

Long Straw Thatching Guidance

This guidance note has been prepared for thatching apprentices, home owners, architects, surveyors, builders, developers and historians for a better understanding of long straw thatch and its potential environmental benefits for the 21st century.

Guidance for understanding the materials to hand for suitable construction specifications of Long Straw and ‘Straw’ Thatch fixed new to a roof frame and to existing thatch using brotches (spars).

<p>Thatch material used for thatching type:</p> <p>Long Straw (authentic, A, B and C) and ‘straw transition variant’ (spec D)</p>	<p>Long Straw: Fixed direct to roof frame. Big end <u>down</u> yealm. Mix of heads and butts on thatch surface</p> <p>Specification A</p>	<p>Long Straw: Brotched (spar) fixing to existing thatch coats. Big end <u>down</u> yealm. Mix of heads and butts on thatch surface</p> <p>Specification B</p>	<p>Long Straw: Brotched (spar) fixing to existing thatch coats. Big end <u>up</u> yealm. Mix of heads and butts on thatch surface</p> <p>Specification C</p>	<p>‘Straw’: New and spar coated fixings. All butts <u>no</u> heads on surface of thatch.</p> <p>Specification D</p>
<p>Types of cereal straw used</p>	<p>Normally Wheat: Winter or Spring sown, traditionally known to be of better durability to other cereal straws. Rye and Oats have been used in the past, 20th century Triticale now used as well.</p>	<p>Normally Wheat: Winter or Spring sown, traditionally known to be of better durability to other cereal straws. Rye and Oats have been used in the past, 20th century Triticale now used as well.</p>	<p>Normally Wheat: Winter or Spring sown, traditionally known to be of better durability to other cereal straws. Rye and Oats have been used in the past, 20th century Triticale now used as well.</p>	<p>Normally Wheat: Winter or Spring sown, traditionally known to be of better durability to other cereal straws. Rye and Oats have been used in the past, 20th century Triticale now used as well.</p>
<p>Harvesting process</p>	<p>Typically conventional: using binder and static threshing machinery, bunched, trussed or loose for transport.</p> <p>Alternative harvesting methods using a stripper header may need extra innovation to strip grain from required longer older wheat varieties.</p>	<p>Typically conventional: using binder and static threshing machinery, bunched, trussed or loose for transport.</p> <p>Can be sourced from alternative harvesting methods with reasonable results: Stripper headed fairly ripe, rape side delivery swather & gently round baled.</p>	<p>Typically conventional: using binder and static threshing machinery, bunched, trussed or loose for transport.</p> <p>Can be sourced from alternative harvesting methods with reasonable results: Stripper headed fairly ripe, rape side delivery swather & gently round baled.</p>	<p>Sometimes conventional: using binder and static threshing machinery, <u>trussed</u> for transport. <u>Increasingly</u> sourced from alternative harvesting methods: comber fitted to combine harvester partially combed and trussed, being described/sold as long straw needing no ground preparation into yealms.</p>

<p>Quality.....? Perhaps characteristics for suitable usability (softness/bruising scale) for ground preparation and roof application. This can be subtle, best understood by experienced thatchers</p>	<p>Full length of stem & head. (Bruising level 1 to 5, level 5 being barely usable with much broken waste) Optimum level 2 to 3</p>	<p>Full length of stem & head. (Bruising level 1 to 5, level 5 being barely usable with much broken waste) Optimum level 2 to 3</p>	<p>Full length of stem & head. (Bruising level 1 to 5, level 5 being barely usable with much broken waste) Optimum level 2 to 3</p>	<p>Full length of stem & head. (Bruising level 1 to 5, level 5 being barely usable with much broken waste) Optimum level 1, barely if at all bruised, suitable for dressing with reed leggatt</p>
<p>Optimum thicknesses of thatch coat (mm) For good durability.</p>	<p>400mm plus as a standard</p>	<p>250mm to 350mm as a standard</p>	<p>225mm to 300mm Due to the nature of thatching big ends up yealms it is possible but not recommended to thin the coat down to 100mm, this type of long straw thatching is sometimes called 'half coating' or 'stack thatching' or 'straw hanging'. Very inferior durability!</p>	<p>Same as A & B spec</p>
<p>Life-cycle performance and durability: 50 degree pitch roof being the minimum, the steeper the roof pitch the better the durability.</p>	<p>Between 35 and 45 years</p>	<p>Between 25 and 35 years</p>	<p>Between 25 and 30 years (Half coating/stack thatching 10 to 20 years @ 150mm thickness)</p>	<p>Between 25 and 45 years (see A & B)</p>
<p>Suitable length of straw stems/yealms.</p>	<p>Very long stemmed wheat (other cereals) varieties. Less waist-coat yealms required! 900mm to 1400mm</p>	<p>Mid range long stemmed straw 800mm to 1000mm</p>	<p>Shorter to mid range long stemmed straw. 675mm to 825mm</p>	<p>Similar to A & B</p>

Integral waist coat yealm requirements (Whole yealms of rough quality straw etc placed big ends up onto tops of fixed straw coat/casework, just covering fixings).	Always used coat depths in excess of 300mm to avoid fixed yealms from lying too flat and to control thickness of thatch on a undulating roof frame.	Rarely used or needed apart from helping control undulating hollows in existing worn long straw thatch.	Never used, as pitch of fixed weathering yealms is relatively steep.	Can be used as A and B
'Backfill straw' requirements (tucked behind coursework straw tops)	None	Filling hollows in existing worn thatch, usually patched in ahead of thatching casework.	Filling hollows in existing worn thatch usually patched in ahead of thatching casework.	Helps with filling hollows and dressing of CWR variant straw butts (ears/heads don't get snagged).
Thermal Resistance of any given thickness of straw thatch. (U-Value) Conductivity 0.07 W/mK Embodied energy kWh/m ³ = 5	R-value 5.7 @ 400mm thickness	R-value 3.6 @ 250mm R-value 5 @ 350mm	Similar to A & B	Similar to A & B
Optimum Depth of fixings from surface of thatch. Fixing spacing between courses.	Between 200mm and 230mm 400mm average	Between 150mm and 200mm 200mm for each half course fixings if used	Between 175mm and 200mm 200mm for each half course fixings	Similar to A & B Similar to A & B
Fixing materials	Hazel or other horizontal sway; iron hooks; tarred cord; bramble or modern day stainless steel screw fixings.	Hazel or willow spars with or without straw bonds.	Hazel or willow spars with or without straw bonds.	Similar to A, B and C

Thatch tension for fixings	Fixed very tight, unable to easily get fingers under sway.	Fixed as tight as possible, existing thatch coat tightness is a factor.	Fixed as tight as possible, existing thatch coat tightness is a factor.	Similar to A, B and C
Thatch consolidation	Tight	Tight	Tight as possible	Similar to A & B
Listed Building conservation status - English Heritage (now Historic England ?) Guidance notes	Yes	Yes	Yes	No Simulates combed wheat reed from the west of the UK, made possible with 20 th century harvest machinery.
Trading standards description for straw thatching type	Long straw thatching	Long straw thatching	Long straw thatching	Should not be described as long straw thatching as this type of straw thatching has more characteristics of combed wheat reed.
Origin of straw thatching type	Probably Anglo Saxon: Scythe & flail harvesting leading to jumbled non aligned straw stems.	Probably Anglo Saxon: Scythe & flail harvesting leading to jumbled non aligned straw stems.	Possibly Anglo Saxon, but more common after the industrial revolution and outside corn stacks: Binder & threshing drum harvesting leading to jumbled non aligned straw stems.	Post 1950s after hubris governmental long straw thatching eradication programme (Reference: English Heritage; Thatch, Thatching in England 1940-1994, volume 6)