**PRESENTATION**

**Geographical Influence**

**Definition**

**Thatch Roofing**

- Steep sloping roof, 45% to 120% covered with flattened bundles of straw, attached to a framework of wood or reeds.

- The straw consists of graminaceous stems, gorse, sea reed, wicker or cereal plants.

- The roofing, formed by covering rows of straw bundles, rests on a stacked or assembled wooden frame.

- This technique, which goes up to Prehistory, almost disappeared; it is still used in the restoration of old constructions, to perpetuate this tradition.

**Environment**

In the MEDA area, thatch roofing is present only in rural environment, seaside and plain, except for Morocco, where it is also present in mountain areas. This type of roofing is rare.

**Illustrations**

General view :  
Detail close-up :
CONSTRUCTION PRINCIPLE

Materials

Nature and Availability (in what form)
Thatch roofing consists of bits of linked straw. The nature of the plants used is extremely variable: it depends on the resources available nearby: gorse, sea reed, wicker, graminaceous, rye or corn, rice straw.

Modules, Dimensions, Thickness, Dosages
The stems have a length varying from 40cm to 80cm. The thickness of the roofing is between 10cm and 25cm.

Type of laying

Type of laying
The stems of straw are tied up in flattened bundles, which are then tied up in vertically on wooden beams.

Associated framework
The thatch roofing rests on a stacked or assembled frame, rough or squared wood.

Drainage

Adapted slope (%)
The slope varies from 45% to 120%. Exposure to wind is lessened when the slope is weak; the slope is generally strong enough to allow a fast flow of water, thus avoiding infiltration.

Water collecting and drainage
Rainwater is sometimes collected by gutters, or simply isolated from the façades by an overhang of the thatch (projecting roof).

Processing of specific points (bargeboards, runoff, neck gutters, ridge sheathing...)
The ridge sheathing is generally processed in a particular way, to guarantee good fixing and waterproofing of the thatch, thanks to mortar.
CONSTRUCTION PRINCIPLE (CONTINUED)

Tools

Thatch is cut with a reaper or sickle.

Trades

Trade, Number of people necessary

Traditionally, thatch roofing often used to be carried out by craftsmen with the people who lived in the thatched cottages. Two to four people were necessary, at least, to carry out this work.

Performances

Waterproofing, Protection against bad weather

Thatched roofing requires regular maintenance, to guarantee weather resistance. Moreover, this type of roofing is particularly sensitive to fire hazard.

Thermal insulation

Thatch roofing offers good thermal and acoustic performances.

Ageing pathology

Linked to materials and climatic conditions:

The waterproofing of thatch roofing can be threatened by an insufficient flow of rainwater, causing a rotting of the straw.

Linked to the technique:

The bonds of the bundles of straw, made with string or plant fiber, do not offer a good resistance to rain and dryness; regular repair is necessary.
CONSTRUCTION PRINCIPLE (CONTINUED)

REALIZATION DESCRIPTION

Example in Portugal: (Texte in French)

Conditions of realization:

The realization must be done in dry weather, to avoid rainwater infiltration; no particular protection is necessary.

Preliminary works:

After cutting the straw, the stems are assembled in bundles, flattened and cut to size.

Realization:

The flattened bundles of straw are attached in tight horizontal rows. The laying is carried out from the drainage to the ridge sheathing. The covering of a row with the following row is between one third and two thirds.

Au Portugal, le recouvrement des bottes de paille est de deux tiers. Les couches se superposent, sur environ 2/3 de la longueur des fibres, qui sont attachées les unes aux autres par un entrelacement fait avec la même fibre végétale ou en corde. Les couches sont assez épaisses pour que l’eau des pluies ne s’infiltre pas, ce qui néanmoins arrive parfois.
USE, EVOLUTION AND TRANSFORMATION

Use

Types of buildings
Thatch roofing mainly concerns modest dwellings for farmers or fishermen.

Period when the technique first appeared / Period of use of the technique - contemporary or disappeared.
Thatch roofing goes up to Prehistory; this technique almost disappeared in the XXth century.

Reasons of the disappearing or the modification of the technique
The emergence of new resistant and economical roofing materials, as well as, the modern social and economic changes have caused the disappearing of this traditionnal technique.

Evolution / Transformation

The materials
The relative lightness of thatch, making it easily torn under the effect of wind, as well as rot by water impregnation, requires regular maintenance of the roofing, often too heavy to manage. The sensitivity of thatch to fire and the emergence, at the beginning of XXth century, of resistant and economical roofing materials, such as plates of zinc or coated sheeting, caused the disappearing of this technique.

The technical aspects
The implementation of thatch roofing, relatively long, ensured by craftsmen, peasants or fishermen in a context of traditional production, was abandoned with the modern social and economic changes, where the time of work realization must be optimized.

Evaluation of materials and replacement techniques
If the materials of replacement definitely offer superior technical and economic performances, they are not harmonized with remaining thatch roofing. Currently, some thatch roofings are still maintained, in order to perpetuate this old tradition.