

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

MINIMUM SPECIFICATION FOR HAY AND STRAW STORES

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 Website (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.

Note: These buildings are not suitable for animal housing.

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.

Voltage	Clearance
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. Superstructure

The general superstructure of the building shall be constructed to the current edition of **Specification S101: Minimum Specification for the Structure of Agricultural Buildings**. If other structural designs not specified in S101 are used, then a full set of design drawings and full structural calculations shall be prepared by a chartered engineer, and given to this Department for prior approval before the start of construction.

No outlet ventilation is required.

The minimum eave height for any hay or straw store shall be not less than 3.0 metres.

3. Walls

No walls are permitted in a grant-aided hay/straw stores.

4. Floors

Floors shall be of at least 150mm compacted hardcore. A new concrete floor is not permitted, however a hay / straw store may be constructed over an existing concrete base.

5. Side Cladding

Side cladding, as specified in S.102, is permitted to run from the eave down to no closer than 0.6m from the floor of the store. To prevent personal injury side cladding shall not be finished within the range 0.9m to 2.1m from ground level in any hay/straw store.

6. Roof cladding

Roof cladding and roof lights shall be installed as per requirements of S.101. All cladding materials shall conform to Specification S.102.

7. Clean Water Drainage

Full gutters and down pipes shall be installed on all hay/straw stores as per S.101. All roof water from hay/straw stores shall be piped directly either to an existing clean water disposal system or to an adjacent water course.

8. Electrical Installations

8.1 Lighting

The installation of lights is optional in a hay/straw store. Where artificial lighting is provided it shall be by florescent tubes in hose proof, impact proof (polycarbonate) fittings and certified in accordance with S101 requirements. The lighting shall be a minimum 200 lux.

9. Concrete Specification for Stanchion Foundations

9.1 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.

9.2 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.

9.3 Concrete

Concrete shall be purchased on the basis of a characteristic 28 day cube crushing strength of 37N/mm^2 (strength class C30/37). Minimum cement content shall be 310 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'.

9.4 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 9.1) 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.

9.5 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.

9.6 Tests

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

10. Certification

The following Certificates shall be provided to the applicant for submission to the Department before grant-aid can be certified for payment.

1. 'Concrete' Certificate [clause 6.1]
2. Protection of Structural Steel Certificate