

MINIMUM SPECIFICATION FOR FARM FENCING

The receiving of this specification does not imply approval of a grant application. However, if written approval is issued, then this specification becomes part of the contract between the applicant and the Department of Agriculture, Fisheries and Food.

This is a minimum specification. Where the word “SHALL” is used, then that standard (at least) must be followed in grant-aided buildings. Where a procedure is “RECOMMENDED”, this is advice only on good practice.

Note that all references to other Department Specifications are to the current edition of that specification [available on the Department of Agriculture, Fisheries and Food Website (www.agriculture.gov.ie) under, [farmerschemespayments/farmbuildings/](http://www.agriculture.gov.ie/farmerschemespayments/farmbuildings/)]. Similarly, references to Standards are to the current edition of the Irish, British or European Standard, as appropriate.

All materials used in fencing shall be sourced as new.

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A GENERAL

A.1 Safety

A.1.1 Responsibility for Safety

Applicants are reminded that they have duties under the Safety, Health, and Welfare at Work Act 2005 to provide a safe working environment on the farm, including farm buildings, for all people who may work on that farm and also when undertaking building works. There is a further duty to ensure that any contractor, or person hired to do building work, provides and/or works in a safe environment during construction.

A.1.2 Safety during Construction

Farmer/Applicant Responsibility: Please note that neither the Minister nor any official of the Department shall be in any way liable for any damage, loss or injury to persons, animals or property in the event of any occurrence related to the development and the applicant shall fully indemnify the Minister or any official of the Minister in relation to any such damage, loss or injury howsoever occurring during the development works.

B Requirements for Timber Posts and Rails

B.1 Timber Standard:

Timber used in horse fencing shall meet the requirements of IS437, as and from 1st March 2008 be and certified as such by the NSAI or equivalent Body (e.g. BSI).

Timber used in deer, sheep and goat fencing shall meet the requirements of IS436, as and from 1st March 2008 and be certified as such by the NSAI or equivalent Body (e.g. BSI).

B.1.1 Permitted species

Timber for posts and rails for all fencing shall be chosen from species in accordance with Table 1.

Table 1 — Permitted species

Species	Post	Rail
Douglas fir – <i>Pseudotsuga menziesii</i>	Permitted	Permitted
Larch – <i>Larix</i> spp.	Permitted	Permitted
Lodgepole pine – <i>Pinus contorta</i>	Permitted	Permitted
Scots pine – <i>Pinus sylvestris</i>	Permitted	Permitted
Oak – <i>Quercus</i> spp.	Permitted	Permitted
Spruce – <i>Picea sitchensis</i> , <i>Pinus abies</i>	Permitted for deer, goat and sheep fencing only	Permitted

B.1.2 Grading

Timber posts shall meet the requirements in Table 2A and Table 2B and Figure 1 when graded in accordance with I.S 127.

Table 2A — Grading requirements

Characteristics	Permissible limits
Knots	Total Knot Area Ratio (KAR) not greater than ½
Slope of grain	Not exceeding 1 in 6
Wane	Up to ¼ of face or edge over full length and can be up to ¼ in any 300 mm length for Horse fencing timbers. For deer, sheep and goat fencing timbers the wane shall not exceed 1/3 of face or edge over full length (rectangular sections only)
Sapstain	Permitted
Decay	Not permitted
Active insect attack	Not permitted
Surface condition	Free from extraneous matter for example water, mud, dirt and largely free from inner or outer bark.

B.1.3 Moisture content

After drying and immediately prior to preservative treatment, the moisture content of posts for sheep, deer and goat fencing shall not exceed 28%, when measured in accordance with **I.S. 436**.

After drying and immediately prior to preservative treatment, the moisture content of posts and rails for horse fencing shall not exceed 26%, when measured in accordance with **I.S. 437**.

Table 2B— Additional requirements for Horse fencing timbers

Characteristics	Permissible limits
End splits	Not longer than 150 mm
Fissures	Total depth of fissure not greater than $\frac{1}{2}$ the thickness
Distortion	See Figure 1
Bow	Maximum 25 mm over 3000 mm
Spring	Maximum 15 mm over 3000 mm
Twist	Maximum 20 mm over 3000 mm
Cup	Not greater than $\frac{1}{25}$ of the width

B.1.4 Preservation of timber pieces

Oak may be used untreated, but, if so, shall be free of sapwood. For all other permitted species, pieces of the correct moisture content and dimensions, shall be treated in accordance with I.S. 436 or I.S. 437, and as and from 1st March 2008 shall be certified to be in compliance with the relevant standard by the NSAI.

All timber used in fencing and gates for horses shall be treated with creosote. No other preservative is acceptable for grant-aided horse fencing.

Brush on treatment of any preservative is not acceptable.

B.1.5 Marking

B.1.5.1 Intermediate posts

Intermediate posts shall be labelled by the bale. Each bale shall be labelled with the label containing the following information at a minimum:

Manufacturer's details, bale number, number of pieces in bale, piece dimensions, date of labelling, verification of final inspection, Irish Standard number.

B.1.5.2 Straining Posts

Straining posts shall be individually marked with a unique number, which can be fully traced back to the manufacturer. Each bale of straining posts shall also be labelled as for intermediate posts.

B.1.5.3 Certificate for Stakes

A fencing stake certificate (in Appendix A) shall be completed for all stake applications for grant aid. Section A is to be completed by the stake manufacturer. Section B is to be completed by the supplier of the stake to the farmer. The farmer shall submit the completed certificate together with the standard paperwork for grant aid.

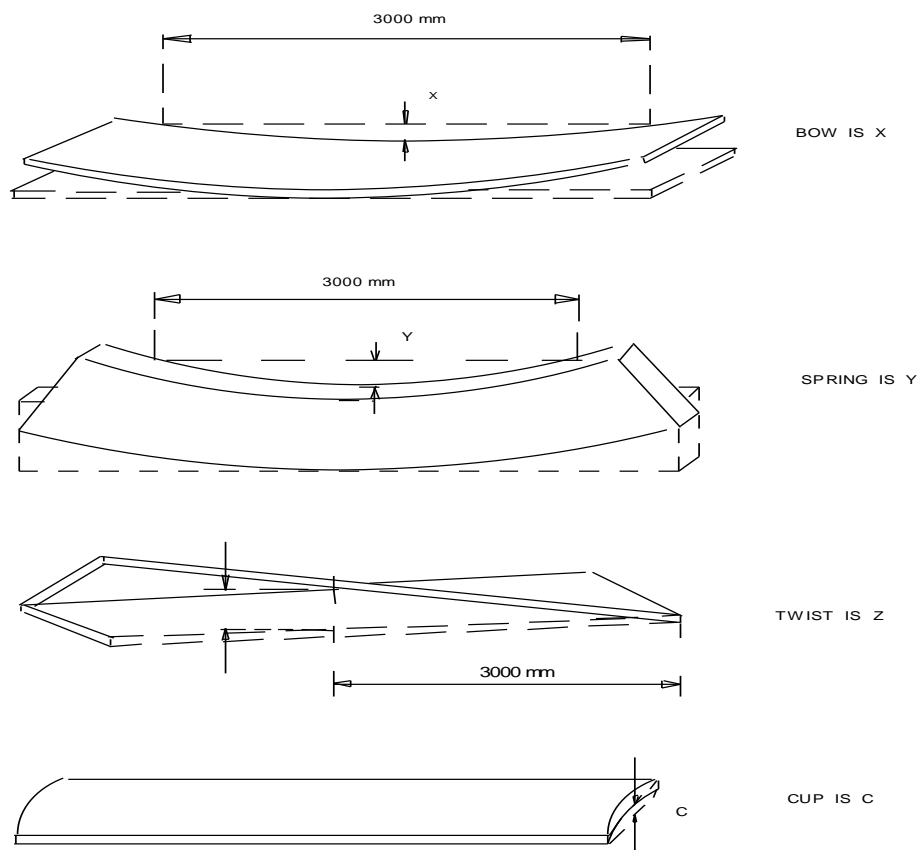


Figure 1 — Timber post and rail horse/stud fencing - measurement of bow, spring, twist and cup

C Requirements for Non-Timber Posts and Rails

C.1 Concrete Posts

Fencing posts manufactured from concrete may be used in place of timber posts under the following conditions:

1. The posts shall be at least as long as the timber posts specified for the fence.
2. The posts shall be produced using, at least, C35/45 concrete with a maximum water cement ratio of 0.40 and a minimum cement content of 400kg/m³.
3. All posts shall have suitable reinforcement for the entire length of the post.
4. The posts shall be certified by the manufacturer as being in accordance with the above requirements.
5. All posts shall be guaranteed by the manufacturer for a minimum of 10 years for the fence types described in this specification.
6. All post manufacturers shall be listed on specification S.148A: Accepted non-timber fencing posts.

C.2 Alternative Materials

Fencing posts manufactured from materials other than concrete or timber shall be certified to be at least as strong as new timber posts of the required size that are certified to IS 436. The posts shall be of at least the same dimensions as timber posts. These posts shall require prior acceptance by the Department of Agriculture, Fisheries and Food and shall be listed on specification S.148A:
Accepted non-timber fencing posts.

D Fence Erection techniques

D.1 Line and level

The fence shall be erected so that on completion the posts are located along the designated fencing line and the posts follow a smooth alignment. The finished fence shall follow approximately the profile of the ground.

D.2 Setting out

The posts shall be accurately set out such that no rails, where possible, need to be cut or altered on site. Any length of fencing, including branches or spurs, shall start and end with a straining post.

D.3 Existing fences and openings

All new fencing shall be neatly and effectively joined to existing walls and fences. Where necessary, openings shall be left for gates.

D.4 Cutting of members on site

Where cutting of members is unavoidable because of openings, walls or obstructions, the cut ends shall be treated with two liberal coatings of compatible preservative to achieve the necessary level of preservation. Where cutting of posts is unavoidable, the top end of the post shall always be cut.

D.5 Posts

Where posts are to be installed by driving, the post bases shall be pointed. Where posts are to be placed by excavation, the post bases shall be flat. The base of the post for horse fencing shall be supplied four-way pointed.

D.6 Driving of posts

The posts shall be driven using a purpose built post driver such that on completion of driving, the fence shall remain stable and upright and within a tolerance of $\pm 25\text{mm/metre}$ length for the vertical. In order to protect the post from damage, the driving weight shall impact directly on the post top. In cases where the post driver does not have a jockey post cap as normal equipment, a purpose built steel cap shall be provided and moved from post to post as driving proceeds. For horse fencing, where rock or other obstructions are encountered the post shall be set in concrete. The concrete base shall be 600 mm deep for boundary and paddock fencing and 900 mm deep for lunging and turnout areas.

Where fences are for other than horses, posts may be placed in augered holes rather than driven.

D.7 Fixing to posts

D.7.1 Wire fixing

Wire should be fixed with galvanised or zinc / aluminium coating staples. To prevent splitting of the post, staples should be driven at an angle and staggered along the length of the post. Staples

should not be driven home fully as such staples will inhibit movement of the fencing wire and will damage the galvanised or zinc / aluminium coating coating.

D.7.2 Nailing of rails and top boards to posts

Rails and top boards shall be fixed to the field side of posts. The top of the rail should always finish flush with the top of the post. Rail and top board joints shall be staggered so that only alternate joints occur on one post. They shall be butt jointed along the centreline of each of the posts. Each rail or top board shall be fixed to each post with two nails driven in on the skew by hand or mechanical means. Rails or top boards which split during railing are not permitted. Where splitting of the rails or top boards is encountered, it is recommended that all remaining rails and top boards shall be pre-drilled.

E Ancillary items

E.1 Fixings

E.1.1 Metal fixing issues:

Metal fixings shall not be attached to treated timber until 14 days after treatment or until the moisture content has fallen below 20%.

NOTE When attaching metal fixings to treated timber refer to the wood preservative manufacturer's instructions.

E.1.2 Nails for deer and cattle fencing

Nails shall be galvanised or zinc / aluminium coating plain round head steel nails to BS 1202-1. The coating shall comply with I.S. EN ISO 1461.

E.1.3 Nails for horse fencing

Nails shall be, at least, 100 mm long and 4.2 mm diameter steel nails to I.S. EN 10230-1.

E.1.4 Staples

Staples shall be galvanised or zinc / aluminium coating, minimum 40 mm x 3.55 mm round standard or barbed wire to I.S. 105-1. The coating shall comply with I.S. EN 10244-2.

E.1.5 Hog rings

Hog rings shall be not less than 4 mm x 1.5 mm. The coating shall comply with I.S. EN 10244-2.

NOTE 1 Hog rings manufactured from alternative materials, and/or coatings, may be acceptable provided they give equivalent or improved levels of performance or protection.

E.1.6 Electric fence insulators

Terminal insulators shall be egg type, heavy duty. Intermediate insulators can be either light duty screw in type; heavy duty ring type; insulated nail type, or plain staple combined with a short length of 12mm Heavy Duty Polythene Pipe.

E.2 Wire

E.2.1 Line wire

Line wire shall be a minimum 2.5 mm galvanised or zinc / aluminium coating or zinc/aluminium coating nominal diameter high tensile fencing wire to I.S. 126. The coating shall comply with I.S. EN 10244-2 (Galvanised to Class A or Class B using a Galfan alloy).

E.2.2 Tensioning wire

Tensioning wire shall be 3.15 mm diameter galvanised or zinc / aluminium coating mild steel wire to I.S. 126. The coating shall comply with I.S. EN 10244-2 (Galvanised to Class A or Class B using a Galfan alloy).

E.2.3 Tying wire

Tying wire shall be 1.6 mm diameter galvanised or zinc / aluminium coating mild steel wire to I.S. 126. The coating shall comply with I.S. EN 10244-2 (Galvanised to Class A or Class B using a Galfan alloy).

E.2.4 Barbed wire

Barbed wire shall be constructed of two number min. 1.6 mm high tensile twin strand line wires, to I.S. EN 10223-1. The coating shall comply with I.S. EN 10244-2 (Galvanised to Class A or Class B using a Galfan alloy). Barb spacing shall comply with I.S. EN 10223-1.

E.2.5 Sheep fencing wire

Sheep fencing wire shall be to I.S. EN 10223-5, minimum class 'medium 2M' high tensile steel. The coating shall comply with I.S. EN 10244-2 (Galvanised to Class A or Class B using a Galfan alloy). The maximum opening size at the bottom of the sheep wire shall not exceed 225mm width x 75mm height, while the maximum opening at the top of the sheep wire shall not exceed 225mm x 150mm (care should be taken in selecting the width of the wire opening to suit the particular need). Sheep wire shall be a minimum of 800mm high. For sheep fencing constructed strictly on **banks or stone walls** the sheep wire shall be a minimum of 500mm high. The fence shall be constructed of high tensile wire (I.S EN 10223-5) with a minimum diameter of 2.5mm.

E.2.6 Monofilament

Monofilament strands shall have the following characteristics:
4 mm minimum diameter with a minimum breaking strain of 500 kg and minimum breaking elongation of 20%.

E.2.7 Specialised horse wire

Specialised horse wire shall consist of a minimum 13 line wires of, at least, 2.7mm diameter or 2.5 mm high tensile galvanised or zinc / aluminium coating wire, galvanised or zinc / aluminium coating to I.S. E.N 10244-2 (Galvanised to Class A or Class B using a Galfan alloy) steel wires.

Vertical wires shall be at least 2mm diameter. Mesh openings shall not exceed 75 mm x 75 mm, either in V-formation or rectangular formation. The top and bottom members are recommended to be at least 3.5mm diameter galvanised or zinc / aluminium coating steel wires.

E.2.8 Electrified Horse tape

Electrified Horse tape shall be at least 40 mm wide, and shall be made of plastic with sufficient suitable wire conductors through out its length to carry the current.

E.2.9 Horse Rope

Horse Rope shall be, at least, 5mm diameter of either rope or plastic with suitable wire conductors throughout its length.

E.2.10 Rectangular Wire Mesh for Deer fencing

Rectangular wire mesh shall be formed of zinc-coated high tensile horizontal line wires with a minimum diameter of 2.5mm, and zinc-coated mild steel vertical wires with a minimum diameter of

2.5mm. It shall comply with EN10223-2 (Galvinised to Class A or Class B using a Galfan alloy) Joint knotting shall either be hinged-joint or tight-lock knotting.

E.2.11 Galvanised or zinc / aluminium coating Wire-Joiners for Deer fencing

Galvanised or zinc / aluminium coating wire-joiners or connectors shall be of a type approved by the manufacturers of the mesh.

E.2.12 Chain Link Mesh for Deer fencing

Chain link mesh shall be zinc-coated and/ or plastic-coated, and shall conform to I.S. EN10223-2 (Galvinised to Class A or Class B using a Galfan alloy) and EN 10223-6 respectively.

E.3 Electric Fencers

Where electric fences are to be installed, they shall be powered by mains driven electric fencers. Battery powered fencers are not permitted for grant-aid.

E.3.1 Electric fencing energisers

Energisers shall comply with I.S. EN 60335-2-76.

E.3.2 Installation requirements for mains-operated electric fence units and fence wire

Mains-operated electric fence units shall be installed in accordance with Section 705-555.03 of ET101 (National Rules for Electrical Installations) and the fence wire installed in accordance with Annex 705 B of ET101.

F Fencing layout

F.1 Deer Fencing

Wire fencing shall be constructed using rectangular wire mesh as specified in clause E.2.10 above. Chain link mesh (E.2.12), suitably strengthened, may also be used.

F.1.1 Perimeter Fencing

Perimeter fencing using rectangular wire mesh shall be 1.9m high formed of 13 horizontal wires, with suitably graded spaces becoming smaller nearer the ground. There shall be a maximum space of 150mm between the vertical wires.

F.1.1.1 Perimeter Fencing for Fallow and Sika Deer

Perimeter fencing for Fallow and Sika Deer using rectangular wire mesh shall be 1.9m high formed of 17 horizontal wires with suitably graded spaces and a maximum space of 150mm between the vertical wires.

Alternatively a fence of 13 horizontal line wires may be used together with a properly attached chain link mesh 600mm high up from ground level.

F.1.1.2 Perimeter Fencing using Chain Link Mesh

Perimeter fencing using chain link mesh shall be 1.9m high with at least four zinc-coated high tensile horizontal line wires, diameter 3.15mm, I.S. EN10223-2 (Class A & Class B), fixed at equal intervals. The mesh shall be firmly fixed to the line wires with 2mm diameter galvanised or zinc / aluminium coating or plastic-coated mild steel tying wires I.S. EN10223-2 (Class A & Class B).

F.1.2 Raceway Fencing

Raceway fencing shall conform to standards for perimeter fencing. Raceways subject to constant use should preferably be fenced with tight lock mesh.

F.1.3 Internal Fencing

Internal fencing shall normally be as perimeter fencing. However when only finishing deer are farmed (i.e. no breeding herd) then electrified paddock fences may be used for internal fencing. They shall be 1.6m high and shall consist of an 800mm high rectangular wire mesh fence (sheep fence) with at least 3 electrified lines above, one of which shall be an electrified tape (horse tape) at least 25mm wide. The first row of wire shall be 300mm from the top of the sheep wire and remaining 2 wires at 200mm spacing. Intermediate posts shall be 2200 mm in long and a minimum of 100 mm in diameter and shall be driven at least 600 mm into the ground. Intermediate posts shall be spaced at no more than 5m intervals.

F.1.4 Posts and Straining Frames

F.1.4.1 Geometry of posts

Where posts are to be installed by driving, the post bases shall be pointed. Where posts are to be placed by excavation, the post bases shall be flat.

F.1.4.2 H-Frames or Straining Frames

H-frames or straining frame shall be constructed at each end of a run of deer fencing, at each acute change of direction (more than 30°), and as interval frames in any run exceeding 200 metres. The frames shall be constructed as shown in figure E.1.1. The vertical posts shall be not less than 3 metres long, and shall be driven 1m into the ground or placed in an augured hole. They shall have a

diameter of not less than 200mm and shall be positioned at least 2m apart. The horizontal post shall have a diameter of not less than 125mm and shall be securely fixed to the verticals by either galvanised or zinc / aluminium coating steel rods, or by a rebated joint. Horizontal line wires as specified above shall be securely fixed to the outer post of the H-frame. Each line wire shall be taken round this post and fastened to itself either by tying, or by a pre-formed fenced connector. The entire fence shall then be strained and stapled in accordance with the specifications of the mesh manufacturer.

The diagonal tensioning wire of the H-frame shall be 3.15mm diameter, and meet the requirements of BS 4102.

F.1.4.3 Straining Posts

Straining posts may be used for changes in the direction of the fence of less than 30°. The posts shall be not less than 3 metres long, with a diameter of not less than 225mm and driven 1m into the ground or placed in an augered hole.

F.1.4.4 Intermediate Posts

Intermediate posts shall be 3m long, with a diameter of not less than 125mm and driven 1m into the ground or placed in an augered hole. They shall be spaced at a maximum distance of 8 metres for standard fencing and 6 metres for raceways. In rough terrain, the distances between posts should be appropriately reduced.

Note: in very mountainous terrain, or exceptionally stony ground, post-holes may have to be dug rather than augered. Holes shall be as small as is practicable and after insertion of the post, the earth shall be backfilled and rammed hard.

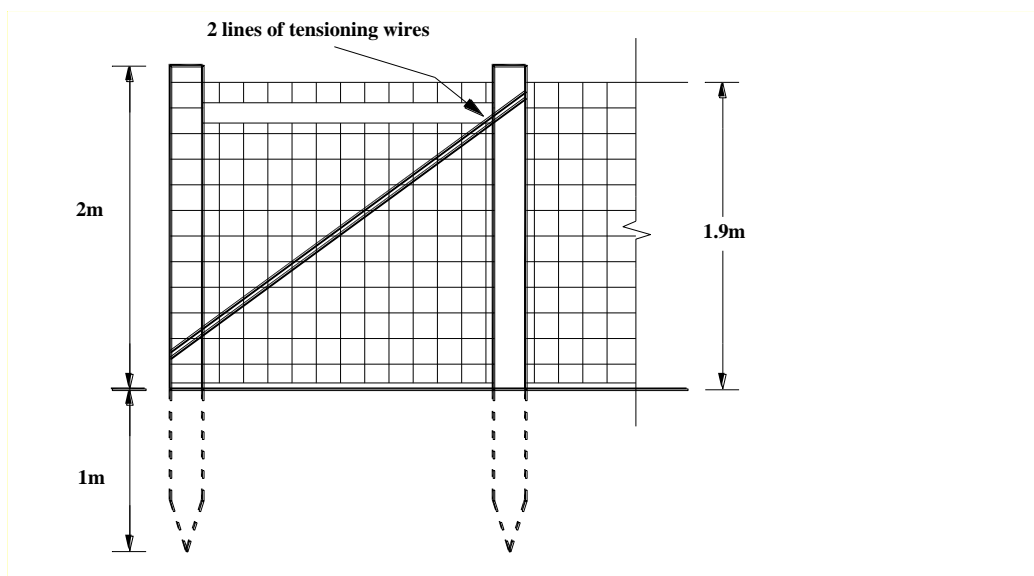


Figure E.1.1 H-Frame

F.1.5 Gates

Gates shall be medium-duty type, either of galvanised steel, or of fully treated timber, suitably constructed and braced. They shall be at least 3m wide and 1.9m high. If they are also used as entrance gates from a public road they shall be at least 3.6m wide and shall open inwards.

F.1.5.1 Steel Gates

Steel gates shall be formed of fully galvanised tubular steel with an outside diameter of 33.7x3mm. Tubular steel should preferably be bent at each corner and welded to form the frame. Alternatively, welded mitred square joints at corner may be used.

Gates may be constructed using an infill of rectangular wire mesh or chain link mesh exactly as specified for perimeter fencing per section F.1.1 above. In this case, the gate shall be diagonally braced as shown in Figure E1.2 and E1.3, using 32mm tubular steel. Gates may also be formed with an infill of rigid galvanised steel mesh. Spaces between the mesh shall not be greater than specified for perimeter fencing.

F.1.5.2 Timber Gates

Timber gates shall be formed of treated timbers. Frame and bracing timbers shall be at least 100mm x 38mm. Diagonal bracing shall be as in Figure E1.3.

Gates may be constructed using an infill of rectangular wire mesh or chain link mesh exactly as specified for perimeter fencing per F.1.1 above. The gates (with the same bracing) may also be constructed using laths, horizontal timber laths at least 75mm x 25mm with a maximum space of 75mm between the laths.

F.1.5.3 Gate Posts

Gateposts shall either be the outer post of an H-frame or a straining post as previously specified. All hinges, sockets, and sliding bolts shall be fully galvanised.

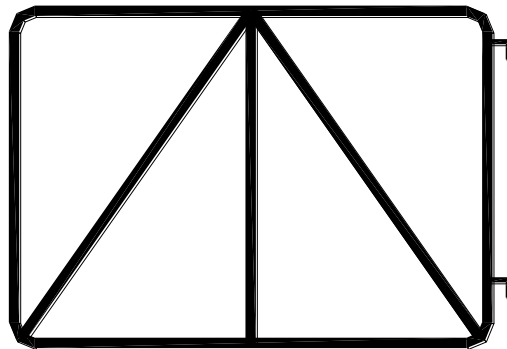


Figure E1.2 Construction of Steel Gates

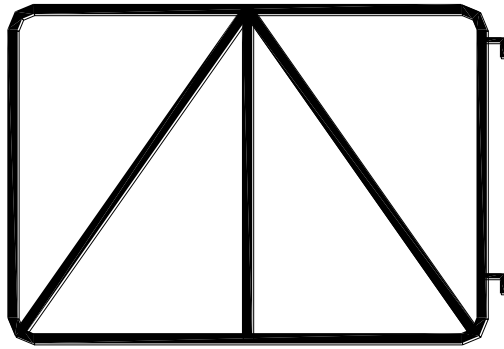


Figure E1.3 Construction of Steel Gates (Pattern for Timber Gates)

F.2 Horse fencing

The following types of horse fencing are covered by this specification:

1. Post and Rail fences.
2. Rope and Tape fences.
3. Specialised Horse Chain Link Fence.
4. White Polymer Monofilament Fencing
5. Electrified High Visibility Plastic covered Horse Wire.
6. Proprietary PVC Post and Rail fencing.

For fencing of lunging areas and special exercise areas, see specification S.156.

All posts shall be four-way pointed and all rail ends shall be cut square. In addition all retaining board ends and top board ends shall be cut square.

F.2.1 Post and Rail fencing

All post and rail fencing to be constructed in accordance with Figure E2.1.

F.2.1.1 Boundary

Posts shall be, at least, 150 mm x 75 mm, and shall be, at least, 1.95 m long. The posts shall be erected with at least 600 mm below ground and 1350mm above ground. The maximum spacing of posts shall be 2.4 m. Rails shall be, at least, 100 mm x 47 mm where the posts are spaced at 2.4 m centres and 100 mm x 44 mm where the posts are spaced at 2.1 m centres. Where 3 rails are used they shall be spaced at no more than 400 mm centres and where 4 rails are used they shall be spaced at 300 mm centres. Rails shall be on the paddock side of the fence.

F.2.1.2 Paddock

Posts shall be, at least, 125 mm x 75 mm, and shall be, at least, 1.8 m long. The posts shall be erected with at least 600 mm below ground and 1200 mm above ground. The maximum spacing of posts shall be 2.4 m. Rails shall be, at least, 100 mm x 47 mm where the posts are spaced at 2.4 m centres and 100 mm x 44 mm where the posts are spaced at 2.1 m centres. Where 3 rails are used they shall be spaced at no more than 350 mm centres and where 4 rails are used they shall be spaced at 250 mm centres. Rails shall be on the paddock side of the fence.

F.2.2 Rope and Tape fences

Posts shall be at least 1800 mm long and shall be at least 100 mm diameter. The minimum depth below ground shall be 600 mm, with a minimum above ground of 1200 mm. The maximum spacing of the posts shall not exceed 3600 mm for rope and 5000 mm for tape. There shall be at least 2 strands of rope or tape, on the fence. The top tape or rope shall be at least 1100mm above ground level, with a maximum spacing of 600mm between lines of tape or rope.

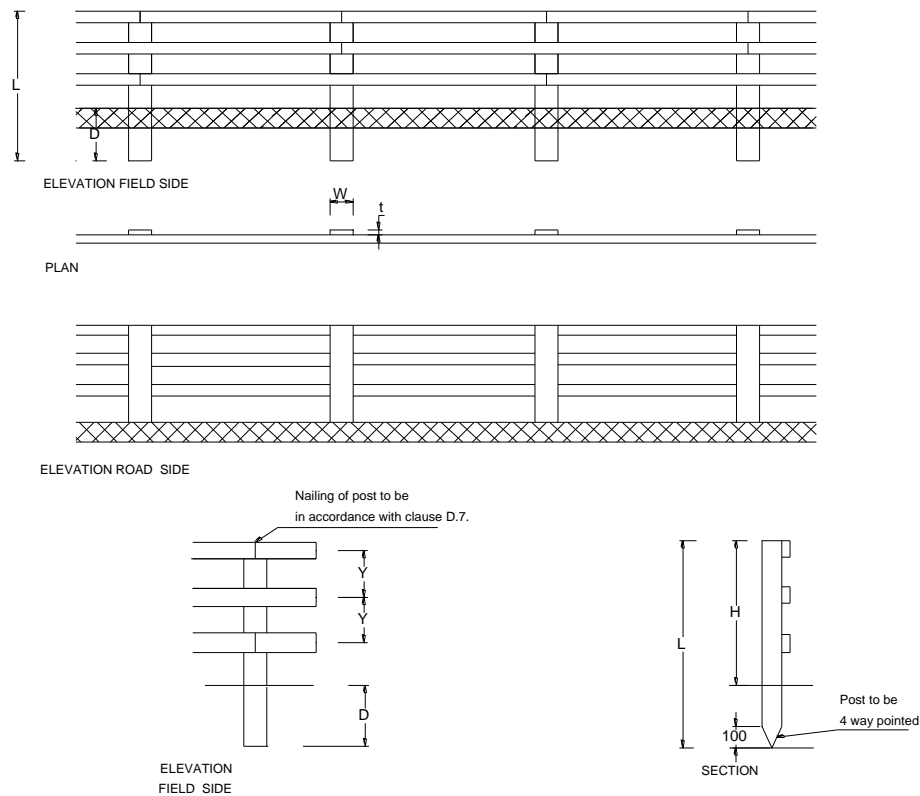


Figure E2.1: Construction details for post and rail fencing

F.2.3 Specialised Horse Wire Fencing

Intermediate post for specialised horse wire fencing shall be at least 2100 mm long and a minimum of 125mm diameter. A minimum of 1500 mm shall be above ground and a minimum of 600 mm shall be below ground. The maximum spacing of intermediate posts shall not exceed 2700 mm where a top board is fitted. Where a top board is replaced by 2.5 mm high tensile wire intermediate post spacing may be increased to 4m.

Strainer posts shall be at least 2700 mm long, and shall be at least 200 mm diameter. A minimum of 1500 mm shall be above ground and a minimum of 1200 mm shall be below ground. Strainer posts shall be spaced at a maximum of 150m. In soft ground, the strainer length may have to be increased to provide the necessary stability. Strainers shall be provided at the beginning and end of every length of fencing, at gaps or openings, at every change of direction where the angle is greater than 30° and to accommodate any significant change in gradient.

Top boards shall be at least 5400mm long and at least 175 mm x 40 mm.

The top board shall be located at the top of the fence posts, and the specialised horse wire, as described in clause C.2.7, shall be brought up from ground level to within 225mm of the top rail.

F.2.4 Polymer Monofilament Fence

Posts shall be, at least, 125 mm in diameter, be 2.1 m in length and driven into the ground to give a top strand height of 1.4m. Intervals between posts shall be not greater than 5.5m, and end assemblies shall be H framed.

4mm white monofilament strands shall be used, knotted and tensioned as recommended by the manufacturers. They shall be fixed to posts by either (a) drilling suitably sized holes through the centre of the post, and inserting a sleeve of 12mm PVC tubing, or by using electro staples as in

electric fencing. Polymer monofilament strands must be free to slide past or through intermediate posts.

F.2.5 Electrified High Visibility Plastic covered Horse Wire

Posts shall be at least 1800 mm long and shall be at least 100 mm diameter. The minimum depth below ground shall be 600 mm, with a minimum above ground of 1200 mm. The maximum spacing of the posts shall not exceed 5000 mm. There shall be at least 2 strands of wire, on the fence. The top wire shall be at least 1100mm above ground level, with a maximum spacing of 600mm between lines of wire. Strainer posts shall be spaced at a maximum of 100 m. In soft ground, the strainer length may have to be increased to provide the necessary stability. Straining posts shall be provided at the beginning and the end of every length of fencing, at gaps or openings, at every change of direction where the angle and is greater than 30° and to accommodate any significant change in gradient. Strainers shall be 1200 mm above ground and at a minimum depth of 900 mm.

F.2.6 Proprietary Fencing systems

Proprietary PVC Post and Rail fencing systems are acceptable when constructed in strict accordance with the manufacturers instructions. These systems shall have the same height and rail spacing as for timber post and rail fences.

Proprietary plastic railings may be used in conjunction with timber posts when constructed in strict accordance with the manufacturers instructions. These systems shall have the same height and rail spacing as for timber post and rail fences.

F.3 Sheep Fencing

The following types of sheep fencing are covered by this specification:

- 1) 5 stands electric wire
- 2) 1 strand barbed wire with sheep wire
- 3) 2 strands barbed wire with sheep wire
- 4) 1 strand electric wire, plus 1 stand barbed wire with sheep wire
- 5) 1 strand electric wire and 1 plain wire sheep wire
- 6) Bank / Stone Wall reduced height fence

Barbed wire and sheep wire shall be as specified in clauses D.2.4 and D.2.5 respectively.

F.3.1 5 Stands Electric wire

Five strands of 2.5 mm high tensile wire shall be used. Line wires shall be strained tightly between straining posts. The top wire shall be 1.1m above ground level, and the bottom line wire shall be 175 mm above ground level, the intermediate wires should then be spaced out between the top and bottom wires.

Strainer posts shall be, at least, 2100 mm long and a minimum of 175 mm diameter and shall be driven at least 900 mm into the ground. Strainers shall be provided at the beginning and end of every length of fencing, at gaps or openings, at every change of direction where the angle is greater than 30° and to accommodate any significant change in gradient. Where long runs of fencing are to be erected, the maximum distance between strainer posts shall not exceed 150 m. In soft ground, the strainer length may have to be increased to provide the necessary stability.

Intermediate posts shall be, at least, 1800 mm long and a minimum of 100 mm diameter and shall be driven at least 600 mm into the ground. Intermediate posts shall be spaced at no more than 5m intervals.

F.3.2 1 strand barbed wire with Sheep wire

The fence shall have a minimum height of 1000 mm, with the barbed wire set above the sheep mesh. The lowest line of the sheep mesh shall be between 50mm and 100mm above ground level.

Strainer posts shall be, at least, 2100 mm long and a minimum of 175 mm diameter and shall be driven at least 900 mm into the ground. Strainers shall be provided at the beginning and end of every length of fencing, at gaps or openings, at every change of direction where the angle is greater than 30° and to accommodate any significant change in gradient. Where long runs of fencing are to be erected, the maximum distance between strainer posts shall not exceed 100 m. In soft ground, the strainer length may have to be increased to provide the necessary stability.

Intermediate posts shall be, at least, 1500 mm long and a minimum of 100 mm diameter and shall be driven at least 450 mm into the ground. Intermediate posts shall be spaced at no more than 5m intervals.

F.3.3 2 strands barbed wire with sheep wire

The top line of barbed wire shall be strained tightly between straining posts and shall be 1.1m above ground level. The other line of barbed wire may be either above or below the sheep mesh. The lowest line of wire (either the sheep mesh or barbed) shall be between 50mm and 100mm above ground level.

Strainer posts shall be, at least, 2100 mm long and a minimum of 175 mm diameter and shall be driven at least 900 mm into the ground. Strainers shall be provided at the beginning and end of every length of fencing, at gaps or openings, at every change of direction where the angle is greater than 30° and to accommodate any significant change in gradient. Where long runs of fencing are to

be erected, the maximum distance between strainer posts shall not exceed 100 m. In soft ground, the strainer length may have to be increased to provide the necessary stability.

Intermediate posts shall be, at least, 1800 mm long and a minimum of 100 mm diameter and shall be driven at least 500 mm into the ground. Intermediate posts shall be spaced at no more than 5m intervals.

F.3.4 1 strand electric and 1 strand barbed with sheep wire

The electrified line wire shall be strained tightly between straining posts and shall be 1.1m above ground level. The line of barbed wire may be either above or below the sheep mesh. The lowest line of wire (either the sheep mesh or barbed) shall be between 50mm and 100mm above ground level.

Strainer posts shall be, at least, 2100 mm long and a minimum of 175 mm diameter and shall be driven at least 900 mm into the ground. Strainers shall be provided at the beginning and end of every length of fencing, at gaps or openings, at every change of direction where the angle is greater than 30° and to accommodate any significant change in gradient. Where long runs of fencing are to be erected, the maximum distance between strainer posts shall not exceed 100 m. In soft ground, the strainer length may have to be increased to provide the necessary stability.

Intermediate posts shall be, at least, 1800 mm long and a minimum of 100 mm diameter and shall be driven at least 500 mm into the ground. Intermediate posts shall be spaced at no more than 5m intervals.

F.3.5 1 strand electric wire and 1 plain wire with sheep wire

The electrified line wire shall be strained tightly between straining posts and shall be 1.1m above ground level. The line of plain wire may be either above or below the sheep mesh. The lowest line of wire (either the sheep mesh or plain) shall be between 50mm and 100mm above ground level.

Strainer posts shall be, at least, 2100 mm long and a minimum of 175 mm diameter and shall be driven at least 900 mm into the ground. Strainers shall be provided at the beginning and end of every length of fencing, at gaps or openings, at every change of direction where the angle is greater than 30° and to accommodate any significant change in gradient. Where long runs of fencing are to be erected, the maximum distance between strainer posts shall not exceed 100 m. In soft ground, the strainer length may have to be increased to provide the necessary stability.

Intermediate posts shall be, at least, 1800 mm long and a minimum of 100 mm diameter and shall be driven at least 500 mm into the ground. Intermediate posts shall be spaced at no more than 5m intervals.

F.3.6 Bank / Wall reduced Height Fence

The fence shall have a minimum height of 700 mm with one strand of wire and 800mm with two strands of wire. In all cases at least one strand of wire shall be located above the sheep wire. The lowest line of wire shall be between 50mm and 100mm above the top of the bank / wall.

Strainer posts shall be, at least, 1800 mm long and a minimum of 175 mm diameter and shall be driven / installed at least 900 mm into the bank or stone wall. Strainers shall be provided at the beginning and end of every length of fencing, at gaps or openings, at every change of direction where the angle is greater than 30° and to accommodate any significant change in gradient. Where long runs of fencing are to be erected, the maximum distance between strainer posts shall not exceed 100 m.

Intermediate posts shall be, at least, 1500 mm long and a minimum of 100 mm diameter and shall be driven at least 500 mm into the bank or wall. Intermediate posts shall suitably supported be spaced at no more than 5m intervals.

F.3.7 H-Frames in place of straining posts

H-frames or straining frames may be used in place of straining posts where ground conditions prevent strainer posts being properly placed. H-Frames shall be spaced at the same intervals as straining posts. The frames shall be constructed as shown in figure E.3.1. The vertical posts shall be not less than 1800mm long, and shall be driven at least 600mm into the ground or placed in an augured hole. They shall have a diameter of not less than 100mm and shall be positioned at least 1.5m apart. The horizontal post shall have a diameter of not less than 100mm and shall be securely fixed to the verticals by either galvanised or zinc / aluminium coating steel rods, or by a rebated joint. Horizontal line wires as specified above shall be securely fixed to the outer post of the H-frame. Each line wire shall be taken round this post and fastened to itself either by tying, or by a pre-formed fenced connector. The entire fence shall then be strained and stapled in accordance with the specifications of the mesh manufacturer.

The diagonal tensioning wire of the H-frame shall be 3.15mm diameter, and meet the requirements of BS 4102.

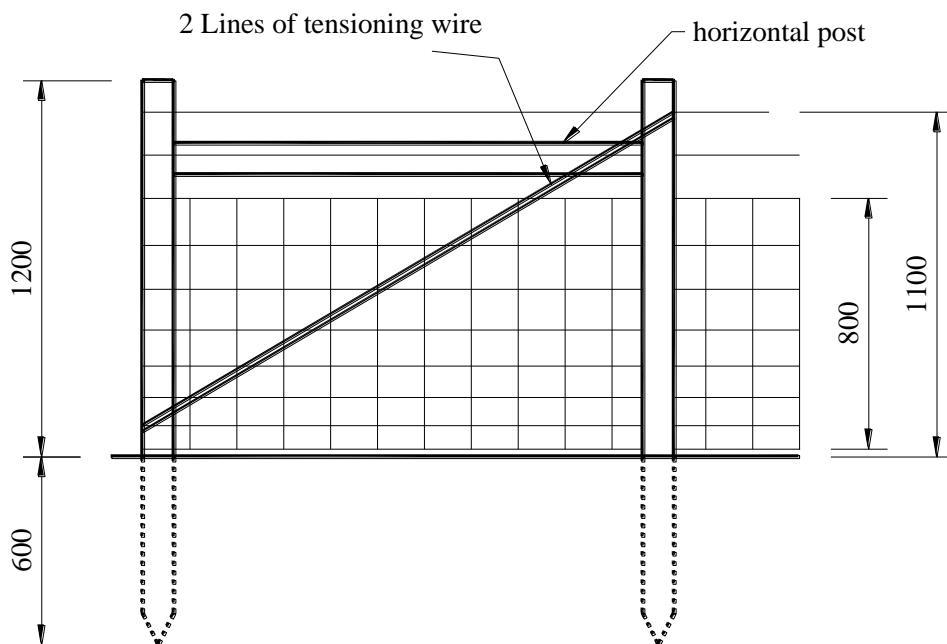


Figure E.3.1 H-Frame

F.4 Goat Fencing

Fencing for goats shall be as per clause E.3.1.

F.5 Cattle Fencing

F.5.1 Electric fence

One or two strands of 2.5 mm high tensile wire shall be used. Line wires shall be strained tightly between straining posts. The top wire shall be 1.1 m above ground level, and where a second line wire is installed, this shall be at 600mm above ground level.

Strainer posts shall be, at least, 2100 mm long and a minimum of 175 mm diameter and shall be driven at least 900 mm into the ground. Strainers shall be provided at the beginning and end of every length of fencing, at gaps or openings, at every change of direction where the angle is greater than 30° and to accommodate any significant change in gradient. Where long runs of fencing are to be erected, the maximum distance between strainer posts shall not exceed 150 m. In soft ground, the strainer length may have to be increased to provide the necessary stability. H-frames or straining frames may be used in place of straining posts where ground conditions prevent strainer posts being properly placed. These H-frames shall be constructed as per clause E.3.7 above.

Intermediate posts shall be, at least, 1800 mm long and a minimum of 100 mm diameter and shall be driven at least 500 mm into the ground. Intermediate posts shall be spaced at no more than 12 m intervals.

F.5.2 Barbed wire fence

Three strands of high tensile barbed wire, as per clause E.2.4, shall be used. Each strand of wire shall be strained tightly between straining posts. The top wire shall be 1.1 m above ground level and the bottom wire shall be between 300 and 400mm above ground level, with the central wire half way between the top and bottom wires.

Strainer posts shall be, at least, 2100 mm long and a minimum of 175 mm diameter and shall be driven at least 900 mm into the ground. Strainers shall be provided at the beginning and end of every length of fencing, at gaps or openings, at every change of direction where the angle is greater than 30° and to accommodate any significant change in gradient. Where long runs of fencing are to be erected, the maximum distance between strainer posts shall not exceed 100 m. In soft ground, the strainer length may have to be increased to provide the necessary stability. H-frames or straining frames may be used in place of straining posts where ground conditions prevent strainer posts being properly placed. These H-frames shall be constructed as per clause E.3.7 above.

Intermediate posts shall be, at least, 1800 mm long and a minimum of 100 mm diameter and shall be driven at least 500 mm into the ground. Intermediate posts shall be spaced at no more than 5 m intervals.

Appendix A **Fencing Certs.**

Samples of the required fencing certificates for IS 436 and IS437 posts are shown on the next two pages. Numbers for the certificates shall be obtained from the Specialist Unit, Specialist Farm Services Environment and Evaluation Division, Department of Agriculture, Fisheries and Food, Pavilion A, Grattan Business Centre, Dublin Road, Portlaoise, Co. Laois.

Only companies that are certified by the NSAI to produce IS436 or IS 437 posts are entitled to reproduce the certificate.

The certificate is to be produced in duplicate, with the stake IS 436 or IS 437 registration holder holding the original copy, and supplying the second copy to the person/company purchasing the posts.

Cert No: (Numbers to be obtained from DAFF)

IS 436 FENCING POST CERTIFICATE

Section A: (To be completed by post manufacturer)

Manufacturer's Name:			Manufacturer's Registration No:		
Manufacturer's Address:					
Name of company post supplied to:					
Address of company post supplied to:					
Bale No.	No. of posts in bale	Post dimensions (mm)	Bale No.	No. of posts in bale	Post dimensions (mm)
Signed: _____ Date: _____			Company Stamp:		
Status: _____					

Section B: (To be completed by Fencing contractor / supplier of post to farmer)

Suppliers Name:					
Suppliers Address:					
Farmers Name:					
Farmers Address:					
Site address					
Bale No.	No. of posts in bale	Post dimensions (mm)	Bale No.	No. of posts in bale	Post dimensions (mm)
Signed: _____ Date: _____			Company Stamp:		
Status: _____					

