



**KOMATEX**<sup>®</sup>

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**KOMATEX**<sup>®</sup> PVC-U plastic sheets

Trade information for:

- Decorators
- Advertising technicians
- Digital printers
- Design & advertising agencies
- Exhibitors
- Exhibition stand builders
- POS fitters
- Sign makers
- Modellers and prototype builders



 **KOMMERLING**<sup>®</sup>



## The Versatile, Closed-cell, Rigid Foam PVC Sheet for Graphics, Display and Industrial Applications

Suitable for a virtually unlimited range of applications, PVC is one of the oldest and most developed synthetic materials. For more than 100 years, Kommerling has been dedicated to developing PVC, specifically to manufacturing high-quality profiles and sheeting from rigid PVC.

Komatex® features a closed-cell, matte-finish surface with a fine cell structure. It will fit the requirements for a multitude of applications, from substrates for graphics, point-of-purchase displays and backers for channel letters to wood replacement. Experience has shown that Komatex is the highest-quality PVC sheet available.

### Characteristics and Benefits

Komatex is the product of choice for these application requirements:

- Chemical and corrosion resistance
- Moisture resistance, low water absorption
- Low flammability (UL-940VO) – perfect for trade shows and exhibit halls
- Thermal and sound insulation – absorbs vibrations and oscillations
- Matte finish that readily accepts most inks, paints and vinyls
- Easy fabrication with most common tools
- Bonds easily to similar and various other substrates
- Suitable for the majority of interior applications; can be use in limited exterior applications

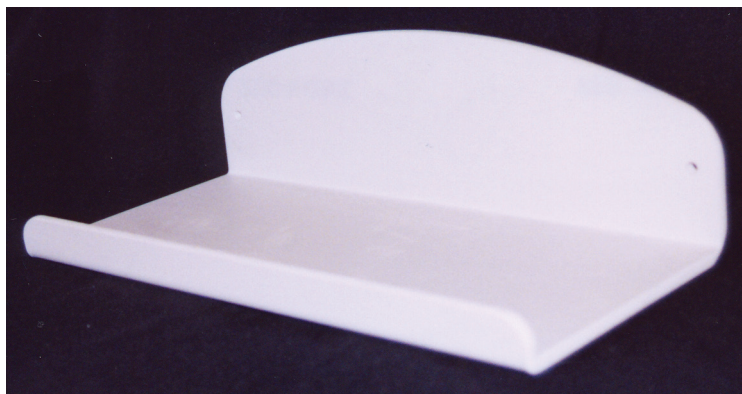
Komatex sheets are not harmful to human health or the environment in manufacturing, applications or disposal. Komatex is free of lead, cadmium and barium. All Kommerling products comply with national and international regulations relating to the environment.

It is not recommended to laser cut Komatex.

### Komatex® Applications:

- Substrate for signs – easily screen printed, painted, laminated; ideal for vinyl letter application
- Exhibit and trade-show booths
- Point-of-purchase and 3D displays
- Photo mounting
- Arts and crafts
- Dimensional lettering
- Marine
- Refrigeration
- Vehicle manufacturing
- Theater and stage sets
- Models, architectural prototypes
- Wood replacement

To learn more about Komatex and its outdoor use or to see more examples of finished projects, visit [www.kommerlingusa.com](http://www.kommerlingusa.com) or call **1.800.330.2239**.



## Technical Values

For applications requiring more detailed technical data, please contact our specialists.

Properties	Testing Method	Unit	Values	Values
<b>Mechanical</b>				
Apparent density* DIN 53 479	g/cm <sup>3</sup>	0.5	0.7	
Tensile strength	DIN 53 455	N/mm <sup>2</sup>	12	20
Elongation at tear	DIN 53 452	%	15	15
Flexural strength	DIN 53 455	N/mm <sup>2</sup>	20	30
Compressive strength	DIN 53 421	N/mm <sup>2</sup>	>3.0	>3.0
(range of elasticity) (serving as a basis)				
Compressive stress at 30%	DIN 53 421 (serving as a basis)	N/mm <sup>2</sup>	>6.5	>13
Modulus of elasticity	DIN 53 457 (similar to)	N/mm	850	1100
Impact strength	DIN 53 453	kJ/m <sup>2</sup>	20	15
Shore hardness D DIN 53 505		48	55	
<b>Thermal</b>				
Vicat softening temp.	DIN 53 460	°C	78	75
Vicat A				
Temp. of deflection under load acc. To ISO 75 (HDT)	DIN 53 461	°C	68	60
Coefficient of linear thermal expansion $\alpha$ (-30° - 50°C)	DIN 53 752	mm/m	0.08	0.08
Thermal conductivity (0° - 60°C)	DIN 53 616	W/mK	0.06	0.10
<b>Electrical</b>				
Surface resistance DIN VDE 0303 T3	$\Omega$	6 x 10 <sup>14</sup>	>1 x 10 <sup>14</sup>	
Volume resistivity	DIN VDE 0303 T3	$\Omega$ x cm	>10 <sup>16</sup>	4 x 10 <sup>15</sup>
Dielectric constant Ed	DIN VDE 0303 T2	kV/cm	5.0	16
Dielectric constant Er (at 1 kHz)	DIN 53 484 T2		1.6 ± 0.5	2.5
Dielectric dissipation factor tan $\delta$ (at kHz)			100	48
Comparative figure of tracking 600	DIN 53 483 T2 DIN IEC 112		0.012 CTI 600	0.016 CTI
<b>Other</b>				
Water absorption after 7 days	DIN 53 495	%	<0.3	<3.0
Fire behavior	DIN 4102 (D) UL 94 (USA) NFP 92-501 (F)	1 – 6 mm $\geq$ 2 mm 2 – 6 mm (3 – 6 mm colored)		B1 VO M1
	VKF (CH) VKF (CH) Italy (I)	2 – 6 mm 10 mm 2 – 6 mm	V.3	V.3 Class 1 Yes
Allowable for contact with foodstuff				

\*These are standard values that apply to an average density. Small variations depending on the sheet thickness are possible. Technical specifications are subject to change.



## Komatex® Sheet Sizes

### White

Thickness		Skid Qty	Stock Size
mm	inches		
1	1/128	200	4 x 8
1	1/128	200	4 x 10
2	5/64	200	4 x 8
2	5/64	140	4 x 10
2	5/64	140	5 x 10
3	1/8	200	39 x 96
3	1/8	150	4 x 8
3	1/8	125	4 x 10
3	1/8	125	5 x 8
3	1/8	100	5 x 10
3	1/8	80	80" x 10'
4	5/32	100	4 x 8
4	5/32	90	4 x 10
4	5/32	70	5 x 10
5	3/16	90	4 x 8
5	3/16	70	4 x 10
5	3/16	60	5 x 10
6	1/4	75	4 x 8
6	1/4	60	4 x 10
6	1/4	60	5 x 8
6	1/4	50	5 x 10
6	1/4	50	80" x 10'
8	5/16	50	4 x 8
10	3/8	45	4 x 8
10	3/8	45	4 x 10
12.7	1/2	40	4 x 8
12.7	1/2	30	4 x 10
19	3/4	20	4 x 8
19	3/4	20	4 x 10
25	1	20	4 x 8

### Black

Thickness		Skid Qty	Stock Size
mm	inches		
2	5/64	200	4 x 8
3	1/8	150	4 x 8
3	1/8	125	4 x 10
3	1/8	125	5 x 8
3	1/8	100	5 x 10
6	1/4	75	4 x 8
6	1/4	60	4 x 10
6	1/4	60	5 x 8
6	1/4	50	5 x 10
10	3/8	45	4 x 8
12.7	1/2	40	4 x 8
12.7	1/2	30	4 x 10
19	3/4	20	4 x 8

### Colors

Thickness		Skid Qty	Stock Size
mm	inches		
3	1/8	150	4 x 8
6	1/4	75	4 x 8

Visit our website for standard color information.

Kommerling USA is the premier manufacturer of custom run-to-size sheets. Contact your sales representative about our low minimums and quick lead-times.



To request a free swatch book of the 14 available colors or for more information, visit [www.kommerlingusa.com](http://www.kommerlingusa.com) or call 1.800.330.2239.



# Working with Komatex®

## Machining

Komatex® sheets can be easily and quickly worked with the standard tools used to process wood and metal. To prevent breaking and splitting, the tools must be sharp. Generally, you should use a high cutting speed and slow, continuous forward feed. Normally, it is not necessary to cool the cutting tools, but in special cases, compressed air is sufficient. Deep notches and sharp edges can cause premature breaking of the material if too much weight is placed on the affected area.

## Forming

Deep-drawing and blowing of Komatex sheets is possible only to a limited extent. This is also true of bending and folding. The sheets can be deep-drawn, bent and, by warming, beveled under certain conditions. Deformations under thermal impact are possible to a limited degree (e.g., bending, beveling with notch, etc.)

## Welding

Komatex can be welded by normal procedures, such as hot gas, heated tool, bending and welding, friction, etc., using common equipment. Before welding, the part of the sheet to be welded must be properly cleaned with a cleaning agent or by machining. After welding, finishing may be necessary. Komatex should be worked very carefully to ensure that the foam structure does not collapse.

## Bonding

Komatex will accept most adhesives for rigid PVC. The sheet surface must be clean, dry and free of oil or grease. When choosing an adhesive, consider the strength required, the temperature the sheet will be exposed to, cure time and environmental safety.

When bonding Komatex to itself, the same solvent-type adhesives used for rigid PVC will provide excellent results. We recommend Lord and IPS Weld-on products for most applications in which bonding to Komacel or another substrate is required. As always, we suggest a test piece prior to full production.

## Painting and Screen Printing

Komatex has a superior surface for screen printing. This method will give outstanding results with a crisp, clear, colorful finish. Paints also can be used to achieve similar results. No primers are required when using either method. UV, solvent-based and acrylic inks and paints can be used with Komatex to gain great results. To get proper adhesion, it is important that the sheets are clean and free of all dust, oils and grease before printing or painting. Isopropyl alcohol removes most foreign objects. Please consult your local distributor or ink manufacturer to find the best inks and paints to use with Komatex.

### Nazdar Ink Recommendations

9700, S2, PP, GV, 3200 and 3600 series.

### Sericol Ink Recommendations

#### Solvent Base:

Plastijet XG	Polyplast PY
Plastec	Polyplast Matte (flat)
Tech Mark	GVYL

#### UV Inks:

Fascure	Plastical
Uviflex	Mr Matte (flat)
UVRP	Gloss Poly

Inks are listed in order of preference.

## Laminating

Laminating Komatex to other material should present no problems. Common resin-based adhesives or mastics can be used. For best results, Komatex must be clean and free of dust and dirt. Check with the adhesive manufacturer to be sure it will work with Komatex PVC.

## Fixing and Storage

With a coefficient of linear thermal expansion  $\alpha = 0.08 \text{ mm/m}^\circ\text{C}$ , Komatex sheets vary more in length than wood or metal. When you install screen-printed advertising boards or fix curtain walling and cladding, possible sheet expansion has to be taken into account. The appropriate fixing method depends on the application.

Always store Komatex sheets on a dry and even surface in heated rooms at  $15 - 20^\circ\text{C}$  ( $59 - 68^\circ\text{F}$ ). Sheets inside the packing must not be exposed to weathering and solar radiation.

## Tolerances

Thickness (s)

$\pm(0.1 \text{ mm} + 0.05 \times s)$

Width

$0 / + 0.25 \text{ mm}$  (0.01 in.)

Length

$0 / + 10 \text{ mm}$  (0.39 in.)

Rectangularity

$\leq 2.0 \text{ mm/m}$  (0.08 in.)

Linearity

max.  $1.5 \text{ mm/m}$  (0.06 in./yd.)

Evenness

max  $1.5 \text{ mm/m}$  (0.06 in./yd.)

Colors

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Permissible color difference according to DIN standard 6174, color white,  $\geq 1,2$  CIELAB units.

Permissible color difference according to DIN standard 6174, colored,  $\geq 2,5$  CIELAB units.

# KOMATEX<sup>®</sup>

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## ASTM E84-03 Test Results

Property	Flame Spread Index	Smoke Developed Index
Komatex <sup>®</sup> - White	45	850
Komatex - Black	10	400
Komatex - Color	15	350

The information contained here is supplied in good faith and represents values obtained through empirical observation and as indicated by our own experience. The figures given are to be understood as reference figures and may vary according to processing methods and environmental conditions.

This information shall not be construed to be legally binding. In particular, it shall not exempt the purchaser from taking responsibility for testing the product supplied so as to determine its suitability for the intended application.

Consequently, this information shall not constitute an independent contractual relationship nor a warranty of the properties indicated. In the event, however, that liability should be at issue, it shall be precluded insofar as premeditation or gross negligence cannot be substantiated.

## LIGHTWEIGHT RIGID FOAMED PVC SHEETS

To request a free swatch book or for more information, visit [www.kommerlingusa.com](http://www.kommerlingusa.com) or call 1.800.330.2239.



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