

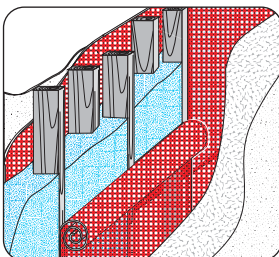
Massive-Wood-House

(solid **stauss®**-plasterwall & waterrepellent **Bau-@europerl®**-insulation)

arguments for **brick** + **wood** combined
relative advantages replace the disadvantages

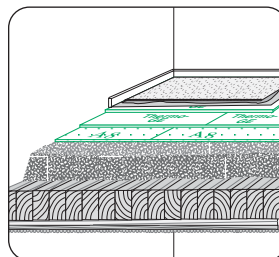


top-performing walls, no hazards
avoiding „prefabricated“ problems

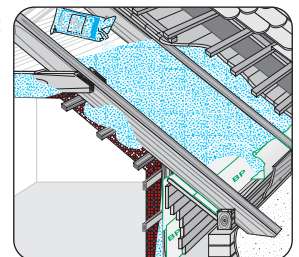


fire-proof
earthquake-safe
flood-retardent
impact-resistant
load-carrying

passive-house
quick-built



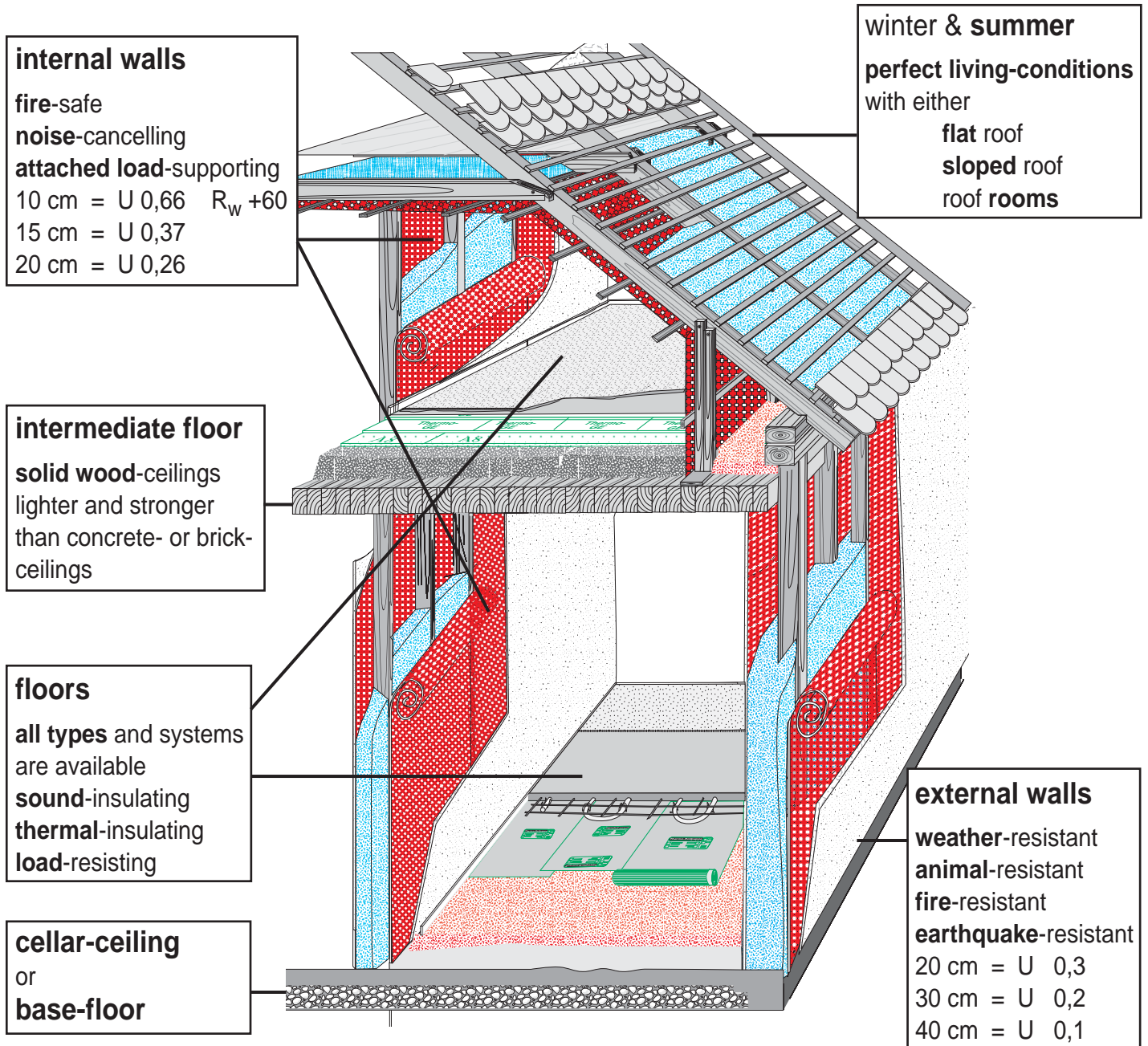
solid brick properties:
sound-insulation
energy-storing
comfort-conditions
wood properties:
impact-resistant
thermal-insulation
time saving



stauss® - more than 100 years success in facades,
Bau-@europerl® - the original „core insulation“ since 50 years.



System



strength wood-beams carrying vertical loads
 reinforced plaster (stauss) carrying horizontal loads
 combined as sandwich perfect for static & oscillating loads

insulation ideal, dry-staying thermal-insulation-core
 sound-flexible mass as sound-cancelling shell
 light, sound-absorbing sound-cancelling core

protection massive (impact-, fire-, animal-resistant), non organic plaster shell
 non-compressible, elastic (brake-resistant) framework-core



✓ **perfect living-conditions**

- ☞ permits **diffusion** & **avoids** collected moisture
- ☞ **free** of contaminations by fungi & microorganisms
- ☞ **summer** - nice cool
- ☞ **winter** - cosy warm

✓ **dependable protection**

- ☞ **fire-protection** (non combustible A1, rated up to F-400)
- ☞ **sound-protection** ($R_w = 65$ dB up to exceeding 80 dB)
- ☞ **building-protection** (weather-, impact- & animal attack resistance)
- ☞ **lightning-protection** (high voltage- u. high frequency shield)
- ☞ **earthquake-protection** (as well as instable mining areas or hillsides)
- ☞ **flood-protection** (mechanically strong & dries easily)

✓ **economy perfected**

- ☞ **best price-performance-ratio**
- ☞ **small area wall-occupation**
- ☞ **unlimited service life** (proven over 100 years)
- ☞ **fast & economical** (logistics & construction)
- ☞ **easy application** (simple products, no special tools or skills)
just simple, local wood- and plasterwork

✓ **perfect ecology**

- ☞ **from nature - for nature**
- ☞ **biological & ecological** pioneer (ISO, EMAS)
- ☞ **radioesthetic-neutral** (no Faraday shield)
low voltage and long-wave permittable
- ☞ **unlimited application & unrestricted** disposal

environment supporting - to human benefit

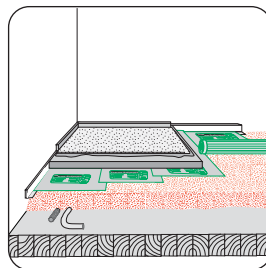


Floors

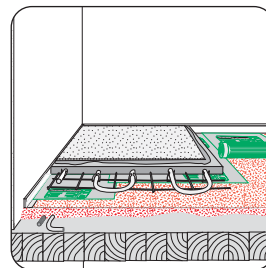
available options:

intermediate ceilings (solid woodlayer ceiling)

construction with	[cm]	U-value [Wm ² /K]	L _{n,T,w} [dB]
Thermo-Floor®	5	0,32	~ 34,8
	10	0,23	~ 34,6
	12	0,21	~ 34,4
	15	0,18	~ 34,3
	18	0,16	~ 34,1
	20	0,15	~ 34,0
	25	0,13	~ 34,0
	30	0,11	~ 34,0



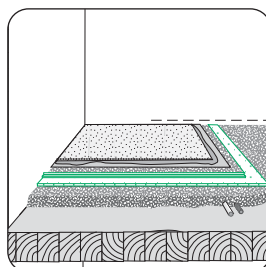
Bo-1



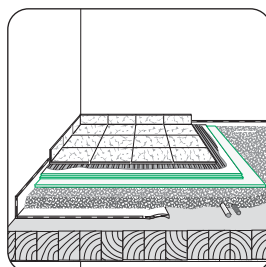
Bo-2

wet floor construction
all kind of covers
with or without heating

construction with	[cm]	U-value [Wm ² /K]	L _{n,T,w} [dB]
Thermo-Plan® B1	5	0,33	~ 37,5
	10	0,25	~ 36,5
	12	0,23	~ 36,4
	15	0,20	~ 36,3
	18	0,18	~ 36,1
	20	0,17	~ 36,0
	25	0,15	~ 36,0
	30	0,13	~ 36,0



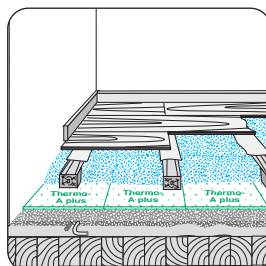
Bo-10



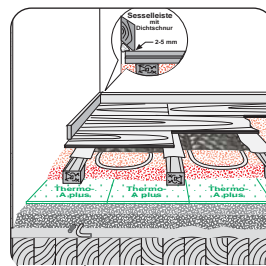
Bo-11

dry floor construction
for textile covers
for ceramic covers
for floating woodtiles (parquet)

Thermo-Floor®	5	0,24	~ 46,0
Thermo-Plan®	4		
Thermo-Floor®	5	0,19	~ 44,5
Thermo-Plan®	10		
Thermo-Floor®	8	0,17	~ 44,5
Thermo-Plan®	10		
Thermo-Floor®	8	0,14	~ 44,3
Thermo-Plan®	15		



Bo-20



Bo-20h

wood flooring
boards and parquet

ground and basement ceilings (massive ceiling)

the same constructive sections of above intermediate ceilings perform on ground or basement as:

wood construction

	[cm]	[Wm ² /K]	[dB]
Thermo-Floor®	5	0,36	~ 46,0
Thermo-Plan®	4		
Thermo-Floor®	5	0,26	~ 44,5
Thermo-Plan®	10		
Thermo-Floor®	8	0,22	~ 44,5
Thermo-Plan®	10		
Thermo-Floor®	8	0,18	~ 44,3
Thermo-Plan®	15		

dry construction

	[cm]	[Wm ² /K]	[dB]
Thermo-Plan® B1	8	0,44	~ 36,7
	10	0,38	~ 36,5
	15	0,28	~ 36,3
	20	0,22	~ 36,0
	25	0,18	~ 36,0
	30	0,16	~ 36,0
	35	0,14	~ 36,0
	40	0,12	~ 36,0

wet construction

	[cm]	[Wm ² /K]	[dB]
Thermo-Floor®	8	0,41	~ 34,7
	10	0,34	~ 34,6
	15	0,24	~ 34,3
	20	0,19	~ 34,0
	25	0,15	~ 34,0
	30	0,13	~ 34,0
	35	0,11	~ 34,0
	40	0,10	~ 34,0

Regardless of insulation values we recommend minimum thicknesses of 15 to 18 cm, better 20 cm. This due to embedded installations as water and electrics (6cmDrain+2cmSlope,4cmBow=12cm,+2,5cmWaterlines+2x2cmCovering=16cm, more for electrics?)

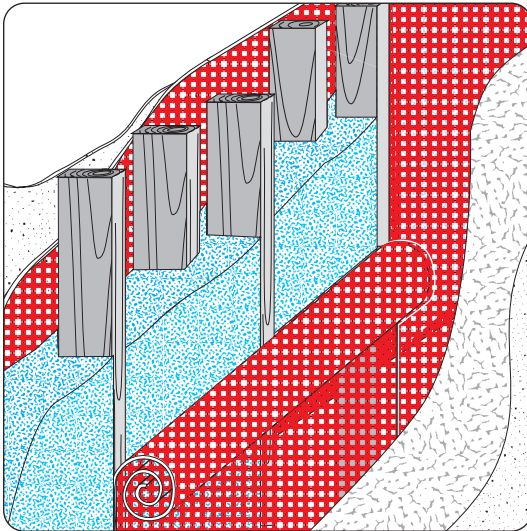
Walls

external walls and super-soundproofing intermediate walls

tailored to the targeted thermal classification following wall designs can be selected:

standard class:	U= 0,35 Wm ² /K	d _{insul} = 11 cm	d _{allover} = 17 cm
energy class:	U= 0,3	d _{insul} = 13	d _{allover} = 19
low energy class:	U= 0,2	d _{insul} = 20	d _{allover} = 26
passive class:	U= 0,12	d _{insul} = 34	d _{allover} = 40

Wa-50s



external wall insulation	Wa-50s [cm]	U-value [Wm ² /K]	R _w [dB]	d _{allover} [cm]
Thermo-Fill S	10	0,38	60+	16
	15	0,26	60+	21
	20	0,20	60+	26
	25	0,16	60+	31
	30	0,13	60+	36
	35	0,x	60+	41
	40	0,10	60+	46
	45	0,09	60+	51

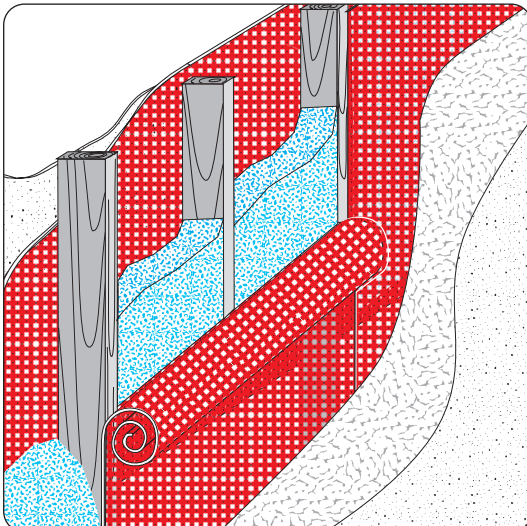
wall thickness

internal wall insulation	Wa-50s [cm]	U-value [Wm ² /K]	R _w [dB]	d _{allover} [cm]
Thermo-Fill S	5	0,66	60+	10
	8	0,45	60+	13
	10	0,37	60+	15
	15	0,26	60+	20

intermediate wall

for extreme soundproofing we recommend above Wa-50s.

Wa-50



intermediate w. insulation	Wa-50 [cm]	U-Wert [Wm ² /K]	R _w [dB]	d _{allover} [cm]
Thermo-Fill S	5	0,66	60+	10
	8	0,45	60+	13
	10	0,37	60+	15
	12	0,31	60+	17
	15	0,26	60+	20
	20	0,20	60+	25
	25	0,16	60+	30
	30	0,13	60+	35

wall thickness

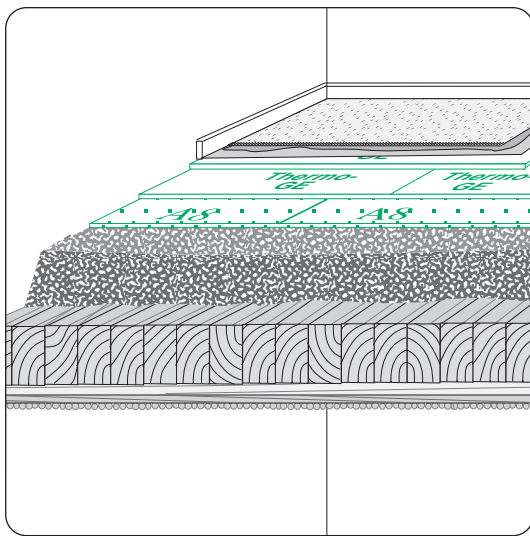


Ceilings

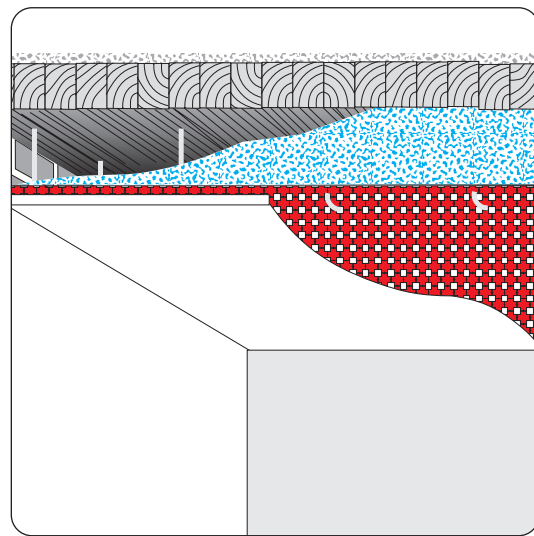
Performances (thermal and sound) are covered in page 4 „flooring“.

Intermediate floor

The recommended solid woodlayment construction can be applied without or with bottom cover. The ceiling design „De-1“ (stauss with plaster) is perfect for super-soundproofing (additional ΔL_n 24dB, ΔR_w 19 dB), improving fire ratings (A1, F-400) and/or increasing mass for improving energy storage (40-85 kg/m²).



De-12



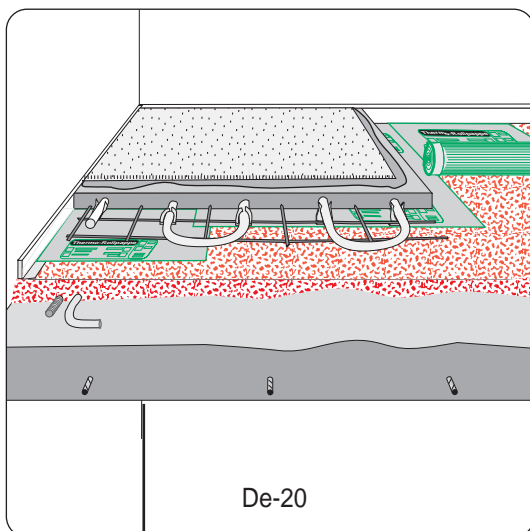
De-1 under De12

basements or groundbases

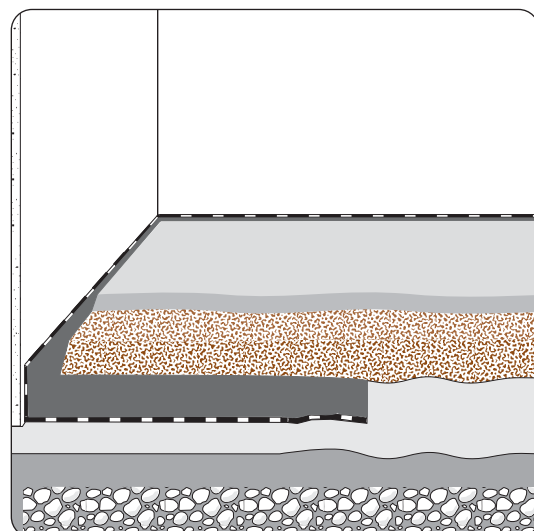
tailored to the targeted thermal classification following floor designs can be selected:

standard class: $U = 0,4 \text{ Wm}^2/\text{K}$
energy class: $U = 0,35$
low energy class: $U = 0,25$
passive class: $U = 0,15$

z.B. Bo-1: $d_{\text{insul}} = 8 \text{ cm}$ $d_{\text{allover}} = 35 \text{ cm}$
 $d_{\text{insul}} = 10$ $d_{\text{allover}} = 37$
 $d_{\text{insul}} = 15$ $d_{\text{allover}} = 42$
 $d_{\text{insul}} = 25$ $d_{\text{allover}} = 52$



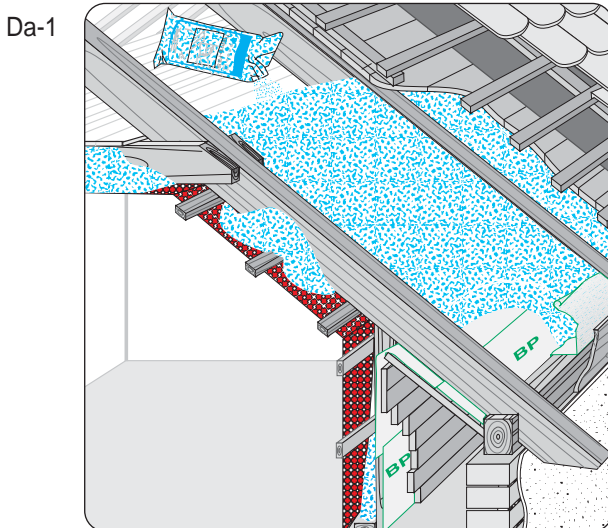
De-20



Roofs

Roofrooms with attics

the optimum for comfort and storage



roof insulation	Da-1 [cm]	U-Wert [Wm ² /K]	d _{ges} [cm]
Thermo-Fill®	10	0,29	21
	15	0,18	26
	20	0,15	31
	25	0,13	36
	30	0,11	41
	35	0,10	46
	40	0,09	51
	45	0,08	56
	50	0,07	61

thickness without roofing

for effective summer heat insulation:

minimum:	d _{insul} = 20 cm	d _{total} = 31 cm
standard:	d _{insul} = 25	d _{total} = 36
comfort:	d _{insul} = 30	d _{total} = 41

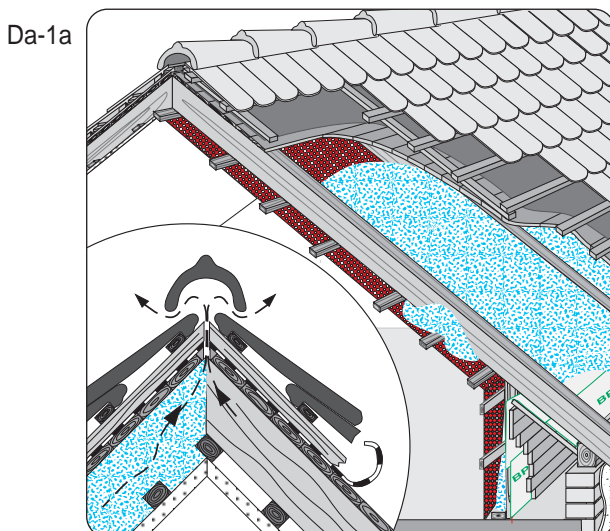
tailored to the targeted thermal classification following roof designs can be selected:

standard class:	U = 0,3 Wm ² /K	d _{insul} = 6 cm	d _{allover} = 17 cm
energy class:	U = 0,2	d _{insul} = 12	d _{allover} = 23
low energy class:	U = 0,15	d _{insul} = 19	d _{allover} = 30
passive class:	U = 0,09	d _{insul} = 38	d _{allover} = 49

Roofrooms up to the top

for freedom of design and medium climatic conditions

performances and values (insulation, thickness) are as above in „Da-1“.



Regardless of room to the top, flat roof or curved roof: ventilation for vapour at the highest option is mandatory.

Visible woodbeams: it is recommended not to interrupt fire protection as energy storage. Therefore stauss/plaster is applied throughout in 1 layer and „visible“ dummy beams are mounted on top. This is the most economical and safest way (installations can be rooted in them, too).



Simple wood-construction

It creates the capacities for pneumatically applied insulation. Water, electric, antennas and other applications can be routed in here without additional insulations.



receiving „roll-on-brick“

externally applied first, internally mounted when tubes, ducts,... have been installed.



easy covered

no slots, no open joints, no formaldehyde.

Adjusts to any form.



single piece walls

without extension joints

without barriers or plastic liners

fully functional **ecological** wind barrier

optimised protection regarding

fire, thermal, sound

as well as

floods & earthquakes



plaster is applied

Lime cement as lime plasters are perfect ecological options. Energy saving performances can be influenced with corresponding plaster thicknesses.



internally

ample room for insulation and ducting, lines etc., plastered stauss offers more strength for woodframes than boards or woodlayers would do (earthquake, storm)



wind barrier

pure paper, no plastic or perforated „diodes“ delivers air stoppage and capillar moisture evacuation.



energy storage and strenght
of **massive walls**

traditional or futuristic

flat or curved

plaster or wood decorations

unrestricted options

safe & reasonable