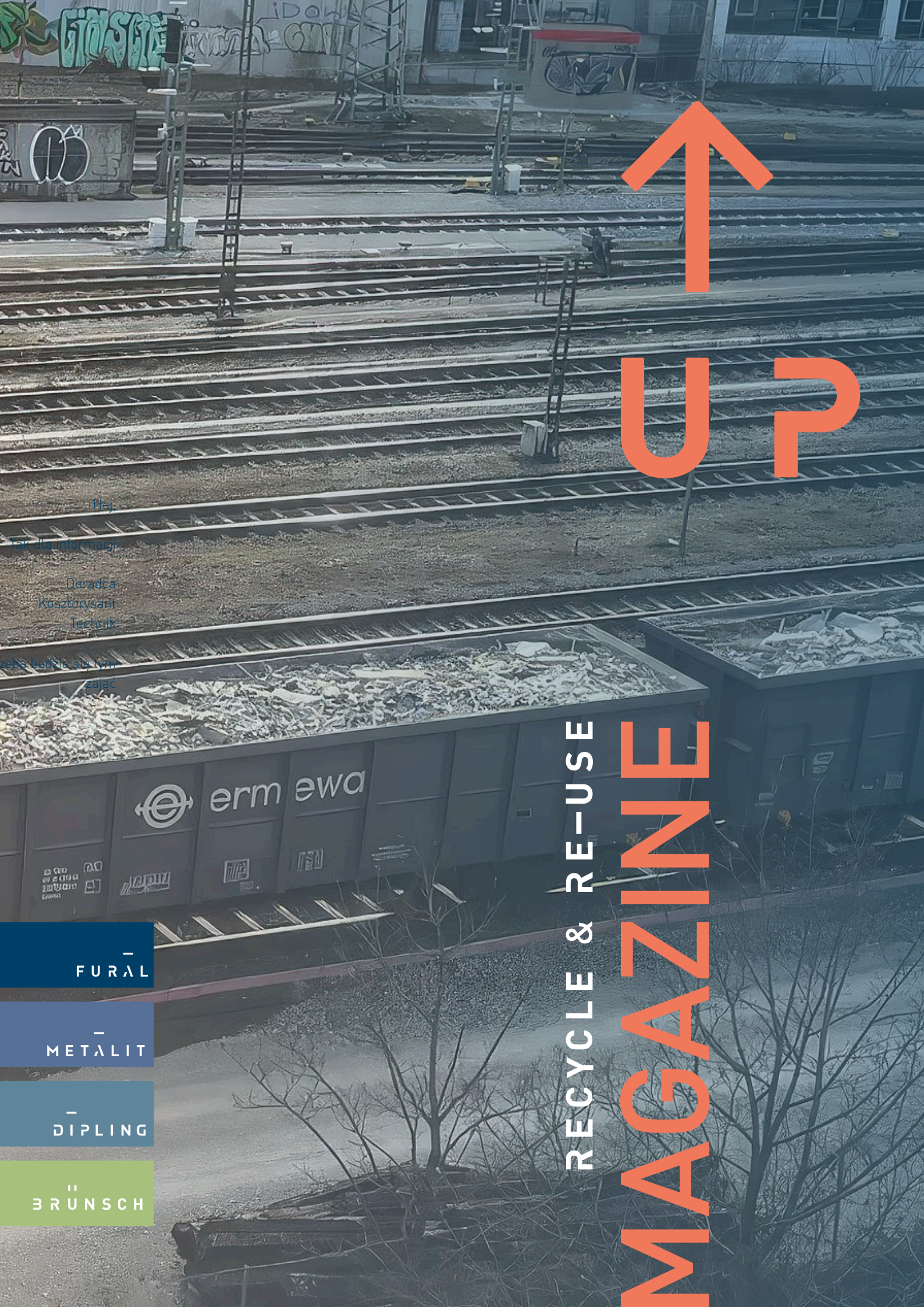


UP

RECYCLE & RE-USE MAGAZINE

Hej,

Tak dla informacji

Doradca
Kosztorysant
Technik

zeba będzie się tym
zająć

FURAL

METALIT

DIPLING

BRÜNSCH

Sustainability is the New Normal

(Dr. Christine Lemaitre, CEO of the DGNB, from Schulbau 02-2019)

Sustainability is becoming the new normal — and we want to be part of the solution.

It was from this conviction that the magazine UP! Re-Use was created. We are convinced that metal ceilings can be reused. Even after many years, they still look excellent — simply disposing of them would make little sense. Instead of recycling (metal already has a fully established circular economy), the question becomes: Is re-use possible? We wanted to find out which metal ceilings are particularly suitable for re-use and therefore developed an initial classification system: Platinum, Gold, Silver, or Bronze. First and foremost, we want to convince ourselves and develop a clear sense of when the answer is yes — and when it is no.

Christian Demmelhuber
CEO Fural Metalit Dipling Brünsch

Table of Contents

Re-Build as a Self-Experiment

From the Alpine Hunter Barracks to the Fural F1 Office Building

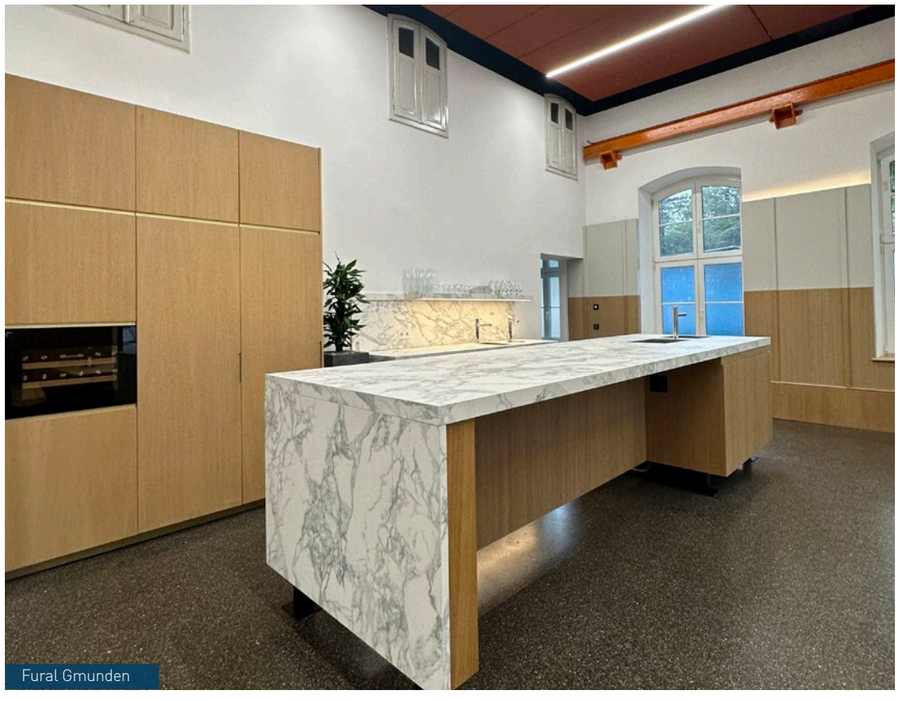
The company deliberately chose to preserve and repurpose the existing historic building of the Alpine Hunter Barracks, rather than constructing an entirely new building complex. The existing structure was carefully adapted, modernized, and upgraded to meet today's technical and functional requirements.

Re-Use Success Stories

From the Signa Company Restaurant to the Fural Company Restaurant

When an insolvent company no longer needed its kitchen, we seized the opportunity: the entire kitchen equipment was acquired and installed in our company restaurant. Instead of purchasing everything new, we chose reuse. The result: lower costs, less waste — and a fully functional kitchen.

Signa Vienna

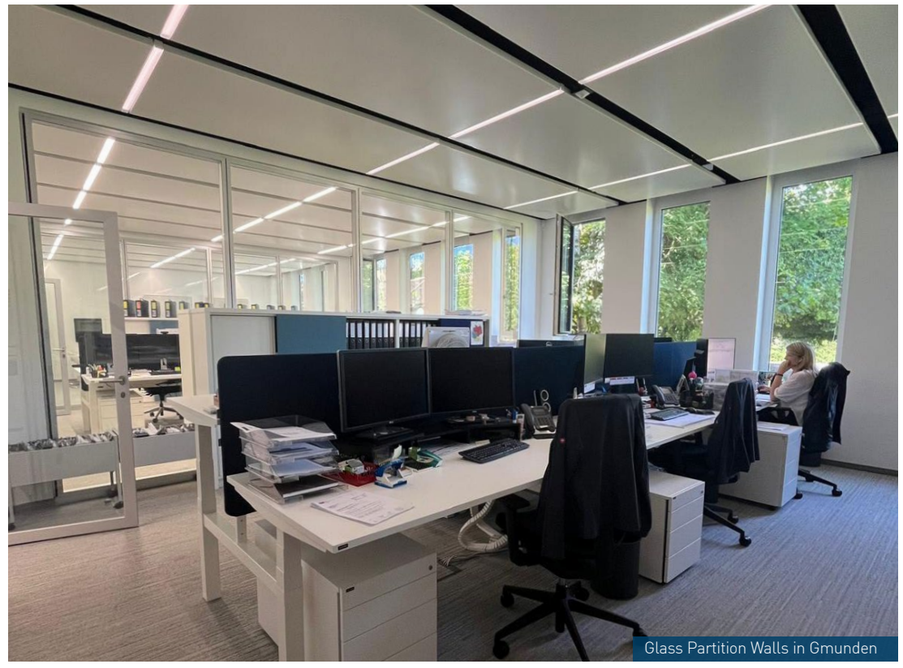


Fural Gmunden

Re-Use Success Stories

From VIAG Glass Partition Walls to Fural Glass Partition Walls

The glass partition walls, formerly used by VIAG Intercom Munich, were reused for the furnishing of our office at Fural Gmunden. In this way, we were able to use materials sustainably, reduce costs, and make optimal use of existing resources — a simple contribution to sustainable working practices.



Glass Partition Walls in Gmunden

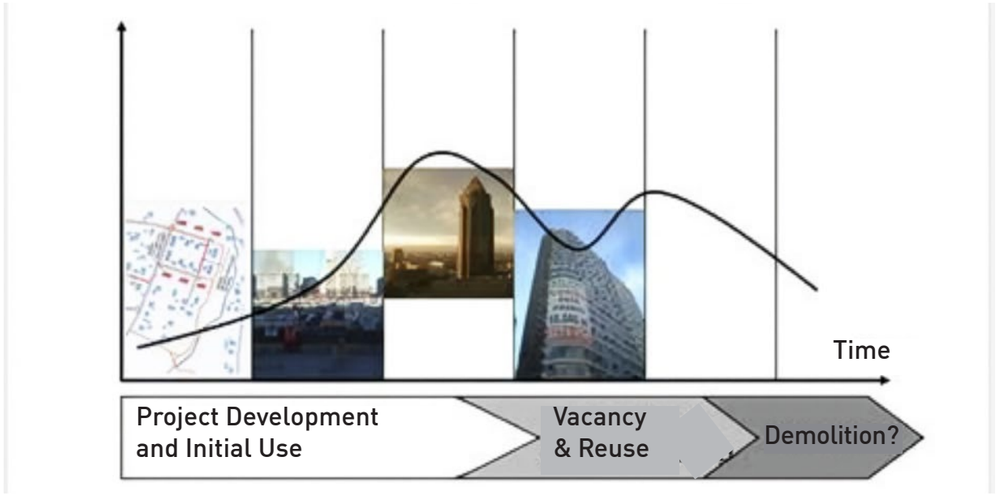
Art in the Corridors, Art in the Offices – Art Matters

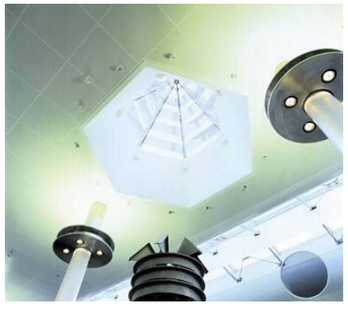
Re-Use – What is Possible?

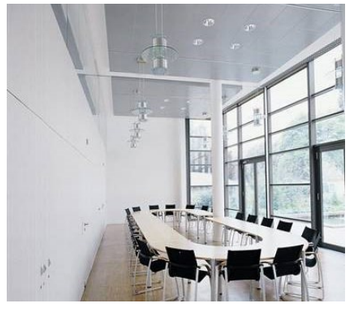
Images from Presentations Before the Year 2000
A Journey Through Time – Where is Re-Use Possible?

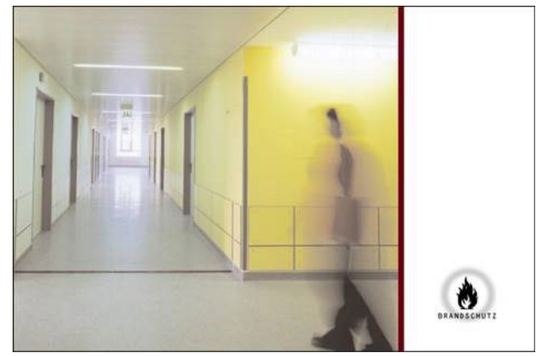
FURAL Systeme in Metall GmbH
Lebenszyklus

Value Throughout the Product Life Cycle







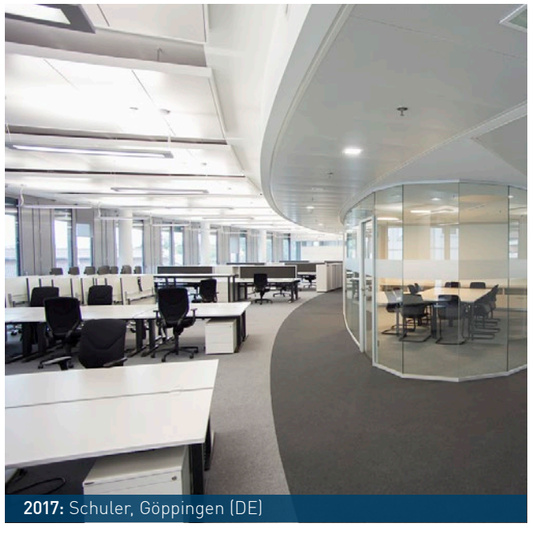
Re-Use – What is Possible?

Floating ceilings in Re-Use – 10 Years of Use

Imagine entering a building 15 years later and still being proud of its ceilings. No water damage, no scratches — instead, high-quality surfaces with functional benefits such as acoustics, cooling, and heating. And unlike in the past: no nicotine stains anymore, thanks to smoking bans.

2015: GOTECH, Weissach (DE)

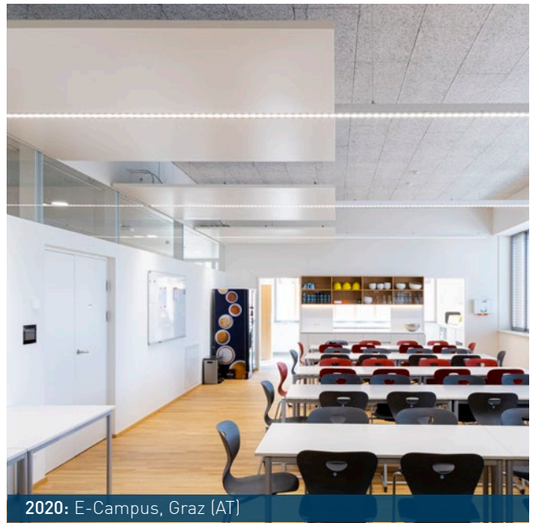
2016: Emmi Butter Headquarters, Lucerne (CH)



2017: Schuler, Göppingen (DE)

2018: Erber Group, Getzersdorf (AT)

2019: Sandgruben, Basel (CH)

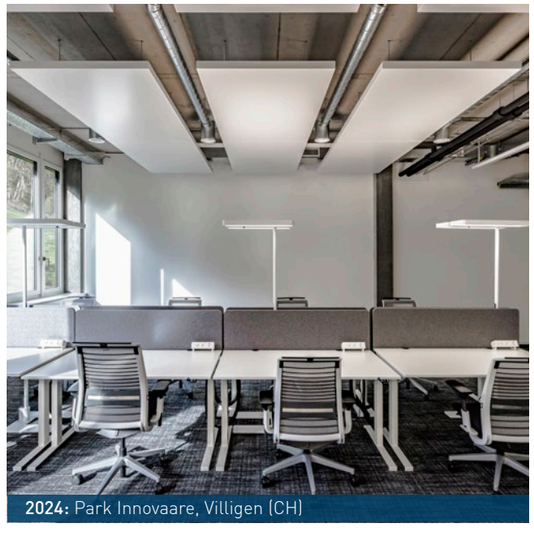


2020: E-Campus, Graz (AT)

2021: Selmoni, Basel (CH)

2022: Legero United Campus, Feldkirchen (AT)

2023: Karlstraße, Munich (DE)



2024: Park Innovaare, Villigen (CH)

Re-Use – What is Possible?

Is a Re-Use Index Possible or Meaningful?

In order to objectively assess the quality and reusability of used metal ceilings, Fural attempted to develop a standardized scoring system. This system takes various properties of the ceiling panels into account and classifies them into four quality categories: **Bronze, Silver, Gold, and Platinum.**

Evaluation Criteria

1. System Type

KLB (chilled beam ceiling):	15 points
KLK (chilled ceiling):	10 points
Wall-mounted system:	5 points
Fire protection ceiling:	5 points

2. Cooling Function (optional)

If available, the cooling performance of a system is included in the total score with a factor of 0.7.

3. Coating

Powder-coated:	15 points
Parzifal:	10 points

4. Color

White:	15 points
RAL 9006 (aluminium):	10 points
NCS colors (special colors):	5 points

5. Length Category

Standard lengths:	15 points
Special lengths:	10 points
Extra-special lengths:	5 points

6. Quantity

More than 500 units:	15 points
More than 300 units:	10 points
Less than 300 units:	5 points

7. Age of the Ceiling Panels

Less than 10 years old:	15 points
More than 10 years old:	10 points

8. Original Building Type

Office buildings:	15 points
Educational buildings:	10 points
Healthcare buildings:	10 points

Classification by Score

Score Re-Use Standard

up to 70 points	Bronze	BRONZE
71–85 points	Silber	SILBER
86–100 points	Gold	GOLD
Over 100 points	Platinum	PLATIN

Example Evaluation

A metal ceiling of the KLB type, white powder-coated, in standard length, with more than 500 units, less than 10 years old, originating from an office building, and without a cooling function achieves:

System type KLB:	15 points
Powder coating:	15 points
White color:	15 points
Standard length:	15 points
Quantity >500:	15 points
Age <10 years:	15 points
Building type Office:	15 points
Total:	**105 points**

→ **Standard: Platinum**

Re-Use – What is Possible?

Is a Re-Use Index Possible or Meaningful?

Initial Conclusion of a Re-Use Index:
Advantage: Already at the quotation stage, an evaluation or classification into Platinum, Gold, Silver, or Bronze can be carried out based on defined criteria. This creates a clear focus from the very beginning.

Re-Use Index Using Reference Projects as Examples

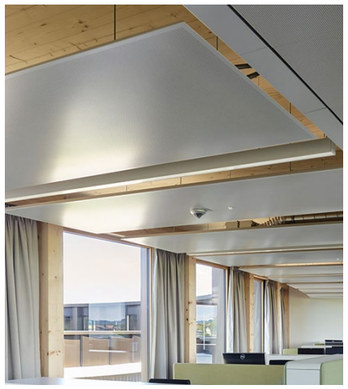
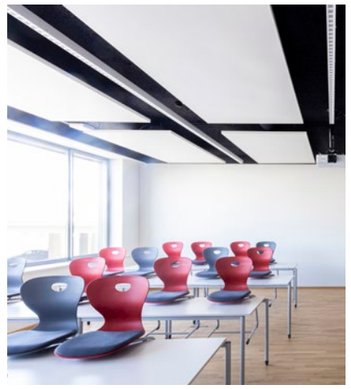
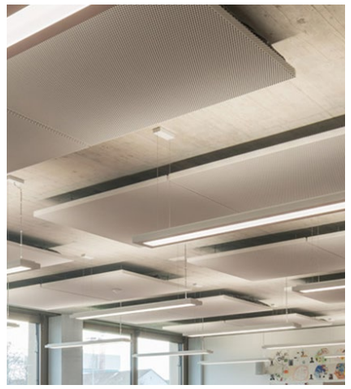
YEAR	USE	CONSTRUCTION PROJECT	SYSTEM	COOLING CEILING	COLOUR	AREA (m²)	RE-USE INDEX*	RE-USE ACC. TO INDEX	RE-USE SUBJECTIVE
2015	Health	Apothekerhaus	Brands.	-	RAL 9010	61,42	70,00	Bronze	Bronze
2015	Office	ASR Utrecht	KLB	Yes	RAL 9010	8 021,63	75,00	Silver	Gold
2015	Prod.	Metallbauhalle Schlegel	KLK	-	RAL 9010	236,64	85,00	Silver	Bronze
2015	Office	Bernegger Molln	KLK	-	RAL 9010	1 163,76	95,00	Gold	Bronze
2015	Office	Brehmstraße Wien	KLG	-	RAL 9006	1 203,36	75,00	Silver	Silver
2015	Education	BSZ St. Pölten	KLK	-	RAL 9010	6 379,36	90,00	Gold	Silver
2015	Office	EIB Hannut	KLB	Yes	RAL 9010	38,36	60,00	Bronze	Silver
2015	Office	Fierens, Zellik	KLH	Yes	RAL 9006	594,81	56,00	Bronze	Silver
2015	Office	Jansen Dienstenzentrum	KLB	-	RAL 9010	612,07	100,00	Gold	Gold
2015	Health	LK Neunkirchen	Swing+KLK	-	RAL 9010	15 056,92	85,00	Silver	Silver
2015	Health	LKH Graz	KLH	-	Special/NCS	922,69	80,00	Silver	Bronze
2015	Health	PVA Wien	KQK+KLK	-	RAL 9010	1 782,09	95,00	Gold	Gold
2015	Office	PWC Inteco	KLB+KQK	Yes	RAL 9010	19 084,53	75,00	Silver	Gold
2015	Office	Rolex Novate Milanese	KLG	Yes	RAL 9010	1 005,93	67,50	Bronze	Bronze
2015	Health	SKA St. Radegund	KQK+KLK	-	RAL 9010	11 290,06	95,00	Gold	Gold
2015	Office	Targobank Duisburg	KLB	-	RAL 9010	4 230,29	100,00	Gold	Gold
2015	Office	Targobank Duisburg	KLB	-	RAL 9010	4 230,29	100,00	Gold	Gold
2015	Health	Uniklinik Dresden	Brands.	-	RAL 9010	304,56	85,00	Silver	Silver
2016	Office	AOK, Berlin	KLH	Yes	RAL 9010	4 370,00	67,50	Bronze	Bronze
2016	Office	Dansk Metal Copenhagen	KLK	-	RAL 9010	7 150,20	95,00	Gold	Silver
2016	Office	Emmi Butterzentrale, Luzern	Floating ceil.	Yes	RAL 9010	1 076,10	75,00	Silver	Silver
2016	Office	Erber Group Getzersdorf	Floating ceil.	Yes	RAL 9010	2 682,90	78,75	Silver	Silver
2016	Office	GOTECH Weissach	Floating ceil.	Yes	RAL 9010	285,40	71,25	Silver	Platinum
2016	Health	Herzzentrum Ludwigshafen	KQK+Brands.	-	RAL 9010	1 229,10	90,00	Gold	Bronze
2016	Office	Hotel Atlantis Zürich	Brands.	-	RAL 9010	315,80	95,00	Gold	Bronze
2016	Education	International School DK	KLK	Yes	RAL 9010	23 263,60	71,25	Silver	Silver
2016	Office	The Edge Amsterdam	Floating ceil.	Yes	RAL 9010	28 352,90	78,75	Silver	Platinum
2017	Office	Heinze Sanitär Ainring	KLB	Yes	RAL 9010	4 340,29	73,50	Silver	Silver
2017	Education	Schule am Hedernfeld	KLK	-	RAL 9010	715,78	90,00	Gold	Silver
2017	Education	Schule Tumblingerstraße Mü	wall cl.	-	RAL 9010	917,16	90,00	Gold	Silver
2017	Office	Schuler Göppingen	KLK	Yes	RAL 9010	6 621,49	75,00	Silver	Gold
2017	Office	Schuler Göppingen	KLK	-	RAL 9010	494,94	100,00	Gold	Gold
2017	Office	Schunk Hoffmann	KLK	-	RAL 9010	385,97	100,00	Gold	Silver
2017	Health	Spital Linde Biel CH	Brands.	-	RAL 9010	272,24	90,00	Gold	Silver
2017	Education	Uni Karl Landstein Krems	KLK	-	Special/NCS	766,77	85,00	Silver	Gold
2017	Office	Vector Stuttgart	KLB	Yes	RAL 9010	13 402,08	94,50	Gold	Gold
2017	Office	Vector Stuttgart	KLB	-	RAL 9010	191,90	105,00	Platinum	Gold
2018	Office	Gemeentehois Westland	KLH+KLBF	Yes	RAL 9010	6 867,60	75,00	Silver	Gold
2018	Office	Gemeentehois Wijchen	KLBF	-	RAL 9010	2 347,40	100,00	Gold	Gold
2017	Education	Hoogeschool Rotterdam	KLB+KLgG	-	RAL 9010	3 729,60	100,00	Gold	Gold
2018	Office	Swarovski Manufaktur	KLK	-	RAL 9010	4 786,62	95,00	Gold	Gold
2018	Health	SKL Lüneburg	Brands+Swing	-	RAL 9010	2 715,31	90,00	Gold	Gold
2018	Project	Parndorf Fashion Outlet	KQK	-	Special/NCS	217,06	80,00	Silver	Bronze
2018	Education	Oberstufenschulhaus Horw	KLH	-	RAL 9010	6 355,35	95,00	Gold	Gold
2018	Health	LK Mödling	KQK	-	RAL 9010	386,62	100,00	Gold	Silver
2018	Project	Hotel Bristol Bern	KLE	-	Special/NCS	595,58	80,00	Silver	Silver

Re-Use Platinum or Gold or Silver or Bronze...

Pages 14 to 29 contain older references and reference images from Fural. Our objective is to identify re-use opportunities and to assess them according to the categories Re-Use Platinum, Gold, Silver, or Bronze. All projects are still actively in operation. All projects (hopefully) still maintain perfect form, function, and appearance. None of these projects have actually been offered to us for re-use. Our focus is purely on evaluating the potential for re-use or the possible "harvesting" of reusable materials.

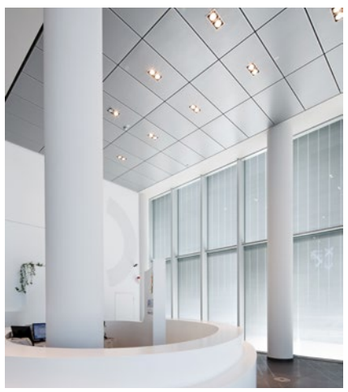
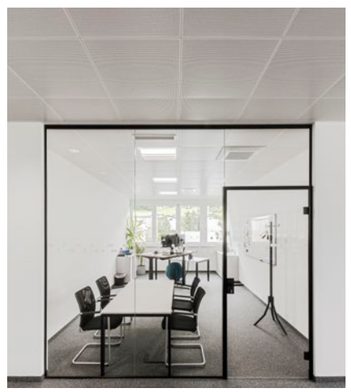
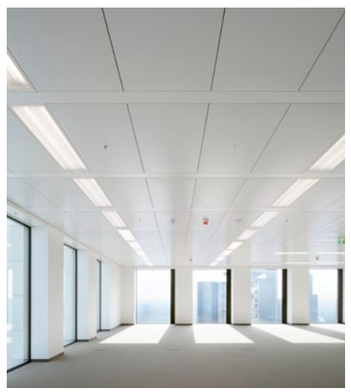
Re-Use Platinum:

100% Re-Use of Ceilings and Additional Elements such as Floating Ceilings + Lighting
All types of mono floating ceilings
No perimeter connections

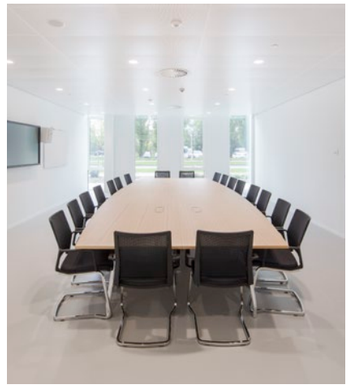
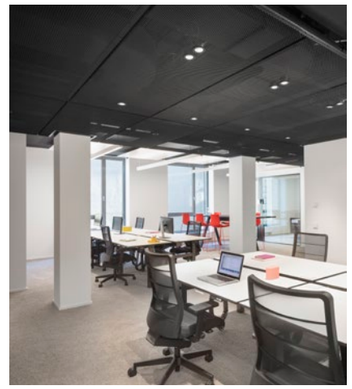
Re-Use Gold:

>90% Suitable for Re-Use
Many similar sizes, standard dimensions such as 625 × 625 or 600 × 1200 mm
Few cut panels, minimal losses due to perimeter connections

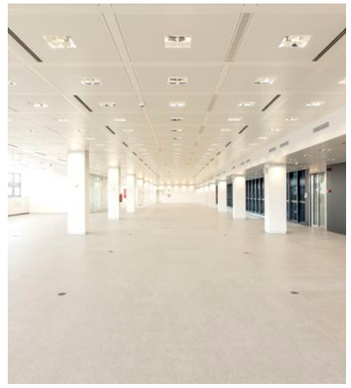
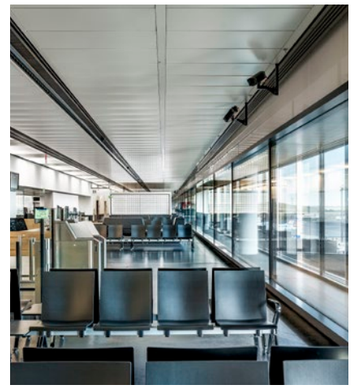
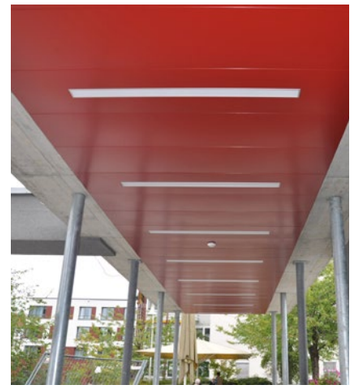
Re-Use Silver:

>70% Suitable for Re-Use
Many office ceilings – in combination with new ceiling planning / grid layouts
Cut panels used as perimeter connections, resulting in losses at the edges


Re-Use Bronze:

<70 % Re-Use
Special metal ceilings
Many different colors

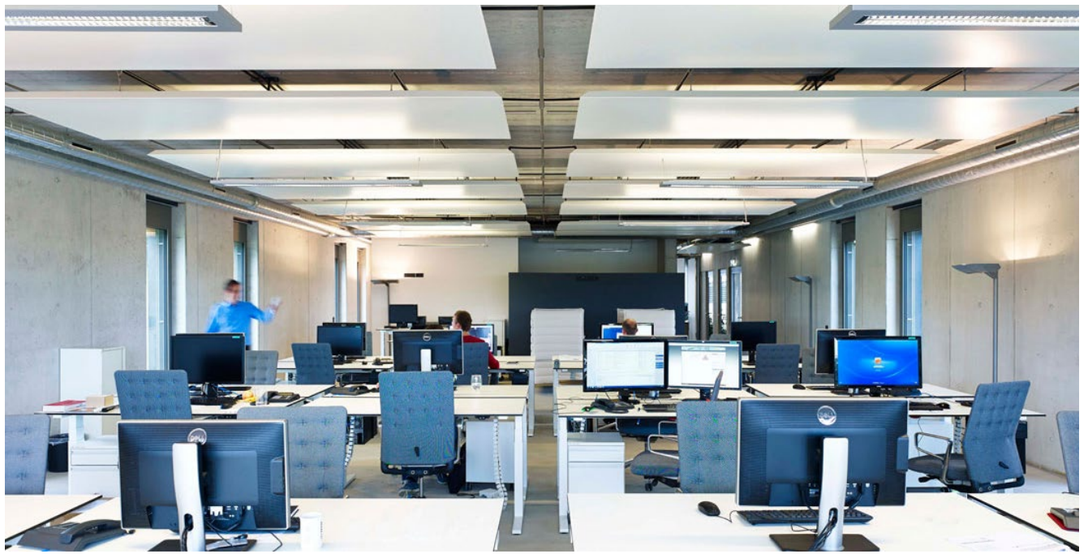
Re-Cycling

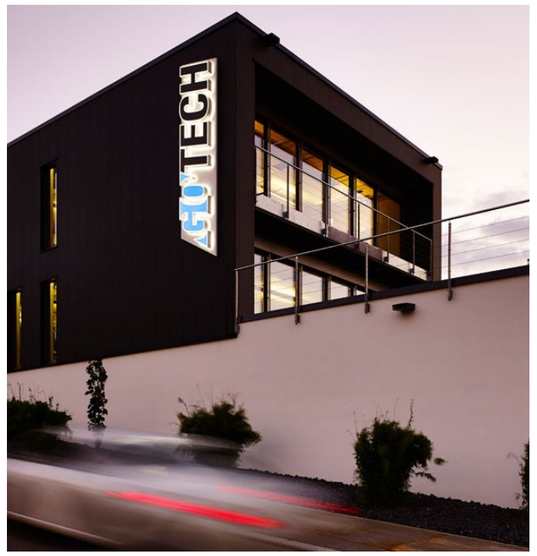
Only Circular Economy – A Practice Already Implemented 100% in the Metals Industry

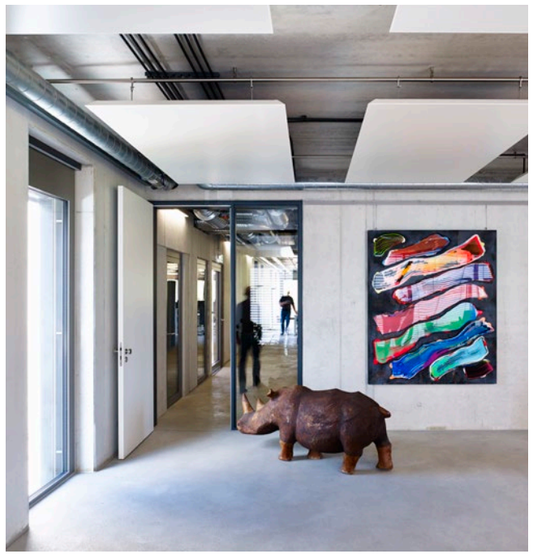

GOTECH, Weissach – Bronze or Platinum?

PLATIN

“Bronze” in the index evaluation,
“Platinum” in the subjective evaluation.



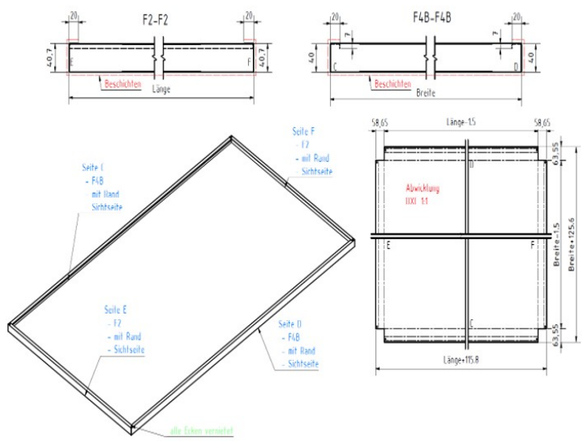




Re-Use – Quantity, Dimensions, Designation – The Most Frequently Delivered Materials

Quantity	Unit	Designation
47	pcs.	**KLS 3000 × 1200 mm × 1200 / 45** 0.7 mm –, black fleece inserts – assorted, 2516, color 9010
22	pcs.	**KLS 2400 × 1200 mm × 1200 / 45** 0.7 mm –, black fleece inserts – assorted, 2516, color 9010
12	pcs.	**KLS 3000 × 1000 mm × 1000** 0.7 mm –, black fleece inserts – assorted, 2516, color 9010
7	pcs.	**KLS 2000 × 1200 mm × 1200 / 45** 0.7 mm –, black fleece inserts – assorted, 2516, color 9010

Quantity	Unit	Designation
47	pcs.	KLS3000x1200 45



Index Evaluation

Floating ceiling system type: 15 points
Powder coating: 15 points
White color: 15 points
Standard length: 15 points
Quantity <300: 5 points
Age <10 years: 15 points
Building type Office: 15 points
Cooling ceiling: YES Factor 0.75
Total: 71.25 points

→ **Standard: Bronze**

Facts

- → **Ceiling system:** Use of precisely manufactured chilled floating ceilings as a central architectural and technical design element
- → **Function:** Control of room acoustics and temperature regulation through large-format chilled floating ceilings
- → **Dimensions of the floating ceilings:** 3,000 × 1,200 mm | 2,400 × 1,200 mm
- → **Perforation:** Rg 2.5 – 16%
- → **Surface finish:** RAL 9010, pure white
- → **Design:** 45° folded edges creating a flat, floating appearance of the ceiling elements

Subjective Evaluation

Simply beautiful ceilings. All floating ceilings, including the lighting, can be reused. With floating ceilings, no dirt is rubbed onto the surface through air movement. Even after 25 years, this type of ceiling still looks like new.
Floating ceilings and luminaires mean >100% can be reused, which for me clearly deserves a Platinum rating.

→ **Standard: Platinum**

Christian Demmelhuber,
CEO Fural Group

Floating ceilings are ideal re-use products because they are not bound to a ceiling grid, can be freely positioned, and even after many years are far from becoming scrap metal, but can instead be reused without difficulty. For me, they are the ultimate re-use product — therefore Platinum.

→ **Standard: Platinum**

Steffen Wand,
Tech. Consultant and Branch Manager Dipling Werk

The floating ceilings are of high quality and are fundamentally very well suited for re-use. However, the integrated cooling technology somewhat limits their reusability, as reuse is only possible with additional adaptation effort.

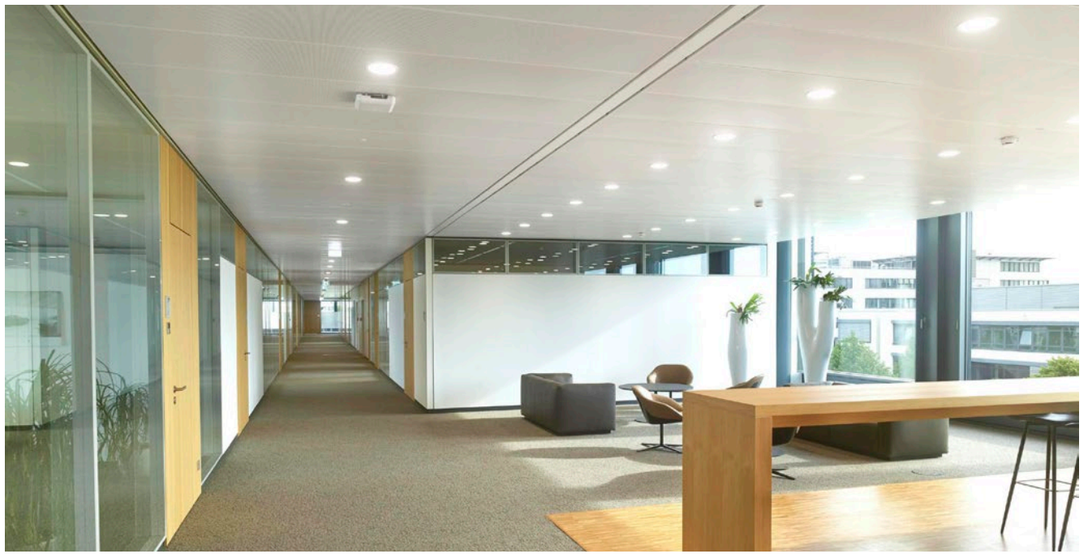
→ **Standard: Bronze**

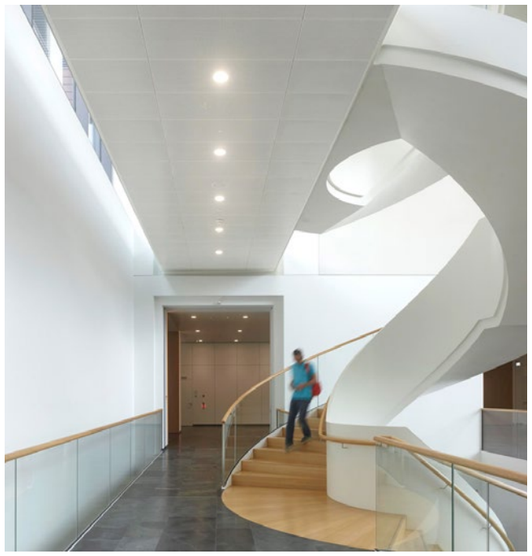
Martin Richter, Innovation and Product Management

Vector Informatik, Stuttgart
Platinum

PLATIN

“Platinum” in the index evaluation,
“Platinum” in the subjective evaluation.

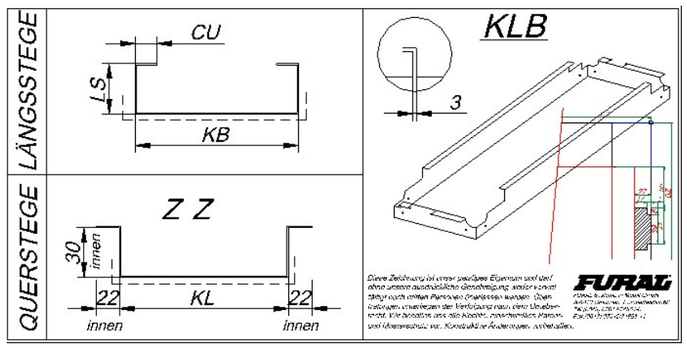




Re-Use – Quantity, Dimensions, Designation – The Most Frequently Delivered Materials

Quantity	Unit	Designation
5248	pcs.	**KLB 1469 × 474 mm /474 P3_BR** 0.7 mm –, black fleece inserts – assorted, 2516, color 9010
2755	pcs.	**KLB 1469 × 491 mm /491 P1_BR** 0.7 mm –, black fleece inserts – assorted, 2516, color 9010
524	pcs.	**KLBG 1390 × 474 mm P6_BR-Z** 0.7 mm –, black fleece inserts – assorted, 2516, color 9010
431	pcs.	**KLG 2395 × 530 mm Pi52_Z** 0.6 mm –, black fleece inserts – assorted, 2516, color 9010
410	pcs.	**KLG 2650 × 530 mm Pi43_Z** 0.6 mm –, black fleece inserts – assorted, 2516, color 9010
354	pcs.	**KLBG 1465 × 474 mm P10_BR-Z** 0.7 mm –, black fleece inserts – assorted, 2516, color 9010

Quantity	Unit	Designation
5248	pcs.	KLB 1469/474 P3_BR



Index Evaluation

Strip grid system type: 15 points
Powder coating: 15 points
White color: 15 points
Standard length: 15 points
Quantity >500: 15 points
Age <10 years: 15 points
Building type Office: 15 points
Chilled ceiling: NO Factor 1.00
Total: 105 points

→ **Standard: Platinum**

Facts

- → **Ceiling system:** Strip grid ceilings, hang-in ceilings, or corridor ceilings – popular systems in standard sizes
- → **Function:** Acoustics, accessibility for maintenance, partly with cooling function
- → **Dimensions of the panels:** 1,469 × 474 mm | 1,469 × 491 mm | 2,395 × 530 mm
- → **Perforation:** Rg 2.5 – 16%
- → **Surface finish:** RAL 9010, pure white
- → **Design:** 45° folded edges creating a flat, floating appearance of the ceiling elements

Subjective Evaluation

At Vector, thousands of square meters of ceilings have been installed – in standard sizes and colors, perfectly designed for re-usability – practical, efficient, and without special custom solutions.

→ **Standard: Platinum**

Dirk Freytag,
CTO Fural Group

What makes this ceiling system convincing is its practicality in everyday use: standard sizes and neutral colors. In a project like Vector, where enormous ceiling areas were installed, this is exactly what makes the difference. It is no surprise that the project received a Platinum rating.

→ **Standard: Platinum**

Thomas Pelikan,
CTO Fural Group

These ceilings simply work – standard dimensions, subtle colors, and suitable for use almost anywhere. With such large surface areas as in the Vector project, this becomes a real advantage for re-use. It is clear why the project scores highly in terms of reusability.

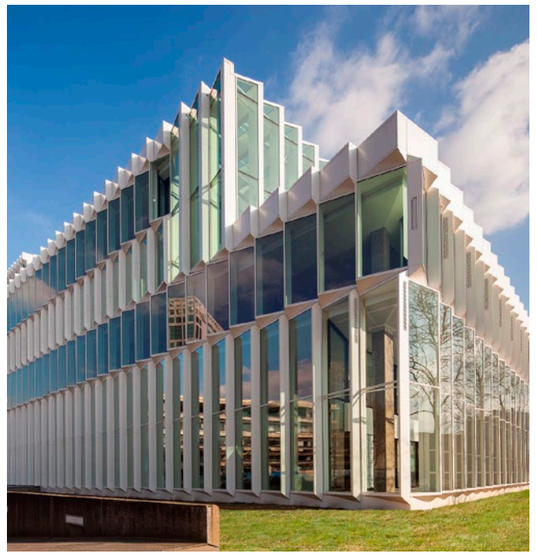
→ **Standard: Platinum**

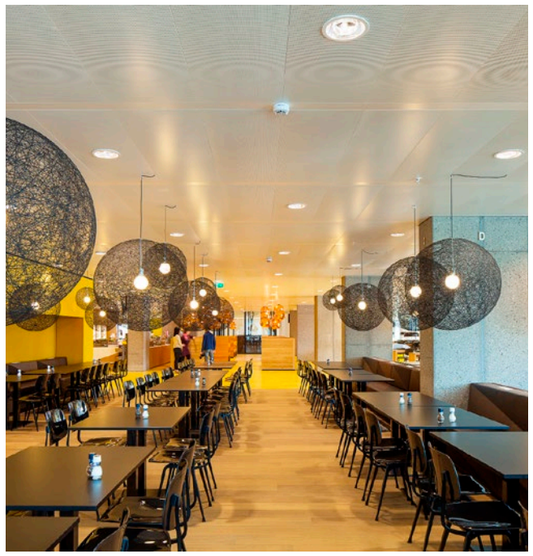
Perrine Rapp,
Branch Manager Metalit

A.S.R. Utrecht Gold

GOLD

“Silver” in the index evaluation,
“Gold” in the subjective evaluation.

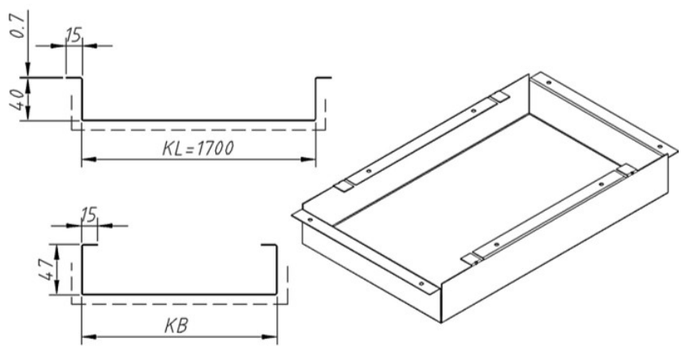




Re-Use – Quantity, Dimensions, Designation – The Most Frequently Delivered Materials

Quantity	Unit	Designation
6543	pcs.	**KLB 1700 × 520.4 mm** 0.7 mm –, 2516, color 9010
810	pcs.	**KLB 2400 × 400 mm** 0.7 mm –, 2516, color 9010
664	pcs.	**KLB 1700 × 500.4 mm** 0.7 mm –, 2516, color 9010
458	pcs.	**KLB 1700 × 550.4 mm** 0.7 mm –, 2516, color 9010
178	pcs.	**KLB 1700 × 470.4 mm** 0.7 mm –, 2516, color 9010
96	pcs.	**KLB 1700 × 550.4 mm** 0.7 mm –, 2516, color 9010

Quantity	Unit	Designation
5145	pcs.	KLB 520,4x1700



Index Evaluation

Strip grid system type: 15 points
Powder coating: 15 points
White color: 15 points
Standard length: 15 points
Quantity >500: 15 points
Age <10 years: 15 points
Building type Office: 15 points
Cooling ceiling: YES Factor 0.75
Total: 75 points

→ **Standard: Silver**

Facts

- **Ceiling system:** Strip grid ceilings – popular systems in standard sizes
- **Function:** Acoustics, accessibility for maintenance
- **Dimensions of the panels:** 1,700 × 520.4 mm | 2,400 × 400 mm | 1,700 × 500.4 mm | 1,700 × 550.4 mm | 1,700 × 470.4 mm
- **Perforation:** Rg 2.5 – 16%
- **Surface finish:** RAL 9010, pure white

Subjective Evaluation

The installed FURAL metal ceilings are exceptionally well suited for future reuse. The panel dimensions follow standard formats, and the color selection in RAL 9010 and RAL 8022 was deliberately kept neutral – ideal conditions for flexible reuse in other projects.

→ **Standard: Gold**

Herbert Brunnmeier,
Technical Consulting

With more than 17,500 m², the large-scale strip grid ceilings offer significant potential for re-use. The installed system not only provides effective acoustic performance, but is also fully accessible for maintenance – an important prerequisite for clean dismantling and material-specific reuse.

→ **Standard: Gold**

Robert Markowski,
Technical Consulting

The extensive ceiling areas with many uniformly sized panels and a subtle color scheme create ideal conditions for reuse. The demountable system and high-quality execution enable clean dismantling and versatile secondary use.

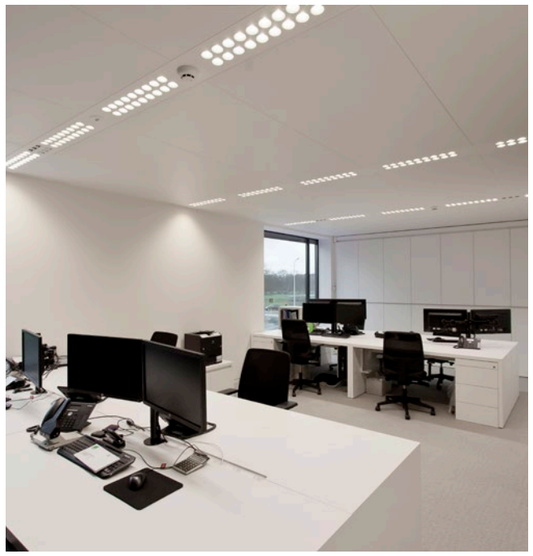
→ **Standard: Gold**

Martin Richter, Innovation
and Product Management

Jansen Dienstzentrum Gold

GOLD

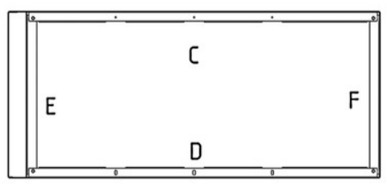
“Gold” in the index evaluation,
“Gold” in the subjective evaluation.

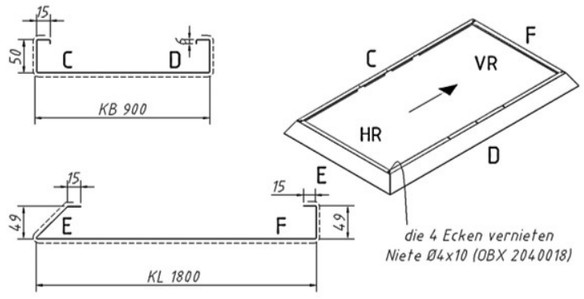


Re-Use – Quantity, Dimensions, Designation – The Most Frequently Delivered Materials

Quantity	Unit	Designation
213	pcs.	**KLS 1800 × 900 mm** 0.7 mm steel, black fleece inserts – assorted, 0704 g, color 9010
44	pcs.	**KLBF 1760 × 904 mm** 0.7 mm –, black fleece inserts – assorted, 704, color 9010A
33	pcs.	**KLS 2500 × 855 mm** 0.7 mm –, black fleece inserts – assorted, 704, color 9010A
33	pcs.	**KLBF 2205 × 904 mm** 0.7 mm –, black fleece inserts – assorted, 704, color 9010A
12	pcs.	**JSC01 1800 × 900 mm** 0.7 mm, acoustic fleece R‰ FF KD2584 black, 0704 g, color RAL 6005
10	pcs.	**JSC04 1800 × 900 mm** 0.7 mm, acoustic fleece R‰ FF KD2584 black, 0704 g, color RAL 6005

Quantity	Unit	Designation
12	pcs.	JCS01 900x1800





Index Evaluation

Strip grid system type: 15 points
Powder coating: 15 points
White color: 15 points
Standard length: 15 points
Quantity >500: 15 points
Age >10 years: 10 points
Building type Office: 15 points
Cooling ceiling: NO Factor 1.0
Total: 100 points

→ **Standard: Gold**

Facts

- → **Ceiling system:** Strip grid ceilings – popular systems in standard sizes
- → **Function:** Acoustics
- → **Dimensions of the panels:** 1,800 × 900 mm | 1,760 × 904 mm | 2,205 × 904 mm
- → **Perforation:** Rg 0.7 – 4%
- → **Surface finish:** RAL 9010, pure white

Subjective Evaluation

The metal ceilings in the Jansen Service Center are a strong example of how functional architecture and future-oriented material selection can be successfully combined. The installed strip grid ceilings in neutral RAL 9010 not only provide effective acoustic performance, but are also ideally suited for future reuse thanks to their standardized formats and dimensions.

→ **Standard: Gold**

Tobias Todt,
Auth. Signatory Brünsch

The ceiling areas are large and clearly structured, while the panel dimensions follow common grid sizes – significantly simplifying dismantling, sorting, and re-use.

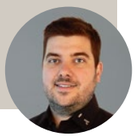
→ **Standard: Gold**

Andreas Fürthauer,
Auth. Signatory

At the Jansen Service Center, a proven strip grid system was used – featuring large-format panels, neutral colors, and a classic RAL surface finish. This not only creates a calm ceiling appearance with strong acoustic performance, but also provides ideal conditions for future reuse.

→ **Standard: Gold**

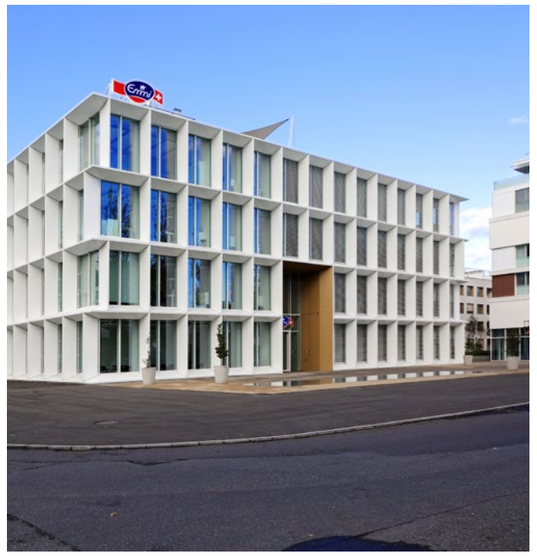
Flavio Kunz,
Sales Manager

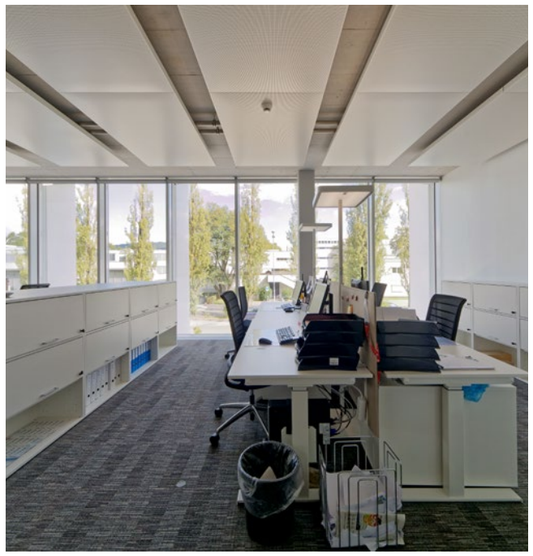


Emmi Butterzentrale Silver

SILBER

“Silver” in the index evaluation,
“Silver” in the subjective evaluation.

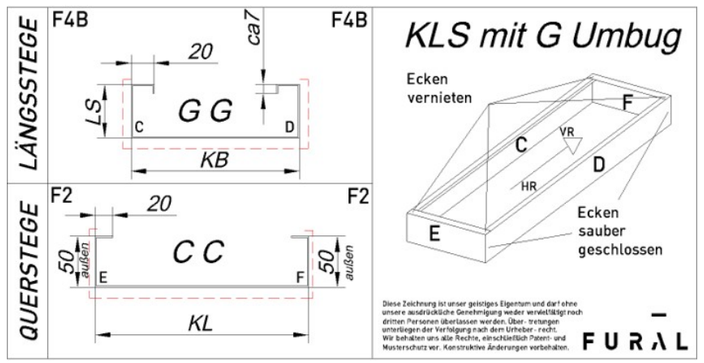




Re-Use – Quantity, Dimensions, Designation – The Most Frequently Delivered Materials

Quantity	Unit	Designation
139	pcs.	**KLS 2700 x 1050 mm** 0,7 mm Steel
139	pcs.	**375F 1875 x 1050 mm** 0,7 mm
139	pcs.	**375K 1875 x 1050 mm** 0,7 mm
16	pcs.	**523F 2615 x 1050 mm** 0,7 mm
16	pcs.	**523K 2615 x 1050 mm** 0,7 mm
12	pcs.	**240 2400 x 1030 mm** 0,7 mm

Quantity	Unit	Designation
139	pcs.	KLS 2700x1050



Index Evaluation

Floating ceiling system type: 15 points
Powder coating: 15 points
White color: 15 points
Standard length: 15 points
Quantity <500: 10 points
Age <10 years: 15 points
Building type Office: 15 points
Chilled ceiling: YES Factor 0.75
Total: 75 points

→ **Standard: Silver**

Facts

→ **Ceiling system:** Floating ceilings – popular systems in standard sizes
→ **Function:** Acoustics, cooling
→ **Dimensions of the panels:** 1,800 × 900 mm | 1,760 × 904 mm | 2,205 × 904 mm
→ **Perforation:** Rg 2.5 – 16%
→ **Surface finish:** RAL 9010, pure white
→ **Area:** 980 m²

Subjective Evaluation

My opinion on cooling ceilings is different. In my view, cooling ceilings are fully suitable for re-use. There are no perimeter connections, the luminaires can also be reused, and all floating ceiling elements are ideal for re-use. My conclusion is therefore Platinum.

→ **Standard: Platinum**

Christian Demmelhuber,
CEO Fural Group

The neutral surface finish in RAL 9010 integrates discreetly into the architecture and allows for flexible future reuse. The large overall area – totaling 980 m² – together with the standardized panel dimensions also enables easy dismantling and reuse.

→ **Standard: Gold**

Martin Richter, Innovation and Product Management

980 m² of floating ceilings with cooling function, standard panel formats, and neutral colors – ideal for dismantling and reuse. Functionally strong and architecturally flexible. If it were not for the cooling coils, which would most likely need to be replaced, the project would have been a candidate for a Gold rating.

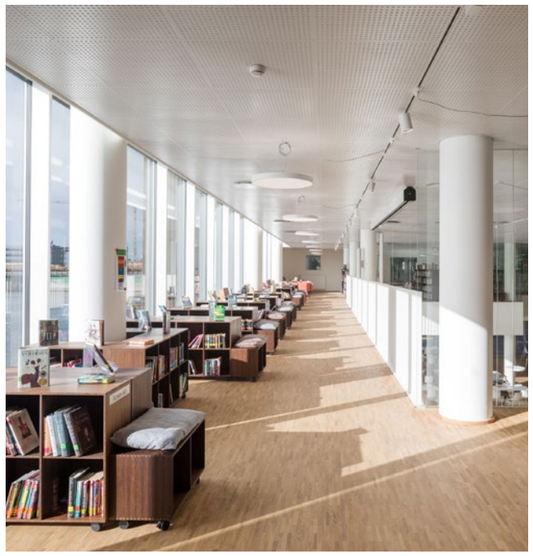
→ **Standard: Silver**

Perrine Rapp,
Branch Manager Metalit

CIS, Kopenhagen
Silver

SILBER

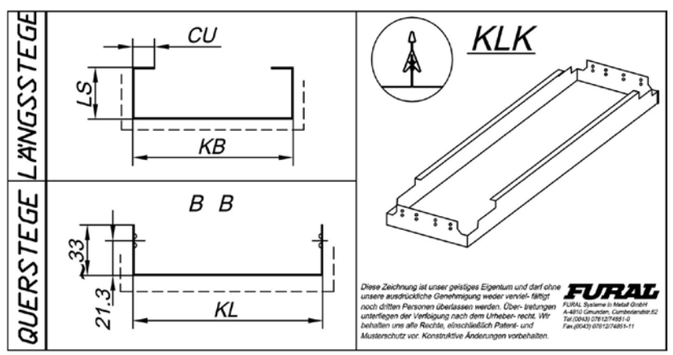
“Silver” in the index evaluation,
“Silver” in the subjective evaluation.



Re-Use – Quantity, Dimensions, Designation – The Most Frequently Delivered Materials

Quantity	Unit	Designation
22147	pcs.	**KLK 720 × 720 mm × 720** 0.6 mm –, white fleece inserts, 2516, color 9016
7426	pcs.	**KLK 720 × 720 mm × 720** 0.6 mm –, white fleece inserts, 1423, color 9016
4110	pcs.	**KLK 688 × 720 mm × 720** 0.6 mm –, white fleece inserts, 2516, color 9016
2000	pcs.	**KLK 720 × 720 mm** 0.6 mm –, white fleece inserts, 2516, color 9016
1430	pcs.	**KLK 720 × 720 mm × 720** 0.6 mm steel, white fleece inserts, 2516, color 9016
810	pcs.	**KLK 720 × 720 mm × 720** 0.6 mm steel, white fleece inserts, 1423, color 9016

Quantity	Unit	Designation
25577	pcs.	KLK 720x720



Index Evaluation

Clip-in system: 10 points
Powder coating: 15 points
White color: 15 points
Standard length: 15 points
Quantity >500: 15 points
Age <10 years: 15 points
Building type Education: 10 points
Cooling ceiling: YES Factor 0.75
Total: 71.25 points

→ **Standard: Silver**

Facts

→ **Ceiling system:** Clip-in system – long-panel cassettes
→ **Function:** Acoustics, cooling
→ **Dimensions of the panels:** 720 × 720 mm | 688 × 720 mm
→ **Perforation:** Rg 2.5 – 16% | Rg 1.4 – 23%
→ **Surface finish:** RAL 9016, traffic white
→ **Area:** 22,100 m²

Subjective Evaluation

The metal ceiling areas are large-scale, feature neutral colors, and use standardized panel dimensions – ideal conditions for future re-use. Thanks to the clip-in system, the ceiling panels can be easily dismantled, inspected, and potentially reinstalled in another location.

→ **Standard: Silver**

Christian Demmelhuber,
CEO Fural Group

With its modular ceiling elements and clearly defined grid dimensions, the system fulfills important criteria for re-use. The understated white design, combined with easy accessibility, makes the ceiling installation at the Copenhagen International School a strong candidate for future reuse.

→ **Standard: Silver**

Herbert Brunnmeier,
Technical Consulting

This project is an excellent example of how high-quality metal ceiling systems not only deliver strong architectural and functional performance, but also provide ideal conditions for re-use through their standardized panel formats, thereby making an important contribution to resource conservation and a truly circular economy.

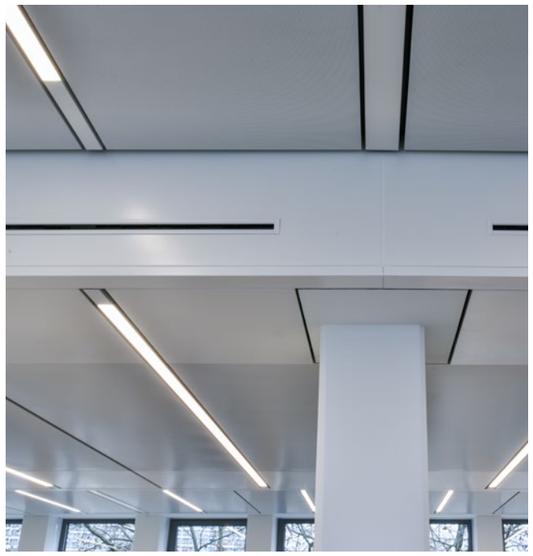
→ **Standard: Silver**

Steffen Wand,
Tech. Consultant and Branch Manager Dipling Werk

AOK, Berlin
Bronze

BRONZE

“Bronze” in the index evaluation,
“Silver” in the subjective evaluation.



Re-Use – Quantity, Dimensions, Designation – The Most Frequently Delivered Materials

Quantity	Unit	Designation
216	pcs.	**KLH 2491,3 x 910 mm T10** 0,8 mm
185	pcs.	**KLH 2491,3 x 910 mm T9** 0,8 mm
180	pcs.	**KLH 2320,8 x 910 mm T04** 0,8 mm
159	pcs.	**KLH 2320,8 x 910 mm T03** 0,8 mm
127	pcs.	**KLH 2491,3 x 910 mm T16** 0,8 mm
125	pcs.	**KLH 2491,3 x 910 mm T15** 0,8 mm

Quantity	Unit	Designation
220	pcs.	KLH T10

Index Evaluation

Clip-in system: 10 points
Powder coating: 15 points
White color: 15 points
Special lengths: 5 points
Quantity >500: 15 points
Age <10 years: 15 points
Building type Office: 15 points
Cooling ceiling: YES Factor 0.75
Total: 67.50 points

→ **Standard: Bronze**

Facts

→ **Ceiling system:** Hang-in system – long-panel cassettes
→ **Function:** Acoustics, cooling
→ **Dimensions of the panels:** 2491.3 × 910 mm | 2320.8 × 910 mm
→ **Perforation:** Rg 1.6 – 20%, smooth
→ **Surface finish:** RAL 9016, traffic white
→ **Area: 4,370 m²**

Subjective Evaluation

A good architect will be able to reuse or re-design more than 70% of the system. That is why, for me, it deserves a Silver rating rather than Bronze.

→ **Standard: Silver**

Andreas Fürthauer,
Auth. Signatory

With its modular ceiling elements and clearly defined grid dimensions, the system fulfills important criteria for re-use. The understated white design and easy accessibility make the ceiling installation at the Copenhagen International School a solid candidate for future reuse.

→ **Standard: Silver**

Tobias Todt,
Auth. Signatory Brünsch

The project in Berlin includes a good quantity of metal panels in a standard color. However, due to the very specific panel formats, their integration into a re-use project is somewhat more challenging. The neutral color scheme, however, has a positive effect on potential future reuse.

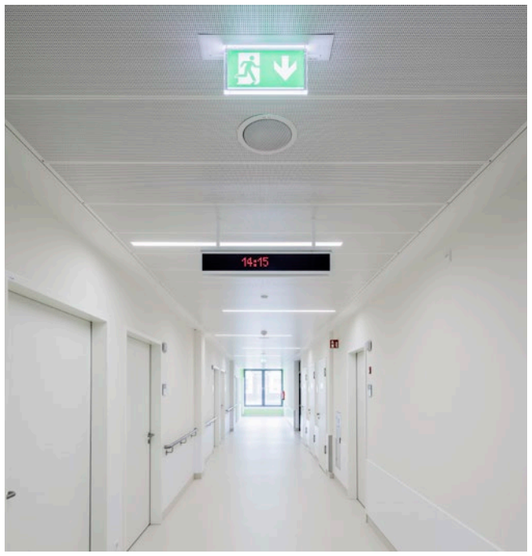
→ **Standard: Silver**

Gordon Kipping,
Technical Sales

Herzzentrum, Ludwigshafen
Gold oder Bronze

BRONZE

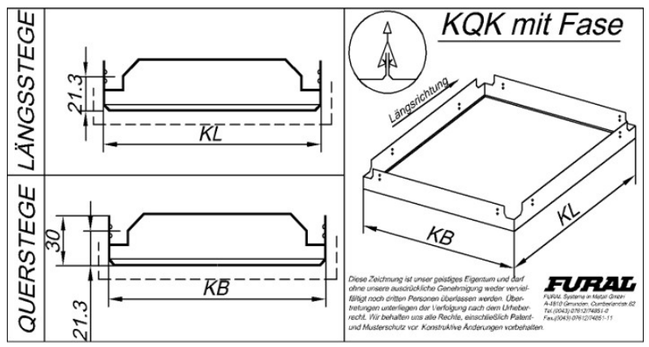
“Gold” in the index evaluation,
“Bronze” in the subjective evaluation.



Re-Use – Quantity, Dimensions, Designation – The Most Frequently Delivered Materials

Quantity	Unit	Designation
1204	pcs.	**KQK DOOR 625 × 625 mm** 0.5 mm, smooth, color 9010
392	pcs.	**SW 2000 × 397 mm** 0.7 mm, black fleece inserts – assorted, 2516, color 9010
336	pcs.	**KQK DOOR 625 × 625 mm** 0.5 mm, 2516, color 9010
243	pcs.	**CC 2000 × 397 mm** 0.7 mm, black fleece inserts – assorted, 2516, color 9010
125	pcs.	**SW 2000 × 397 mm g** 0.7 mm, smooth, color 9010
123	pcs.	**SW 1800 × 397 mm** 0.7 mm, black fleece inserts – assorted, 2516, color 9010

Quantity	Unit	Designation
1204	pcs.	KQK-DOOR 625x625



Index Evaluation

Clip-in system KQK: 15 points
Powder coating: 15 points
White color: 15 points
Standard length: 15 points
Quantity >500: 15 points
Age <10 years: 15 points
Building type Health: 10 points
Cooling ceiling: NO Factor 1.00
Total: 100.0 points

→ **Standard: Gold**

Facts

- → **Ceiling system:** Clip-in system – square panels
- → **Function:** Acoustics, accessibility for maintenance, fire protection, hygiene, lighting
- → **Dimensions of the panels:** 625 × 625 mm | 2000 × 397 mm | 1800 × 397 mm
- → **Perforation:** Rg 2.5 – 16%, smooth
- → **Surface finish:** RAL 9010, pure white

Subjective Evaluation

The installed metal ceilings cover large areas, feature subtle colors, and follow common grid dimensions – making them fundamentally well suited for re-use. However, in a hospital environment, increased wear due to intensive cleaning procedures must be expected.

→ **Standard: Bronze**

Martin Richter, Innovation and Product Management

The ceilings are technically very well designed: large, uniform surfaces, standardized panels, and subtle colors. However, hygiene plays a crucial role in medical environments – which means frequent cleaning procedures. Re-use is certainly conceivable, but only with additional inspection and verification efforts.

→ **Standard: Bronze**

Christoph Kloibhofer, Technical Consulting

The large-area metal ceilings with neutral colors and standard formats generally provide very good conditions for re-use. However, due to the intensive use within a hospital environment and frequent cleaning procedures, careful inspection of the panels is required – re-use is possible, but with certain limitations.

→ **Standard: Bronze**

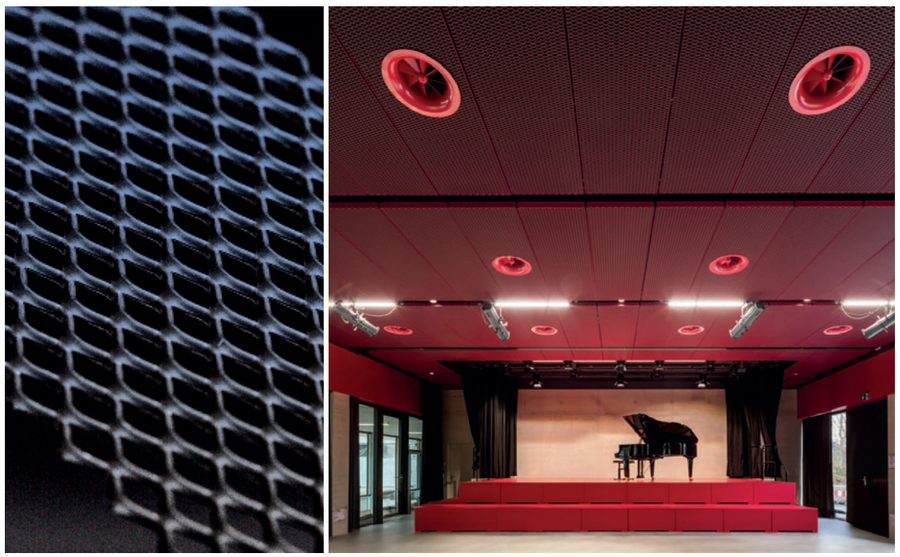
Christian Demmelhuber, CEO Fural Group

We Are Proud of Our Projects

Good Architecture:
Visit our references at www.fural.com

The Edge Amsterdam – Selected as the World's Most Sustainable Building According to BREEAM Certification
International School Copenhagen – A School Built to the Highest Standards
Palais de Justice in Paris – From Gmunden to Paris, We Are Proud
Scott Headquarters in Switzerland – Perfect Form, Function, and Color
Vienna Airport – Skylink with Fural Metal Ceilings
Waldklinikum Eisenberg – Matteo Thun Designs and Builds Sustainably with Fural Metal Ceilings

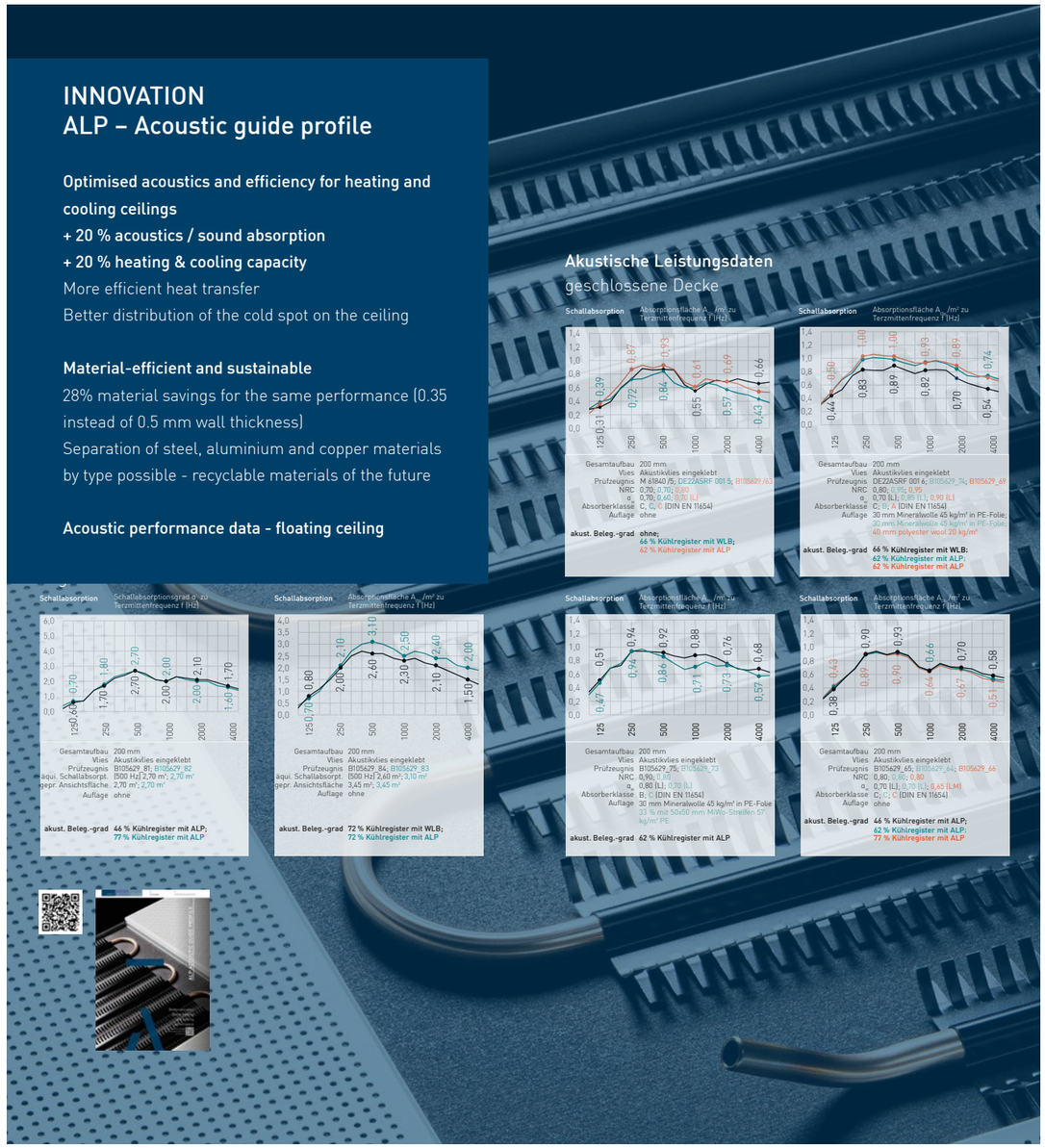
Expanded Metal – Product of the Year 2022, 2023, 2025



We Are Proud of Our Projects

Innovation: Acoustic Guide Profile with
-20% Energy Consumption, +20% Acoustics

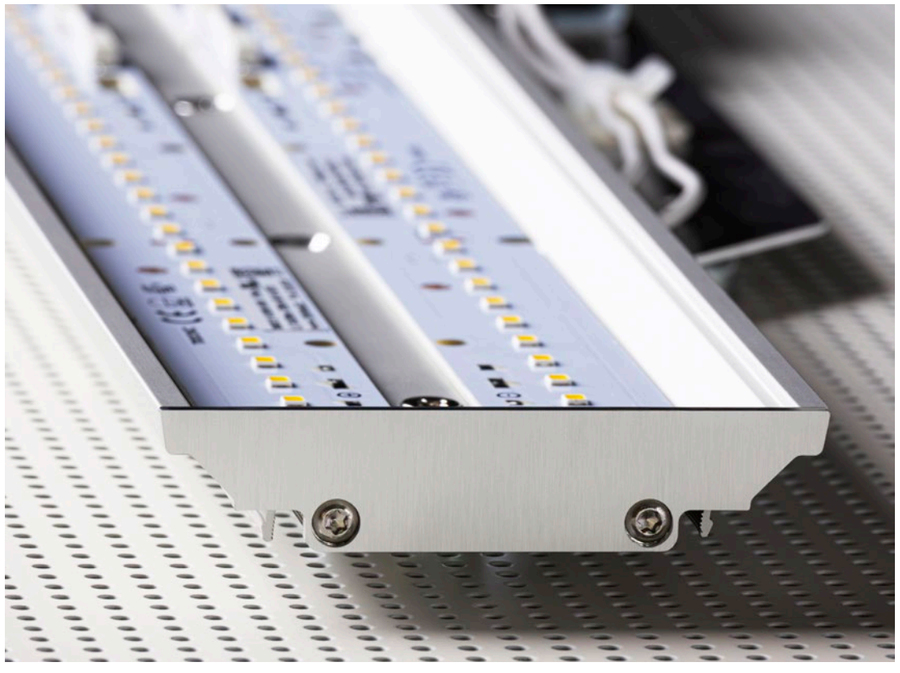
DAGA 2026 – 52nd Annual Conference on Acoustics, March 23–26, 2026 in Dresden
The following image shows a wall covering from the DAGA trade fair stand.
Many leading acoustic engineering firms design with Fural products.



We Are Proud of Our Projects

Winner of the Innovation Award at the World's Leading Trade Fair BAU Munich

This Is What Winners Look Like:
Dirk Freytag and Martin Richter with the Innovation Award at BAU Munich for replaceable LED luminaires.



We Are Proud of Our Projects

New – Soft Acoustics at Fural

Fural Takes Over Machines and Employees from pinta systems GmbH in Maisach
Fural Systeme in Metall GmbH has acquired the machines and test reports for the acoustics division from the insolvent pinta systems GmbH and has also integrated many former employees into its team. All products – including Float Polar, Balance Polar, Balance, Balance Plus, Balance Art, Plano Polar, Plano, Plano A2, Absorber Plano Polar, Absorber Plano, Absorber Rondo, Pyramide, and Waffel Polar – are now marketed under the name "Soft Acoustics."

General:

The acoustic elements from Soft Acoustics are based on the two innovative core materials PET and Basotect.
The materials are free from mineral fibers and adhesives.
They are recyclable and support a closed material cycle.
They offer high sound absorption, extremely low weight, and flexible design possibilities.
The lightweight construction is further enhanced through lighting design.
The elements feature a high degree of prefabrication, enabling fast installation.

PET:

Fural POLAR is a 100% pure PET sandwich element manufactured without the use of binding agents or adhesives. As a result, the material can be easily separated by type at the end of its service life and returned to the raw material cycle.
The material is formaldehyde-free, produced without chemical additives, and already consists of up to 70% recycled fibers, for example from PET bottles.
The material meets the criteria for a healthy indoor environment and has been awarded Class 1 certification according to the Oeko-Tex Standard 100.
Fural POLAR is allergy-friendly, low-odor, and toxicologically completely harmless.
The material is also breathable, vapor-permeable, and free from fiber dust.
The sandwich elements are UV-resistant and flame-retardant (according to DIN EN 13501: for material thicknesses up to 20 mm: B-s1 d0, for 20–40 mm: B-s2 d0).
The surfaces can be coated and printed.

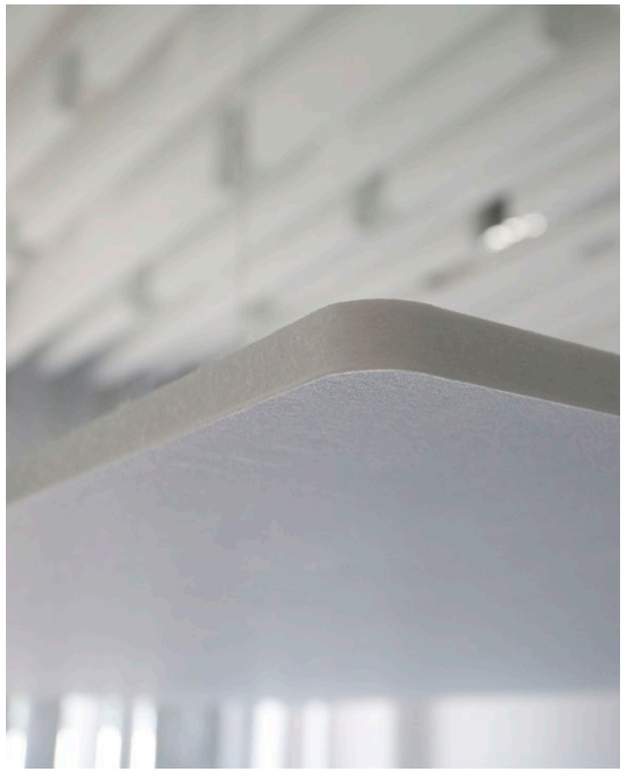
Melamine Resin Foam:

Basotect is an open-cell melamine resin foam consisting of 99% air. Due to its material structure, Basotect offers excellent sound absorption while remaining extremely lightweight.
The material is soft and flexible, yet dimensionally stable and highly durable.
Basotect can be freely shaped, is available in various colors, and can be printed with custom motifs.
It complies with fire protection class B1, flame-retardant (according to DIN EN 13501: for material thicknesses up to 5 mm: B-s1 d0, for 20–30 mm: C-s1 d0, for 40–80 mm: C-s2 d0) prototypes.

Floating Ceiling Systems

Float Polar

- Highly effective acoustic floating ceiling
- Acoustic element made of laminated PET sandwich panels, frameless
- Flexible sizes up to 2,500 × 1,250 mm
- Round versions up to Ø 1200 mm
- Free-form shapes possible
- Areas of application: offices and conference rooms, canteens, event spaces, educational facilities, kindergartens



Soft Acoustics | Round Floating Ceilings in the Canteen

Tested Perforations

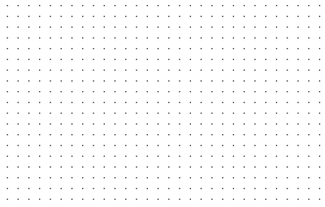
1. 

2.

1.Download Certified Acoustics Brochure
2.Download All 300 Certified Acoustics Configurations for Metal Ceilings

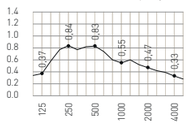
Examples of Common Tested Perforations for Closed Ceilings

Various Perforations

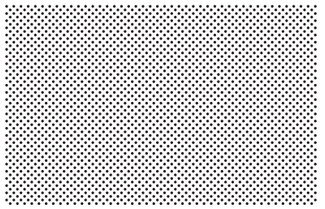


Rg 0,7-1%

Sound absorption — Sound absorption coefficient α_s at one-third centre frequency f (Hz)

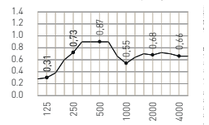


Overall structure	200 mm
Fleece	Bonded acoustic fleece
Test certificate	P-BA 231/2007
NRC	0.65
α_w	0.50 (LM)
Absorber class	D (DIN EN 11654)
Acoustic infill	without

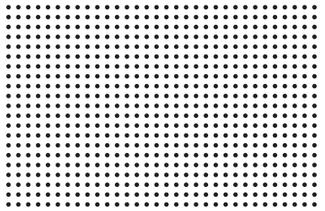


Rd 1,5-22%

Sound absorption — Sound absorption coefficient α_s at one-third centre frequency f (Hz)

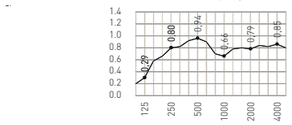


Overall structure	200 mm
Fleece	Bonded acoustic fleece
Test certificate	07/12/2010 M61840/5
NRC	0.70
α_w	0.70
Absorber class	C (DIN EN 11654),
Acoustic infill	without



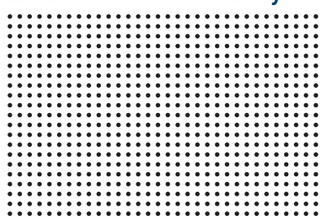
Rg 2,5-16%

Sound absorption — Sound absorption coefficient α_s at one-third centre frequency f (Hz)



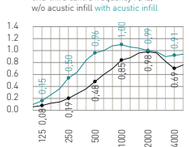
Overall structure	200 mm
Fleece	Bonded acoustic fleece
Test certificate	P-BA 279/2006 Figure 1
NRC	0.80
α_w	0.80
Absorber class	B (DIN EN 11654),
Acoustic infill	without

Effect of the Air Cavity

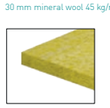


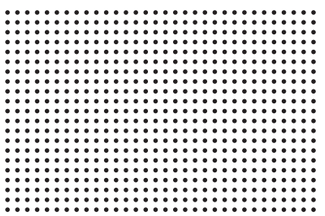
Rg 2,5-16%

Sound absorption — Sound absorption coefficient α_s at one-third centre frequency f (Hz) w/o acoustic infill with acoustic infill



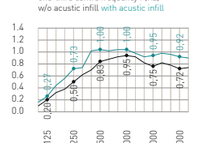
Overall structure	50 mm
Fleece	Bonded acoustic fleece
Test certificate	P-BA 279/2006 Figure 20
NRC	0.65; 0.90
α_w	0.50 (MH); 0.80
Absorber class	D (DIN EN 11654), B (DIN EN 11654)
Acoustic infill	30 mm mineral wool 45 kg/m3



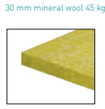


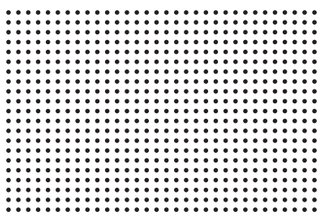
Rg 2,5-16%

Sound absorption — Sound absorption coefficient α_s at one-third centre frequency f (Hz) w/o acoustic infill with acoustic infill



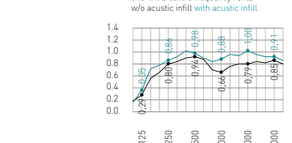
Overall structure	100 mm
Fleece	Bonded acoustic fleece
Test certificate	P-BA 279/2006 Figure 21
NRC	0.75; 0.95
α_w	0.80; 0.95
Absorber class	D (DIN EN 11654), B (DIN EN 11654)
Acoustic infill	30 mm mineral wool 45 kg/m3



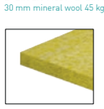


Rg 2,5-16%

Sound absorption — Sound absorption coefficient α_s at one-third centre frequency f (Hz) w/o acoustic infill with acoustic infill



Overall structure	200 mm
Fleece	Bonded acoustic fleece
Test certificate	P-BA 279/2006 Figure 1
NRC	0.80; 0.95
α_w	0.80; 0.95
Absorber class	D (DIN EN 11654), B (DIN EN 11654)
Acoustic infill	30 mm mineral wool 45 kg/m3



We Are Proud of Our Projects

Automatically Sent by Email with Delivery Documents or Available Upon Request
Material / Building Resource Passport for Re-Use

By focusing on durable, high-quality products, less waste is generated. Resources such as metals, plastics, and electronic components remain within the cycle and do not need to be constantly extracted and newly produced.

Bills of materials help support the planning of re-use.

Starting with the Table of Contents for an Overall Overview

Contents

Input Values for a Building Resource Passport Similar to DGNB

Contents for Building Resource Passport	Data/input	[Unit] / method / detail value / definition	Data quality / (explanation)	Index (DQI)	Relevance / completeness	Level of consideration	+ NW CO2e
No. SECTION on output sheet '1-BRP-full/red' (3-digit no.: 1st digit = section no., 2nd digit = topic no., 3rd digit = serial no.)	Selection field (drop-down list) 'Own description' on 'Drop-down' sheet		Classification 1 (Methodology (for data collection)): N/A / not reliable e.g. 0; estimated / imprecise 1; measured / calculated 2; Database / model 3; Not/Own assessment 0-3. Classification 2 (Percentage of data evaluation): not available / not reliable e.g. 0; 0-30 0; 30-95 1; 80-99 2; 95-100 3. Classification 3 (Data independence): Created independently e.g. 0; Data checked externally 1; Data checked externally 2; Data checked externally by an independent party 3; Not/Own assessment 0-3		Mandatory information (DQI= 0-3; at least N/A to be entered)	Building	
No. (normal) on additional sheets 2-7 (OPTIONAL) (system for no. extensions: digits (1st, 2nd, 3rd etc.) = assigned to the no. as detailed information/indicator; Letters (a,b,c,etc.) = input values at component/layer/product level)	*Input field* *(for free input)*				Optional information (optional; DQI: - / 0-3 optional)	Component / layer (note: filter hidden) **No input!** (Format template for input values to be determined at component/ layer/ product level)	
0 **Project information**							
1 **Building information and masses**				0,00			
108a Cost group and/or trade/craft and/or assignment to "Functional Components"	*350*		-	-	Optional information	Component / component layer	
109a Reference service life of the component/component layers/product	≥50	*[a]*	-	-	Optional information	Component / component layer	
110a Total mass of the component / product / material or component layer		*[kg]*	measured / calculated	2	Optional information	Component / component layer	
120a Component or component layer	*350 Ceilings, horizontal building structures*		-	-	Optional information	Component /	
m² in delivery call-off		*m²*					
Total CO2e emissions of the production call-off		*kgCO2e*					
CO2e emissions/m²		*kgCO2e/m²*					
CO2e emission savings per m² through greentec steel Edition 600 compared to average steel (worldsteel-LCA)		*kgCO2e/m²*					
2 **Materiality, material origin, harmful substances / pollutants, construction / demolition waste**				1,44			
201 **Materiality of the building**	*Reference to data source EPD;100 [Mass %]*	*[Mass %]*	measured / calculated	2	Mandatory information	Building	
201.4 Materiality: Material mix	*3,00*	*[Mass %]*	measured / calculated	2	Mandatory information	Building/component	
201.6 Materiality: Metals	*97,00*	*[Mass %]*	measured / calculated	2	Mandatory information	Building/component	
201a Materiality of the component/product or component layer	*100*	*[Mass-%]*	data checked externally	2	Optional information	Component / component layer	
211 **Material compatibility [M-%]**	*Free of pollutants*	*Objective / target*	data checked externally by an independent party	3	Mandatory information	Building	
211.1 Material compatibility: Objective / target	*100*	*[Mass %]*	data checked externally	2	Optional information	Building/component	
211a Material compatibility of the component / product [Mass %] *	*100*	*[Mass %]*	data checked externally	2	Optional information	Component / component layer	
211b Substances contained according to	*below threshold*	*Threshold: from 0.1%*	data checked externally	3	Optional information	Component /	

We Are Proud of Our Projects

Podcast – 8 Episodes from Circular Economy to Madaster

Teaser – What Does Climate Neutrality Mean at Fural?

Speaker Thomas Gruber, together with interview guests, explains the key climate-responsible topics that will become unavoidable for companies like Fural in the future. The co-founder of TWENTY-40 comes from the construction industry and brings extensive experience in the field of sustainability.


Thomas Gruber

Episode 1 – Sustainability at Fural
What does climate neutrality mean at Fural? How do the Green Deal, the EU Taxonomy, and the CSRD (Corporate Sustainability Reporting Directive) affect our work? In our podcast, we explore these exciting questions surrounding sustainability.


Dirk Freytag

Episode 2 – Why Is Sustainability Important?
Why are we focusing on sustainability? Because we have a responsibility! What happens if we change nothing and continue living as before?


Martin Richter

Episode 3 – Certifications
What contribution can Fural and metal ceilings make toward building certification? How many buildings are being certified, and which certification systems exist?

Episode 4 – CO_2
How is Fural addressing the topic of CO_2? What does Fural offer its customers regarding CO_2, and how does Fural calculate its own carbon footprint?


Andreas Fürthauer

Episode 5 – Steel – The Raw Material of Metal Ceilings
How are steel and green steel produced, and why is this transformation not possible overnight?

Episode 6 – Circular Economy Part 1
The circular economy is a central element of sustainability. If components can no longer be repaired or reused, they should be recovered and recycled. What does circular economy mean for metal and for Fural?


Mag. Werner Weingraber

Episode 7 – Circular Economy Part 2: Madaster
The circular economy is a central element of sustainability. If components can no longer be repaired or reused, they should be recovered, recycled, and kept out of landfills as much as possible. What is a metal resource passport, and what does it have to do with sustainability?


Dr. Stefanie Weidner

Episode 8 – The Future of Construction, Dr. Weidner from W. Sobek AG
Dr. Stefanie Weidner, Managing Director and Board Member of Werner Sobek AG, discusses the future of construction and the role of steel, green steel, and CO_2.

We Are Proud of Our Projects

Klimaaktiv – Fural Office Achieves Silver Standard

The Klimaaktiv building certification is the most widespread assessment system in Austria for buildings. Since sustainability is also becoming increasingly important in the construction industry, Klimaaktiv helps to build sustainably. All three pillars of sustainability are evaluated: ecological, economic and social sustainability.

The building certification is divided into four areas to reach the 1000 possible points:

- A Location: 150 points
- B Energy and supply: 550 points
- C Materials and construction: 150 points
- D Comfort and health: 150 points

There are three different levels of certification:

- Bronze: all mandatory criteria
- Silver: 750 points + mandatory criteria
- Gold: 900 points + mandatory criteria

A (location): 122/150

Green and open space indicator: Despite perfect exterior planning, only 11/50 points. The framework conditions no longer allow for more here.

B (Energy and Supply): 502/550

Thermal flexibility of the building: 0/50 points – with building simulation, up to 48 points are still possible
PV yields: 0/80 points – not possible for structural reasons.

C (building materials and construction): 90/150

PVC – freedom: 10/50 points – PVC-free seals, halogen-free electrical installation and PVC-free windows not implemented.
Refrigerants: 0/20 points – This requirement was not yet known when the order for the cooling system was placed.
Waste disposal indicator: 0/40 points – This was not created. Clarification regarding feasibility and costs is currently underway.
Dismantling concept: 0/20 points – This is no longer possible as no investigation of pollutants was carried out prior to the renovation.

Area D (Comfort and Health): 101/150

Thermal comfort in summer: 22/50 points – Due to the high cooling load of the building, no more points are possible here.
Product management: 0/80 points – This point should have been started in the tendering phase.

A points buffer is necessary because points can still be deducted from us in the evaluation phase.

Silber

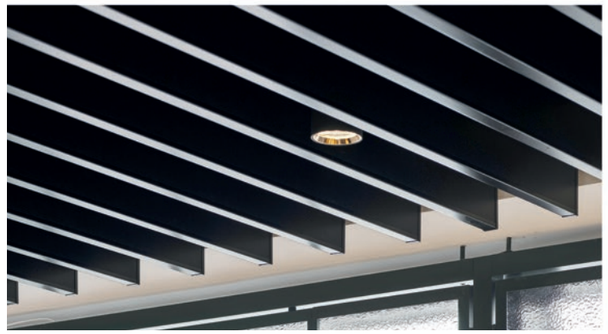
815

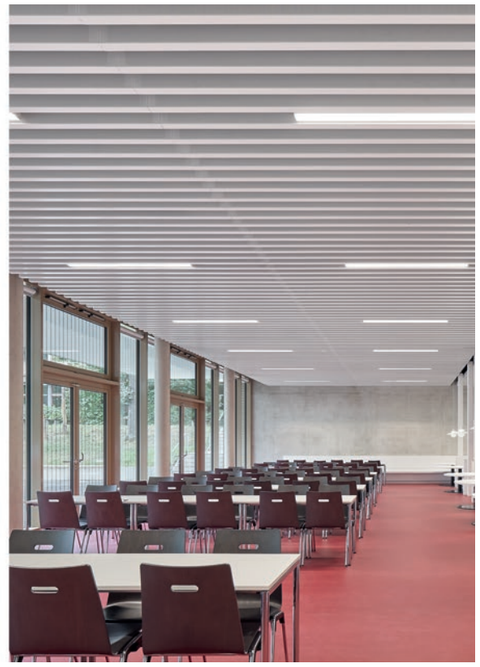
von 1000 möglichen Punkten

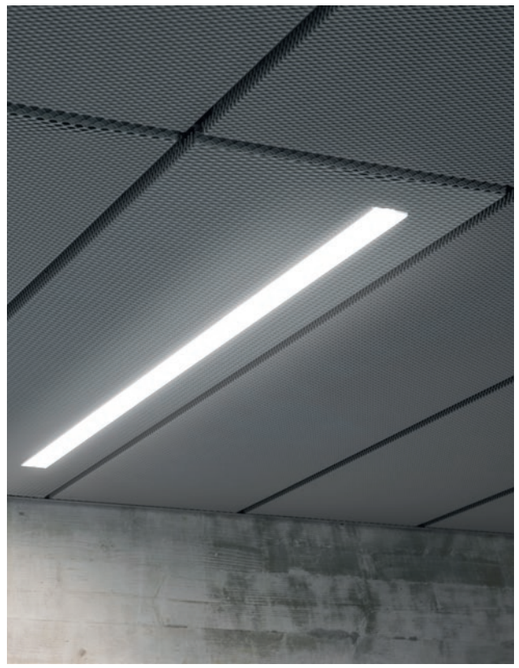
Standort		
A	150	122
Energie und Versorgung		
B	550	502
Baustoffe und Konstruktion		
C	150	90
Komfort und Gesundheit		
D	150	101

We Are Proud of Our Projects

Products of the Year Baffle and Expanded Metal







Inside Fural

10 Examples of Optimizing Energy and Emissions in Construction and Operation

Example 1: Reducing Gas or Heating Oil Consumption per m²

CO_2 from gas or heating oil per m² from 2019 to 2024:
→ Fural: from 1.70 to 1.23 kg CO_2/m²
→ Metalit: from 3.18 to 2.36 kg CO_2/m²
→ Dipling: from 1.45 to 0.98 kg CO_2/m²

Gmunden, AT

FURAL

YEAR	GAS CONSUMPTION				ELECTRICITY CONSUMPTION			
	kWh/Year	m²/Year	kWh/m²	kg CO_2/Year	kWh/Jahr	m²/Year	kWh/m²	kg CO_2/Year
2020	3 485 482	633 365	5,50	1 042 159	1 608 683	633 365	2,54	316 911
2021	3 932 782	723 106	5,44	1 175 902	1 571 732	723 106	2,17	350 496
2022	3 630 949	678 863	5,35	1 085 654	1 761 716	678 863	2,60	431 619
2023	3 013 600	721 845	4,17	901 066	1 773 496	721 845	2,46	299 721
2024	2 566 966	623 450	4,12	768 126	1 809 914	623 450	2,90	224 341

-14,75 %

Example 2: Reducing Electricity Consumption per m²

CO_2 from electricity per m² from 2019 to 2024:
→ Fural: from 0.60 to 0.36 kg CO_2/m²
→ Metalit: from 0.61 to 0.14 kg CO_2/m²
→ Dipling: from 1.02 to 0.75 kg CO_2/m²

The next step (2025) would be the practical implementation of CRREM pathways for the company's own properties and production facilities.

CONSOLIDATED

YEAR	ENERGY CONSUMPTION				ELECTRICITY CONSUMPTION			
	kWh/Year	m²/Jahr	kWh/m²	kg CO_2/Jahr	kWh/Year	m²/Year	kWh/m²	kg CO_2/Year
2020	5 826 653	1 040 185	5,60	1 859 228	2 875 153	1 040 185	2,76	552 246
2021	6 523 579	1 172 588	5,56	2 080 090	3 005 010	1 172 588	2,56	642 227
2022	6 102 337	1 180 737	5,17	1 937 048	3 122 071	1 180 737	2,64	798 127
2023	5 427 176	1 221 984	4,44	1 734 291	3 083 656	1 221 984	2,52	569 382
2024	4 680 774	1 044 616	4,48	1 496 024	2 989 837	1 044 616	2,86	419 351

-13,74 %

Büron, CH

METALIT

YEAR	HEATING OIL CONSUMPTION				ELECTRICITY CONSUMPTION			
	kWh/Year	m²/Year	kWh/m²	kg CO_2/Jahr	kWh/Year	m²/Year	kWh/m²	kg CO_2/Year
2020	177 904	218 730	0,81	608 467	895 297	218 730	4,09	91 320
2021	211 131	271 100	0,78	722 110	1 064 599	271 100	3,93	129 881
2022	182 651	272 526	0,67	624 703	879 740	272 526	3,23	121 917
2023	152 102	288 651	0,53	520 219	841 243	288 651	2,91	71 506
2024	150 848	218 393	0,69	515 930	712 158	218 393	3,26	29 843

-00,01 %

Hungen, DE

DIPLING

YEAR	HEATING OIL CONSUMPTION				ELECTRICITY CONSUMPTION			
	kWh/Year	m²/Year	kWh/m²	kg CO_2/Year	kWh/Year	m²/Year	kWh/m²	kg CO_2/Year
2020	60 991	188 090	0,32	208 601	371 173	188 090	1,97	144 015
2021	53 236	178 382	0,30	182 078	368 679	178 382	2,07	161 850
2022	46 837	180 021	0,26	160 192	372 277	180 021	2,07	176 832
2023	75 583	160 526	0,47	258 509	363 031	160 526	2,26	145 212
2024	46 036	160 109	0,29	157 452	357 851	160 109	2,24	119 522

-39,09 %

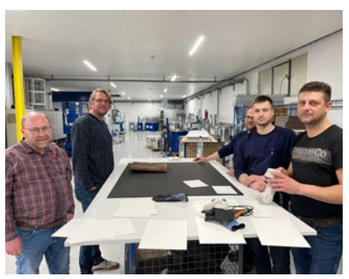
Example 3: Strengthening Maintenance Through Optimized Storage Areas and Expanding the Team from Two to Three People

Fewer machine failures mean improved energy efficiency; quality improvement and CO_2 reduction require smart thinking and the best people.

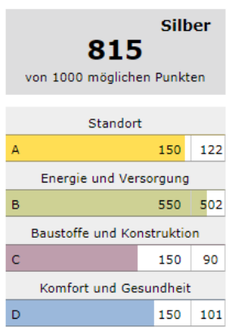
Example 4: Paint System Conversion at the Hungen Site

Improved quality through greater coating thickness; More support and service; Reduced waste

→ Complaint rates reduced by more than 60%



Example 5: Maximum Building Optimization – Klimaaktiv Silver Standard for the New Gmunden Office; From the Alpenjäger Barracks to the Elefanten Shoe Factory; From the Elefanten Shoe Factory to the Fural F1 Office in Gmunden



Example 6: Energy-Efficient Renovation of the Building Envelope

From 330 kW/m² to 25 kW/m²

-88,6 %

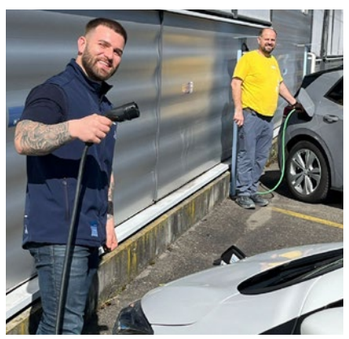
Example 7: From Oil Heating to District Heating for the Gmunden Office

Example 8: Inbetriebnahme 10.2024 von PV- Büron = 353 kW-Peak

Example 9: Use of greentec steel Edition 600 for Office Ceilings = 66% Less CO_2 Compared to Conventional Steel

Example 10: Infrastructure for Private and Business Charging of Electric Vehicles in Büron

In Büron, employees can charge their vehicles at the company for a flat rate of CHF 30 per month.
Shown in the picture are our employees Schube and Alex.



Inside Fural

7 Examples of Satisfied Employees, Supporting Both Regionally and Internationally

Example 1: Employees – Ten Voluntary Benefits Developed for 2024 / 2025

Zehn freiwillige Benefits für Mitarbeiter in 2024/2025 für Gmunden

✓ 1. Nachwuchs fördern
- ✓ a. Tobias Franke „Wien" ermöglichen
- b. Zedan Serdar von Anlagenführer PB zum Programmierer, beginnend im Einkauf
- ✓ c. Tanja Pavic, Alex Skoric, Salih Halili, Gülen Onür zum möglichen Anlagenführer ausbilden.
- ✓ d. Riccardo Puglisi, Sandi Ramakic in die Kalkulation
- ✓ e. Neueinsteiger aus Umfeld Firma bewusst Chancen geben, z.B. Paul, Anna, Abi, Minela, Reka
- ✓ f. Nachwuchskräfte bewusst mitnehmen: Akustik- oder BS-Prüfungen, Messen, Lieferantenbesuche...

✓ 2. Drei Monate jährlich freies Eis – immer im Juni, Juli, August und September
- Investition in Kühlschränke für jeden Standort/Betriebsstätte
- Und viel, viel, viel Eis.

✓ 3. Vorhandene Standards weiterhin wertschätzen
- Wertschätzung von Ehrenamt, zusätzlich 1 Tag Urlaub
- Müsli, Yoghurt, freies Wasser
- Vital Box – gesunde Box für Mitarbeiter
- Eintrittskarten für Basketball und Fußball in Gmunden
- Fural-Boot
- Business-Bike
- Goldmünze bei Geburt
- 4x Eintrittskarten Red Bull Salzburg
- Jahresbeginn mit neuer Arbeitskleidung

✓ 4. Investition 1: Büroarbeitsplätze auf Top-Standard
- a. Höhenverstellbaren Tische als Standard
- b. Beste Klimatisierung
- c. 2x Heiss- und Kaltwasserspender

✓ 5. Investition 2: Neues Betriebsrestaurant perfekt für Mitarbeiter
- a. Für private Feiern nutzbar
- b. Eigener WC-Bereich, Spielbereich
- c. Infrastruktur z.B. Spülmaschine, Kühlschränke passend für Firma und MA-Feiern

✓ 6. Pizzaofen auf Anhänger – gut nutzbar für Mitarbeiter

✓ 7. EIOS – psychologische Hilfe bei Ängsten
Gezielte Behandlung von Emotionen bei Angst- und Panikstörungen, Belastungsstörungen, Zwangserkrankungen, Essstörungen und psychosomatischen Krankheitszeichen.
www.eiostherapie.de

✓ 8. Eintrittskarten Basketball Swans von 3 auf 6 Karten
Drei Karten bei Bernhard Zierlinger / Büro.
drei Karten bei Fahri Kuleta / Produktion.

9. Amazon-Pakete an Fural – Hin-/Rücklieferung durch FURAL

✓ 10. Kulturhauptstadt Gmunden / Salzkammergut erleben
- a. Gmunden / Führung durch Eva Fürthbauer, ca. 25 Personen
- b. Traunkirchen Stollen Karbach und Russenvill
- c. Ebensee: KZ-Gedenstollen mit japanischer Künstlerin Chiharu Shiota.

Legend: A check mark indicates implemented measures.

Inside Fural

7 Examples of Satisfied Employees, Supporting Both Regionally and Internationally

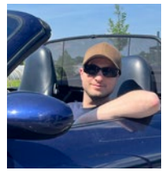
Example 2: Donation of Raffle Proceeds to Support Meaningful Regional Projects

At the 2024 Christmas raffle, a total amount of €341 was raised. The original amount was quadrupled, and additional generous donations were made by individual employees. As a result, a total of €1,364.00 was donated to charitable causes.

Example 3: Two Additional Wells Donated in Cambodia.

In the village of Sreung, the 32 m deep well supplies 203 families, while in Peykes, the 30 m deep well supplies 358 families.
Fural donates one well for Cambodia every year. Wells 143, 202, 246, 307, and 403 were funded by Fural.

Example 4: Company Porsche Appreciated in Hungen.



Example 5: The Fural Pizza Oven.

One professional pizza oven on a trailer available for all employees to borrow. Saving resources together – and frequently used.

Example 6: The Alpine Hut – the Employee Gift for 30 Years of Metalit, Built on the Metalit Premises.

Frequently used for both company and private events.

Example 7: 10 Employee Benefits – Three Months of Ice Cream Enjoyed at Every Location.

Re-Use in Theory

Book “Material Matters, Chapter 5”

Thomas Rau and Sabine Oberhuber present concrete examples of how circular economy principles can be implemented:

The concept of “Light as a Service,” discussed in Chapter 5 of *Material Matters*, is an example of a paradigm shift from a linear to a circular economic model. Developed in collaboration with Philips, its goal is to make lighting more sustainable and resource-efficient.

Background of the Model

Traditionally, lighting manufacturers sell their products to customers, who are then responsible for maintenance, repairs, and ultimately disposal. This often results in lighting fixtures being replaced relatively quickly by newer models, creating large amounts of electronic waste and wasting valuable resources.

In contrast, the “Light as a Service” model focuses on providing a service rather than selling a physical product. This means:

Philips remains the owner of the lighting systems and leases the lighting performance to the customer.

The customer only pays for the use of light, similar to paying for electricity or water.

Philips is responsible for maintenance, repairs, and optimization of the lighting systems.

At the end of their service life, the lighting fixtures are taken back, reused, or recycled instead of ending up in landfills.

How Does It Work in Practice?

This concept was implemented, among other places, at the headquarters of Schiphol Airport in the Netherlands:

1. Schiphol pays only for the light, not for the lamps.

Instead of purchasing lighting fixtures, the airport purchases light as a service. The lighting is provided according to demand, without Schiphol having to manage the hardware itself.

2. Philips guarantees maximum efficiency and durability.

Since Philips retains ownership of the lighting systems, the company has a direct economic interest in using durable and energy-efficient solutions, because every maintenance intervention and replacement creates additional costs.

3. Return and recycling at the end of the product life cycle.

Once the systems reach the end of their useful life, the materials are not discarded. Instead, Philips either reuses them in new lighting systems or recycles them.

Why Is This Model So Revolutionary?

Sustainability

By focusing on durable, high-quality products, less waste is generated. Resources such as metals, plastics, and electronic components remain within the cycle instead of constantly being newly extracted and manufactured.

Cost Savings for the Customer

Companies do not need to make large investments in new lighting systems. Maintenance and optimization are handled by Philips.

Incentive for Better Product Quality

Since Philips itself remains responsible for maintenance and replacement, it is in the company’s interest to manufacture durable and energy-efficient products rather than relying on planned obsolescence.

Promotion of the Circular Economy

This model demonstrates that the focus should not be on ownership of a product, but on its use. It encourages companies to rethink business models in which products are not simply discarded, but reused or integrated into new products.

Further Applications of the Principle?

The “as a Service” model can be applied far beyond lighting. Similar concepts already exist in other sectors:
Furniture-as-a-Service: Companies such as Steelcase offer office furnishings for rent instead of selling them.
Printer-as-a-Service: Companies such as Xerox provide printing services where customers pay for printing performance rather than owning the printer itself.
Clothing-as-a-Service: Some fashion companies are experimenting with clothing rental models to make the textile industry more sustainable.

Conclusion

The “Light as a Service” model described in Material Matters impressively demonstrates how companies can operate more sustainably while also achieving greater economic success through circular economy principles. It proves that it is possible to use resources more efficiently, reduce waste, and at the same time create innovative business models that benefit both companies and customers.
Buildings as Material Banks (Madaster)

Idea: Viewing Buildings as Raw Material Storage
One of the central problems of the construction industry is that many building materials are not reused after a building is demolished.
Material Matters introduces the concept of material passports, which document the materials used within a building.
This makes it possible to determine exactly which materials can be reused or recycled once the building reaches the end of its life cycle.
Implementation: The Madaster Platform
The company Madaster, co-founded by Thomas Rau, developed a digital platform on which buildings are managed as “material banks.”
Similar to a financial portfolio, Madaster documents the material inventory of a building.

Building owners, architects, and investors can therefore plan long-term strategies for how materials can be reused once a building reaches the end of its life cycle.

The goal is to drastically reduce waste in the construction industry while preserving the economic value of materials.

Example: EDGE Olympic, Amsterdam

The EDGE Olympic office building is one of the first projects to be fully documented using material passports.
It contains a precisely listed inventory of materials that can be returned to the material cycle once the building reaches the end of its service life.
In this way, a circular value chain is created within the construction industry.
Conclusion: A Change in Thinking Is Necessary

The examples presented in Material Matters show that shifting from a linear “take-make-dispose” model to a circular economy is not only environmentally necessary, but also economically beneficial.

The most important principles of the circular economy are:

Use Instead of Ownership – Products are offered as a service rather than sold.
Durability and Repairability – Companies have an economic interest in creating long-lasting products.
Material Passports and Take-Back Systems – Raw materials remain within the cycle instead of being lost.
New Business Models – Companies benefit from long-term customer relationships instead of one-time sales.

Many companies are already implementing such concepts, but genuine transformation will also require political frameworks and a shift in societal thinking.

Interesting Facts About Ceilings and Sustainability

Is Wood Sustainable If 30–60% of Harvested Timber Is Burned Immediately?
Facts About CO_2 and Construction Timber

The carbon (CO_2) stored in trees can be released or stored in different ways after timber harvesting. The distribution of how wood is utilized depends heavily on forestry practices, local markets, and the intended applications of the wood. Typical proportions are as follows:

Construction Timber (Long-Term Storage):
A relatively large share of harvested wood is used for long-lasting products such as structural timber or furniture. These products can store carbon for decades or even centuries. On average, around 20–40% of harvested wood ends up in durable products such as construction timber.

Burned Wood (Short-Term Release):
Part of the wood, especially waste products such as branches, bark, or low-grade timber, is either burned directly or used as biomass in energy facilities. This share can release CO_2 again within a year or relatively quickly. Exact figures vary, but often 30–60% of harvested wood is processed into biomass or burned, releasing its carbon within a short period of time.

Another portion of the wood may be used in short-lived products that are disposed of after only a few years. The exact percentages depend strongly on the region, wood species, and end use.

To calculate the carbon content of wood and the amount of CO_2 released during combustion, several general assumptions and typical values are helpful.

Assumptions and Typical Values:
• Dry biomass consists of approximately 50% carbon.
• 1 cubic meter of construction timber (dry weight) contains approximately 250–450 kg of carbon (depending on the wood species, e.g. spruce approx. 250 kg, oak approx. 450 kg).
• When wood is burned, carbon (C) reacts with oxygen (O_2) to form CO_2. The mass ratio of CO_2 to carbon is approximately 3.67 (because CO_2 consists of one carbon atom and two oxygen atoms).

Calculation Steps:

Carbon Mass in Construction Timber
For 10 cubic meters of construction timber, it can be assumed that approximately 2,500–4,500 kg of dry timber are present (depending on the wood species).
Of this, approximately 1,250–2,250 kg would consist of carbon.
Amount of CO_2 Released from Burning Timber Waste
Around 30–60% of a tree may become waste during the production of construction timber and may subsequently be burned as energy wood or biomass. This depends on the type of sawing process and the efficiency of timber processing.
Assuming that 50% of the timber volume becomes waste and is burned:
CO_2 Emissions from Combustion
If half of the 1,250–2,250 kg of carbon contained in the timber is burned as waste wood, this would correspond to 625–1,125 kg of carbon.

Multiplying this carbon amount by the factor 3.67 (conversion from C to CO_2) results in CO_2 emissions of approximately 2,293–4,128 kg of CO_2.

Conclusion
When the waste products from 10 cubic meters of construction timber are burned, approximately 2.3 to 4.1 tons of CO_2 are released.

What Does ESG Stand for in the Construction Industry?

ESG stands for Environmental, Social, and Governance and is becoming increasingly important in the construction industry because it evaluates companies and projects according to criteria that go beyond purely financial aspects. Below is an overview of how ESG is relevant in construction and why it matters.

Environmental

This aspect focuses on the environmental sustainability of construction projects. It concerns how buildings and construction processes can minimize environmental impact:
• Resource efficiency: Reducing energy consumption, using renewable energy sources, and minimizing water usage.
• Materials: Use of sustainable, recyclable, and non-toxic materials.
• Waste management: Reducing construction waste and implementing recycling processes.
• Carbon footprint: Minimizing emissions generated through the construction and operation of buildings, such as transportation and on-site construction activities.
Importance:
Since the construction sector contributes significantly to global CO_2 emissions, reducing environmental impact is essential in order to combat climate change and comply with increasingly strict regulations.

Social

The social aspect relates to how construction projects contribute to society and how social impacts are measured and considered:
• Health and safety: Ensuring safe working conditions on construction sites.
• Quality of life: Designing buildings that improve the well-being of occupants, for example through healthy indoor climates, ventilation, and daylight access.
• Communities: Considering the impact on local communities, supporting local employment markets, and promoting social inclusion.
Importance:
A positive social impact can strengthen trust within communities and increase acceptance of construction projects. In addition, safe and sustainable buildings can improve the quality of life for users.

Governance

This aspect covers how companies in the construction industry are managed and governed:
• Ethical business practices: Transparent and fair business practices, including anti-corruption measures.
• Compliance: Adherence to all legal regulations, especially regarding environmental and safety standards.
• Sustainable supply chains: Taking responsibility for the sustainability of suppliers and subcontractors.
Importance:
Good corporate governance helps minimize risks, ensure regulatory compliance, and build trust among investors and the public.

Importance of ESG in the Construction Industry
• Long-term value: Projects that meet ESG criteria are often more sustainable and profitable in the long term because they face fewer risks related to environmental damage, legal disputes, or social conflicts.
• Regulatory requirements: Governments and financial institutions are increasingly emphasizing ESG standards. Investors are paying closer attention to how ESG criteria are implemented in companies and projects.
• Market positioning: Companies that comply with ESG criteria can position themselves as responsible market leaders and gain competitive advantages.

Overall, ESG in the construction industry offers not only environmental and social benefits, but also economic incentives, as sustainable buildings can reduce operating costs, increase property value, and attract investors.

Interesting Facts About Ceilings and Sustainability

Sustainability – When Is a Building Renovation Taxonomy-Compliant?

The EU Taxonomy is a classification system that defines sustainable economic activities in order to direct investments toward environmentally friendly projects. For building renovations, specific criteria have been established to determine when an investment can be considered taxonomy-compliant. These criteria are primarily based on reducing energy consumption and improving the energy efficiency of buildings.

Requirements for Taxonomy Compliance in Building Renovation:

1. **Improvement of Energy Efficiency**
   A renovation is taxonomy-compliant if it leads to a significant improvement in the building's energy efficiency. Specifically, this means: At Least 30% Energy Savings: An energy-related renovation must achieve at least a 30% reduction in primary energy demand (measured in kWh/m² per year). This is the minimum criterion for classifying a renovation as sustainable.
2. **Compliance with EU Regulations**
   The renovation must comply with the requirements of the EU Energy Performance of Buildings Directive (EPBD). In most member states, this means that the renovation should significantly improve the building's energy efficiency class.
   Specific national regulations implementing the EPBD must also be considered, as these may vary from country to country.
3. **Technical Screening Criteria of the EU Taxonomy**
   For building renovations, the EU Taxonomy Regulation defines technical screening criteria that include:
   No Significant Harm to Other Environmental Objectives: The renovation must not negatively impact other EU Taxonomy environmental goals, such as the circular economy, water management, or pollution prevention.
   Climate Change Adaptation: Investments in building renovation must also include measures for climate adaptation to ensure the building is resilient to the impacts of climate change.
4. **Sustainability in Renovation**
   The construction materials and technologies used must also meet sustainability principles:
   Use of Environmentally Friendly Materials: Materials should be resource-efficient, recyclable, and sustainably sourced.
   Minimization of Waste: Measures should be taken to avoid and recycle construction waste.
5. **Reporting and Transparency**
   Companies must transparently disclose in their sustainability reports how their investments fulfill the above criteria. This includes documentation of the measures implemented, the achieved energy savings, and the materials used.

Key Values and Indicators

- Primary Energy Consumption (kWh/m² per year): The most important indicator of a building's energy efficiency. A reduction of at least 30% is required for taxonomy compliance.
- CO_2 Emissions (kg CO_2/m² per year): Indirectly linked to energy savings, the renovation should lead to a significant reduction in CO_2 emissions.
- Energy Efficiency Classes: Improvement of the building's energy efficiency class according to national standards.

Conclusion

In order for a renovation investment to be classified as taxonomy-compliant, it must achieve at least a 30% reduction in energy consumption, comply with EU building directives, avoid harming other environmental objectives, and be carried out in line with sustainability and transparency principles. The goal is to reduce the building's carbon footprint and prepare it for future climate-related challenges.

Requirements for Taxonomy Compliance in New Construction Projects:

1. **Energy Efficiency Requirements**
   Energy Efficiency Class A: A new building must achieve at least the highest energy efficiency class (usually Class A) as defined by national legislation. In most cases, this corresponds to very low energy consumption and the use of efficient, modern technologies such as heat pumps or passive house design.
   Low Primary Energy Demand: The building's primary energy demand (PED) must be at least 10% below the national requirements for Nearly Zero-Energy Buildings (NZEB). NZEB already represents a highly demanding energy standard required for all new buildings under the EU Energy Performance of Buildings Directive (EPBD).
   Example: If national regulations define an upper limit of 100 kWh/m² per year for an NZEB, a taxonomy-compliant building would need to achieve a maximum consumption of 90 kWh/m² per year.
2. **CO_2 Emissions and Climate-Neutral Construction**
   New buildings should be designed to minimize CO_2 emissions. This includes both direct emissions (e.g. from on-site energy generation) and indirect emissions (e.g. from building operation and energy supply).
   The use of renewable energy sources (e.g. solar energy, geothermal systems, or photovoltaics) is essential to ensure climate-friendly energy supply.
3. **Climate Change Adaptation**
   The building must be resilient to the impacts of climate change. This means it should be prepared for both extreme weather events (e.g. heavy rainfall or heatwaves) and long-term climatic changes.
   Measures for climate adaptation may include improved thermal insulation, robust façade and roof constructions, as well as efficient water management systems (e.g. rainwater harvesting).
4. **Sustainable Materials**
   The materials used in construction must be environmentally friendly and sustainable. This includes:
   Recyclable Materials: The use of materials with a low environmental footprint that can be recycled at the end of their service life.
   Avoidance of Environmentally and Health-Hazardous Substances: Materials containing environmentally harmful or hazardous substances should be avoided.
5. **Circular Construction Economy**
   New buildings should follow the principles of the circular economy, meaning that resources and materials are used and reused as efficiently as possible. This includes:
   Minimization of Construction Waste: Measures to prevent and recycle construction waste are required.
   Design for Deconstruction: Buildings should be designed so that materials can be easily dismantled and reused at the end of the building's life cycle.
6. **Water Efficiency**
   A new building should integrate technologies and systems that reduce water consumption.
7. **No Significant Harm to Other Environmental Objectives**
   The new construction investment must not have significant negative impacts on other environmental objectives of the EU Taxonomy, such as:
   Prevention of Pollution: Avoiding pollution of air, water, or soil.
   Preservation of Biodiversity: New buildings must not negatively affect local biodiversity and should not be constructed on environmentally sensitive land.
8. **Reporting and Transparency**
   The taxonomy-compliant criteria must be transparently documented and disclosed in reports. This includes evidence regarding energy consumption, materials used, and the building's CO_2 balance.
   Key Indicators and Threshold Values:
   - Primary Energy Demand (kWh/m² per year) must be at least 10% below national NZEB requirements.
   - Energy Efficiency Class: New buildings must achieve the highest energy efficiency class (usually Class A).
   - CO_2 Emissions (kg CO_2/m² per year): Reduction of CO_2 emissions is indirectly measured through energy demand and the use of renewable energy sources.

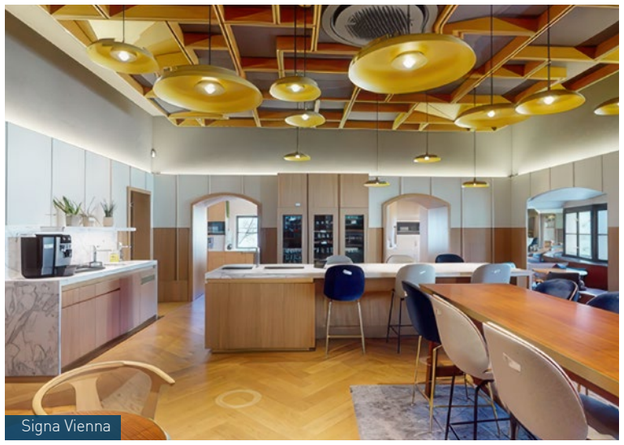
Conclusion

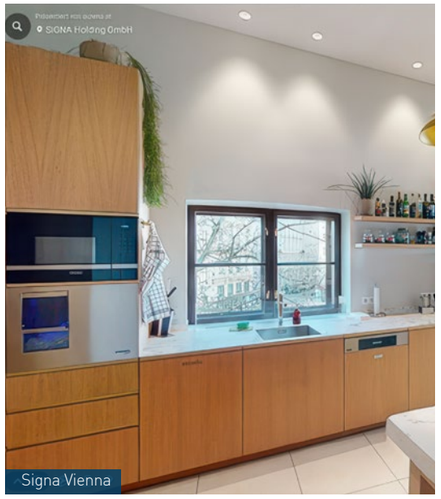
A new building is considered taxonomy-compliant if it meets very high energy efficiency standards (at least 10% below NZEB requirements), relies on low-carbon or climate-neutral technologies, is adapted to climate change, and uses sustainable materials. Furthermore, construction activities must not significantly harm other EU environmental objectives, and all investments must be transparently documented.

Genuine Re-Use

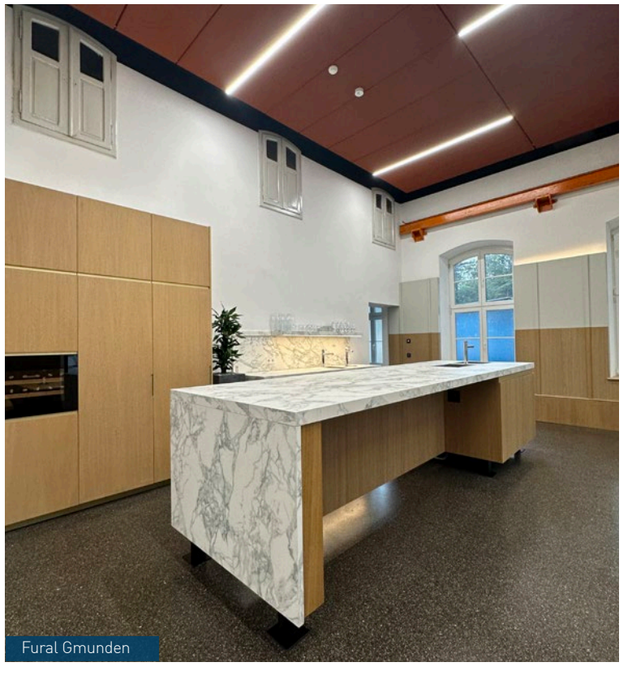
from Signa Vienna to the Fural company restaurant in Gmunden

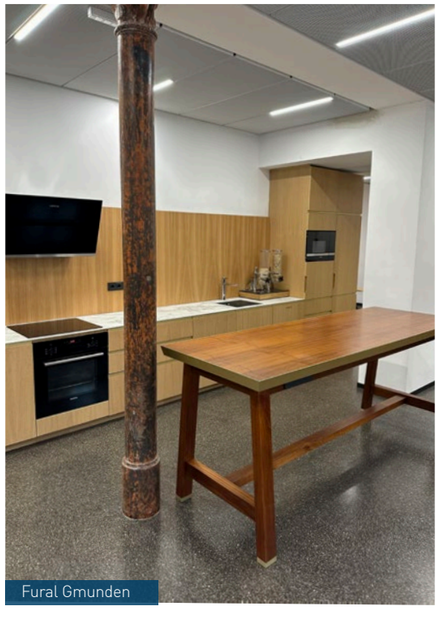
In the spirit of sustainable construction, Fural decided to equip its new office with a high-quality pre-owned company kitchen from Signa. Instead of purchasing or producing new furniture, we follow the re-use principle — the reuse of products that are still in excellent condition and of high quality.


Signa Vienna



Signa Vienna


Fural Gmunden


Fural Gmunden

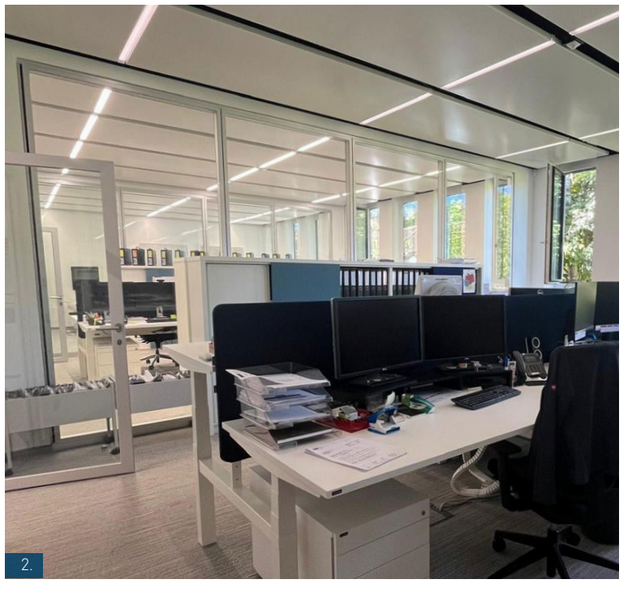

Fural Gmunden

Genuine Re-Use

Further Examples of Resource Conservation and Re-use — Re-use Using the Example of the Fural F1 Office in Gmunden

1. Company restaurant from Signa with champagne cooler
2. Glass partition walls from VIAG Intercom Munich
3. Company restaurant from Signa with retractable screen
4. Re-used office cabinets
5. Re-used tool safe from Signa Vienna
6. Reuse of the meeting room from the former office
7. Gaming room with furniture from Signa Vienna


1.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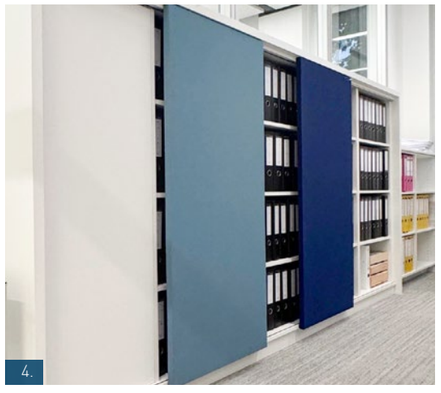
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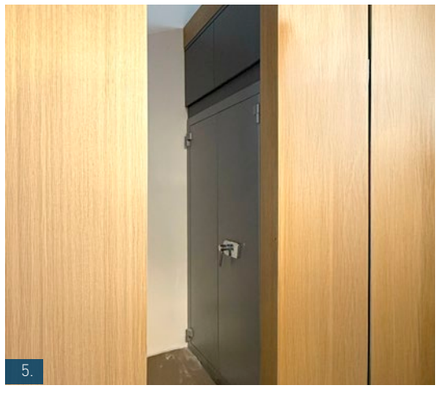
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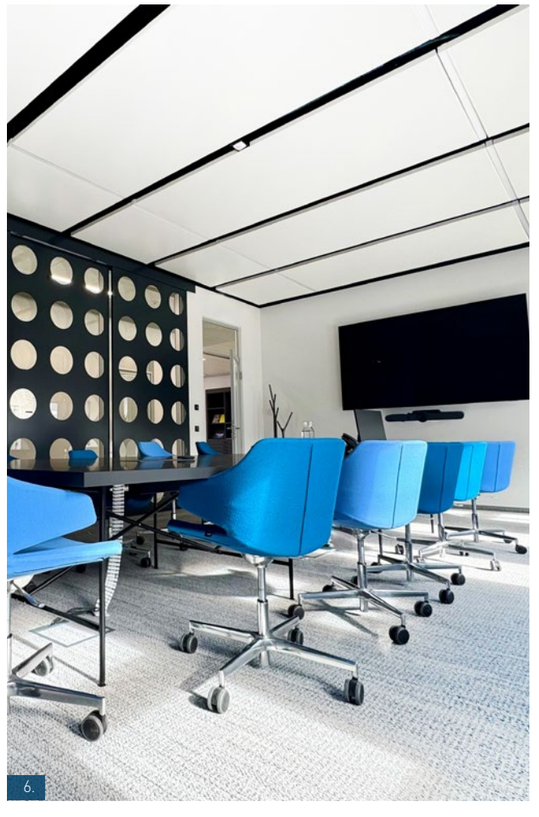
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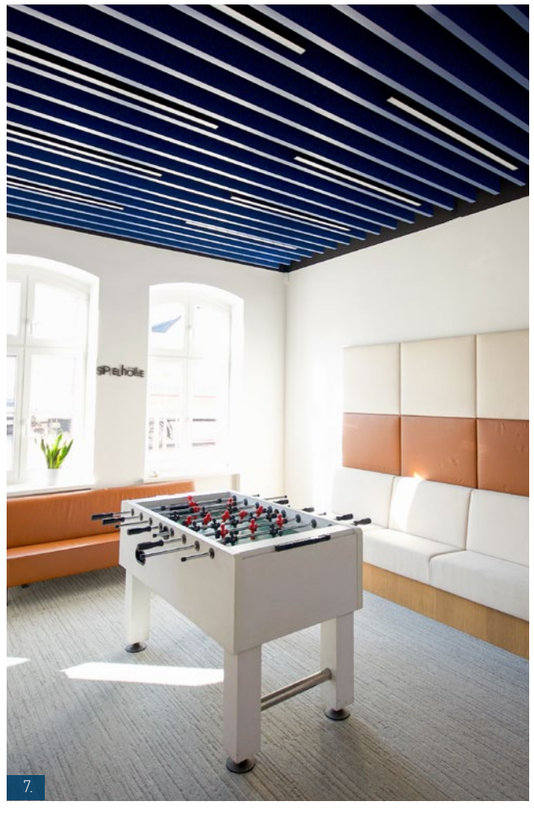
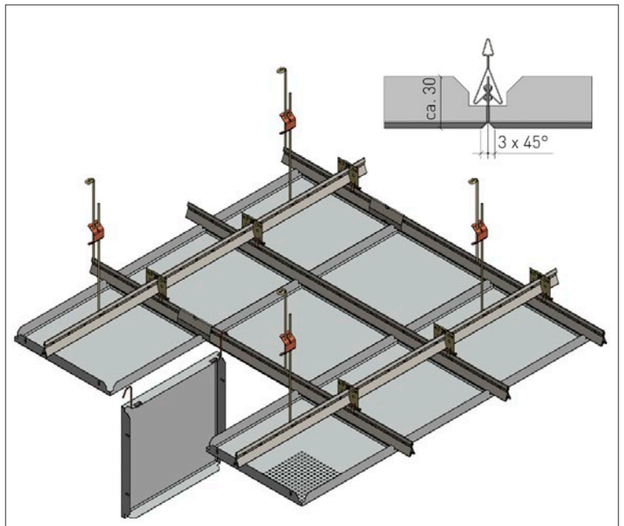


7.

Genuine Re-Use

**...or, at the right time,
the right contacts.**

The starting point was a general exchange between ATP's Nuremberg office and Fural on the topic of sustainability and its significance in relation to metal ceilings. Various emails and phone calls were followed by a meeting in Nuremberg. In addition to discussing the material cycle of metal ceilings, potential re-use solutions were also explored. During the conversation, a concrete demand emerged. However, there is currently no existing stock of re-use material available.
As part of renovation and partial demolition works at the Fural site in Gmunden, suitable materials actually became available. Photos of the existing ceilings were exchanged quickly, and the available quantities were coordinated — sometimes it is best to simply make things happen.
The ceiling panels recovered from the dismantling process were sent to the new construction site, where they were stored until reinstallation. The required substructure was also ordered and installed.
Anyone who does not know the background would never realize that these are "used" ceiling panels...



	Fural
Perforation Ø	Rg 0,7 - 4 %
Open area percentage	0,7 mm
Maximum perforation	4 %
width	1.197 mm
Designation according	Rg 0,70 - 3,00
to DIN 24041	3,00 mm →
Horizontal spacing	3,00 mm ↓
Vertical spacing	4,24 mm ↘
Diagonal spacing	→

Data | Clip-in system square KQK 1.1.1.1 and perforation Rg 0.7–4%

The client, ABF Pharmacy, was immediately enthusiastic about the idea. The building owner had already placed great importance on sustainability throughout the project. What surprised us, however, was that all three contractors approached were willing to submit a quotation without any hesitation. You cannot tell that the metal ceiling panels had already been installed elsewhere before — they look as good as new. In the future, we will continue to use reclaimed building materials whenever possible.

Jürgen Klieber,
Dipl.-Ing. (FH) Architect
ATP Nürnberg Planungs GmbH

The reuse of the ceiling panels is a sensible approach; however, the installation process revealed an increased workload due to sorting and necessary adjustments. With clearer preliminary inspections and better coordinated logistics, future implementations can be carried out far more efficiently.

Christian Kempe,
Technical Director
Merkel Trockenbau GmbH

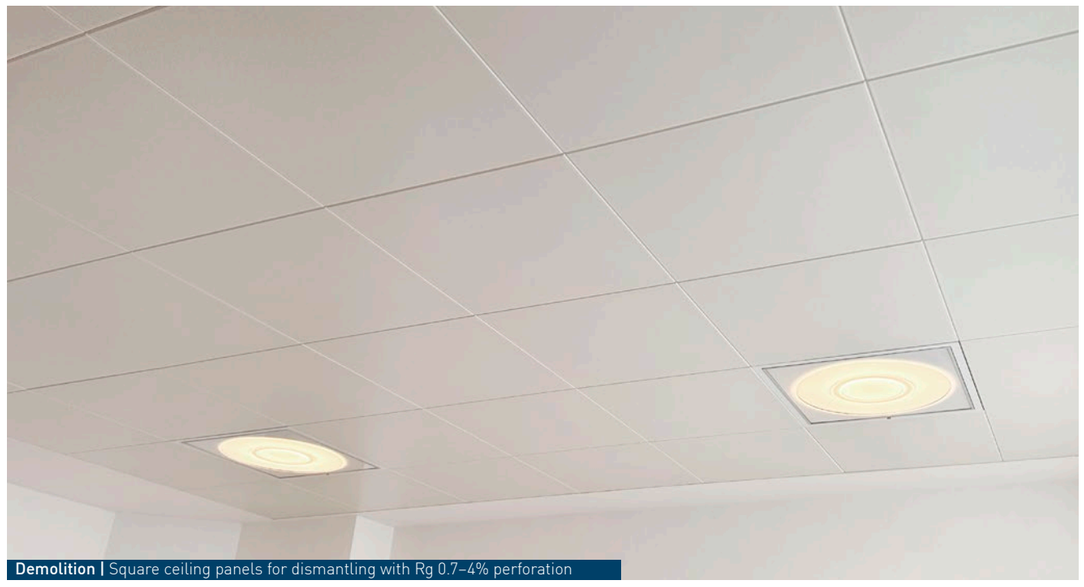
The architect gave us the option of installing used metal ceiling panels. No one in our company had any concerns about this. On the contrary, we believe it was a positive decision and that we contributed to the circular economy in construction. In addition, we were able to save costs.

Jochen & Eva Schreier
Building Owner and
Landlord,
Pharmacist and Tenant

Demolition | Fural building in Gmunden

Demolition | Square panels prepared for dismantling with Rg 0.7–4% perforation

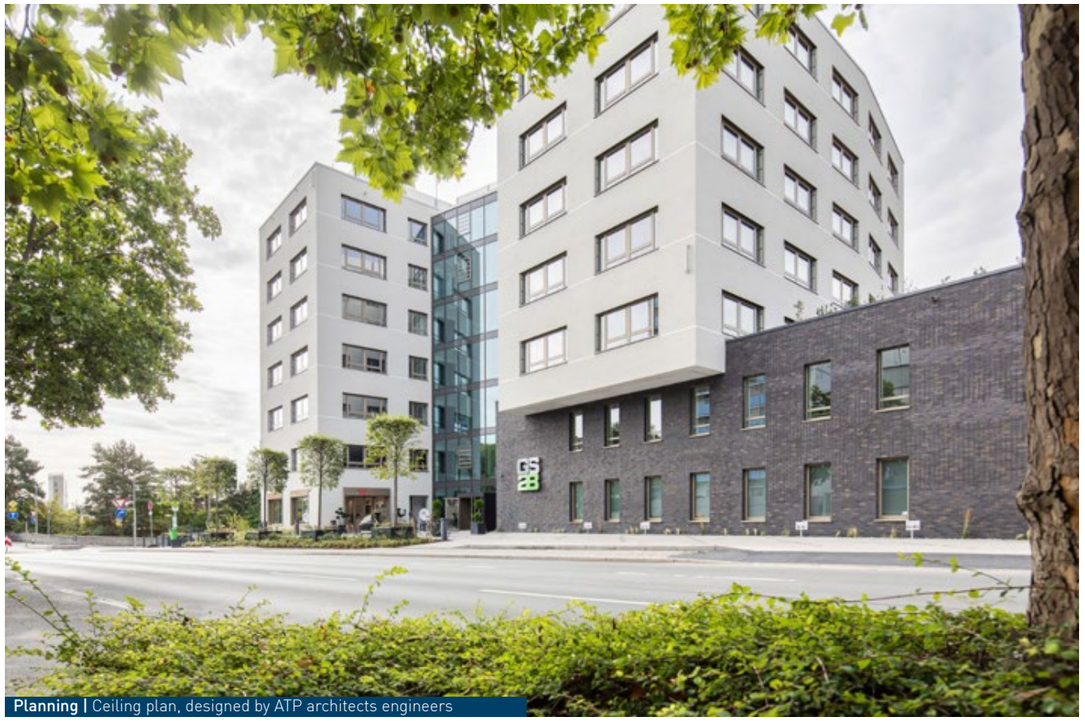
Demolition | Dismantled ceiling panels in the room



Demolition | Square ceiling panels for dismantling with Rg 0.7–4% perforation

Genuine Re-Use

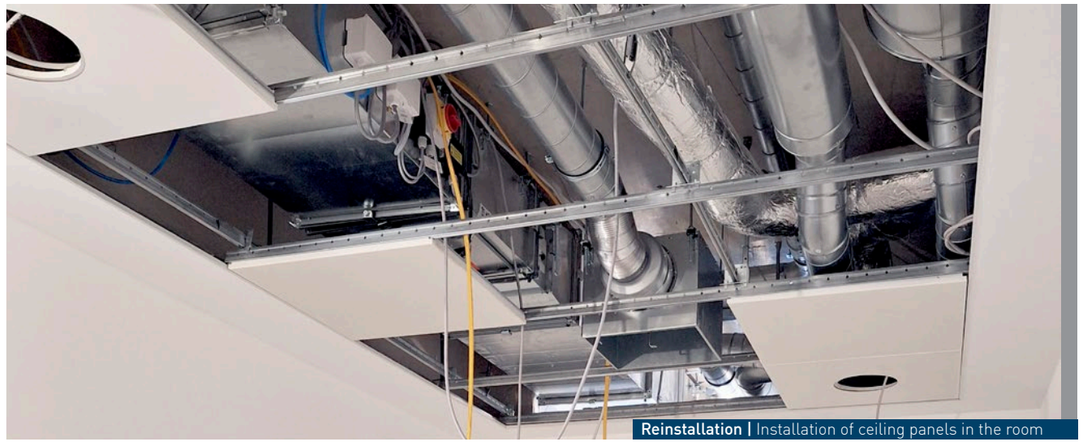
Planning and Reassembly
New Sterile Laboratory Construction for ABF Pharmacy in Fürth



Planning | Ceiling plan, designed by ATP architects engineers

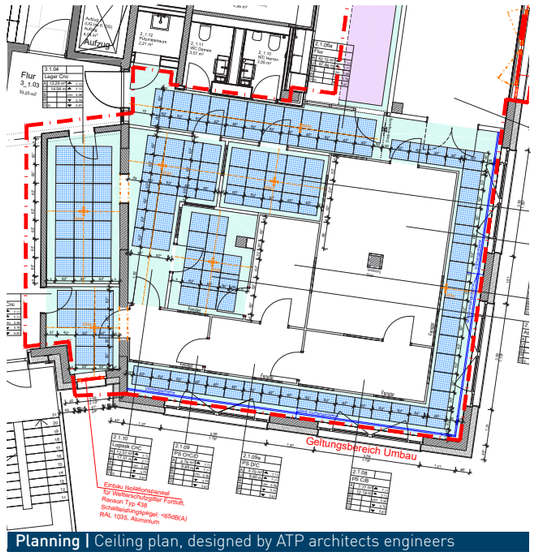
Reinstallation | Corridor without ceiling panels

Reinstallation | Corridor with ceiling panels



Reinstallation | Installation of ceiling panels in the room

Reinstallation | Delivery of the ceiling elements to the construction site



Planning | Ceiling plan, designed by ATP architects engineers

Reinstallation | Installed ceiling panels in the corridor

Reinstallation | Installed ceiling panels in the corridor

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Emmi (pages 8, 22, 23)
GOTECH (pages 8, 14, 15)
Timo Schwach (pages 9, 12)
Dirk Wetzel (page 9)
Bruno Klomfar (pages 9, 12)
Cosmin Dragomir (page 12)
Hennie Raaijmakers (page 12)
Lucas van der Wee (page 13)
Werner Huthmacher (page 13)
Gerencia Madrit (page 13)
Roman Boensch (page 13)
Dieter Hawlan (pages 15, 17, 19, 21, 23, 25, 27, 29)
Robert Halbe (pages 16, 17)
A.S.R. Utrecht (pages 18, 19)
Jansen Service Center (pages 20, 21)
Adam Mørk (pages 24, 25)
Kaefer (pages 26, 27)
Ludwigshafen Heart Center (pages 28, 29)
Schelke Bonnetsmueller (page 32)
Archive of the former pinta acoustic GmbH (pages 33, 34, 35)
Janine Kyofsky (page 39)
Fural Yearbook 2024 (page 40)
Fural Sustainability Report 2024 (pages 42–45)
ATP architects engineers (pages 56, 58, 59)
Merkel Trockenbau GmbH (page 56)
Photo by Jochen and Eva Schreier (page 56)
Jürgen Lehmann (page 60-61)

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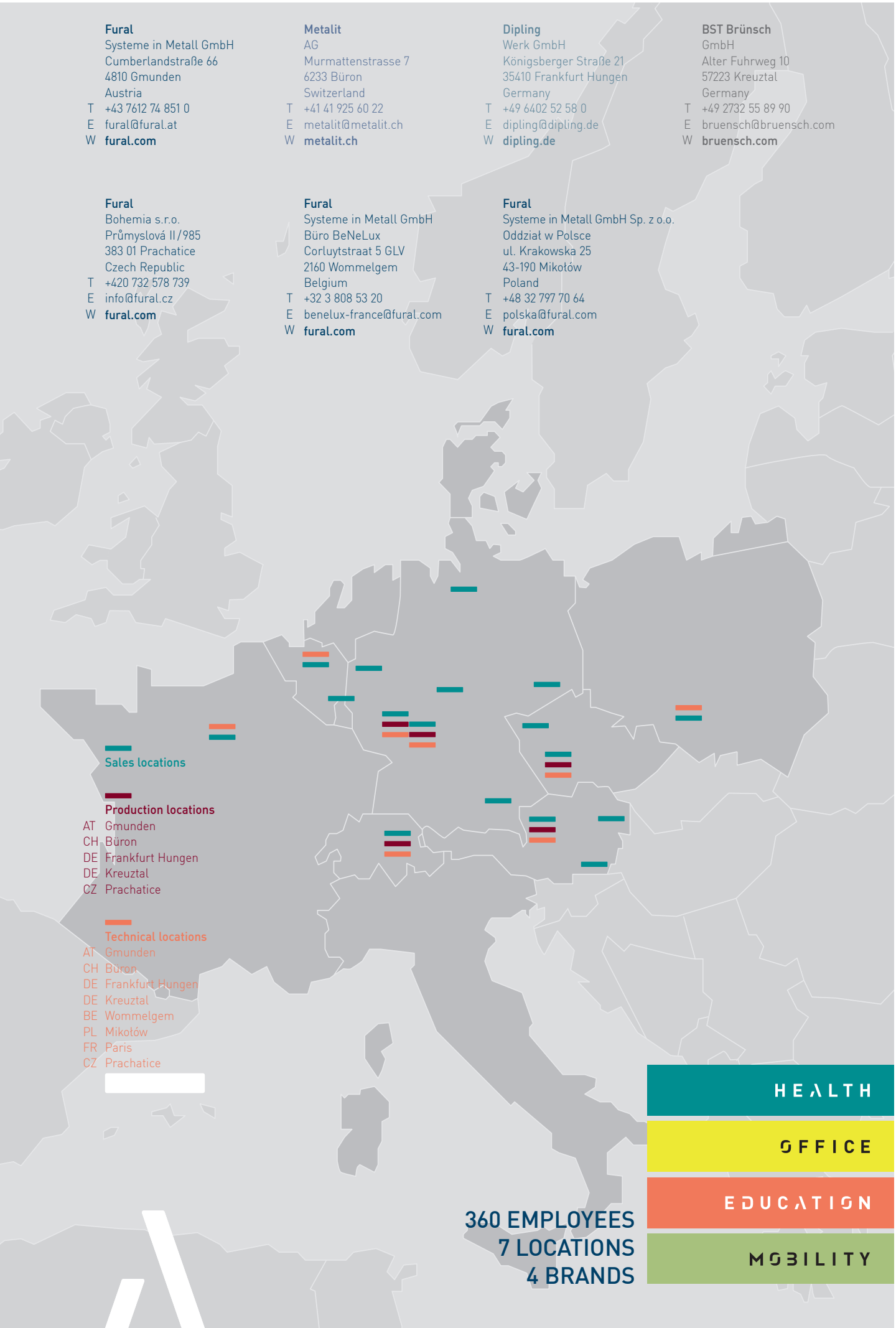

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