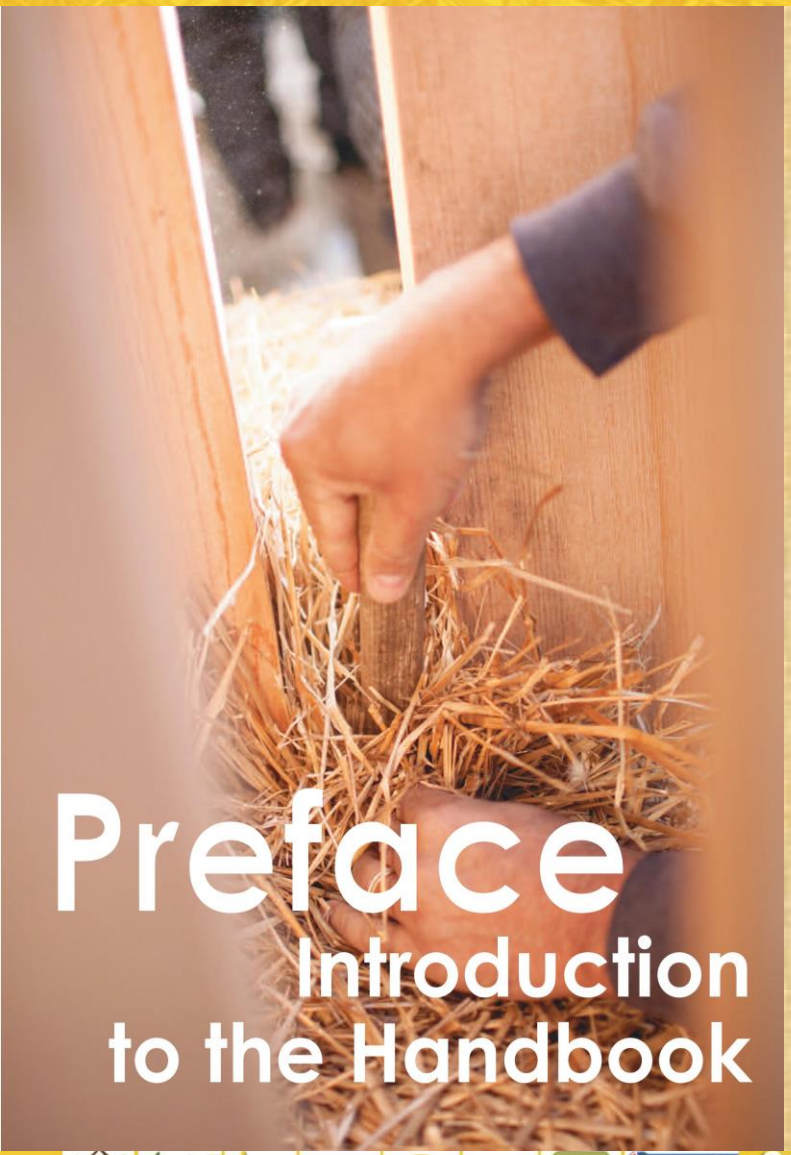
Leonardo – Project Straw Bale Building Training for European Professionals

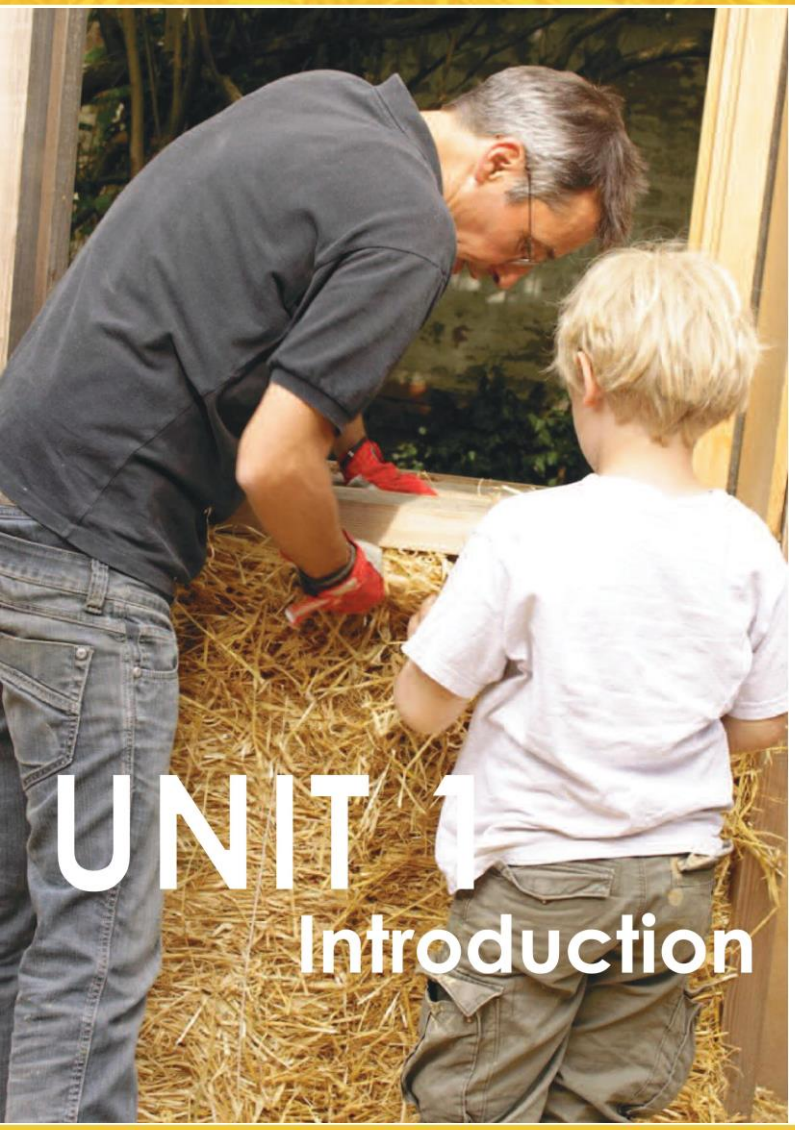


Preface
Introduction to the Handbook

Overview of the structure:

Unit 1 Introduction
Unit 2 Infill and prefabrication
Unit 3 Load Bearing constructions
Unit 4 Wrapping
Unit 5 Finishes
Unit 6 Building Physics
Unit 7 Concept of the House – design and Maintenance
Unit 8 Marketing and Communication
Unit 9 Building Practice
Unit 10 Teaching Methods


AU – DE – FR – SP – PO – SL – HUN – UK – NL – (BE)



UNIT 1
Introduction

Building a little cabin

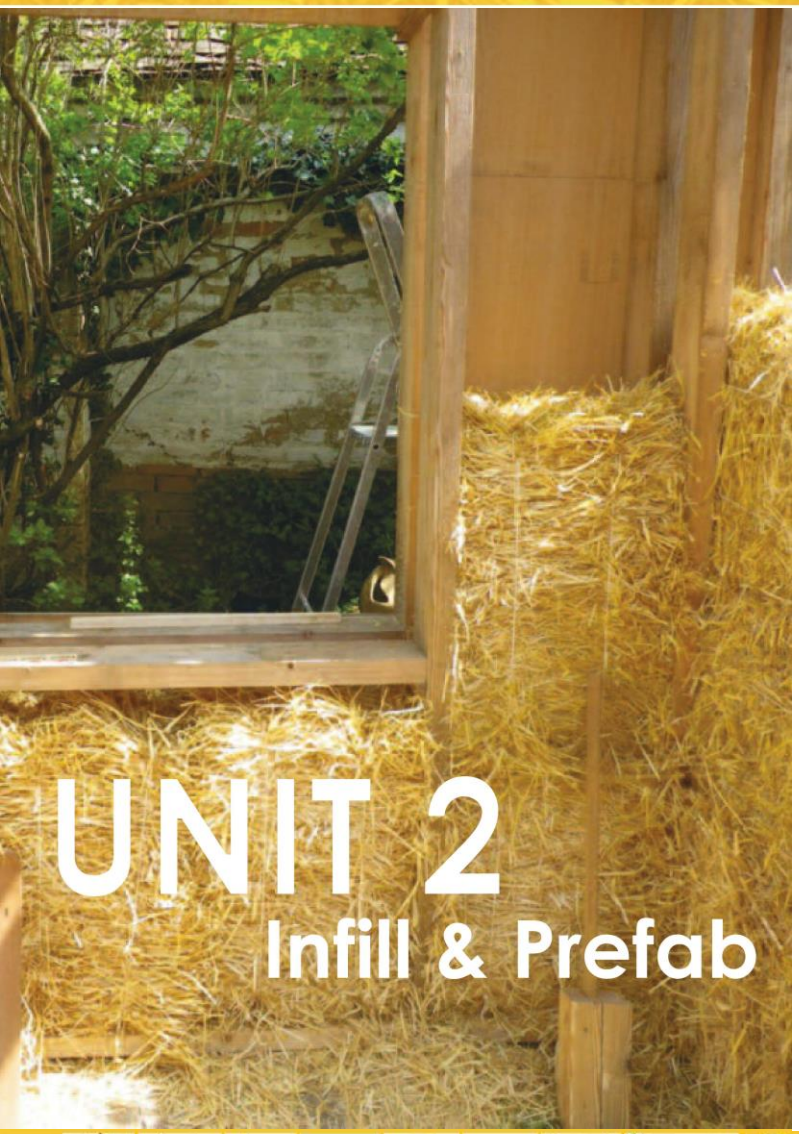
Customizing straw

Straw Talks –what is straw?

Good straw bales should be « DUDS »

D – Dense
min 80 kg/m3
U – Uniform
consistent density through the bale
D – Dry
less than 20% hum
S – Square
regular shaped

They should also not contain seeds (as few as possible) to discourage rodents/ insects.



UNIT 2
Infill & Prefab

Straw Bale Hybrid CUT-System

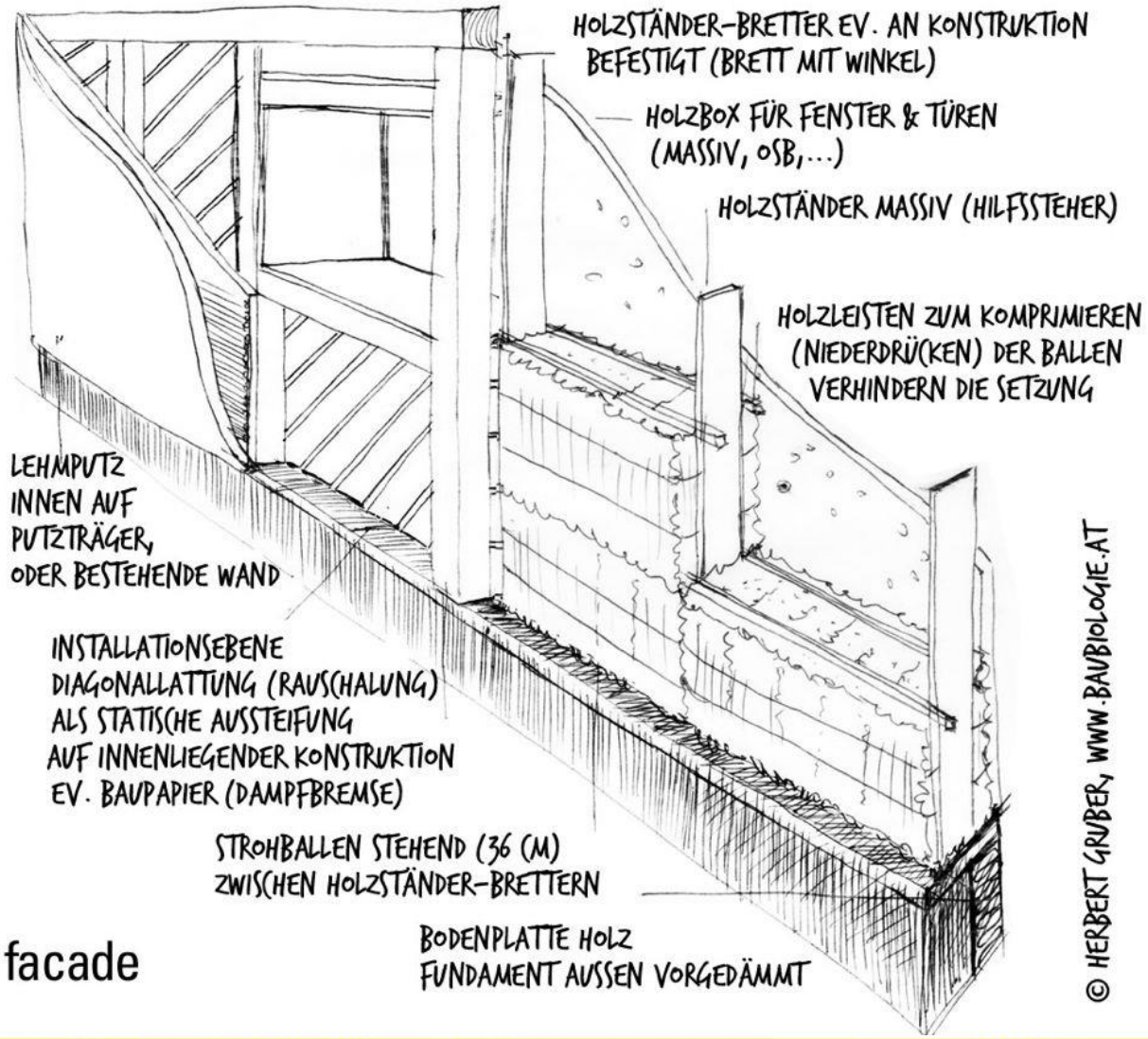
Tom Rijven

advantages:

simple system,
compression through
lintels each sb-line,
also ideal for
thermal renovation

disadvantages:

structural tests (72 tons)
similar to loadbearing,
ev. humidity problems
through direct plastering on facade



UNIT 3
Load bearing

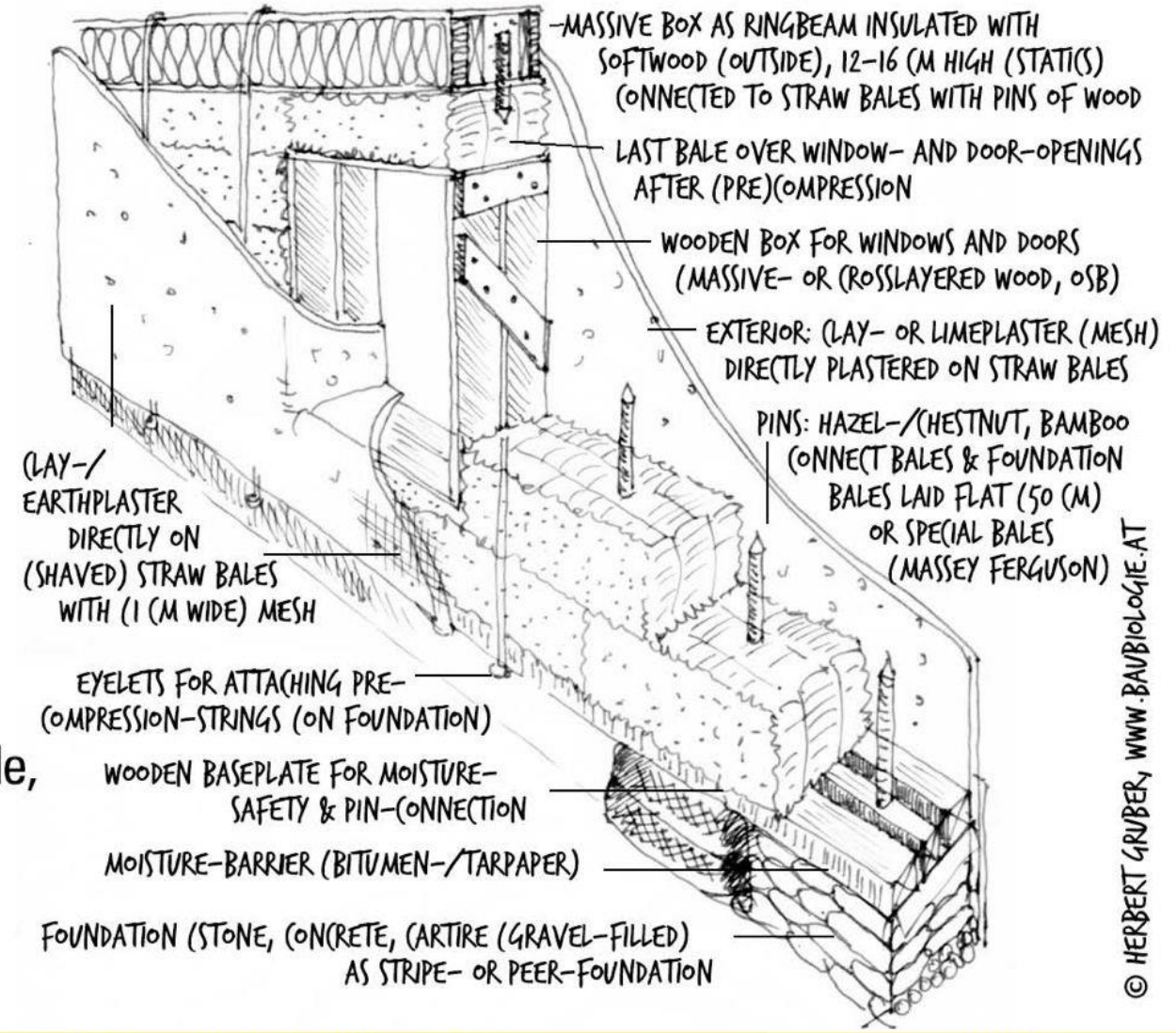
load-bearing straw bale wall

Advantages:

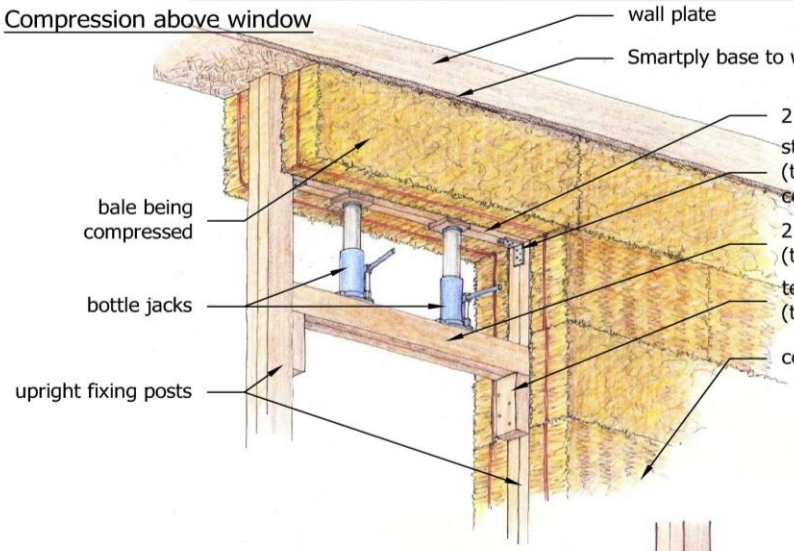
continuous, thermal bridge-free insulation, great shape flexibility

Disadvantages:

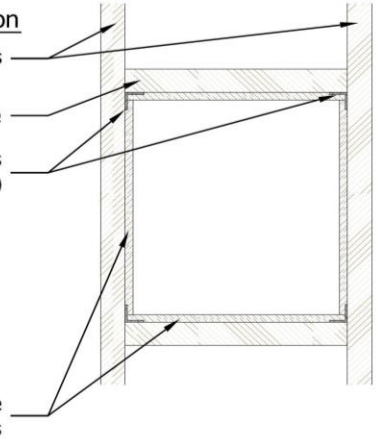
prefabrication & wooden facade not possible, possible humidity-problem through direct-plaster outside, smaller windows possible, missing installation area, statics: harder to proof



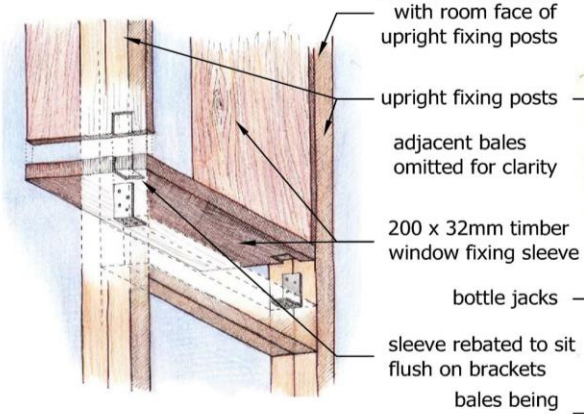
Compression above window



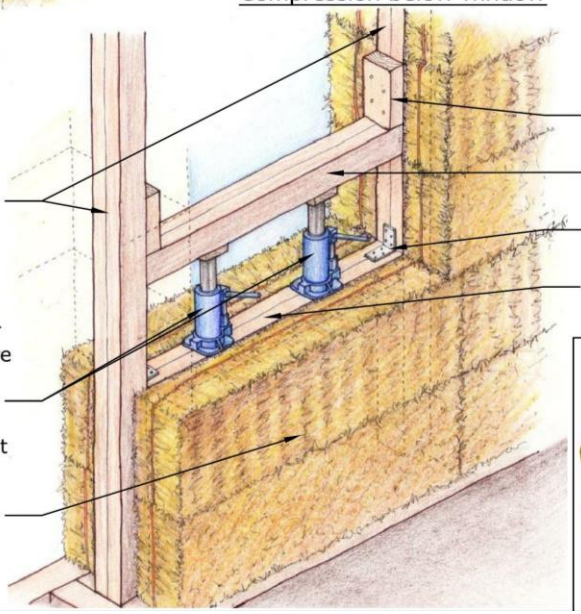
Window sleeve elevation



Window sleeve notching detail



Compression below window

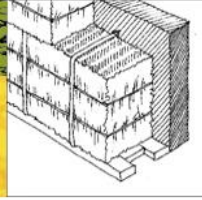


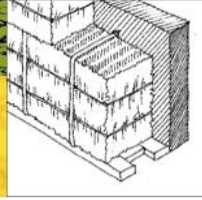
1. Compress bales above and below opening
2. Fix brackets in place to hold compression
3. Remove temporary timbers
4. Insert window fixing sleeve

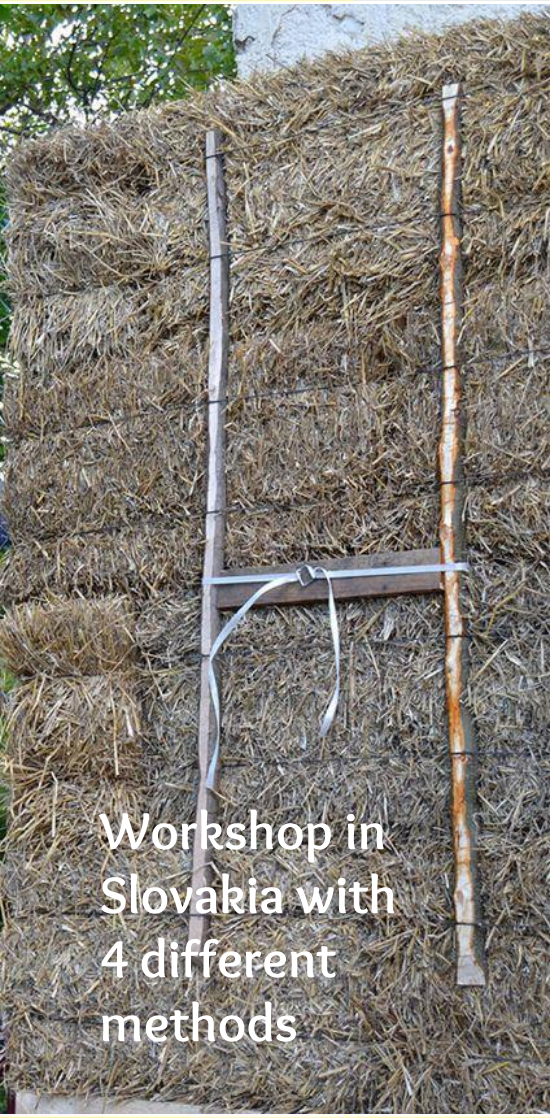
07736 904186
beerowan44@yahoo.com
www.strawbuild.org

Site: Rock Farm, Slane
Job: Construction detail
Client: Carina Mount-Charles

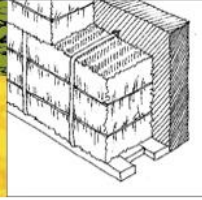
Drgs: Window compression detail
File: Strawbuild Details
Scale: not to scale
Date: 01/07/13 Drn: MDH
Drg no: wc@nts REV: A



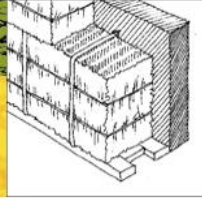


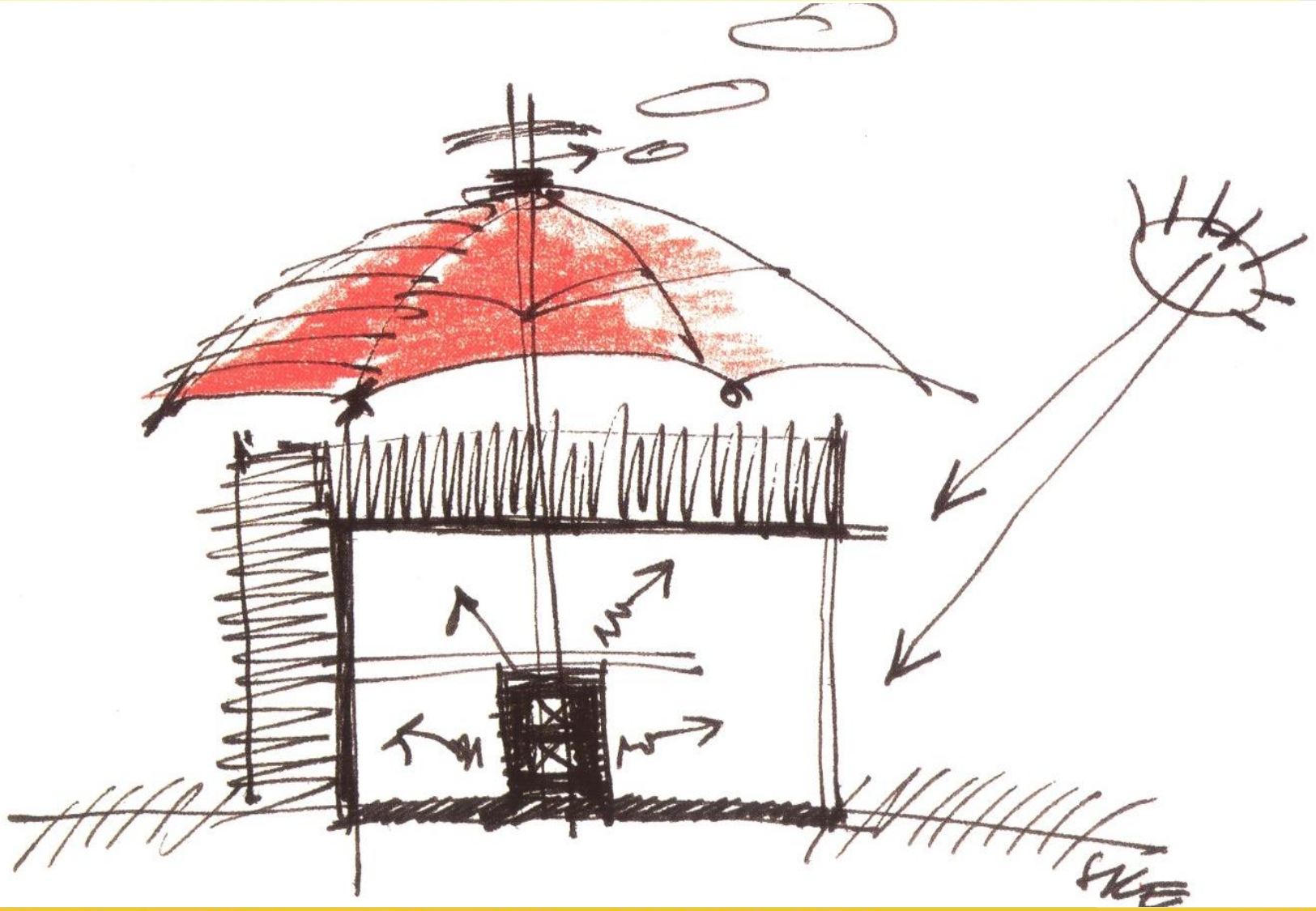


Workshop in Slovakia with 4 different methods

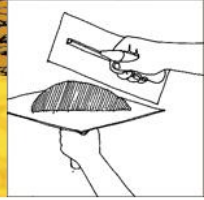



CORGON

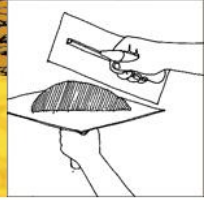


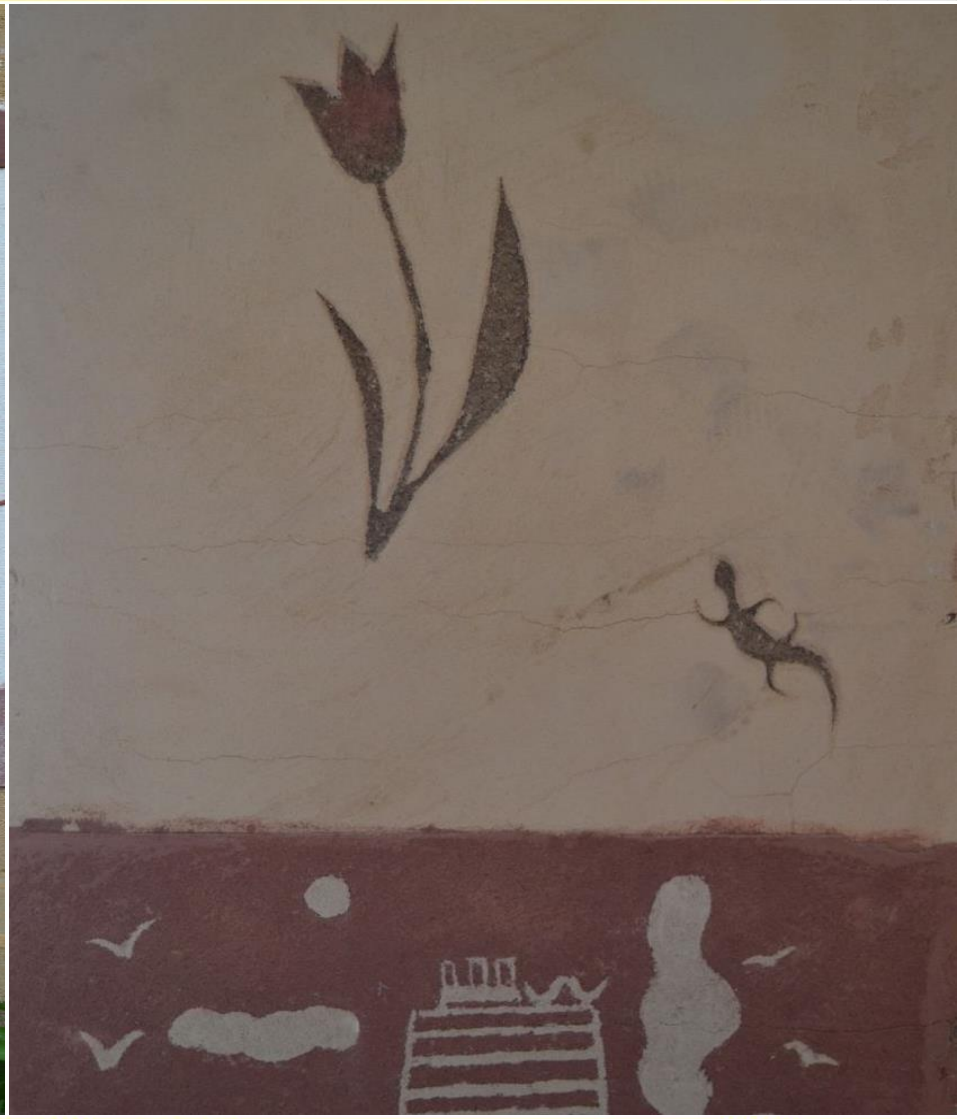


UNIT 5
Finishes



Clay and Lime finishes in the Dome in Slovakia





INSIDE

diffusion/breathability or vapour barrier (4:1)
μ = 20–300
sD-value ≤ 1m
no vapour break!

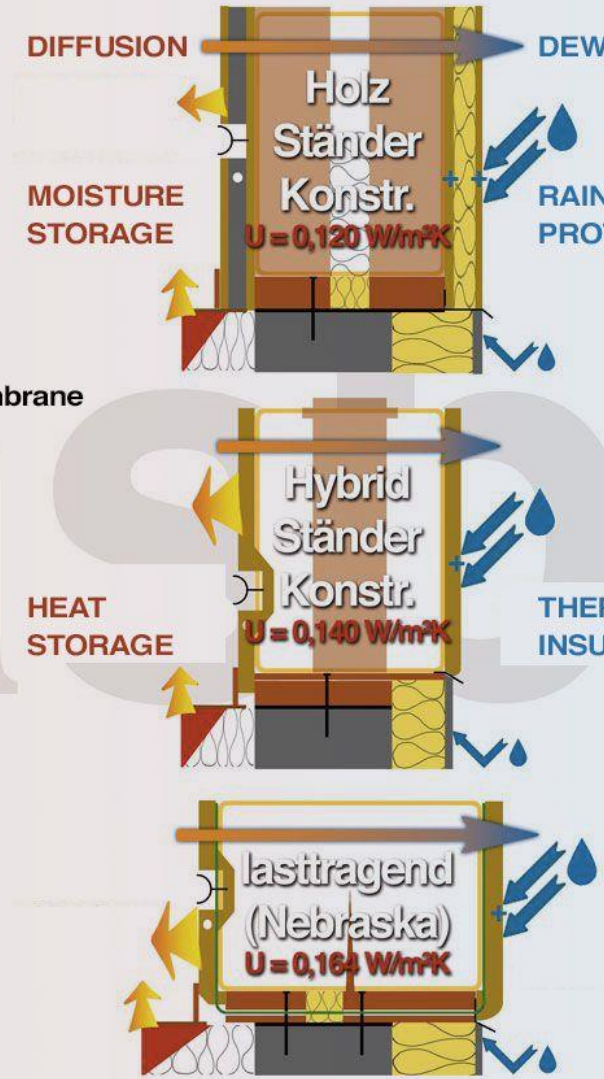
airproof
single: plaster
double: plaster + OSB/membrane

diagonal bracing
shear/wind forces:
structural board, plaster

thermal mass
heavy materials
in walls & floor
phaseshift (day/night)
clay/earth (indoor climate)

installation layer
plaster, on Heraklith or
woodfibreboard, boards

splashwater area
baseplate, wood, tiles



OUTSIDE

diffusion/breathability diffusionopen!
μ = 1–20
dewpoint (condensation)
no vapour barrier!

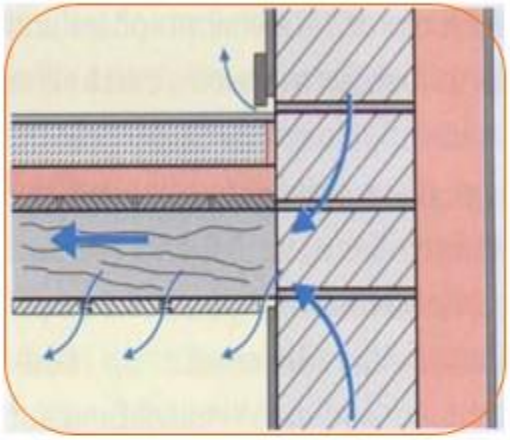
windproof
single: (lime)plaster
double: + DWD/windpaper

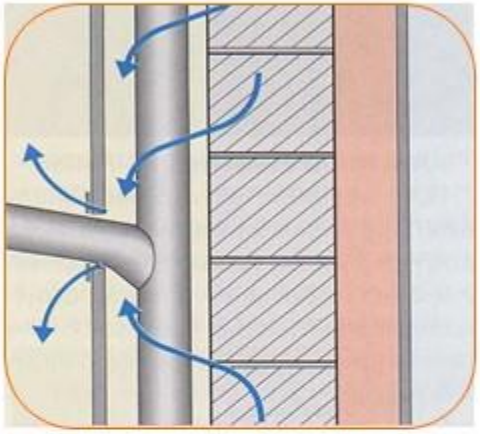
diagonal bracing
shear/wind forces:
structural board, plaster

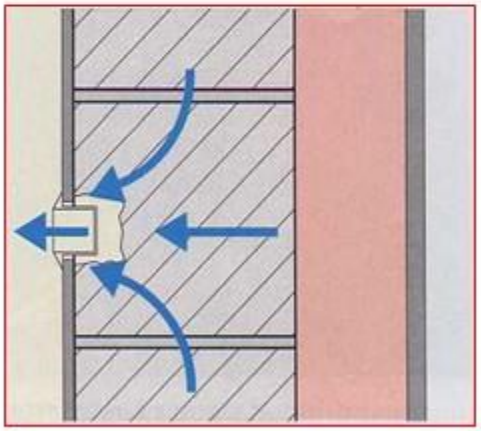
thermal insulation
lambda (material)
U-value (building part)
low energy house: < 0,25 W/m²K
passive house: < 0,10 W/m²K

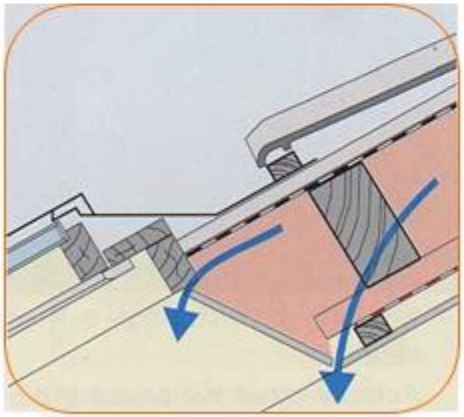
facade (water repellant)
limeplaster + (silicate) paint
woodfibreboard (protect) + plaster

splashwater area
30-40 cm above ground, gravel







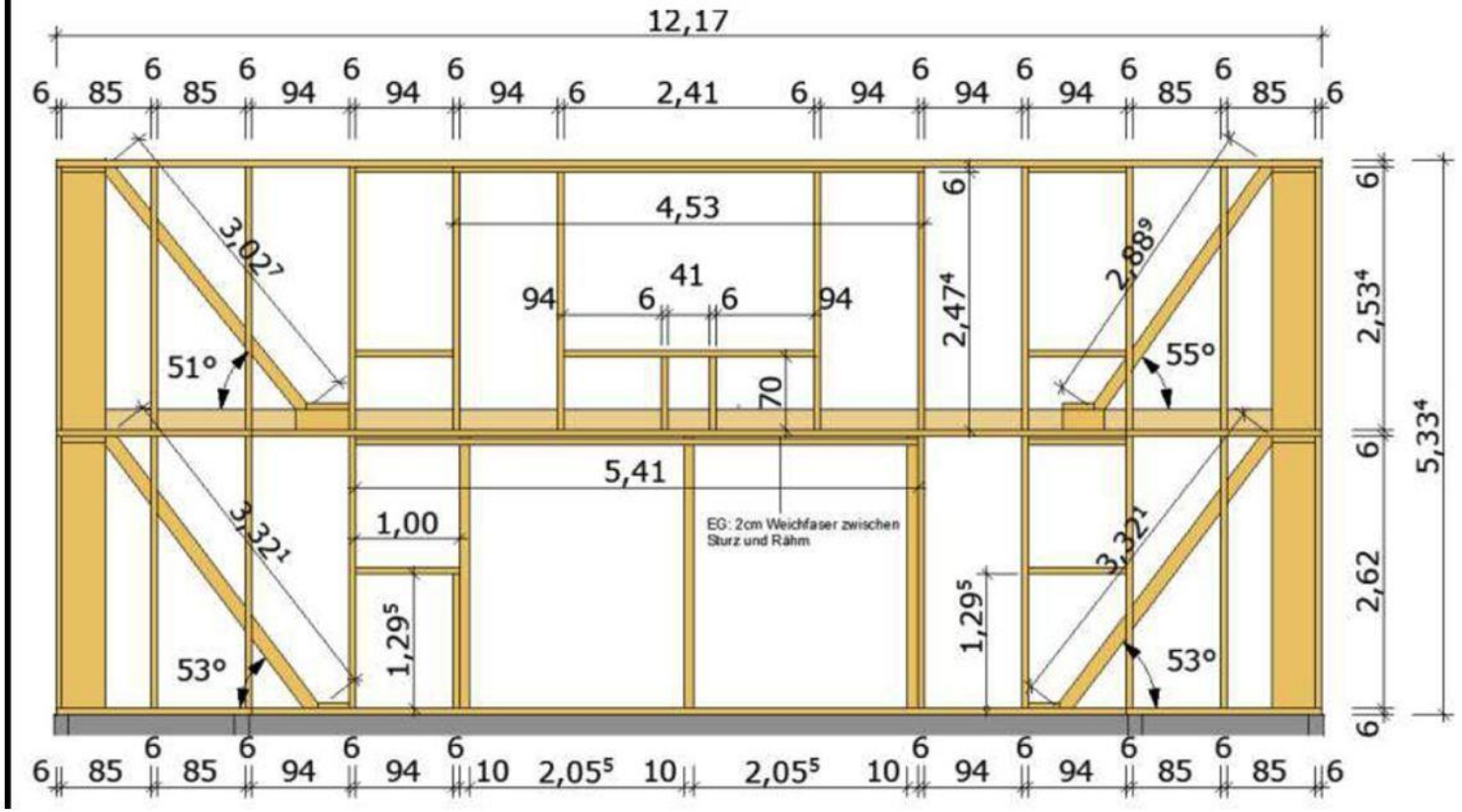


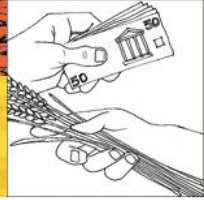
Air tightness In the building

architecture
Architektur

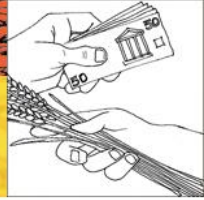
source | quelle: arch. dirk scharmer

production drawing wall |
Fertigungszeichnung Wand



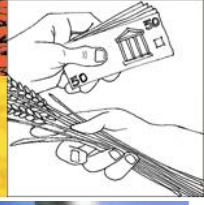


UNIT 8
Marketing & Communication




gebaut
wie gewachsen
Strohbau-Modulsystem


Handwerkskammer zu Leipzig
ÖKO UND NOCH ETWAS
Handbuch zum Marketing ökologischer Produkte



Do Good & SPEAK ABOUT

- Web (Website, Facebook, YouTube)
- Print (Brochures, Books, Folder,…)
- Workshops on your and on their site
- Events (share your experience)
- Friends and Friends of Friends (Viral Marketing like FB or YouTube)

Straw Leonardo 3 Austria

www.straw-leonardo.eu

„Batipol“ French training center close to Limoux

Training center in Verden - Germany in a former tank hall – Fachkraft Stroh – training with 200 hours

5 story Straw Bale Building (NZNB) realized in prefabrication with big bales in 2015

Training center Slovakia in Rhuby Sur from Artur – in an old renovated school

organic architecture 2

ORGANIC
OrganiCut

Training cetner in Ravelsbach
Austria of ASBN

The possibility to build organic, free forms like in flying concrete with straw & earth (cob) as sculptural and plaster material

Let´s open all windows and doors for SBB in Europe!!

Thank you!!