

**AN ROINN TALMHAÍOCHTA, BIA AGUS MARA**  
**DEPARTMENT OF AGRICULTURE, FOOD AND THE MARINE**

## **Minimum Specification for Sheep Dipping and Handling Facilities**

**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, Food and the Marine.

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, Food and the Marine’s Website ([www.agriculture.gov.ie](http://www.agriculture.gov.ie)) under Farm buildings]. Similarly, references to Standards are to the current edition of the Irish, British or European Standard, as appropriate.

### **1. Safety**

#### **1.1 Responsibility for Safety**

Applicants are reminded that they have a duty 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. 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.

#### **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. It is the applicant’s responsibility to provide a construction stage project supervisor.

**Dangers:** Where the applicant/farmer is undertaking any part of the above work, it is his/her responsibility to seek competent advice and to undertake all temporary work required to ensure the stability of excavations, superstructure, stanchion foundations, wall foundations, to guard against possible wind damage and to avoid any other foreseeable risk. It is also his/her responsibility to ensure that any drains, springs or surface water are diverted away from the works.

**Power lines:** Due to the complex criteria involved, where buildings are proposed within 35 metres of the centre of any overhead power line, the landowner shall contact ESB Networks in advance to ascertain the specific minimum building clearance

requirement. It is a requirement on landowners under The Electricity Supply Acts to notify ESB Networks, at least, two months before commencement of any construction works near overhead lines. As a guide, table 1 below sets out the usual minimum clearance distances required, however, ESB Networks shall be contacted and their advice followed for any structure within 35m of the centre line of an overhead power line. ESB will provide landowners with written confirmation of the required clearances. Landowners can contact ESB through phone numbers provided on their electricity bills.

Where building work is undertaken near power lines there is also a safety issue regarding Machinery, Tipper Trucks and Elevators operating without proper safety measures in place. When landowners contact ESB they will be provided with relevant safety literature.

**Table 1:** In general the following clearances apply to various voltage levels.

<b>Voltage</b>	<b>Clearance</b>
Low Voltage	0.5 to 3 Metres
Medium Voltage	3 to 6 Metres
38KV Lines	10 to 17 Metres
110kv Lines	23 Metres
220KV Lines	30 Metres
400KV Lines	35 Metres

**Note:**

- ESB overhead lines consist of lines at various voltage levels and require specific safety clearances from buildings depending on voltage level and construction type.
- Clearances are specific to the line voltage, building height, location in line span and ground levels.

**Danger to children:** It is the applicants responsibility to prevent children from playing or spending time in the vicinity of any construction work.

**Roof work:** When working on any roof, it is essential to assume that the roof is fragile, unless confirmed otherwise by a competent person.

The HSA Code of Practice for Safety in Roofwork shall be consulted prior to any work being undertaken on a roof. All advice in the code of practice shall be followed.

The HSA code of practice gives recommendations and practical guidance on how to work safely on roofs, including the safe maintenance of roof mounted plant and services, and how to design and plan for safe working. It offers guidance on the design and construction of roofs on new buildings and the maintenance, cleaning and demolition of existing roofs. All work at height poses a risk and a risk assessment should be carried out to assess those risks and put appropriate controls in place.

## **2. Site**

The site shall be selected to suit the purpose - consideration being given to ease of handling the sheep, proximity to the main sheep grazing area of the farm. Most importantly, it should be located as far as possible from watercourses, springs boreholes or drainage systems, which could become contaminated.

Sheep dipping facilities shall not be installed inside/under a roofed structure. For grant-aid purposes, the area limit for sheep handling and dipping units is  $0.8\text{m}^2$  per head.

**Note:**

By its nature sheep dip is formulated to kill parasites, and if allowed to enter watercourses, even in small quantities, it can cause fish and invertebrate kills. Even more seriously, these chemicals are very harmful if they contaminate drinking water supplies, either from springs, bored wells or for direct supply, as they can attack the human nervous system. Sheep dip shall be handled in accordance with manufacturer's instructions.

### 3. Lay-out

The layout should ensure the minimum of pens necessary to carry out the various tasks. The layout should facilitate the free movement of the operator from pen to pen.

## 4. Concrete Specification

### 4.1 Certificates

Concrete shall be produced in a plant audited to I.S. EN 206-1: 2002 by a certified body accepted by The Department of Agriculture, Food and the Marine (e.g. N.S.A.I., B.S.I., Q.S.R.M.C). It shall not be produced on site.

A numbered certificate, signed and stamped, shall be required for all concrete delivered to site. The certificate, the "Concrete Manufacturers' Specification Certificate", is produced in triplicate. **The top certificate, printed on light blue paper, shall be retained by the applicant** and given to and retained by the local AES Office of the Department of Agriculture for inspection upon completion of the works.

### 4.2 Curing of Concrete

**Concrete produced and supplied is fit for purpose ONLY IF proper curing procedures are adhered to and the structure is not put into service until an adequate curing time (usually a minimum of 28 days) has elapsed.** The curing regime shall take account of best practice appropriate to the concrete binder composition and prevailing climatic conditions at time of placing.

All concrete shall be cured by keeping it thoroughly moist for at least seven days. Wetted floor slabs and tank walls shall be protected by polythene sheeting, kept securely in place. Alternatively proprietary curing agents may be used in accordance with manufacturer's instructions. When frost is a danger, straw bales shall be placed over the polythene on slabs. Concrete shall be at least 28 days old before being subjected to full load, or to silage or silage effluent.

For further information on curing, see the website of the Irish Concrete Society.

### 4.3 Concrete

All concrete for sheep handling units and dipping tanks shall be purchased on the basis of a characteristic 28 day cube crushing strength of  $37\text{N/mm}^2$  (strength class C30/37). Minimum cement content shall be  $310\text{ kg/m}^3$ . The maximum water to

cement ratio will be 0.55. The specified slump class shall be S2 or S3. The maximum aggregate size shall be 20mm.

**The concrete shall be ordered using the appended form for ‘S.100 Mix B’ or by requesting ‘37N concrete with 310kg cement minimum, 0.55 water cement ratio maximum, and slump class S2 or S3, certified to IS EN 206, for use to Specification S.100’.**

In the case of exposed yard slabs where freeze/thaw action is a concern, ‘S.100 Mix B’ shall be used with 3.5% minimum air entrainment. Alternatively ‘S.100 Mix A’ may be used.

**Note:** Where silage effluent is allowed into a slurry tank the effluent shall discharge via a pipe at least 300mm from the inner face of the tank wall.

#### **4.4 Fibres**

Polypropylene fibres may be incorporated into the concrete mix to improve the properties of concrete. Only fibres which have been tested and approved by National or European approval authorities may be used. The use of fibres helps to reduce plastic cracking and improve surface durability. Fibres shall be used in strict compliance with manufacturer’s instructions and shall only be added at the concrete manufacturing plant. The concrete certificate (Clause 4.1) shall clearly show the amount and type of fibre added. The mix design, compacting, and curing of fibre concrete is the same as concrete without fibre.

#### **4.5 Compaction of Concrete**

All concrete shall be compacted by either vibrating screed or poker vibrator depending upon the position of the concrete. Poor compaction leads to entrapped air, which will weaken the concrete and may cause premature failure. All concrete can be easily placed and compacted when using a vibrating screed or poker vibrator which helps ensure the concrete achieves its full strength.

#### **4.6 Self-Compacting Concrete**

Self-compacting concrete (SCC) may be used in vertical elements only. SCC must comply with all requirements of this specification, except for the slump class which must meet slump flow class SF2. SCC shall be produced by a manufacturer with experience in producing SCC and should be placed by a contractor with experience using SCC.

If it is proposed to use SCC, additional guidance shall be sought by the contractor undertaking the works. Particular care must be taken in the use of fully sealed formwork, designed to withstand the higher hydrostatic pressure exerted by SCC. Guidance can be obtained from the Irish Concrete Society website ([www.concrete.ie](http://www.concrete.ie)).

#### **4.7 Materials**

Cement and other materials used in the production of concrete shall be in accordance with Department of Agriculture, Food and the Marine specification S.100.

Plasticisers and other admixtures shall be to EN 934. All admixtures shall be used in strict accordance with manufacturer's instructions, and shall be added only by the concrete-mix manufacturer.

#### **4.8 Tests**

The Department reserves the right to require that concrete should be tested in accordance with EN 12390 and EN 12504.

### **5. Floors**

The entire floor area of the handling and dipping facility shall be of 125mm concrete on 150mm compacted hardcore foundation.

A 1000 gauge polythene membrane shall be laid on the finished hardcore with 600mm overlaps. The overlaps shall be sealed with suitable adhesive tape. The polythene shall be brought up on the inside of the timber or steel formers.

Where concrete base is laid in one operation, joints (in bays not exceeding 6m x 4.5m) shall be cut by disc-cutter to a depth of 30mm and to a full 12mm width formed by a double cut in the hardened concrete within 24 hours of placing. These joints shall be brushed out and filled when dry with acid resistant mastic sealant installed in strict compliance with the manufacturer's instructions.

In cases where fill is purchased for use under concrete, it shall be certified to EN 13242:2013 and meet the requirements of Annex E of S.R. 21: 2015. This material shall also be used as the top 300mm of any backfill around stanchion foundations.

### **6. Pen Dividers**

Pen Dividers shall be well constructed, at least 1.0m high (exception: race height to be at least 0.97m), with smooth internal surfaces to avoid fleece damage and animal injury.

They shall be:-

1. 25mm OD tubular metal rails suitably supported and braced, galvanised – 6 rails per divider. Penning sections shall be fixed by welding or secure bolting to each other and/or uprights. Uprights shall be fixed in concrete or bolted to the concrete floor.
2. 150mm mass concrete wall.
3. 100mm solid concrete blockwork buttressed at 3m centres, or 150mm solid concrete blockwork or the equivalent.
4. 100 x 100mm pressure treated timber posts sheeted with 100 x 32mm timber rails, link or sheep net wire well strained.

Where sheep are penned on both sides of a fence, each side shall be sheeted or a flat board fixed at shoulder height on the unsheeted side. Where sheep move in opposite directions the fence between should be close sheeted so that they cannot see through.

Existing walls, where suitable, may form part of the handling layout.

All block walls shall be of solid blocks that are certified to a minimum strength of 7.5N/mm<sup>2</sup>, though it is strongly recommend that they be constructed of mass concrete. All blocks used shall be produced in a plant certified to EN 771-3:2011 and shall be CE marked. The use of hollowcore blocks is not permitted.

## 7. Gates

Shall be strongly constructed of galvanised tubular steel or pressure treated timber, properly hinged and bolted. Gate/barrier rails to be 25mm diameter 1.5mm thick and ends to be 25mm diameter 2.0mm thick.

## 8. Forcing Pen

This shall be situated in front of the race to hold the sheep before guiding them into the race. This pen can be circular with two gates hung on a central post, which allows them to revolve round continuously with latches at various points. For very small flocks a semi-circle or funnel shaped pen may be used. A space of 0.3m<sup>2</sup> per animal should be allowed. Surrounds shall be as per clauses 5 and 6.

## 9. Dip Bath

Proprietary dip baths shall require prior Departmental acceptance, and may be subject to requirements for certificates of guarantee, and shall be installed in accordance with manufacturer's instructions.

Dip baths constructed on-site shall be installed as per Specification S123. Exit ramp may be stepped or sloped. If sloped, grips of hardwood or concrete projecting at least 25mm should be provided. No outlet pipe shall be fitted at the base of the bath for emptying. The capacity of the dip bath should be a minimum of 2.25 litres per animal dipped.

The dip bath shall be situated in a penned area that is well drained. The floor shall be sloped at 1:30, tapered in from all sides to take the dip back to the bath.

For very large flocks the length of dip bath can be increased or a circular bath used. Where a slide is used for sheep entry it should be at least 1.22m long, smooth finished (glazed) and so constructed that sheep do not have to step down onto it.

### Note:

Spent dip shall be disposed of in accordance with manufacturer's instructions.

## 10. Draining/Drying Out Pen

At least one, preferably two draining / drying out pens shall be provided at the exit from the dip bath with a gate centrally hung to direct the sheep into one pen or the other. The floor of the pen(s) shall be sloped back to the dip bath at 1:60.

## 11. Footbath

A race with footbath is essential in all sheep handling units. Ideally it should be in two sections - the first tray containing water to cleanse the sheep's feet and the second tray containing medication. The footbath should be at least 3m long, 225mm wide

and 100mm deep. The sides above the footbath should be 840mm high, sloped outward from 225mm at the base to 550mm at top and should have a smooth internal finish. The base of the tray should have 25mm corrugations lengthwise to spread the animal's toes. The entire unit may be of concrete or the footbath may be of metal or fibreglass with concrete or timber rail sides. The sides of the footbath race should be constructed with treated planed timber shoulder boards to prevent damage to sheep.

## **12. Treatment Pen / Rollover Crate**

If provided, this pen shall be about 1.5m in length and should open off the forcing pen and be positioned at the midpoint of the race. It allows an operator to work through the sheep systematically. Alternatively, a proprietary rollover crate may be installed in the race.

## **13. Drafting Pen / Sorting Pen**

The exit from the footbath race is a suitable location for drafting. A gate centrally hung may be used to direct the sheep into two or three pens as required.

## **14. Holding**

The holding pen should be sized at 0.4m<sup>2</sup> per head to accommodate the required number of sheep.

## **15. Mobile Sheep Handling /Dipping /Spraying Facilities**

Proprietary mobile sheep units shall be in accordance with specification S.136A: Mobile Sheep Handling Facilities. All separate elements shall have the same serial number engraved on each component.