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# PROCESSING INSTRUCTIONS

## FLEX

- Cutting to size and fittings
- Installation in timber panel construction

# Processing instructions FLEX

## General Information

The flexible and diffusion-open wood fibre insulation mat is just as suitable for compartments in roof, wall and ceiling constructions as it is for cavity insulation in partition walls, facing shells and installation levels.

naturheld Flex is particularly clampable – it is installed dry and cannot withstand pressure. It is manufactured and monitored in accordance with DIN 13171.

If naturheld Flex is installed in the building shell, an airtight and vapour diffusion barrier layer must be installed on the inside, and the outside must be constructed to be rainproof and windproof.

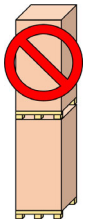
naturheld Flex must be protected from moisture and damage, so the open compartments must be sealed airtight on the inside after 4 weeks at the latest.

If the cavity insulation is installed in the building shell during the cold season, the vapour barrier must be laid immediately afterwards and sealed airtight.

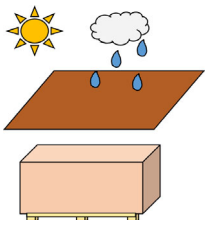
## Storage and transport

The material must be checked upon delivery, the package inserts must be observed, and the plate sticker must be kept together with the delivery notes.

The pallets of naturheld FLEX must not be stacked on top of each other



naturheld Flex should be stored in a dry place and protected from UV light.



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## Areas of application

| Areas of application according to DIN 4108-10:2015: | | Tensile strength: zk = none |
|---|---|---|
| **DZ** | Insulation between rafters, doubleskin roof, non-walkable but accessible top storey ceilings |   |
| **DI – zk** | Internal insulation of the ceiling (on the underside) or the roof, insulation under the rafters/supporting structure, suspended ceiling, etc. |   |
| **WH** | Insulation of timber frame and timber panel construction |   |
| **WI – zk** | Interior wall insulation |   |
| **WTR** | Insulation of partition walls |   |

## Properties of naturheld Flex

| Technical Data | |
|---|---|
| Labelling | WF-EN 13171-T2-MU1/2-AFr10 |
| Density | 50kg/m³ |
| Nominal thermal conductivity λD | 0,036 [W/mK] |
| Rated thermal conductivity λB | 0,038 [W/mK] |
| Fire behaviour according to DIN EN 13501-1 | E |
| Building material class according to DIN 4102-1 | B2 |
| Full declaration | Wood fibres, PP / PE (binding fibre), ammonium sulphate (fire retardant) |
| Production process | Dry process |
| Water vapour diffusion resistance factor μ | 1-2 |
| Specific heat capacity | 2100 [J/kgK] |
| Waste key numbers according to AVV | 030105, 170201 |

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**Format**

The width of 575 mm is designed for the standard grid dimension of 625 mm commonly used in timber construction – 625 mm – 60 mm frame width results in a clear dimension of 565 mm.

The standard format for timber construction is 575 mm x 1200 mm.

When using metal stands (CW and UW profiles), the panel width is 625 mm. We offer thicknesses of 40, 60, 80, in this width, matching the metal profiles of 50, 75, 100 and 125 mm.

The standard format when using metal studs is 625 mm x 1250 mm.

**Format 1220 x 575 mm** · for timber-frame construction · width 575 mm

| Thickness (mm) | m2 / pallet | pcs / pallet | Packages / pallet | m2 / package |
|---|---|---|---|---|
| **30*** | 112,24 | 160 | 10 | 11,22 |
| **40** | 84,18 | 120 | 10 | 8,42 |
| **50** | 67,34 | 96 | 8 | 8,42 |
| **60** | 56,12 | 80 | 8 | 7,02 |
| **80** | 42,09 | 60 | 10 | 4,21 |
| **100** | 33,67 | 48 | 8 | 4,21 |
| **120** | 28,06 | 40 | 8 | 3,51 |
| **140** | 22,45 | 32 | 8 | 2,81 |
| **160** | 21,05 | 30 | 10 | 2,10 |
| **180** | 16,84 | 24 | 8 | 2,10 |
| **200** | 16,84 | 24 | 8 | 2,10 |
| **220** | 14,03 | 20 | 10 | 1,40 |
| **240** | 14,03 | 20 | 10 | 1,40 |
| **260*** | 11,22 | 16 | 8 | 1,40 |
| **280*** | 11,22 | 16 | 8 | 1,40 |
| **300*** | 11,22 | 16 | 8 | 1,40 |

**Format 1250 x 625 mm** · for drywall installation with metal profiles · width 625 mm

| Thickness (mm) | m2 / pallet | pcs / pallet | Packages / pallet | m2 / package |
|---|---|---|---|---|
| **40** | 93,75 | 120 | 10 | 9,38 |
| **60** | 62,50 | 80 | 8 | 7,81 |
| **80** | 46,88 | 60 | 10 | 4,69 |

**Single-variety loading** (on standard lorry, loading space 2,40 x 13,60 m)

| Panel format (mm) | Pallet dimensions (mm; approx.) | Pallets per lorry |
|---|---|---|
| **1220 x 575** | 1220 x 1150 x 2550 (L x W x H) | 22 |
| **1250 x 625** | 1250 x 1250 x 2550 (L x W x H) | 20 |

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## Cutting

The flexible naturheld Flex wood fibre insulation mat can be easily cut to size using a wide variety of tools. These include electric handsaws, alligator saws with two-way serrated blades, jigsaws, insulation saws, circular saws, band saws and insulation knives. The tools listed in the table below are ideal for cutting naturheld Flex. The list is only an example and is by no means exhaustive.

| Cutting tools | Accessories | Notes |
|---|---|---|
| Bosch GFZ 16-35 AC<br> | Serrated knife set<br>Bosch TF 350 WM<br> | |
| Dewalt DWE 397/398/399<br> | Serrated knife set<br>Dewalt DT 2979<br> | |
|  | Dosteba<br>Multi-purpose Cutting Tool SPEWE 1900ML-30<br><br>Suitable for a wide range of cutting tools<br><br>Technical specifications<br><br>Cutting depth at 90°: 100 - 305 mm<br>Cutting depth at 45°: 100 - 180 mm<br>Cutting length: 1270 mm<br>Weight: 24 kg | |
| Mafell Insulation Wire Saw DSS 300 cc<br> | ST 1700 Vario sawing table<br>S 200 dust extractor<br> | Maximum cutting depth 300 mm, 140 mm at a 60° angle<br><br>Extraction recommended |

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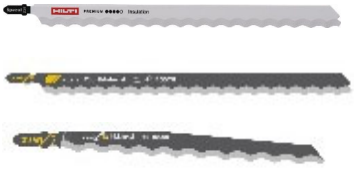


Rokamat battery-powered insulation cutter

| | Tigris 850 CX | Tigris 1250 CX |
|---|---|---|
| Battery performance/capacity: | 18 V / 5,2 Ah (Li-Ion) | |
| Total weight (net): | approx. 25kg | approx. 31kg |
| Cutting length: | 850 mm | 1250 mm |
| Cutting depth at 0° | | 340 mm |

Jigsaws





HILTI jigsaw blade SP25
Cutting depth up to 150mm
Bosch T 1013 AWP up to 160mm
Bosch T 313 AW up to 100mm

Plunge circular saws



Kaindl Insucut
Circular blades, diameter ø 160 – 350mm



For thin insulation materials, when used in conjunction with a hand-held circular saw and a guide rail

Festool



Cordless insulation saw ISC 240 EB
Cutting sets SG 240 /W-ISC



Cutting depth maximum 240 mm




Bahco insulation saw, 550 mm



Hand knife with a serrated edge

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## Installation methods

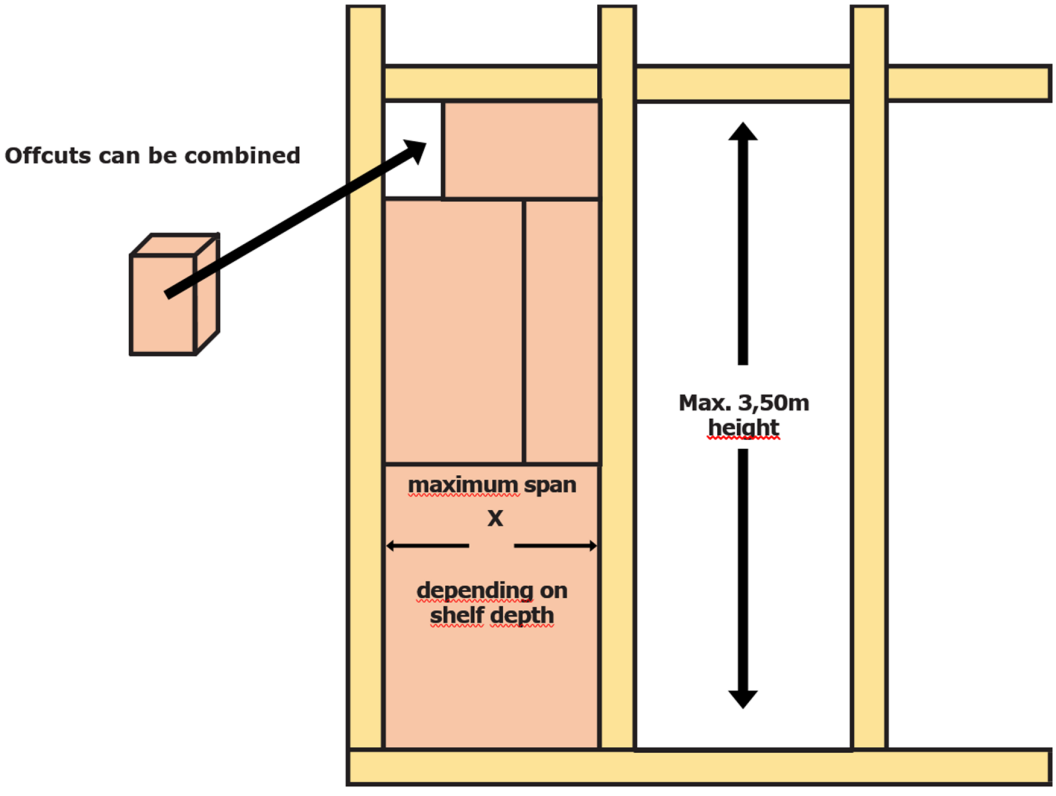
Naturheld Flex is installed both lengthwise and widthwise with an allowance of approximately 1,5-2% – this ensures that the wood fibre insulation mat adheres securely to the cavity and fills it permanently. Depending on the area of application, the clamping dimension may vary – it may well be greater for particularly long and wide compartments

When installing between rafters, it makes a difference whether the rafters are planed or rough-sawn; rough-sawn rafters require less clamping dimension. The additional clamping dimension therefore depends on the thickness of the insulation material, the clear rafter spacing, the roughness of the rafters and the roof pitch.

To minimise waste, leftover pieces can be combined with new sections during installation.

The compartments are limited to floor height or a maximum of 3.50 m by appropriate measures.

The maximum insulation thickness corresponds to the rafter height or the stud depth.




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**Maximum spans for horizontal installation:**

| Insulation thickness in mm | maximum span in mm |
|---|---|
| 40 | 450 |
| 50 | 475 |
| 60 | 500 |
| 80 | 550 |
| 100 | 600 |
| 120 | 650 |
| 140 | 700 |
| 160 | 750 |
| 180 | 800 |
| 200 | 850 |
| 220 | 850 |
| 240* | 850 |
| 260* | 900 |
| 280* | 900 |
| 300* | 900 |

*special size

## Important information

**Safety**

Cutting and installing wood fibre insulation mats generates dust. A dust mask and safety goggles should be worn, especially when working overhead.

Standard dust extraction systems must be used for dust removal in accordance with the regulations of the professional associations; the provisions of TRGS 533 must also be observed.

**Temperature stress**

Built-in elements, such as ceiling spotlights, may reach a maximum surface temperature of 100°C. Otherwise, they must be encapsulated using suitable measures.

## Disposal

Due to the limited disposal options for insulation materials made from polystyrene or mineral fibres, the disposal costs for such materials are relatively high at many waste management companies.

‘Insulation materials’ form a separate category in this context, which is not further subdivided.

However, there are actually exceptions for leftover wood fibre insulation, as it can be disposed of easily.

It is therefore advisable to declare the waste as wood-based materials rather than as insulation materials. This often results in significantly lower disposal costs.

Waste should be sorted by type and disposed of in accordance with the relevant waste codes. The waste code numbers are, according to the EAK: 030105 (European Waste Catalogue) and, according to the AVV:

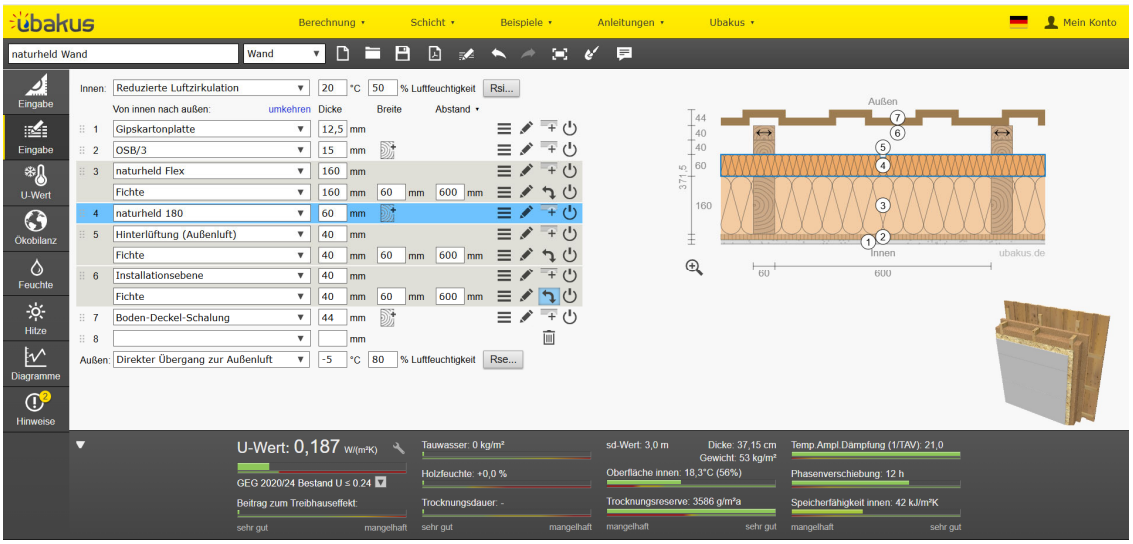
170201 (National Waste Catalogue) and waste wood category II. These codes refer to wood or wood-based materials without hazardous additives.

In wood-fired systems with a rated thermal output of ≥ 30 kW, offcuts can thus also be recovered thermally and do not need to be disposed of by volume as waste at costly landfill sites.

## Building physics and component testing

All naturhelds insulation materials are registered with ubakus , where certificates for the U-value and moisture protection in accordance with DIN EN 4108-3 can be easily generated for individual roof structures:

www.ubakus.de/u-wert-rechner/




## Contact naturheld

Do you have any questions about our products?

We'd be happy to help.

Quick, easy and professional – free of charge via our technical helpline:

+49 9641 93646 350 technik@naturheld.global

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**09/2026**