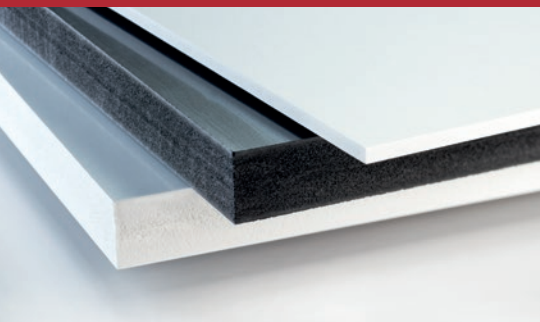


clad ding

simple to process

lami nating



KÖMACEL[®]

The universal integral skinfoam sheet
for advertising, building, and industry



KÖMMERLING[®]

BU Semi-Finished Products

A brand of the profine Group

Even good things can still be improved on

A traditional brand in the profine Group, **KÖMMERLING** is a familiar name all over the world. Founded in 1897, the company started extruding window profiles and PVC sheets as early as 1967. Today, the **KÖMMERLING Business Unit Semi-Finished Products** exports its products to about fifty countries worldwide. And this number is constantly growing.

KÖMMERLING enjoys a high reputation among its customers, not only because of product quality or its extensive range. What drives us is our pursuit of "the better". This spirit can be felt at all of the company's divisions. It is our daily motivation to go new ways with our customers and to conquer the market with new products, systems, services, and sales channels.

This drive is also based on the reliability of a large company

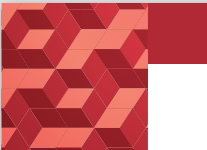
that can respond unerringly to individual market requirements and the needs of its customers. A reliability that engenders trust and, combined with new ideas and pioneering technology, offers new possibilities. The KÖMMERLING Business Unit Semi-Finished Products and its extensive portfolio simply deserve to lead the segment for PVC sheets. Always endeavouring to keep on the move, to make the good even better, and by doing so to safeguard its customers' sustainable success. We call this quite simply the **"EVER BETTER PRINCIPLE"**.

"Because we listen
to our customers
better, we can also
understand better
a lot more."



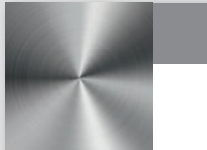
Patrick N. Slarko
Head of Business Unit
Semi-Finished Products

You have the choice. We the range.




KÖMACEL°

The universal integral skinfoam sheet for advertising, building, and industry



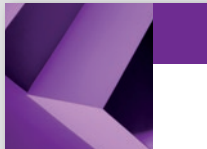
KÖMALU°

The aluminium composite sheet for indoor and outdoor applications



KÖMATEX°

The multiflexible free skinfoam sheet for advertising



KÖMADECO°

The PVC sheet with woodgrain laminate




KÖMAPRINT°

The innovative sheet for the best printing results



KÖMAFOAM°

The lightweight sandwich sheet for great design potential



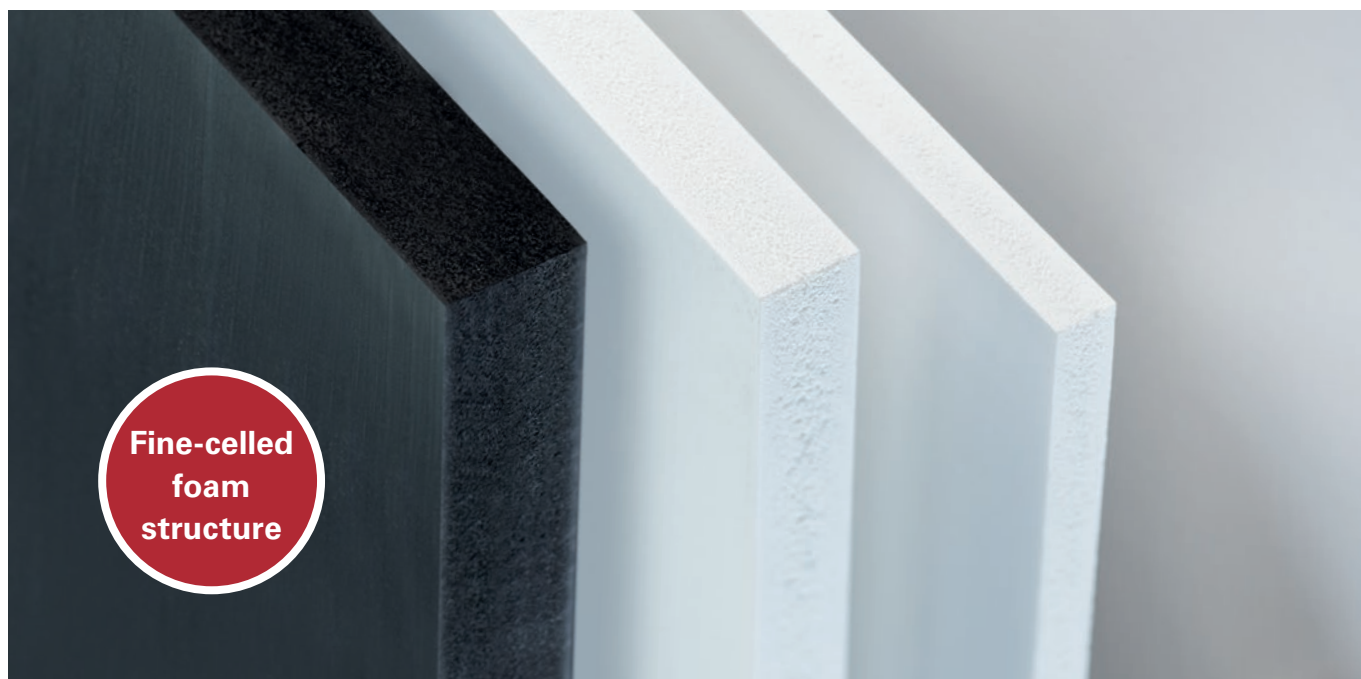
KÖMADUR°

The PVC-U sheet system for virtually all areas



KÖMALITE°

The rigid lightweight sheet for graphic applications



KömaCel: the rigid and weatherproof integral skinfoam sheet for universal applications.

The allrounder

with convincing properties

KömaCel integral skinfoam sheets combine a strong, solid cover sheet and a celled core of the same material. They are manufactured in a single process. Backed by over forty years of experience with the material PVC, we have optimised the balance of cover sheet and core for our KömaCel, resulting in constant improvements to the acknowledged positive product properties. Optimally matched to the requirements on the market. KömaCel has simply deserved to be the world's Number One Celuka extruder.

This perfect balance makes KömaCel a material suitable for a great many applications, and hence a true allrounder with convincing properties. The surface of the strong, smooth outer cover lends the KömaCel sheet its silky gloss effect. It is therefore ideal for screen printing and lamination. Yet the benefits of KömaCel are highly regarded in all areas in the industrial and building sector as well. Compared with other products, these integral skinfoam sheets exhibit an extremely low thermal conductivity and good insulation and sound insulation values. Besides its weather and flame resistance, KömaCel can also be processed with the greatest of ease thanks to its unique structure.

KömaCel samples:

We'll be pleased to send you on request our KÖMMERLING KömaCel samples free of charge.
Email: info@komasheets.com



Consistency:

- Surface with silk-gloss finish
- Solid, closed, smooth outer cover
- Fine-celled foam structure
- Homogeneous, moulded-in colour

Its flexibility

makes KömaCel so very much in demand

KömaCel integral skinfoam sheets combine all of the positive properties in the one material and are ideal for the following applications:

■ Advertising sector



Thanks to its optimal printing and laminating properties and its weather resistance, KömaCel is ideal for signs, banners, inscription panels, displays, and large lettering. They can also be used as design elements in exhibition stands and shop windows. This makes KömaCel a universal substrate for brand and advertising messages.

■ Building sector



Thanks to its good sound insulation, low thermal conductivity, and weather resistance, KömaCel can play out its advantages in the building sector as well: on door and window elements, cladding, roller shutter boxes, and opaque panel infills. Its suitability extends to wet rooms, shop and interior fittings, and exhibition stands. An allround talent for master builders.

■ Industry



KömaCel is the preferred material in the industrial sector. Besides its countless positive properties, also its flexural strength and low weight make it a highly appreciated product in many design departments. KömaCel is therefore ideal for structured parts, chemicals, laboratories, the furniture industry, and ship, container, and vehicle fittings.



“Our shop concepts find the optimal solution in KömaCel.”

Constantin B.
Shopsdesigner

Delivery programme

Dimensions (mm)	White 652 similar to RAL 9010 in the thicknesses (mm)	White 654 similar to RAL 9016 in the thicknesses (mm)	Black 992 similar to RAL 9011 in the thicknesses (mm)	Piece/ package unit	Piece/pallet	In the version with protective film*
2440 x 1220		4		5	125	
3050 x 1220		4		5	125	
2440 x 1220		5		4	100	
3050 x 1220		5		4	100	
2440 x 1220		6		3	75	
3050 x 1220		6		3	75	
3000 x 1250	8			3	60	
2000 x 1000	10	10		5	60	652, single-sided
2500 x 1000	10	10		5	60	
3000 x 1000	10	10		3	60	
4000 x 1000	10				40	
3000 x 1250	10	10		2	50	652, single-sided
4000 x 1250	10				30	652, single-sided
3000 x 1560	10			2	40	652, single-sided
4000 x 1560	10				30	652, single-sided
3000 x 1250	13	13		2	40	652, double-sided
3000 x 1250		15		2	34	
3000 x 1250		17			30	Double-sided
3000 x 800		19		2	30	
3000 x 1250		19	19	1	30	654, double-sided
4000 x 1250		19			20	Double-sided
3000 x 1560		19		1	20	
4000 x 1560		19				Double-sided
3000 x 1250		24		1	20	Double-sided
3000 x 1250		28			20	Double-sided
3000 x 1250		30		1	15	

Special lengths and other formats with protective film on request. Every thickness is packaged in small cardboard units.

* Sheets with protective film available only on complete pallets.

Environmental protection of tested reliability

Correct storage

Always store KömaCel sheets on a level surface in a dry, air conditioned environment at about 15–20 °C. The packaged sheets may not be exposed to weathering effects and direct sunlight.

Ecological manufacture

In line with our environmental guidelines, KÖMMERLING PVC-U sheets are safe for humans and the environment during their manufacture, use, and dis-

posal. They are free of formaldehyde, asbestos, lindane, PCB, PCP, CFCs, cadmium, and lead and do not contain any monomers, biocides, or plasticisers. At the end of their service lives, the sheets or sheet residue can be recycled. They are processed in shredders or grinders and then introduced to the manufacturing process for new sheets.

Certified quality

True to our “Ever better principle”, the acclaimed high quality of our products bear the hallmarks of our research and development work as well as decades of experience with synthetic materials. Tests are conducted over all stages – from the incoming raw materials to the final inspection of the finished products. Regular examinations by independent testing institutes confirm this high level of care. Logically, our quality assurance system has been DIN ISO 9001 certified.



The features

of the KömaCel integral skinfoam sheet



Very good
for bonding



Low thermal conductivity



Good printing qualities



Very good flexural
strength



Good for laminating



Chemical and
corrosion resistant



Good for painting



Flame resistant
(up to 10 mm thick)



Simple processing



Weatherproof and
weather resistant



Good acoustic insulation



Low water absorption



Good sound insulation



100 % recyclable

■ Virtually no limits to creativity

Machining

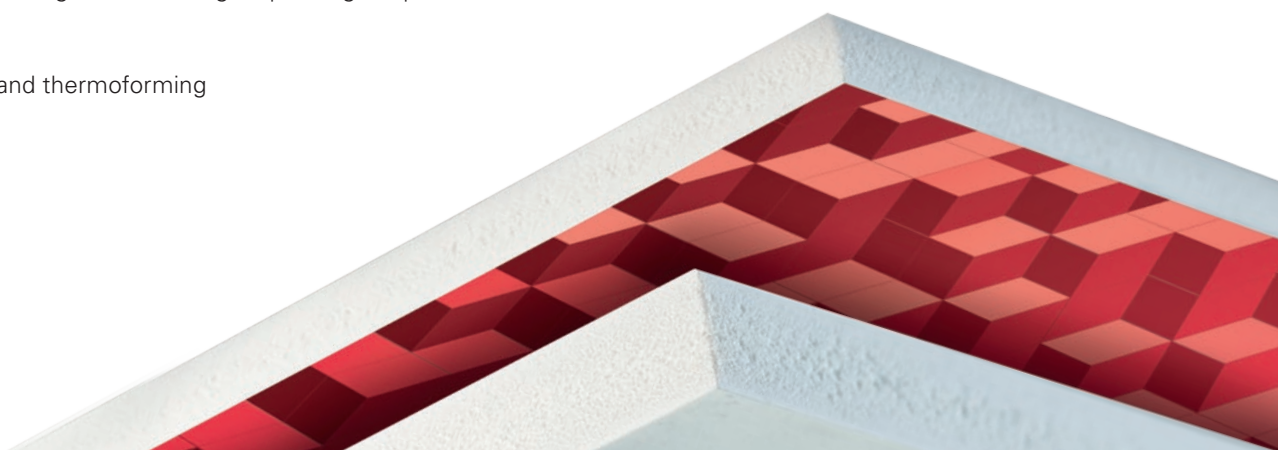
Cutting, sawing, turning, filing, drilling, planing, milling, grinding, and screwing

Printing, painting, and laminating

All known methods of laminating and painting are possible.

Forming

Bending, folding, and thermoforming



Technical Data

Mechanical properties	Test method	Unit	Thickness (mm) 4, 5, 6	Thickness (mm) 8, 10, 13	Thickness (mm) 15, 17, 19, 24, 28, 30
(Apparent) density*	DIN 53479/ISO 1183	g/cm ³	0.55–0.70	0.50–0.55	0.50–0.55
Yield stress (tensile strength)	DIN 53455/ISO 527	MPa	≥ 20	≥ 13	–
Elongation at tear	DIN 53455/ISO 527	%	≥ 30	≥ 15	–
Flexural strength	DIN 53452/ISO 178	MPa	≥ 30	≥ 20	≥ 20
Compressive strength (Hooke's range)	based on ISO 844	MPa	> 8	> 3	> 3
Compressive stress at 30 % compression	based on DIN 53421	MPa	> 14	> 7	> 7
Modulus of elasticity	DIN 53452/ISO 527-2/1A/50	MPa	~ 1100	~ 800	~ 800
Impact strength	+20 °C 0 °C -20 °C	based on DIN 53453/ISO 179	kJ/m ²	MW 15* MW 13* MW 10*	MW 25* MW 20* MW 15*
Ball indentation hardness (132 N/30 s)	DIN 53456/ISO 2039-1	MPa	≥ 15	≥ 15	≥ 20
Shore hardness D	DIN 53505		~ 55	~ 75	~ 77

AV* = average value. Missing values cannot be measured with standardised instrumentation.

Thermal properties	Test method	Unit	Thickness (mm) 4, 5, 6	Thickness (mm) 8, 10, 13	Thickness (mm) 15, 17, 19, 24, 28, 30
Vicat softening temperature	DIN 53460/ISO 306 (process A50)	°C	≥ 75	≥ 75	77
Deflection temperature	DIN 53461/ISO 75 (process Ae)	°C	~ 56	~ 63	–
Coefficient of linear thermal expansion (from -30 °C to +50 °C)	DIN 53752	mm/mK	≤ 0.08	≤ 0.08	≤ 0.08
Thermal conductivity (from 0 °C to +60 °C)	DIN 52616	W/mK	0.10	0.05–0.07	0.05–0.07
U-value* (heat transfer coefficient)	based on DIN EN 674	W/m ² K	8 (mm): 3.1; 10 (mm): 2.6; 13 (mm): 2.4; 19 (mm): 2.0; 24 (mm): 1.7; 30 (mm): 1.4		

Missing values cannot be measured with standardised instrumentation.

Electrical properties	Test method	Unit	Thickness (mm) 4, 5, 6	Thickness (mm) 8, 10, 13	Thickness (mm) 15, 17, 19, 24, 28, 30
Surface resistance	DIN VDE 0303 T3/DIN IEC 93	Ω	10 ¹⁴	10 ¹⁴	10 ¹⁴
Volume resistivity	DIN VDE 0303 T3/DIN IEC 93	Ω · m	10 ¹⁵	10 ¹⁵	10 ¹⁵
Dielectric strength (sample thickness 4 mm)	DIN VDE 0303 T21	kV/mm	≥ 12		
Comparative figure for tracking	DIN IEC 112		CTI 600	CTI 600	CTI 600

Other properties	Test method	Unit	Thickness (mm) 4, 5, 6	Thickness (mm) 8, 10, 13	Thickness (mm) 15, 17, 19, 24, 28, 30
Weighted sound reduction index R _{W1P}	DIN 52210/84	dB	10 (mm): 28; 19 (mm): 31; 24 (mm): 34; 30 (mm): 33		
Water absorption after 7 days	DIN 53495	%	< 0,2	ca. 0,2	ca. 0,2
Fire behaviour	DIN 4102 (D) NFP 92-501 (F) UL 94 (USA) fire index (CH) CSE-RF2/75 A (I)		B 1 (colour 654, thicknesses 4, 5, 6, 10 mm) M 1 (colour 654, thicknesses 4, 5, 6, 10 mm) VO VO (10 mm) 5.3 5.3 5.3 Class 1 (colour 654, thicknesses 4, 5, 6, 10 mm)		
Physiological assessment			generally recognised as safe		
Components used to prevent falls	TRAV		–	–	Category C requirements fulfilled

* These values are recommended for the average apparent density. There may be slight differences depending on the sheet thickness. Subject to modification without prior notice.

Permitted colour difference according to DIN 6174, colour white, ΔE ≤ 1,1 CIELAB units.

Tolerances: Width: 0 + 2.5 mm Length: 0 + 10 mm Linearity: max. 1.5 mm/m Angle at saw cut: 0.5 ° Levelness: max 1.5 mm/m

VISIT US ON THE INTERNET



Further details on the extensive programme offered by the KÖMMERLING Business Unit Semi-Finished Products can be found here:

www.komasheets.com

profine GmbH

KÖMMERLING KUNSTSTOFFE
BU SEMI-FINISHED PRODUCTS

Zweibrücker Str. 200 · 66954 Pirmasens/Germany
Phone +49 (0) 6331 56-0 · Fax +49 (0) 6331 56-2155
info@komasheets.com · www.komasheets.com

**Hallmarks:**

Highest quality, versatile services, and great expertise in PVC sheet production – the following profine sheets have been awarded the pro-K quality seal: KömaCel, KömaTex, KömaPrint, KömaDur, and KömaDeco.

With best regards

KÖMACEL®