



KömaDur - solid PVC-U sheets - top for form

Processing information for: manufacturing of sandwich elements . producers of thermoformed parts . manufacturers of baths and equipment . users in industry . electrical sector . window manufacturers . sign manufacturers . POS fitters . trade fair and exhibition stand builders . exhibitors . design and advertising agencies . signage makers . electroplaters



KÖMADUR – A COMPREHENSIVE LINE IN PVC SHEETS

The all-in-one solution for the most diverse of requirements. KömaDur from Kömmerling provides a line of solid PVC-U sheets. Supplied in five versions, KömaDur will satisfy even the most exacting of requirements. Whether for the chemicals, building or electrical engineering industries, the exhibition, trade fairs or advertising sector – the different versions of KömaDur with the respective modifications to their material properties are ideally adapted to meet the most diverse areas of indoor or outdoor applications. Another thing that makes them ideal for users is the ease and efficiency of fabrication.

KömaDur is the result of intensive research and development in addition to over 30 years' experience in extrusion of PVC sheets.

The material has undergone a process of continuous further development and been adapted to the changing requirements of the market.

This results in solid PVC-U sheets, which are characterised by a homogeneous, smooth and glossy surface finish. They are flame-retardant and resistant to chemicals and corrosion in compliance with DIN 8061, as well as to most aggressive media.



AREAS OF APPLICATION

Field	Application				
	M	D	ES	H	WA
Signs	+	+	+	-	-
Display boards	+	+	+	-	-
Banners	+	+	+	-	-
Hoardings	+	-	+	-	-
Photo industry	+	-	-	-	-
Trade fair and exhibition stands	+	+	+	-	-
Window decoration	+	+	-	-	-
Digital printing	+	-	-	-	-
Thermoformed parts	-	+	+	+	+
Shop fittings	+	-	+	+	-
Interior conversion work	+	-	+	+	-
Elements for air-conditioning and ventilation	+	-	+	+	-
Sandwich panels for balustrades and door panels	+	-	+	+	-
Fascias and cladding	-	-	-	+	-
Manufacture of tanks and equipment	-	-	-	-	+
Machine builders	-	-	+	-	+
Accumulators	-	-	-	-	+
Electroplating	-	-	-	-	+
Chemicals and laboratory technology	-	-	-	-	+
Wet and humid areas	+	-	+	+	-

+ suitable for use - unsuitable for use



SPECIAL QUALITIES

Cutting operations

cutting, sawing, turning, filing, drilling, planing, milling, sanding and screwing

Chipless fabrication

deep-drawing, bending and edging, punching

Welding

hot gas and heated tool welding, welding by folding

RESISTANCE TO CHEMICALS

Medium	Concentration	Temperature	
	%	20 °C	60 °C
Organic chemicals			
Formic acid	10	++	++
Formic acid	100	++	+
Aminobenzene	-	-	-
Ethanol	-	++	+
Mixture of petroleum spirit and benzole	-	-	-
Benzene	-	-	-
Butanol	-	++	++
Cyclohexane	-	++	+
Cyclohexanol	-	++	++
Decahydronaphthalene	-	++	++
Diesel fuel	-	++	-
Ethoxyethane	-	-	-
Glacial acetic acid	-	++	-
Acetic acid	10	++	++
Formalin	-	++	+
Glycol	-	++	++
Fuel oil	-	++	no details
Heptane	-	++	-
Hexane	-	++	++
m-Cresol	-	+	-
White spirit	-	++	0
Machine oil	-	++	++
Methanol	-	++	+
Olive oil	-	++	++
Petroleum ether	-	++	+
Oil of turpentine	-	++	0
Methylbenzene	-	-	-
Transformer oil	-	++	++
Dimethylbenzene	-	-	-

++ good resistance diff. in weight below 1%
 + resistance diff. in weight 1 to 5%
 0 limited resistance diff. in weight 5 to 10%
 - no resistance

Further chemicals upon request

Medium	Concentration	Temperature	
	%	20 °C	60 °C
Inorganic chemicals			
Ammonia	24	++	-
Chromo-sulphuric acid	-	++	0
Potassium hydroxide solution	10	++	++
Nitrohydrochloric acid	-	++	+
Sodium chloride	40	++	++
Sodium hydrosulphite	10	++	++
Sodium hypochlorite	40	++	++
Sodium hydroxide	10	++	++
Sodium hydroxide	40	++	++
Phosphoric acid	10	++	++
Phosphoric acid	85	++	++
Nitric acid	10	++	++
Hydrochloric acid	10	++	++
Hydrochloric acid	35	++	++
Sulphuric acid	10	++	++
Sulphuric acid	96	++	++

TOLERANCES

Nominal dimensions	Tolerance for	
	Length (mm)	Width (mm)
up to 500 mm	+ 2.0 / - 1.0	+ 1.5 / - 1.0
over 500 up to 1,000 mm	+ 3.0 / - 1.0	+ 2.0 / - 1.0
over 1,000 up to 1,500 mm	+ 4.0 / - 1.0	+ 2.5 / - 1.0
over 1,500 up to 2,000 mm	+ 5.0 / - 1.0	+ 3.0 / - 1.0
over 2,000 up to 2,500 mm	+ 6.0 / - 1.0	+ 4.0 / - 1.0

Technical purchase specifications in accordance with ISO 11833-1
 Thickness s: $\pm (0.1 \text{ mm} + 0.03 \cdot s)$; example where 2 mm: $\pm 0.16 \text{ mm}$
 Squareness tolerance max. 2 mm/m.

Permissible colour variation in accordance with DIN 6174, colours: $\Delta L + \Delta H \leq 1.5$ CIELAB units, white shades: ≤ 1.2 CIELAB units

TECHNICAL SPECIFICATIONS SUBJECT TO CHANGE

KÖMADUR | M

CHARACTERISTICS






-  matt finish, on one side
-  normal impact resistance
-  suitable for deep-drawing
-  colour white M 640 (similar to RAL 9003)
-  flame-retardant
-  good for welding
-  very good results in bonding
-  extremely resistant to weathering and light fast
-  resistant to chemicals and corrosion
-  100% recyclable

AREAS OF APPLICATION

- signs
- banners
- hoardings
- trade fair and exhibition stands
- window decoration
- display boards
- digital printing
- shop fitting
- interior conversion work
- wet and humid areas
- elements for air-conditioning and ventilation
- sandwich panels for balustrades and door panels
- photo industry

KÖMADUR | D


CHARACTERISTICS

-  smooth glossy surface
-  increased impact resistance
-  no difficulties in deep-drawing
-  colour white D 669 (similar to RAL 9003)
-  flame-retardant
-  excellent print qualities
-  good results from film coating
-  resistant to weathering and light fast
-  laminated with protective film on one side
-  100% recyclable

AREAS OF APPLICATION

- signs
- banners
- hoardings
- display boards
- window decoration
- trade fair and exhibition stands
- thermoformed parts









KÖMADUR | ES**CHARACTERISTICS**

-  smooth glossy surface
-  increased impact resistance
-  best deep-drawing quality
-  colour white ES 669 (similar to RAL 9003) and various shades of colours
-  flame-retardant
-  white colour especially for use outdoors
-  colours for use indoors
-  resistant to weathering and light fast
-  laminated with protective film on one side
-  100% recyclable

AREAS OF APPLICATION

- signs
- banners
- hoardings
- trade fair and exhibition stands
- window decoration
- display boards
- shop fitting
- machine builders
- interior conversion work
- wet and humid areas
- fascias and cladding
- sandwich panels for balustrades and door panels
- elements for air-conditioning and ventilation
- thermoformed parts (highest degree of reduction)

KÖMADUR | H**CHARACTERISTICS**









-  smooth glossy surface
-  extremely impact-resistant, for low outside temperatures
-  well suited for deep-drawing
-  colour white H 654 (similar to RAL 9016)
-  flame-retardant
-  resistant to weathering and light fast
-  laminated with protective film on one side
-  100% recyclable

AREAS OF APPLICATION

- shop fitting
- interior conversion work
- wet and humid areas
- elements for air-conditioning and ventilation
- fascias and cladding
- thermoformed parts
- sandwich panels for balustrades and door panels

KÖMADUR | WA

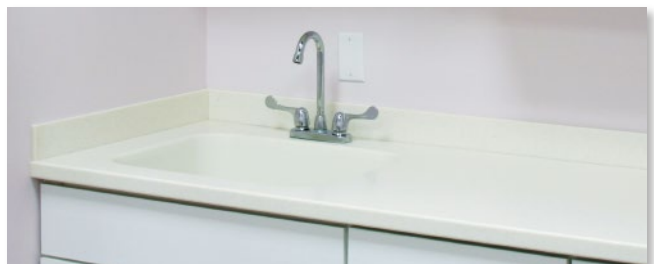
CHARACTERISTICS

-  normal impact resistance
-  suitable for deep-drawing
-  flame-retardant
-  colour WA 155 dark grey (similar to RAL 7011) and colour WA 112 light grey (similar to RAL 7035)
-  good for welding
-  very good results in bonding
-  resistant to chemicals and corrosion
-  100% recyclable

AREAS OF APPLICATION

- thermoformed parts
- manufacture of tanks and equipment
- accumulators
- electroplating
- chemicals and laboratory technology
- machine builders

EXAMPLES OF APPLICATION



TECHNICAL DATA

	Norm	Unit	Value				
Mechanical properties			M	D	ES	H	WA
Bulk density*	DIN 53479 / ISO 1183	g/cm ³	~ 1.43	~ 1.43	~ 1.43	~ 1.43	~ 1.43
Yield stress (tensile strength)	DIN 53455 / ISO 527	MPa	> 45	≥ 50	≥ 48	≥ 45	≥ 55
Elongation at tear	DIN 53455 / ISO 527	%	> 20	≥ 15	≥ 20	≥ 20	≥ 15
Flexural strength	DIN 53452 / ISO 178	MPa	≥ 80	≥ 75	≥ 75	≥ 70	≥ 80
Compressive strength	DIN 53454 / ISO 3605	MPa	≥ 70	≥ 65	≥ 65	≥ 60	≥ 70
Modulus of elasticity	DIN 53457 / ISO 527-2/1A/50	MPa	> 2,500	≥ 2,500	≥ 2,500	≥ 2,500	≥ 3,000
Notched impact strength	DIN 53453 / ISO 179-1ePA	kJ/m ²	≥ 4	≥ 6	≥ 6	≥ 8	≥ 4
Impact resistance	DIN 53453 / ISO 179	kJ/m ²					
0 °C			without rupture	without rupture	without rupture	without rupture	without rupture
-20 °C			-	without rupture	without rupture	without rupture	-
-30 °C			-	-	without rupture	without rupture	-
-40 °C			-	-	-	without rupture	-
Ball indentation hardness (358N/30s)	DIN 53456 / ISO 2039	MPa	~ 100	~ 90	~ 90	~ 90	~ 100
Shore hardness D	DIN 53505		78	80	80	78	82
Thermal properties			M	D	ES	H	WA
Vicat softening temperature	DIN 53460 / ISO 306 (B50 method)	°C	≥ 75	≥ 72	≥ 72	≥ 72	≥ 75
Dimensional stability when exposed	DIN 53461 / ISO 75	°C	~ 68	~ 66	~ 66	~ 66	~ 68
Coefficient of linear expansion -30 °C to + 50 °C	DIN 53752 (Ae method)	mm/mK	0.08	0.08	0.08	0.08	0.08
Thermal conductivity in the range from -0 °C to + 60 °C	DIN 52612	W/mK	0.16	0.16	0.16	0.16	0.16
Electrical properties			M	D	ES	H	WA
Dielectric constant Er (at 1 kHz)	VDE 0303 T4	-	3.4	3.4	3.4	3.4	3.4
Dielectric loss factor tan δ (at 1 kHz)	VDE 0303 T4	-	0.016	0.016	0.016	0.016	0.016
Surface resistivity	DIN VDE 0303 T30 DIN IEC 93	Ω	> 10 ¹⁵	> 10 ¹⁵	> 10 ¹⁵	> 10 ¹⁵	> 10 ¹⁵
Volume resistivity	DIN VDE 0303 T30 DIN IEC 93	Ω · m	> 10 ¹⁴	> 10 ¹⁴	> 10 ¹⁴	> 10 ¹⁴	> 10 ¹⁴
Dielectric strength	DIN VDE 0303 T21 1 mm sheet	kV/mm	≥ 23	≥ 27	≥ 27	≥ 27	≥ 23
Tracking	DIN IEC 112	Phase	CTI 600	CTI 600	CTI 600	CTI 600	CTI 600
Arc resistance	DIN VDE 0303 T5	Indicator	2.2.2.2	2.2.2.2	2.2.2.2	2.2.2.2	2.2.2.2
Other characteristics			M	D	ES	H	WA
Water absorption after 7 days	DIN 53495	%	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Fire behaviour	DIN 4102 - B 1		-	1-2 mm	1-2 mm		1-3 mm
	NFP 92-501/M 1 (F)		1-6 mm	1-2 mm	1-2 mm	-	1-2 mm
	UL 94 (USA) File E100599		-	-	≥ 1 mm	-	≥ 1 mm
	Fire Index (CH) 5.2		-	-	-	≥ 1 mm	-
	CSE-RF2/75 A (I) EC/VO 1935/2004	Class 1	-	-	1-3 mm	-	-
Physiological assessment			not harmful				

MINOR DISCREPANCIES MAY OCCUR DEPENDING ON THE COLOUR. SUBJECT TO CHANGE WITHOUT NOTICE!

*These figures are approximate values for average bulk density.

RANGE OF PRODUCTS

Dimensions and thicknesses (mm)	M 640 White RAL 9003*	D 669 White RAL 9003*	ES 669 White RAL 9003*	ES 913 Black RAL 9005*	ES 712 Yellow RAL 1021*	ES 411 Red RAL 2002*	ES 520 Green RAL 6005*	ES 814 Blue RAL 5010*	H 654 White RAL 9016*	WA 155 Iron Grey RAL 7011*	WA 122 Light Grey RAL 9006*
2,000 x 1,000 x 1	x	x	x	x	x	x				x	x
2,000 x 1,000 x 1.5		x	x	x							x
2,000 x 1,000 x 2	x	x	x	x	x	x	x	x	x	x	x
2,000 x 1,000 x 3		x	x	x	x	x	x	x	x	x	x
2,000 x 1,000 x 4		x	x	x					x	x	x
2,000 x 1,000 x 5		x	x	x						x	x
2,000 x 1,000 x 6		x	x							x	x
2,000 x 1,000 x 8			x						x	x	x
2,000 x 1,000 x 10			x							x	x
2,000 x 1,000 x 12										x	
2,000 x 1,000 x 15										x	
2,000 x 1,000 x 20										x	
2,000 x 1,000 x 25										x	
2,000 x 1,000 x 30										x	
3,000 x 1,500 x 2		x	x						x	x	x
3,000 x 1,500 x 3		x	x						x	x	x
3,000 x 1,500 x 4		x	x						x	x	x
3,000 x 1,500 x 5		x	x							x	x
3,000 x 1,500 x 6		x	x						x	x	x
3,000 x 1,500 x 8			x							x	x
3,000 x 1,500 x 10										x	x
3,000 x 1,500 x 12										x	
3,000 x 1,500 x 15										x	
3,000 x 1,500 x 20										x	

KÖMADUR®

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Wide variety of products to meet every
requirement: **www.komasheets.com**



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