The vapour barrier is laid overlapping and is mechanically fixed by means of tacker staples.

The airtight taping and sealing of overlaps, connections and penetrations is very important. See the brochure 'Air-tightness in detail' regarding this.

Now the laths are attached at a centre-centre distance of approx. 30 cm. Ideally the laths are positioned directly on the sealing of the overlaps in order to additionally relieve the adhesive joints.

Advantage

The big advantage of the ISOCELL cellulose is not only its good insulation value and rapid processing, but also its outstanding protection against heat. The high storage capacity of the ISOCELL cellulose insulation provides for a noticeably delayed passage of irradiated solar heat. Attics in particular thus remain cool into the night.

SOLUTION INTERIOR ROOF INSULATION

ATTIC CONVERSION

REFERENCES

ISOCELL offices

A requirement for more space prompted the ISOCELL company to convert the attic.

So-called shed dormers made a generous room layout possible. The bright office space is not only a workplace, but also offers space for discussions, creative meetings and discussions with employees.

Attic in new buildings

ISOCELL cellulose is also very popular in the construction of new buildings. Above all in the case of roof areas with complex symmetry and dormers, the injection system offers the optimal solution for a jointless and waste-free insulation.

In summer the ISOCELL cellulose impresses with outstanding protection against heat.

ISOCELL GmbH
Gewerbestraße 9 | A-5202 Neumarkt am Wallersee
Tel.: +43 6216 4108-0 | Fax: +43 6216 7979
E-Mail: office@isocell.at | **WWW.ISOCELL.COM**

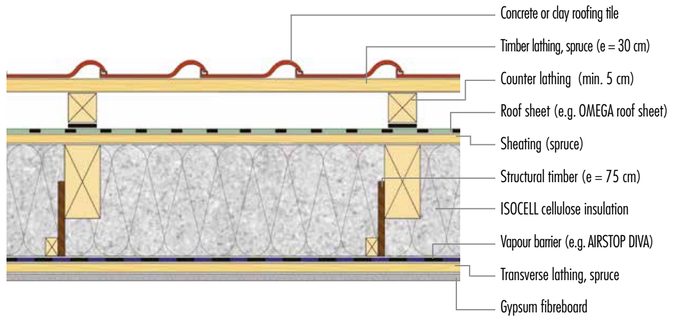
INSULATION WORK IN PRACTICE

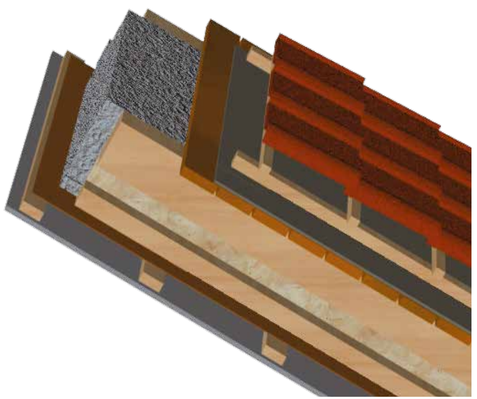
Depending on the desired insulation thickness, the rafters are strengthened (doubled) on the inside of the attic. Two variations are shown here for the construction (see detail drawings).

Injection process

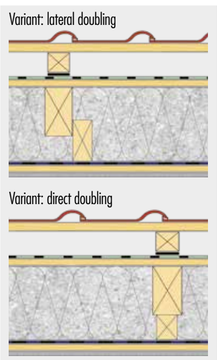
The injection specialist comes with his truck to the building site and bring along everything he needs: the injection machine and the material. Only the injection hose needs to be brought into the attic, not enormous amounts of material. By means of radio control the injection specialist controls the injection machine on the truck, which an assistant fills with cellulose. The hollow spaces are insulated without joints and settlement-free in just a few hours.

SOLUTIONS IN DETAIL SIDE VIEW AND SECTION

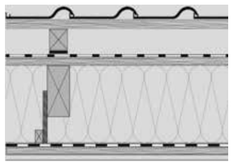




Variants of doubling



TECHNICAL DATA FOR THE STRUCTURAL ELEMENT ILLUSTRATED



Building material	Layer thickness (mm)	λ (W/m K)	Fire class (EN)
Concrete or clay roofing tile	50	0,7	A1
Timber lathing (e = 30 cm)	30	0,13	D
Counter lathing (min. 5 cm)	50	0,13	D
Roof sheet e.g. OMEGA	1	0,5	E
Sheating (spruce)	24	0,13	D
Structural timber	200	0,13	D
ISOCELL cellulose insulation	200	0,038 0,039 (D)	B-s2 d0
Vapour barrier	1	0,2	E
Transverse lathing (spruce)	24	0,13	D
Gypsum fibreboard	12,5	0,27	A2

Insulation material thickness (mm)	Insulation material density (kg/m³)	* GWP (kg CO_2 äqv./m²) for total structure	PHI (phase shift in hours)	** U-Valuet (W / m² K)
200	48	-35,25	10,4	0,208
220	48	-37,79	11,2	0,188
240	50	-40,66	12,1	0,171
280	50	-45,80	13,6	0,146
300	52	-48,78	14,6	0,136
340	52	-53,97	16,1	0,12
360	54	-57,07	17,2	0,113
400	54	-62,32	18,7	0,101

* Total GWP (Global Warming Potential)
** U-Value (W/m²K) was calculated with 8 = 0,039 W/m²K