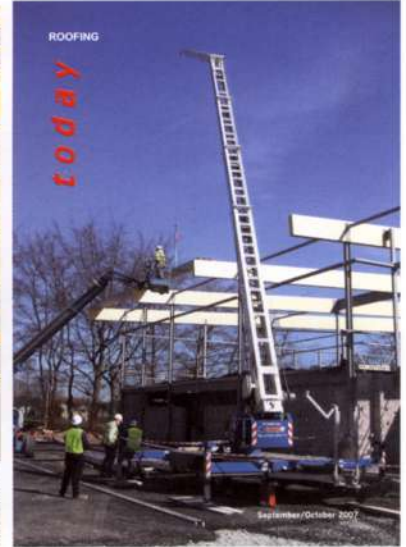


ROOFING

today



September/October 2007



The Front Cover depicts a self operated TC28 trailer mounted crane positioning roof materials. This trailer crane is part of the largest fleet of trailer mounted cranes in the UK. The fleet is operated by Oktopus UK Ltd

Heavy Lifting is for Suckers®

Apology to Ecoséal Environmental Systems & Liquid Plastics Ltd.

In the June/July issue of Roofing Today on page 6, we inadvertently placed a picture of a green roof within an article provided by Liquid Plastics Ltd. This picture actually depicts a product of Ecoséal Environmental System, part of the Trelleborg Group. We very much regret the embarrassment caused to both parties and sincerely apologise.

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To northern European minds thatching is probably a roofing material not normally associated with Spain. Yet the silhouette of a steep thatched roof, echoed in a landscape of abrupt mountains and deep valleys softly coated by thick ancestral forests, is a familiar sight in the cattle rearing country of the Asturias area of northern Spain. Asturias is a mountainous country of deep valleys, situated between the Atlantic Ocean to the north and the powerful mountain range that sets the line with the Castilian plateau - and dry Spain - to the south. It borders east and west with the Basque Country and Galicia.

This area has part of the Camino de Santiago running through it (the medieval pilgrimage route to Saint James) and in medieval Spanish history, was where the Arab armies were forced back to the South, defeated from the mountainous strongholds where the Visigoth power had retreated. The northerner, thinking of a Spanish roof, will most probably picture a red one, covered with what is called in English 'Spanish tiles', or, in America, 'mission tiles', because used on churches and chapels built by the Spanish missionaries along the Californian coast. But the linguistic association is different in Spain, where this single curved tile is called *teja árabe*, 'Arab tile'.

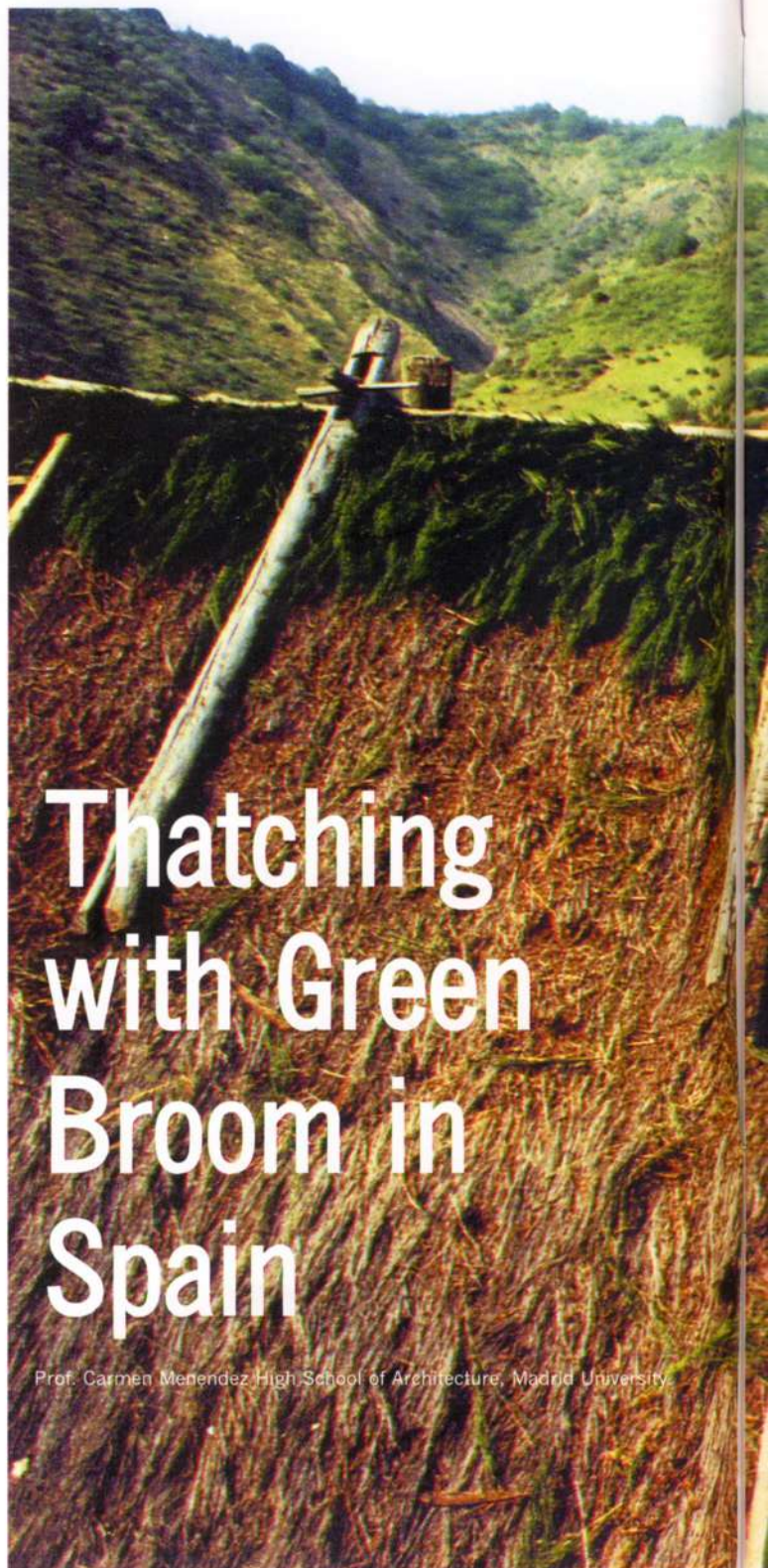
If it is true that today most of the old dwellings have had their thatch replaced by the traditional *teja árabe* (and certainly tiles and slates are the choice in all new ones), in Somiedo, the largest county in the south-west, green broom is the material used predominantly in agricultural constructions, such as cow houses and cattle byres, (usually combined under one roof) traditional granaries on staddles and old watermills. The visiting hiker willing to walk for distances and climb slopes of different grades will see hamlets of thatched buildings clustered in the high pastures that are grazed in summertime by cattle.

Thatched constructions share the same building technique and use locally available materials, such as lime stone for the masonry walls, beech and hazel wood for pole timbers and wattling, and green broom for the thatching of the roof. Different solutions and finishes to hold the broom fixed at the crowning ridge are used in different valleys.

Cattle Byres and Cow houses

Those thatched houses that remain are of the traditional byre-house type (under one roof), also found in other northern regions, like the Dutch *los hoes* and the Hebridean black house. In the Asturian type, the living quarters and byre might be separated by a masonry wall. Wattling (which can be considered a tradition culturally linked to thatching) is found in older stalls, with crafted wattle hurdles for the cribs. Although people live today in new tiled homes, the old thatched houses (now listed) are often converted into byres with the extra space used for storage.

Cowhouses are often built into the hillside - two-storey rectangular buildings allowing for the stalling of cattle below and with the upper storey beneath the roof as a loft for hay storage. A hipped-roof structure, highly pitched, is erected over stone masonry walls ►



Thatching with Green Broom in Spain

Prof. Carmen Menendez High School of Architecture, Madrid University



◀ with two low gables. Pairs of diametrically opposed rafters span the length of the shelter (of an average size for twenty cows). These rafters bear their tenoned-ends on the wall-plates, and cross at the top by means of a tongue-and-groove joint. No ridge pole is usually needed, and stability is ensured by three tie beams. Purlins and braces that stiffen the rafters are set fixed by green broom twines (which the thatcher has twisted himself with his hands). The thrust of the roof is counterbalanced by jack rafters rising from atop the low gables to join the first pair of rafters where an upright with a natural fork might be used as well as a load-bearing post.

Thatching by the Moon

Every year one side of these constructions is re-thatched for maintenance of the whole structure. Cutting the green broom takes place beforehand and thatchers are very careful to do this during the waning phase of the moon, as they do with any wood felling. Otherwise the broom does not last, they say.

Of the several bushes growing locally, the variety *cytisus scoparius* is preferred, a plant of deep green needle leaves which blooms with yellow flowers. Apart from being a more resistant variety, thatchers explain that the tiny gooves along its leaves help to channel off the rain.

When the weather forecast is for a dry spell in this rainy country, bundles of green broom are piled by the side of the house and the thatcher (maybe with one assistant to hand over the bundles) starts his work. Using different sized ladders needed to reach higher in the roof, thatching is done in bands upwards, driving the green branches, one by one, into the old bed of thorny dull broom, their leaves turned downwards. Because old branches are hard and prickly the thatcher uses one protecting glove, his only tool, which he wears on his thatching hand. When a roof is constructed for the first time the thatcher proceeds in round circles starting at the bottom and rising till he reaches the ridge.

The ridge is thatched with pairs of bundles of green broom laid with their leaves to the slope to form a thick ridge top. Two or more timber poles (beech branches) curved at one end are chosen and laid over the ridge bundles, the curved end securing the top of the hip.

There are two ways usually employed to secure the branches over the top. One method uses hazel twigs with a natural fork, similar to spars. The sharpened end is fixed deep down through the broom, while the fork anchors the pole over the ridge. Stones (roofing slabs) are also used to anchor the ridge in some of the higher locations exposed to rougher weather conditions. Roofs thatched by this method sport a characteristic thorny profile. The other system uses three or four transverse timbers (called yokes) over the beech poles. Pegged to these yokes are hung pairs of long timbers which saddle the slope off the roof each side.



Advocates of the first method argue that the broom tends to rot under the long timbers, which prevents ventilation in the thatching. The first technique is preferred in areas located at a higher altitude, but it is obviously also a question of local idiosyncrasy in the communities of the different valleys.

Finally, a few rare constructions have the ridge covered by inverted turves, which in some round-plan shelters are secured with a slab stone. These are mostly shelters used for calves in very high pastures, but where the herdsman might also take refuge occasionally.

Why thatch with green broom? Historically, thatching with green broom in these areas, rather than the rye used through centuries in nearby country, was preferred because these settlements had sole economies based on cattle breeding so that very little cereal crop was grown. The sense of this tradition is in the local availability of green broom, at no cost, its lighter weight than any other roofing material and its ability to set perfectly over a simple structure. It also provides airy conditions for byre and hay stock. From an ecological viewpoint the broom, endemic in some areas, is turned from a threatening invader of cleared pastures into a fitting roof material.

The wisdom of local government administration today is to have those constructions of traditional architecture listed (no corrugated iron is allowed any more), while providing small annual maintenance grants that encourage cattle herdsman to keep thatched buildings in good shape. No other roof merges better with the mountainous landscape of the Asturias region as well as preserving the beauty of its rural heritage.

This Autumn Professor Carmen Menéndez will publish a new book entitled *Teitos - Cubiertas vegetales de Europa* "Thatched Roofs in Europe." (*Teitos* is the word in Asturias / Galicia for 'thatch').