concrete shall be struck off to a slope of 15° from the horizontal and to a reasonably smooth surface near the ground level and shall be allowed to cure for at least 7 days before the posts and braces are subjected to strain or use.

If the Contractor elects to precast the footings, they shall have round or square top dimensions of not less than 20cm, depths the same as above given for poured footings and round or square bottom dimensions of not less than 45cm., with the posts and braces placed in the centre of the footings. The precast footings shall be allowed to cure for at least 7 days before being used.

R12 08 Gates and gate fastenings

Fence gates shall be galvanized, steel frame, plain top, single drive gates of the clear opening width, height and weight and construction called for on the Drawings or in the Special Specification of Particular Application.

Gates, hinges, latches and fastenings shall be the product of a recognized gate manufacturer and shall be sturdy and of good workmanship throughout.

R12 09 Details of construction

Post holes and excavations for footings and anchors shall be excavated on the lines approved by the Engineer's Representative and to the depths and cross-sections shown on the Drawings or set forth in the Special Specification of Particular Application. Metal posts which are not set in concrete footings may be driven. All post hole filling and all backfilling work shall be in 10cm layers and each layer shall be solidly tamped and compacted as it is placed.

All trees, shrubs, bush, rocks and other obstacles which interfere with the proper con-

struction of the fence shall be removed by the Contractor and the materials so removed shall be disposed of in a manner satisfactory to the Engineer's Representative.

Unless otherwise specified, line posts shall be set at 5m centers, measured horizontally. End, corner and gate posts shall be set at the locations directed by the Engineer's Representative.

Corner posts shall be set with two braces, end and gate posts shall be set with one brace and line posts shall be set with two braces at such intervals along the fence that no run of fence will be supported on unbraced posts for a distance of more than 200m.

After the posts, braces and footings have been firmly set and established, the woven wire and/or barbed wire shall be placed, tightly stretched and fastened to the posts. When and as called for by the Drawings or in the Special Specification of Particular Application, vertical fence stays shall be placed; the spacing of woven wire, barbed wire and fence stays shall be also as shown on the Drawings.

At grade depressions and alignment angles where stresses tending to pull posts from the ground are created, the wire fence shall be strutted or guyed at the critical points by 2 strands of 5mm galvanized wire attached to each horizontal line of fence wire and the end of the combined strands being firmly attached to a "deadman" weighing at least 50 kg and buried not less than 60cm in the ground at a point which will serve best to resist the pull of the wire fence. The "deadman" shall be a single rock, Portland cement concrete block or other object or thing providing the specified weight and suitable for the intended purpose.

Gates shall be installed at the locations shown on the Drawings or in the Special Specification of Particular Application.

Upon completion, the fence shall be true to line and grade, all posts shall be vertical and firm, all wire shall be taut and the completed fence shall be first class in all respects.

R12 10 Measurement and payment

Payment for the construction of barbed wire fence, woven wire fence or combination barbed wire and woven wire fence and chain link fence will be made at the price tendered per linear meter for "Fence" of the type constructed. Payment at the price tendered shall be understood to include payment for the furnishing and installing of all materials (except gates) and the performance of all work involved in the construction of the fence including necessary excavation and backfill in accordance with the Drawings and Specification.

The pay length of the item "fence" of the type constructed will be determined by measurement along the grade of each section of that type of fence as constructed, the pay quantity to be to the nearest meter.

For the furnishing and installing of gates as specified, payment will be made at the price tendered for each for "Metal Gates" of the size or sizes furnished and installed in accordance with the Drawings or in the Special Specification of Particular Application.