



Kömmerling[®]
TODAY FOR TOMORROW



PVC-U RIGID SHEETS FOR ALMOST ALL AREAS

KömaDur[®]

EVEN GOOD THINGS CAN STILL BE IMPROVED ON

You have the choice. We the range.



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, Kömmerling 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. It is not without reason that the SPS product area with it is the global leader in the field of PVC sheets. Always endeavouring to keep on the move, to make the good even better, and by doing so to safeguard its customers’ lasting success. We call this quite simply the “Ever better principle”.

KömaCel
Integral skin-foam sheet for advertising, building and industry

KömaTex
Free skin-foam sheet for advertising

KömaPrint
Free skin-foam sheet for best printing results

KömaDur
PVC-U sheet system for virtually all areas

KömaStyle
Wall cladding system for modern interior design

KömaAlu
Aluminium composite sheet for indoor and outdoor applications

KömaPan
Tongue and groove profile for indoor and outdoor use

KömaSteel
KömaSteel WHITEBOARD
Steel composite sheet for a wide range of applications

KömaEnviro
Recycled PVC sheets



KömaDur®

THE ALLROUND TALENT FOR MANY AREAS

Quality based on experience.

The Kömmerling solution KömaDur is a sheet system of rigid PVC-U. A genuine all-in-one solution for the most diverse requirements. Whether the chemicals industry, the building sector, electrical engineering, exhibitions, or advertising – the five KömaDur variants and their matched material properties are ideally equipped for the most diverse indoor and outdoor applications. In addition, KömaDur scores with properties that make its processing easy and cost effective to boot.

KömaDur is the child of intensive research and development and over fifty years of experience in the extrusion of PVC-U sheets. In all this time, KömaDur has been constantly modified and improved in the face of growing market requirements.

The outcome is rigid PVC-U sheets that are characterised by a homogeneous, smooth, and glossy surface quality. They are resistant to flames, chemicals, and corrosion in compliance with DIN 8061 and to most aggressive media.

KömaDur is also available as an antibacterial variant KömaDur AB. The antibacterial properties offer protection against mould, bacteria, and pathogens. The sheets satisfy the standards demanded by the health authorities (DIN 22196:2011).

KömaDur samples:

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

KömaDur®

Areas of application

ADVERTISING SECTOR

- > Signs
- > Displays
- > Banners
- > Inscription panels
- > Exhibition and showroom stands
- > Shop window decorations
- > Digital printing

OTHER

- > Deep drawn parts
- > Machine building
- > Apparatus and tank construction
- > Electroplating technology
- > Chemical and laboratory engineering
- > Accumulators
- > Photo industry

BUILDING SECTOR












- > Shop and interior finishing
- > Zone of high humidity
- > Air conditioning and ventilation elements
- > Sandwich elements for wall and door panelling
- > Cladding and panelling

ANTIBACTERIAL

- > Professional kitchens and canteens
- > Laundries
- > Healthcare pools and sports school pools
- > Hospitals and retirement and nursing homes
- > Operating rooms
- > Cold stores
- > Clean rooms



Features

-  Surface smooth glossy or matt on one side
-  Very good for printing KömaDur D
-  Protective film on one side
-  Various white hues and colours as well as dark and light grey
-  Good for laminating KömaDur D
-  100% recyclable
-  Normal to increased impact resistance
-  Very good for bonding
-  Active and long antibacterial protection
-  Deep drawing properties
-  Flame resistant
-  Elimination of microbes
-  Suitable for welding
-  Chemical and corrosion resistant
-  Food harmless
-  Grooved and embossed
-  Weatherproof and weather resistant

Overview of areas of application

Area	WA*	WA-M	ES/D	H	AB
Signs	-	+	+	+	-
Displays	-	+	+	+	-
Banners	-	+	+	+	-
Inscription panels	-	+	+	+	-
Exhibition and showroom stands	-	+	+	-	-
Shop window decorations	-	+	+	-	-
Digital printing	-	+	+	+	-
Deep drawn parts	+	-	+	+	+
Shop design	+	+	+	+	-
Interior finishing	+	+	+	+	+
Air conditioning and ventilation elements	+	-	+	+	-
Sandwich elements for wall and door panelling	-	+	+/-	+	-
Cladding and panelling	+	+	+	+	+
Apparatus and tank construction	+	-	-	-	-
Machine building	+	-	+	+	-
Accumulators	+	-	-	-	-
Electroplating technology	+	-	-	-	-
Chemical and laboratory engineering	+	+	+	+	+
Zones of high humidity	+	+	+	+	+
Laundries	+	+	-	-	+
Professional kitchens and canteens	+	+	-	-	+
Hospitals and retirement and nursing homes	+	+	-	-	+
Operating rooms	+	+	-	-	+
Cold stores	+	+	-	-	+
Clean rooms	+	+	-	-	+

+ Suitable
 - Not suitable
 * Colours: Light Grey 112 and Dark Grey 155

Delivery programme

Dimensions (mm)	M 640 White	H 654 White	ES/D 669 White	ES 913 Black	ES 712 Yellow	ES 411 Red	ES 520 Green*	ES 814 Blue	WA 155 Dark grey	WA 112 Light grey	WA 654 AB antibacterial
2000 x 1000 x 1	x		x	x	x				x		
2000 x 1000 x 1,5			x						x	x	
2000 x 1000 x 2	x		x	x	x	x	x	x	x	x	
2000 x 1000 x 3			x	x	x	x	x	x	x	x	
2000 x 1000 x 4			x	x					x		
2000 x 1000 x 5			x	x					x		
2440 x 1220 x 1											x
2440 x 1220 x 2,3											x
2440 x 1220 x 2,5											x
3000 x 1500 x 2		x	x						x	x	
3000 x 1500 x 3		x	x						x	x	
3000 x 1500 x 4		x	x						x	x	
3000 x 1500 x 5											

The PVC sheets are coated with protective film on one side (except WA 112 and WA 155). Protective film is possible for WA 654 AB.
* Colour green 520 only available as a whole pallet. Other colours on request.

Tolerances

Nominal size	Tolerance for Length and Width (mm)
Up to 500 mm	+ 3 / - 0 mm
Over 500 up to 1000 mm	+ 4 / - 0 mm
Over 1000 up to 1500 mm	+ 5 / - 0 mm
Over 1500 up to 2000 mm	+ 6 / - 0 mm
Over 2000 up to 4000 mm	+ 7 / - 0 mm

Technical delivery terms and conditions according to ISO 11833-1
Thickness s: $\pm (0,1 + 0.03 \cdot s)$; on the example of 2 mm = ± 0.16 mm
Perpendicularity tolerance max 2 mm / m
Permitted colour difference according to DIN 6174, pigmented colours: $\Delta L + \Delta H \leq \pm 1.5$ CIELAB units, white hues: $\Delta E \leq 1.2$ CIELAB units
Subject to modifications without prior notice.

Standard colours



White H 654
similar to RAL 9016
M 640, ES/D 669



Black ES 913
similar to RAL 9005



Yellow ES 712
similar to RAL 1021



Red ES 411
similar to RAL 2002



Green ES 520
similar to RAL 6005



Blue ES 814
similar to RAL 5010



Dark grey WA 155
similar to RAL 7011



Light grey WA 112
similar to RAL 9006

All white colours are especially suitable for outdoors. Colour PVC sheets are not UV and weather resistant over protracted periods. The colours are suitable for indoors only.

FIRST CHOICE WHEN QUALITY MATTERS

Ecological manufacture

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

Storage instructions

Always store KömaDur 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.





TECHNICAL DATA

	Standard		Unit			
	Standard	Unit	Value			
Mechanical properties			WA / WA-M	ES / D	H	AB
RApparent density*	DIN EN ISO 1183	g/cm³	- 1,43	- 1,43	- 1,43	- 1,43
Yield stress (tensile strength)	DIN EN ISO 527	MPa	≥ 55	≥ 48	≥ 45	≥ 55
Elongation at tear	DIN EN ISO 527	%	≥ 15	≥ 20	≥ 20	≥ 15
Compressive strength	DIN EN ISO 844	MPa	≥ 70	≥ 65	≥ 60	≥ 70
Modulus of elasticity	DIN EN ISO 527-2/1A/50	MPa	≥ 3000	≥ 2500	≥ 2500	≥ 3000
Flexural strength	DIN EN ISO 178	MPa	≥ 80	≥ 75	≥ 70	≥ 80
Notched impact strength	DIN EN ISO 179-1ePA	kJ/m²	≥ 4	≥ 6	≥ 8	≥ 4
Impact strength	0 °C	DIN EN ISO 179	kJ/m²	No failure	No failure	No failure
	-20 °C	DIN EN ISO 179	kJ/m²	-	No failure	No failure
	-30 °C	DIN EN ISO 179	kJ/m²	-	No failure	No failure
	-40 °C	DIN EN ISO 179	kJ/m²	-	-	No failure
Ball indentation hardness (358 N / 30 s)	DIN EN ISO 2039	MPa	- 100	- 90	- 90	- 100
Thermal properties			WA / WA-M	ES / D	H	AB
Deflection temperature	DIN EN ISO 75	°C	- 68	- 66	- 66	- 68
Vicat softening temperature	DIN EN ISO 306 (Process B50)	°C	≥ 75	≥ 72	≥ 72	≥ 75
Coefficient of linear thermal expansion (from -30° C to +50° C)	DIN EN ISO 11359-2 (Process Ae)	mm/mK	0,08	0,08	0,08	0,08
Thermal conductivity (from 0° C to +60° C)	DIN EN ISO 22007	W/(mK)	0,16	0,16	0,16	0,16
Electrical properties			WA / WA-M	ES / D	H	AB
Dielectric constant E _r (at 1 kHz)	VDE 0303 T4	-	3,4	3,4	3,4	-
Dielectric loss factor tan (at 1 kHz)	VDE 0303 T4	-	0,016	0,016	0,016	-
Surface resistance	DIN VDE 0303 T30 DIN IEC 93	Ω	> 10 ¹⁵	> 10 ¹⁵	> 10 ¹⁵	-
Volume resistivity	DIN VDE 0303 T30 DIN IEC 93	Ω · m	> 10 ¹⁴	> 10 ¹⁴	> 10 ¹⁴	-
Dielectric strength	DIN VDE 0303 T21 1-mm-Sheet	KV/mm	≥ 23	≥ 27	≥ 27	-
Tracking resistance	DIN IEC 112	Level	CTI 600	CTI 600	CTI 600	-
Arc resistance	DIN VDE 0303 T5	Index	2.2.2.2	2.2.2.2	2.2.2.2	-
Other properties			WA / WA-M	ES / D	H	AB
Water absorption after 7 days	DIN EN ISO 62	%	< 0,08	< 0,08	< 0,08	-
Physiological assessment			- generally recognised as safe -			-

* These values are recommended for the average apparent density.

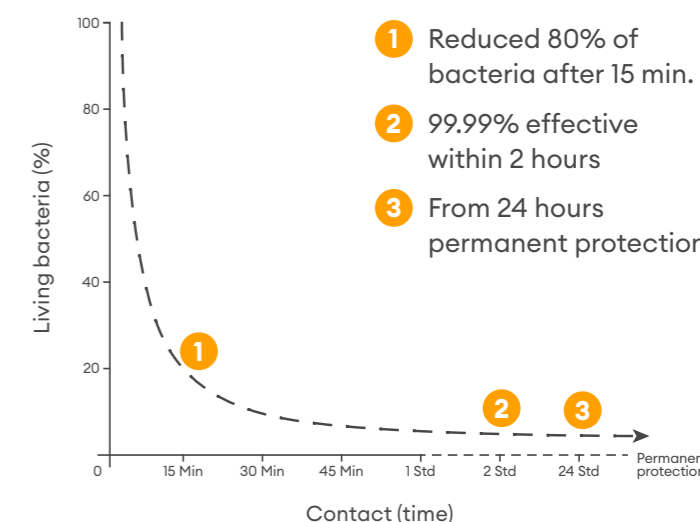
Fire behaviour		Standard			
Unit		WA / WA-M	ES / D	H	AB
DIN EN 13501-1 (EU)	C-s3d0	2,5mm (white) 1-2,5mm (WA 631, 640, 654, 675)	1-3mm (white + colour)	1-3mm	B-s3d0 for 2,25mm
NF P 92-501 (FR)	M1	1mm (WA112/155) 1-3, 4+5mm (WA640) 2-3mm (WA155)	1-3mm (white) 1mm (ES 669)	1-3mm	-
	M2	2-5mm (WA112/155)	1-3mm (colour) 4-5mm (white)	4-5mm	-
BSE 476 : Part 7 (GB)	Class 0	2,5mm (white) 3mm (grey)	-	-	-
	Class 1	1,8-2,5mm (white) 1,8+2,5mm (WA640, 654) 2,5mm (WA675)	-	-	Class 1Y for 2,25mm
	Class 2	1,8mm (WA646)	-	-	-
UL 94 (USA)	V0/5VB	1-5mm (WA white + grey)	1-5mm (colour)	-	-

EFFECTIVE IN MINUTES

The silver ions incorporated in the sheets cause an immediate antimicrobe activity in the sheet. Thus a large number of different microbes are killed directly on contact. Already within 15 minutes the bacteria are reduced by 80%. Within 2 hours there is a permanent protection of 97,5%.

BACTERIA

- > Staphylococcus aureus
- > MRSA
- > E.COLI



Ideal material for many applications

Machining

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

Forming

Stretch drawing, deep drawing, vacuum drawing, blowing, bending, folding, and punching

Welding

Hot gas, heated tool, and folding welding

CHEMICAL RESISTANCE OF PVC

Medium	Concentration (%)	Temperature	
		20 °C	60 °C
Organic chemicals			
Formic acid	10	++	++
Formic acid	100	++	+
Anillin	-	-	-
Ethanol	-	++	+
Petrol-benzene mixture (BV-Aral)	-	-	-
Benzene	-	-	-
Butanol	-	++	++
Cyclohexane	-	++	+
Cyclohexanol	-	++	++
Decalin	-	++	++
Diesel fuel	-	++	-
Diethyl ether	-	-	-
Glacial acetic acid	-	++	-
Acetic acid	10	++	++
Formalin	-	++	+
Glycol	-	++	++
Heating oil	-	++	N.A.
Heptane	-	++	-
Hexane	-	++	++
M-cresol	-	+	-
White spirit	-	++	○
Machine oil	-	++	++
Methanol	-	++	+
Olive oil	-	++	++
Petroleum ether	-	++	+
Turpentine oil	-	++	○
Toluene	-	-	-
Transformer oil	-	++	++
Xylene	-	-	-



Medium	Concentration (%)	Temperature	
		20 °C	60 °C
Anorganic chemicals			
Ammonia	24	++	-
Chromosulphuroc acid	-	++	○
Caustic potash solution	10	++	++
Aqua regia	-	++	+
Sodium chlorite	40	++	++
Sodium hydrosulphite	10	++	++
Sodium hypochlorite	40	++	++
Caustic soda	10	++	++
Caustic soda	40	++	++
Phosphoric acid	10	++	++
Phosphoric acid	85	++	++
Nitric acid	10	++	++
Hydrochloric acid	10	++	++
Hydrochloric acid	35	++	++
Sulphuric acid	10	++	++
Sulphuric acid	96	++	++

++ good resistance (Weight difference under 1%)
 + resistant (Weight difference 1-5%)
 ○ partially resistant (Weight difference 5-10%)
 - not resistant

Other chemicals on request.

Antimicrobial properties	Standard	Unit	Value
Staphylococcus Aureus	DIN ISO 22196:2011	%	99,76
Escherichia Coli	DIN ISO 22196:2011	%	99,82

#KömmerlingForTomorrow

profine GmbH
Kömmerling

Zweibrücker Straße 200
66954 Pirmasens / Germany
Tel. +49 6331 56-0
E-Mail: info@koemmerling.com

www.koemmerling.com

