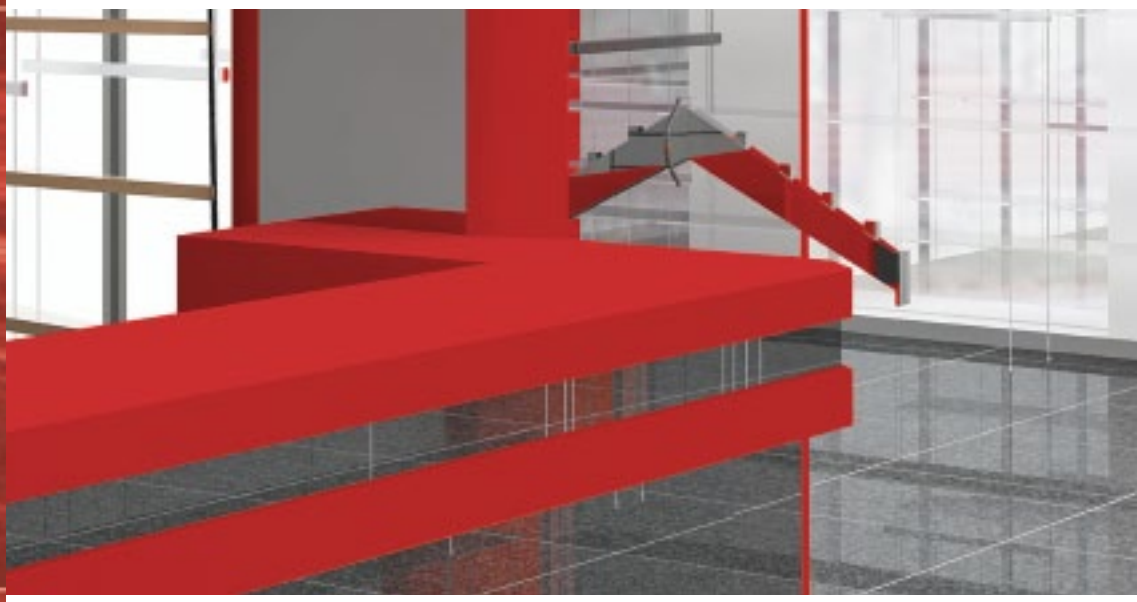
KÖMACEL®
painting. laminating. cladding.

KÖMACEL® integral foam sheets — with outstanding extraneous and intrinsic values



Trade information for:

- Advertising technicians
- Digital printers
- Design & advertising agencies
- Exhibition stand builders
- POS fitters
- Sign makers
- Interior decorators
- Cabinet makers
- Window manufacturers
- Fitters
- Roller-shutter manufacturers
- Conservatory manufacturers

KÖMMERLING®
Business Unit Sheets

KÖMACEL® —the integral foam sheet for universal application!

"It's the combination that does it"

KömaCel is the world's No. 1 plastic sheet made using the Celuka extrusion process. Thirty years' experience with this process and this material have enabled KÖMMERLING to create an integral foam sheet that is perfectly matched to the requirements of the market. KömaCel owes its unique product properties to the combination of a solid top coat and a cellular core, both made of the same material and manufactured in one single operation.

The surface has a solid, smooth outer skin that gives the sheet a silk-gloss finish. This means KömaCel sheets are ideally suitable for screen printing and also for film-laminating. But the advantages of this material are also well known in all branches of industry and the building trade. The sheets boast low thermal conductivity and therefore offer good thermal and sound insulation. Good flexural strength and excellent working properties make these sheets the ideal material for a hugely diverse range of indoor and outdoor applications.

Characteristics:

- Fine-celled foam structure
- Solid, closed and smooth outer skin
- Surface with silk-gloss finish
- Homogeneously dyed throughout

Many applications—one material!

KömaCel PVC-U integral foam sheets are ideally suitable for:

Advertising

For example, for signs, billboards, lettering boards, displays, shop-window displays, large letters, exhibition stands

Building sector

For example, for shopfitting, interior decorating, zones of high humidity (e.g. bathrooms), cladding, roller-shutter boxes, door panels, heat and sound insulation, window elements, non-transparent spandrel infill panels

Miscellaneous

For example, for models, furniture industry, thermoformed parts, photograph lamination, traffic signs for roadworks, chemical, laboratory and food sectors, fitting out goods vehicles/ships

KÖMACEL®

Characteristics to be proud of!

- .Highly suitable for bonding
- .Highly suitable for printing
- .Suitable for film-laminating
- .Highly suitable for lacquering
- .Easy to work
- .Good thermal insulation
- .Good sound insulation
- .Good flexural strength
- .Resistant to chemicals and corrosion
- .Low thermal conductivity
- .Flame-resistant (in thicknesses to 10 mm)
- .Weather-resistant
- .Low water absorption

Delivery programme

Sizes in mm	White 652 thicknesses (mm)	White 654 thicknesses (mm)	Pieces/packaging unit	Pieces/pallet	Versions 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	x
2500 x 1000	10	10	5	60	
3000 x 1000	10	10	3	60	
4000 x 1000	10	10	-	40	
2440 x 1000	10	10	-	50	
3000 x 1250	10	10	2	50	x
4000 x 1250	10	10	-	30	
3000 x 1560	10		2	40	x
4000 x 1560	10		-	30	x
2440 x 1250	13	13	2	40	
3000 x 1250	13	13	2	40	
3000 x 800		19	2	30	
4000 x 800		19	-	30	
3000 x 1250		19	1	30	
4000 x 1250		19	-	20	
3000 x 1560		19	1	20	
3000 x 1250		24	1	20	x
3000 x 1250		30	1	15	

Non-standard lengths and other film-laminated formats are available on request. Each thickness is packaged in small cardboard packaging units.
* Film-laminated sheets are available only as complete pallets.

Exceedingly easy to work!

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

Forming
KömaCel sheets can be bent and folded when heated. Thermo-forming is possible only up to a certain degree

Printing, lacquering and film-laminating
All familiar printing, laminating and lacquering processes are possible

KÖMACEL®

Technical data

Properties	Test method	Unit	Thickness (mm) 4, 5, 6	Thickness (mm) 8, 10, 13	Thickness (mm) 19, 24, 30
Mechanical properties					
(Apparent) Density*	DIN 53479/ISO 1183	g/cm³	0.65–0.80	0.55–0.60	0.50–0.60
Tensile stress at yield (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 (range of elasticity per Hooke)	DIN 53421 (based on)	MPa	> 8	> 3	> 3
Compressive stress at 30%	DIN 53421 (based on)	MPa	> 14	> 7	> 7
Modulus of elasticity	DIN 53452/ISO 527-2/1A/50	MPa	~ 1100	~ 800	~ 800
Impact strength +20 °C	DIN 53453/ISO 179 (based on)	kJ/m²	AV 15*	AV 20*	AV 25*
0°C	DIN 53453/ISO 179 (based on)	kJ/m²	AV 13*	AV 15*	AV 20*
–20 °C	DIN 53453/ISO 179 (based on)	kJ/m²	AV 10*	AV 10*	AV 15*
Ball indentation hardness (132 N/30 s)	DIN 53456/ISO 2039-1	MPa	≥ 15	≥ 12	≥ 25
Shore hardness D	DIN 53505		~ 55	~ 75	~ 77
AV* = average value. Values not stated cannot be measured in accordance with the relevant standards.					
Thermal properties					
Vicat softening temperature	DIN 53460/ISO 306 (process A50)	°C	≥ 75	≥ 75	77
Deflection temperature	DIN 53461/ISO 75 (process A50)	°C	~ 56	~ 63	–
Coefficient of linear thermal expansion α (from –30 °C to +50 °C)	DIN 53752	mm/mK	≤ 0.08	≤ 0.08	≤ 0.08
Thermal conductivity (from 0 °C to +60 °C) λ	DIN 52616	W/mK	0.10	0.05–0.07	
U-value* (heat transfer coefficient)	DIN EN 674 (based on)	W/m²K	10 mm: 2.6	13 mm: 2.4	19 mm: 2.0; 24 mm: 1.7; 30 mm: 1.5
Values not stated cannot be measured in accordance with the relevant standards.					
Electrical properties					
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 of tracking	DIN IEC 112		CTI 600	CTI 600	CTI 600
Other properties					
Weighted sound reduction index R_{W1P}	DIN 52210/84	dB	–	10 mm: 28	19 mm: 31; 24 mm: 33; 30 mm: 34
Water absorption after 7 days	DIN 53495	%	< 0.2	appr. 0.2	appr. 0.2
Fire behaviour	DIN 4102 (D)		B 1 (colour 654, thicknesses 4, 5, 6, 10 mm)		
	NFP 92-501 (F)		M 1 (colour 654, thicknesses 4, 5, 6, 10 mm)		
	UL 94 (USA)		VO	VO (10 mm)	
	Brandkennziffer (fire charac.) (CH)		5.3	5.3	5.3
	CSE-RF2/75 A (I)		Class 1 (colour 654, thicknesses 4, 5, 6, 10 mm)		
	CSE-RF3/77 (I)				
Physiological evaluation			generally recognised as safe		
Components used to prevent falls	TRAV**		–	–	Category C requirements met

* These are standard values that apply to an average density. **Technical Rules for the Use of Safety Glazing.
Minor variations are possible depending on the sheet thickness.

Permissible colour deviation in accordance with DIN 6174, White ≤ 1.1 CIELAB units.

Tolerances:
Thickness (s): ± (0.1 + 0.05 x s) Example at 10 mm = ± 0.6 mm
Width: 0 + 2.5 mm Length: 0 + 10 mm
Rectilinearity: max. 1.5 mm/m Angle at saw notch: 0.5° Levelness: max. 1.5 mm/m

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