



# RÖCHLING

## Engineering Plastics

Phone: 800-541-4419

Fax: 704-922-7651

### Contacts:

Maggie, Matt, Becky, Chris, Ron  
Christy, John & Brian

### Web Page:

<http://www.roechling-plastics.us>



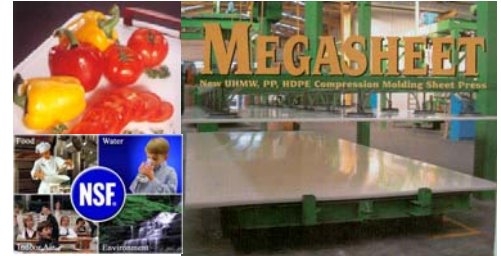
Röchling's New Mechanical & High Performance Materials Plant, Logistics Center and Corporate Offices in Dallas, NC.



Röchling's UHMW and HDPE Manufacturing Plant in Gastonia, NC.



Röchling's UHMW and Printable PE Plant in Orangeville, ON Canada.



### Polyolefin Products:

#### Polystyrene G High Density Sheet:

- Sheet: 1/16" to 1-1/2" in stock in 48" x 96" & 120" and 60" x 96" & 120" sheet in natural & black
- Above 1-1/2" to 4" run to order 1 week delivery.
- Above 4" to 7" on request
- Cut-Rite HDPE Cutting Board: Stocked in Natural 3/8" to 1" sheet.
- Special colors and size runs available on special requests. Sheet up to 120" wide available on request.

#### Polystyrene P Polypropylene (Hompolymer & Copolymer) Sheet:

- 1/16" to 1-1/2" in 48" x 96" & 120" and 60" x 96" & 120" Stocked in natural, European Gray & White/White
- Over 1-1/2" to 6" available in 1 week delivery
- Special colors on special order. Sheet available up to 120" wide and with fabric backing on request.

#### Polystyrene PVDF Sheet:

- 1/4"-2" 48" x 120" in Kynar 740, 2850 Flex & Solvay Solef resins.
- 3 - 4mm in 1.5m x 3m with fabric backing
- Pressed sheet available up to 4" Extruded Sheet up 120" wide.

Represented By:

**G S Sales**

Growing the Plastics Market Through Education

**George Southard, CPMR**

9765 Conifer Ct.  
Fishers, IN 46037  
Web Site: [www.gssales.com](http://www.gssales.com)

Phone: 317-595-6750  
Fax: 317-595-6755  
Email: [george@gssales.com](mailto:george@gssales.com)  
Cell Phone: 317-509-2258

### Polystyrene M UHMW Products Sheet:

1/32" to 7" in standard or run to size to meet your requirements.

#### Cut to Size:

One to 1,000 pieces of Virgin or Reprocessed Polystyrene UHMW All other grades of Polystyrene UHMW Sheet, HDPE & Polypropylene cut to size in sheet yields only.

#### Rod:

1/4" to 10" Diameters

#### Extruded Profiles & Tubes:

Röchling offers a number of standard profiles & tubes. (See Following)

We also manufacture a number of custom extrusions to customer specifications & color requests.

Röchling Engineering Plastics is one of the world's leading manufacturers of Polyolefin, Mechanical & High Performance Plastics. Röchling bought Impact Plastics (the country's first manufacturer of UHMW sheet) in 1988. Since that time they have Continued to grow and innovate to become one of the 2 largest manufacturers in the United States. ide and 2" thick.

Röchling Engineering Plastics expanded and combined with their Sustaplast division in October of 2008 to better service our customers with a complete line of polyolefin and engineered plastics to better service our customers needs and requirements.

Aggressive freight policies benefit our distributors selling our complete line of products.



### Now Available! 3<sup>rd</sup> Press 96" x 240"

◆ **Mega Sheet® Polystyrene UHMW, PP & HDPE in Sheet Sizes up to 96" x 240"**

◆ **Standard Sheet Available in:**

48" x 96"	48" x 120"	60" x 96"
60" x 120"	60" x 240"	48" x 144"
48" x 240"	96" x 96"	80" x 80"

**Custom Sizes on Request !!**

These and many items are coming from



◆ **High Service**

◆ **Top Quality**

◆ **Competitive Prices**

G S Sales Represents Röchling in IL, IN, MI, MO & OH

### Grades of Polystyrene UHMW:

- |                                  |  |
|----------------------------------|--|
| • Virgin UHMW                    | • MPG-Premium Grade Blue                     |
| • Reprocessed UHMW-Green & Black | • Titanium Filled                            |
| • Anti-Static                    | • X-Linked UHMW Premium Grade                |
| • UV Stabilized                  | • Polystyrene Extreme                        |
| • Molly-Filled                   | • Colored UHMW Many Standard & Custom colors |
| • Steel Filled                   | • Rubber-backed UHMW                         |
| • Oil-filled UHMW                | • Polystyrene Matrox                         |
| • High Temp Asphalt Liner        |  |
| • MSHA Approved                  |  |
| • EHS UHMW                       |  |



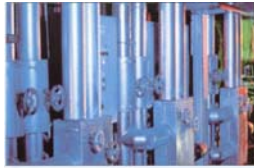
**Overview of Röchling Engineering Plastics  
Mechanical & High Performance Plastics !**



Röchling Sustaplast combined with Röchling Engineered Plastics in October of 2008 to become Röchling Engineering Plastics.

Röchling Engineering Plastics is the world's largest manufacturer of both Acetal basic shapes and Cast Nylon products. **Röchling stocks a full inventory of Acetal, Nylons (cast & extruded), PEEK, Delrin AF Blend, PET, PBT, PC (Machine Grade & Optical Grade), ABS, Ultem, PPS, PVDF and many other High Performance Plastics in sheet, rod and slab.** We quote custom runs on materials with additives, colors special materials we can quote you and turn orders around customs quickly.

Our Dallas, North Carolina Facility has the industries most modern and efficient equipment for manufacturing Mechanical & High Performance Plastics Stock Shapes.



Casting



Extruding



Calendering



**Röchling Offers You More !**

- Order all Products from one Inside Sales Representative
- Ship all products on one shipment; UHMW, Polyolefins, Mechanical and High Performance Plastics
- Take Advantage of Röchling's New very liberal Freight Policy. Combine all your products for savings on freight!
- Quick Deliveries from our new Logistics Center in Dallas, NC.



**Acetal{Sustarin®} is Available in Natural & Black-Delrin & Copolymer Acetal Sheet Sizes:**

1/8" to 1/2" Thick — in 48" x 96" & 48" x 120" sheet (also sold in increment of 24" x 48")

**Acetal Rod Sizes:**

1/4" Dia to 6" Dia.-Available in 10 ft. long  
7.00" Dia to 8" Dia.-Available in 3 ft. long  
9.0" Dia. to 12.0" Dia-Available in 39" long

**Extruded Nylon 6/6{Sustamid® 6/6} Natural & Molly-Filled {Black}**

**Extruded Nylon 6/6 Sheets:**

1/8" to 2" Thick - in 48" x 96" or 48" x 120" (also in increment of 24" x 48")

**Extruded Nylon 6/6 Rod:**

1/4"Dia. to 6" Dia. – in 10 Ft Long

**HPM's Rod & Plate PEEK, Ultem, PET, PPS, Delrin® AF Blend, ABS, PC & Many Other HPM's**

Rod: 1/4" to 4.0" Dia. – in 10 Ft. Long  
Plate: 1/4" - 4" in 24" x 48" & 48" x 120"

**Cast Nylon {Sustamid®} is Available in Natural, Molly-Filled, Blue & Oil-Filled**

**Cast Sheet:**

1/4" to 4" Thick available in 24" x 48", 24" x 96", 48" x 96" (actual size 50" x 100"), 48" x 72" or 48" x 48". 4" to 6" Thick available — in 42" x 48"-we will cut to size.

**Cast Rod:**

1-3/8" Dia. to 5.0" Dia. — in 10 Foot Lengths  
5-1/2" Dia. to 15.0" Dia. — in 4 Foot Lengths  
15" Dia. to 23-1/2" Dia. — in 2 Foot Lengths

**If you don't see a product you require regularly call us we will consider running and stocking for you.**

**We Can Run All Extruded Products to Custom Lengths to Improve Your Yields. Minimums Required.**



Sustaplast materials are ultrasonically tested to assure they are void free.

**Röchling Engineering Plastics Is The World Leader in Mechanical Plastics & High Performance Plastics Technology !  
Quality & Efficiency !**

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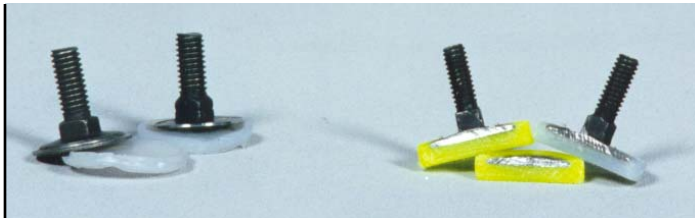
**Web Page:**

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**Improves the UHMW Capped Bolt !**

Röchling Engineered Plastics is now offering a UHMW capped elevator bolt. This UHMW is actually molded right to the elevator bolt, with a new patented process.

Unlike competitive products, it is impossible for this fastener to fail, by the cap coming off the fastener. Past UHMW capped bolts have used a machined cap applied to the bolt through heating and allowing the cap to shrink around the top of the bolt as it is cooled. This process often resulted in the cap coming off in application. The new Röchling fastener is molded and will not come off.

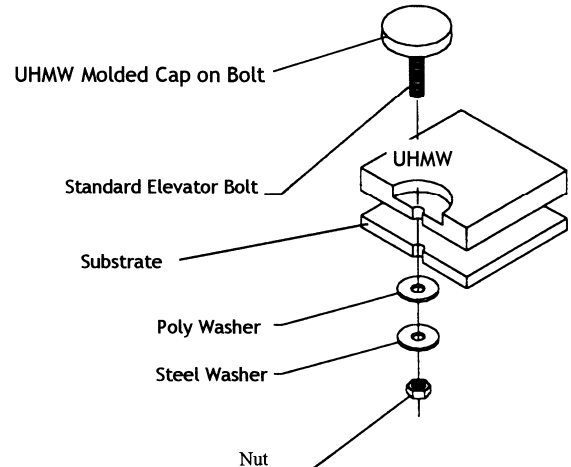


The difference is real. On the left, above is the competition's capped bolt, the caps come off easily. On the right is the Röchling bolts with the UHMW molded onto the bolt. Which would you prefer on your lining job ?

Please call Röchling for all your Polyolifin requirements. Whether it is UHMW, HDPE or PP we have large inventories to service your needs. We can provide you a number of formulations and sizes to meet all your needs for these products with a quality sheet in a timely manner.

Röchling Capped UHMW bolts are available from stock in natural 1/4"-20 bolts in lengths from 1" to 2". On special request of 100 bolts or more we will run 3/8"-16 bolts and bolts made of galvanized or stainless steel.

We will run special colors for orders of 1000 or more bolts. Please call for price and delivery. We also offer counterbore tools for thicknesses of 1/4" through 1" sheet and universal counterbore tools for thicknesses greater than 1".



When ordering please advise us of your liner thickness. To determine the length of bolt you require, please add the thickness of the substrate plus 3/4" so that the thickness of the liner is taken into account. Please consider that all lengths of elevator bolts only have no more than 1" of thread.

Also, remember to order the nuts, steel washers and plastic washers for your capped elevator bolt assembly. The plastic washer allows for movement of the liner and will prevent corrosion of the washer and nut to the substrate.

Delivery is from stock to 3 weeks maximum.





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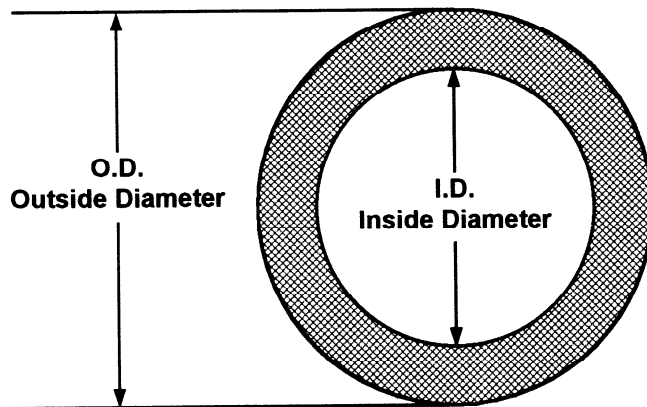
Röchling is adding to there profile offering constantly. Call to see if other standard are available. We run custom profile daily. Let us quote yours.

### Röchling Polystone M UHMW-PE Standard Extruded Profiles

<b>P001</b> 	<b>P003</b> 	<b>P009</b> 
<b>P010</b> 	<b>P012</b> 	<b>P015</b> 
<b>P016</b> 	<b>P017</b> 	<b>P018</b> 



Call Us On Your Custom Profile Requirements !



Tubes are manufactured oversize on the O.D. and undersize on the I.D., so you can finish them to the nominal dimensions.

O.D.	I.D.	Wall	# per foot
2"	1-1/2"	1/4"	.592
4"	3-1/2"	1/4"	1.98
4-1/2"	3-7/8"	5/16"	1.72
4-1/2"	4"	1/4"	2.29
5-1/8"	2-3/8"	1-3/8"	7.00

O.D.	I.D.	Wall	# per foot
5-3/8"	4-3/8"	1/2"	3.19
5-3/8"	4-3/4"	5/16"	2.07
7-1/8"	6-1/2"	5/16"	2.78

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Growing the Plastics Market Through Education






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Phone: 317-595-6750  
Fax: 317-595-6755  
Email: [george@gssales.com](mailto:george@gssales.com)  
Cell Phone: 317-509-2258

# G S Sales Factoid

<b>G S Sales</b>		
Growing the Plastics Market Through Education		
		
<b>George Southard, CPMR</b>		
9765 Conifer Ct. Fishers, IN 46037 Web Site: <a href="http://www.gssales.com">www.gssales.com</a>		
Phone: 317-595-6750 Fax: 317-595-6755 Email: <a href="mailto:george@gssales.com">george@gssales.com</a> Cell Phone: 317-509-2258		

## Röchling offers the industry's widest range of UHMW. Grades of Polystone M (UHMW).

### Let Us Help You Select The Right Grade of UHMW for the Application !

In 1987 Röchling bought Impact Plastics. Since 1958 Impact Plastics has been the United States first manufacturer of UHMW sheet. Together with experience & technology at our European manufacturing facilities and Impact's background, Röchling offers the most complete line of UHMW sheet & rod products. We have the best formulations available to fit your application. I will itemize a number of the our grades of UHMW materials:

**Polystone® M:** Virgin UHMW

**Polystone® M: Colors:** Colored UHMW low minimums

**Polystone® M Reprocessed:** Reprocessed UHMW standard solid colors green or black or marble on request.

**Polystone® X-L:** Specialty X-Linked UHMW for wear and release. (standard color is grey, others on request.)

**Polystone® MPG:** This specialty grade of UHMW is X-Linked and glass filled for added wear (standard colors blue & also available in other colors).

**Polystone® Matrox™ :** is a new formulation of Polystone that has been developed for the bulk material handling and mining marketplaces. This product exhibits very low coefficient of friction with exceptional wear resistance. Polystone Matrox is weldable.

**Polystone® Extreme:** This specialty formulated UHMW is ideal for increased wear with extremely low coefficient of friction and is UV Resistant.

**Polystone® M-Slide:** This specialty grade of UHMW fillers for extra low friction to make it ideal for conveying applications

**Polystone® M Anti-Static:** we produce static dissipative UHMW to your specifications of conductivity. (Standard color black.) This is also available in a FDA compliant grade.

**Polystone® M Rubberbacked:** REP can put .060 rubber on the back of any grade of UHMW sheet. This is to add to the UHMW's impact resistance and to allow for bonding UHMW to a substrate.

**Polystone® M Asphalt Liner (Heat Stabilized EHS):** This UHMW sheet is designed to withstand intermittent temperatures up to 350°F. It is gray in color

**Polystone® M Heat Stabilized (EHS):** This sheet is designed for increased operating temperatures. It can operate continuously at 226°F and performs well when exposed in temperatures up to 350°F. This product was designed for applications such as bakery equipment and asphalt handling. This is a FDA compliant material. This is a cream white color.

**Polystone® M Steel-Filled:** This filled UHMW is designed to give you exceptional stiffness, wear and a specific gravity 1.2 to 1.40.

**Polystone® M Oil-Filled:** We produce this sheet with Food Grade fillers, so it is compliant with FDA requirements.

**Polystone® M Silicone Filled:** A superior sheet for coefficient of friction and extremely good wear resistance.

**Polystone® Flame Retardant:** This material is MSHA approved for underground mining applications.

**Polystone® M UV Stabilized:** REP produces UV stabilized sheet ideal for outdoor applications.

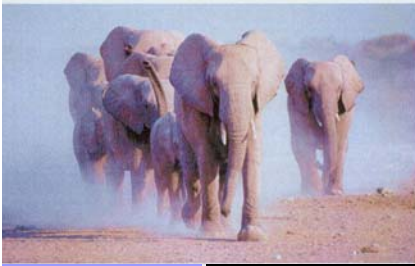
**Polystone® Safety Board:** This UHMW is designed with a special treatment allow a rough surface to walk on one side.

**Custom Polystone®:** Röchling runs a large amount of custom formulations to meet the needs of specific customer applications. If you do not see it listed please ask as I am sure I missed some items.

Visit Röchling's Website at [www.roechling-plastics.us](http://www.roechling-plastics.us)  
Or call for additional information at 704-922-7814

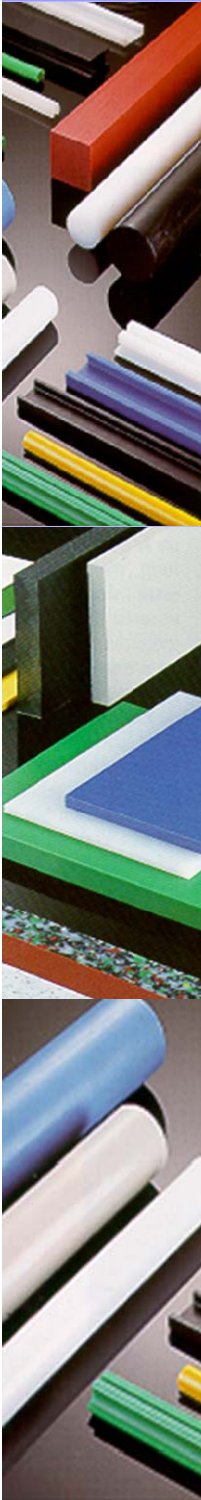
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# G S Sales Factoid

Röchling Cross Reference Chart to PHS Materials  
 Developed by G S Sales at the request for our customers.



PHS Products	Röchling Products
Tivar® 1000	Polystone® M-Virgin
Tivar® Uniblend	Polystone® M-Reprocessed
Tivar® Marble	Polystone® M- Reprocessed
Tivar® 88	Polystone® Matrox
Tivar® 88-2	Polystone® Matrox
Tivar® Antistatic	Polystone® M Black Anti-Static
Tivar® Ceram P	Polystone® MPG
Tivar® Clean Stat	Polystone® M Antistatic FDA
Tivar® Dock Guard	Polystone® M Reprocessed
Tivar® Dry Slide	Polystone® M-Slide
Tivar® DS	Polystone® M Extreme & XL
Tivar® H.O.T.	Polystone® M Heat Stabilized (EHS)
Tivar® Oil Filled	Polystone® M Oil Filled
Tivar® Polysteel	Polystone® M Steel Filled
Tivar® Super Plus	Polystone® Matrox
Tivar® UV Resistant	Polystone® M UV Stabilized
Tivar® Rubberbacked	Polystone®M Rubberbacked
Quicksilver® On Road	Polystone M® Grey EHS
Quick Silver® Off Road	Polystone® Matrox
Duropro®	Polystone® M Reprocessed
LTD® Liner	Polystone® G
Sanalite®	Polystone Cut Rite®
HDPE	Polystone G
Proteus® Family of Products	Polystone P Family of Products

*This cross reference chart is completed to the best of our beliefs. All manufacturers produce products slightly different to their own particular formulations. We believe these cross references will give you satisfactory performance results. This however can not be guaranteed and encourage you to do side by side testing.*

## Röchling Key Contacts Direct Dial Numbers:

Maggie Cuenca	Sales	704-884-3503
Matt McKensie	Salesw	704-884-3507
John Raynor	Sales	704-884-3505
Brian Pizzini	Sales	704-884-3501
Becky Nolan	Sales	704-884-3506
Chris Watras	Sales	704-884-3511
Ron Latuca	Sales	704-884-3512
Christy Jackson	Sales/Expediting	704-884-3505
Paul Krawczyk	Vice President of Sales	704-884-3500
Tim Brown	Marketing Manager & Sustaplast Product Mgr.	704-884-3510

**Polystone® MegaSheet**  
 Efficient ways to cut our MegaSheet

**RÖCHLING**  
 Engineered Plastics

ISO 9001:2000 - DQS CERTIFIED  
 RÖCHLING Quality wins

Röchling offers a 40% advantage!

21 pcs. 32" x 32" from one 8' x 20' MegaSheet  
 VS  
 15 pcs. 32" x 32" from five 4' x 8' regular sheets

Visit Röchling's Website at [www.roechling-plastics.us](http://www.roechling-plastics.us)  
 Or call for additional information at 704-922-7814

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# Engineered and High Performance Plastics Trade Name Cross Reference Chart

Acetal	Röchling Sustaplast	Quadrant	Ensinger	NYTEF	ZL Engineering	Westlake
Copolymer Acetal-Natural*	Sustarin® C-Natural	Acetron® GP	Tecaform® Natural	Unital® C	ZL™ 900	Pomalux® Natural
Copolymer Acetal-Black*	Sustarin® C-Black	Acetron® GP Black	Tecaform® Black	Unital® C BK		Pomalux® Black
Homopolymer-Acetal-Natural*	Sustarin® H-Delrin® Nat.	Delrin® 150 Natural	Delrin® Natural	Unital® H	ZL™ 900 H	
Homopolymer-Acetal-Black*	Sustarin® H-Delrin® Black	Delrin® 150 Black	Delrin® Black	Unital® H BK		
Copolymer Acetal 30% Glass Filled*	Sustarin® C GF 30			-		
Copolymer Acetal Anti-static*	Sustarin® C Anti-static	Semitron® ESD 225	Tecaform® SD	Unital ESD		Pomalux® CN-F
Homopolymer Delrin AF 588*	Sustarin® H Delrin® AF 588	Delrin® DE-588	Delrin® DE-588	Delrin® DE-588		
Homopolymer Delrin AF*	Sustarin® H Delrin® AF	Delrin® AF Blend	Delrin® AF Blend	Delrin® 100 AF Blend		Dielux®
<b>High Performance Materials</b>	<b>Röchling Sustaplast</b>	<b>Quadrant</b>	<b>Ensinger</b>	<b>NYTEF</b>	<b>ZL Engineering</b>	<b>Westlake</b>
PET*	Sustadur® PET	Ertalyte®	Tecadur® PET	Unitep® PET	ZL™ 1400	
PET PTFE Filled*	Sustadur® PET TF Nat.	Ertalyte® TF			ZL™ 1400T	
PBT Natural*	Sustadur® PBT Natural		Hydrex® 4101 Nat.	Unilate® PBT	ZL™ 1000	
Ultem 1000 Natural*	Susta® PEI Natural	Ultem® 1000	Ultem® Natural	Unitem® PEI		Tempalux® Unfilled
Ultem 1000 Black*	Susta® PEI Black	Ultem® 1000 Black	Ultem Black	Unitem® PEI BK		Tempalux® Unfilled Bk
Ultem 2300 30% GF*	Susta® PEI 30 GF	Ultem® 2300	Ultem® Nat. 30% GR	Unitem® Rg-30		Tempalux® 30% GR
PEEK Natural*	Susta® PEEK Natural	Ketron® PEEK 1000	Tecapeek® Natural	Unitrex® PEEK	PZL™ 1500	PEEK Victrex® 450G
PEEK Black*	Susta® PEEK Black	Ketron® PEEK 1000 Blk	Tecapeek® Black	Unitrex® PEEK		
PEEK 30% Glass Filled*	Susta® PEEK GF 30	Ketron® GF30	Tecapeek® GF30	Unitrex® Rg-30		
PEEK 30% Carbon Filled*	Susta® PEEK CF 30	Ketron® CA30	Tecapeek® CF30	Unitex® Rc-30		
PEEK Bearing Grade*	Susta® PEEK BG	Ketron® HPV	Tecapeek® PVX	Unitex® Lfc		
PVDF Kynar or Solef*	Susta® PVDF		Ensikem® Natural	Uninar® PVDF	ZL™ 1700	PVDF Kynar 740

\* Indicates stock items at Sustaplast

\* Indicates limited stock sizes at Sustaplast \* Indicates nonstock items that require lead-time

High Performance Materials	Röchling Sustaplast	Quadrant	Ensinger	NYTEF	ZL Engineering	Westlake
Polysulfone*	Sustaron® PSU Natural	PSU 1000	Ensifpne ®Natural	Unifon® PSO		Termalux®
Polyphenylsulfon Radel R*	Sustatron® PPSU Natural					Radel® R
Polyphenylsulfone Radel R*	Sustatron® PPSU Black					
Polyphenylsulfone Radel R*	Sustatron® PPSU Colors					
Modified Polyphenyle Oxide (Noryl® EN 265)*	Suta®PPO Black Noryl		Noryl® Black EN265	Uninor® PPO KD		Norylux® EN-265
PPS (Polyphenylene Sulfide)*	Sustatron® PPS Natural	Techtron® PPS	Ensifide®	Unitron® PPS		
ABS*	Susta®ABS Black		Tecaran ABS			Absylux®
Polycarbonate Machine Grade -Natural*	Sustanat® PC Natural	PC 1000 Natural	Tecanat® natural	Unicar® PC	ZL™ 1600	Zelux® M Machine Grade
Polycarbonate Machine Grade -Black*	Sustanat® PC Black		Tecanat® Black	Unicar® C BK		Black Zelux® M MG
Polycarbonate Machine Grade 20% Glass Filled*	Sustanat® PC GF 20		Tecanat®GF 20	Unicar® Rg-20 BK-		Zelux ®M GF

\* Indicates stock items at Sustaplast

\* Indicates limited stock sizes at Sustaplast \* Indicates nonstock items that require lead-time

This cross reference chart was made from the literature of the named companies. This was produced to what we believe were the best comparisons as possible. All manufacturers production methods are different. We encourage you to only use this as a reference. A direct side by side test is the best way to indicate actual comparisons.

Please advise G S Sales immediately if you see any discrepancies or mistakes. We produced this with the best information we had available to us. If you see any mistakes please let us know and we will correct them immediately.

Represented by: G S Sales



Phone: 800-541-4419  
Mechanicals Website: [www.sustaplast.com](http://www.sustaplast.com)  
Polyolefins Website: [www.roechling-plastics.us](http://www.roechling-plastics.us)




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Fax: 317-595-6755  
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Web Site: [www.gssales.com](http://www.gssales.com)



# Engineered and High Performance Plastics Trade Name Cross Reference Chart

Nylon Material	Röchling Sustaplast	Quadrant	Ensinger	NYTEF	ZL Engineering	Cast Nylons
Cast Nylon*	Sustamid® G	MC 907 Natural	Tecast® Vecton® 6PA Natural	Unipa® M	ZL™ 1100	Nycast® 6PA Natural
Cast Nylon MoS2 *	Sustamid® 6G MO	Nylatron® GSM	Tecast® Vecton® 6PAM	Unipa® MLd		Nycast 6PA-MoS2
Cast Nylon Oil Filled*	Sustamid® 6G OL	Nylatron® GSM	Tecast® Vecton® 6PAL		ZL™ 1100 Oil	Nycast® Nyloil®
Cast Nylon Blue*	Sustamid® 6G Blue	Nylatron® 901 Blue	Tecast® Vecton® 6XAU	Unipa® Mh		Nycast® XHA-Blue
Cast Nylon Heat Stabilized*	Sustamid® GHS	MC 901	Tecast® Vecton® 6XAU	Unip®Mh		Nycast® XHA-Blue
Cast Nylon Super Tough*	Sustamid® GHI					
Cast Nylon Glass Filled*	Sustamid®GGK			Unipa® MR-g-30		Nycast® GF
Cast Nylon with Solid lubricant*	Sustaglide®	Nylatron® NSM			ZL™ 1100 T	Nycast® RX & GX
Extruded Nylon 6/6*	Sustamid® 66 Natural	Nylon 101	Tecamid® 6/6	Unipa® 6/6		
Extruded Nylon 6/6* Black	Sustamid® 66 Black	Nylon 101 Black	Tecamid® Black	Unipa® 6/6BK		
Extruded Nylon 6/6* MoS2 Filled	Sustamid® 66 MO	Nylatron® GS	Tecamid® 6/6 MDS	Unipa® M		
Extruded Nylon 30% Glass Filled*	Sustamid® GF 30	Nylon 101 GF 30	Tecamid® 6/6 GF 30%	Unipa® Rg-30		
Nylon 6/6 w/lubricant*	Sustamid® 66PE					
Nylon 6/6 Heat Stabilized*	Sustamid® 66 W					
Nylon 46*	Sustamid® 46					
Nylon 6/12*	Sustamid® 6/12		DuPont® 159L Natural	Unipa® Im	ZL™ 1115	
Nylon 12*	Sustamid® 12				ZL™ 1120	Nycast® 12
Nylon 12 MoS2*	Sustamid® 12 MoS2					
Nylon 12 Glass Filled*	Sustamid® 12 GF 20					

\* Indicates stock items at Sustaplast \* Indicates limited stock sizes at Sustaplast \* Indicates nonstock items that require lead-time



# RÖCHLING

## Engineering Plastics

Represented By:

**G S Sales**

9765 Conifer Ct.

Fishers, IN 46038

Phone: 317-595-6750

Fax: 317-595-6755

E-Mail: [george@gssales](mailto:george@gssales)

Website: [www.gssales.com](http://www.gssales.com)

**Phone: 800-541-4419**

**Fax: 704-922-7651**

Physical Properties			Sustamid 6G® (Cast Nylon 6)			Sustamid 6/6® (Nylon 6/6)		Sustarin® (Acetal Extruded)		Sustaglide (Cast Nylon)
Property	Units	ASTM Test	Natural & Blue	Oil Filled	MoS <sup>2</sup> Filled	Natural	MoS <sup>2</sup> Filled	Co-polymer	Homo-polymer	Special Filled Cast Nylon
Density	gm/cm <sup>3</sup>	D792	1.15	1.14	1.15	1.15	1.15	1.41	1.42	1.14
Tensile Strength at Yield 73° F	psi	D638	12.100	10.500	12.500	11.800	11.800	9.800	10.400	11.000
Tensile Modulus of Elasticity at 73° F	psi	D638	480.00	430.000	515.000	450.000	450.000	440.000	455.000	420.000
Elongation	%	D638	10-60	20-60	10-40	20-60	20-60	30-60	25-60	30
Flex. Modulus of Elasticity	psi	D790	510.000	455.000	525.000	365.500	365.500	397.000	380.000	-
Flexural Strength	psi	D790	14.900	12.790	14.800	14.500	14.500	13.800	13.950	-
Shear Strength	psi	D732	-	-	-	9.500	9.500	8500	9100	-
Coefficient of Friction	-	-	0.03-0.35	0.15-0.25	0.32-0.36	0.35-0.45	0.35-0.45	0.18-0.35	0.18-0.36	-
Izod Impact	ft-lbs/in.	D256	0.8-2.0	0.8-2.0	0.8-2.0	2.5	2.5	1.5	1.5	-
Hardness	-	D785	R116	R108	R118	R115	R115	R119-122	R120	D-82(ASTM 2240)
Tensile Impact	ft-lbs-in.	D1822	-	-	-	90-170	90-170	-	-	-
Deformation Under Load	%	D621	0,5-1	0,5-1	0,5-1	1,0-3,0	1,0-3,0	1,0	0,7	-
Melting Point	°F	D789	426	426	428	491	491	329	447	425
Coefficient of Linear Thermal Expansion	1/K	D696	5.0 x 10 <sup>-5</sup>	5.0 x 10 <sup>-5</sup>	5.0 x 10 <sup>-5</sup>	5.0 x 10 <sup>-5</sup>	4.5 x 10 <sup>-5</sup>	5.8 x 10 <sup>-5</sup>	5.8 x 10 <sup>-5</sup>	5.0 x 10 <sup>-5</sup>
Continuous Service Temp. in Air	°F	-	212	221	226	248	248	194	212	220
Deflection Temp. 66psi	°F	D648	168	168	168	430	430	230	233	-
Deflection Temp. 264psi	°F	D648	300	300	300	200-450	200-450	320	322	202
Flameability-UL-94	-	UL 94	V-2	HB	V-2	V-2	V-2	HB	HB	HB
Flamability According to ASTM	%	D2863	26	-	25	26	26	15	15	-
Comparative Tracking Index	-	D3638	CTI 600	-	CTI 600	CTI 600	CTI 600	CTI>600	CTI>600	-
Volume Resistivity	Ohm/cm	D257	10 <sup>-15</sup>	10 <sup>-15</sup>	10 <sup>-15</sup>	10 <sup>-14</sup>	10 <sup>-14</sup>	10 <sup>-15</sup>	10 <sup>-15</sup>	10 <sup>-15</sup>
Dielectric Constant 10 <sup>3</sup> Hz	-	D150	3.7	3.7	3.7	3.6	3.6	3.8	3.8	3.5
Dielectric Constant (10 x Hz)	-	D150	3.4	-	3.4	3.4	3.4	-	-0.002	-
Dissipation Factor (Tan:-at 10 <sup>3</sup> Hz)	-	D150	0.03	-	0.029	0.015	0.015	0.002	0.005	0.015
Dielectric Strength	KV/mm	D149	>15	>15	>15	>12	>12	>16	>20	>15

Sustarin Acetal, in its copolymeric form, exhibits high strength characteristics and excellent thermal properties, has low moisture absorption.

Sustamid 6/6-Nylon is tough, wear resistant and performs well even at very low temperatures. It has a high compressive strength.

Sustamid 6G-Cast Nylon offers a wide range of advantages: High Strength, Abrasion Resistance, Thermal and Moisture resistance.

*The information contained herein is believed to be reliable. however no guarantee or warranty of any kind is implied with respect to accuracy,*

*completeness or product suitability. It is the responsibility of the user to ascertain the suitability of material(s) for their purpose(s).*

# Material Identification Chart

The information below is from IAPD's Introduction to Mechanical Plastic Training Manual  
 Contact IAPD for further Sale Tools Ph. 913-345-1009 Fax: 913-345-1006 Email:iapd.org

Materials	No Flame	Burns, but Extinguishes on Removal of Flame Source			Continues to Burn After Removal of Flame Source				Remarks
	Odor	Odor	Color of Flame	Drips	Odor	Color of Flame	Drips	Speed of Burning	
<b>THERMOPLASTICS</b>									
ABS		Acrid	Yellow, blue edges	No	Acrid	Yellow, blue edges	Yes	Slow	Black smoke with soot in air
Acetals	—	—	—	—	Formaldehyde	Blue, no smoke	Yes	Slow	
Acrylics	—	—	—	—	Fruity	Blue, yellow tip	No (cast) Yes (molded)	Slow	Flame may spurt if rubber modified
Cellulosics									
Acetate	—	Vinegar	Yellow with sparks	No	Vinegar	Yellow	Yes	Slow	Flame may spark
Acetate Butyrate	—	—	—	—	Rancid butter	Blue, yellow tip	Yes	Slow	Flame may spark
Ethyl Cellulose	—	—	—	—	Burnt sugar	Yellow, blue edges	Yes	Rapid	—
Nitrate	—	—	—	—	Camphor	White	No	Rapid	—
Propionate	—	—	—	—	Burnt sugar	Blue, yellow tip	Yes	Rapid	—
Chlorinated Polyether	—	—	Green, yellow tip	No	—	—	—	—	Black smoke with soot in air
Fluorocarbons									
FEP	Faint odor of burnt hair	—	—	—	—	—	—	—	Deforms; no combustion, but drips
PTFE	Faint odor of burnt hair	—	—	—	—	—	—	—	Deforms; does not drip
CTFE	Faint odor of acetic acid	—	—	—	—	—	—	—	Deforms; no combustion, but drips
PVF	Acidic	—	—	—	—	—	—	—	Deforms
Nylons									
Type 6	—	—	—	—	Burnt wool	Blue, yellow tip	Yes	Slow	—
Type 6/6	—	Burnt wool or hair	Blue, yellow tip	Yes	—	—	—	Slow	More rigid than type 6 nylon
Phenoxies	—	Acrid <sup>d</sup>	Yellow <sup>c</sup>	No <sup>c</sup>	Acrid <sup>d</sup>	Yellow <sup>d</sup>	Yes <sup>d</sup>	Slow <sup>d</sup>	Black smoke with soot in air
Polycarbonates	—	Faint, sweet aromatic ester	Orange	Yes	—	—	—	—	Black smoke with soot in air
Polyethylenes	—	—	—	—	Paraffin	Blue, yellow tip	Yes	Slow	Floats in water
Polyphenylene Oxides (PPO)	—	Phenol	Yellow-orange	No	—	—	—	—	Flame spurts; very difficult to ignite
Modified Grade	—	Phenol	Yellow-orange	No	—	—	—	—	Flame spurts; difficult to ignite; soot in air
Polyimides	b	—	—	—	—	—	—	—	Chars; material very rigid
Polypropylenes	—	Acrid <sup>a</sup>	Yellow <sup>a</sup>	No <sup>a</sup>	Sweet	Blue, yellow tip	Yes	Slow	Floats in water; more difficult to scratch than polyethylene
Polystyrenes	—	—	—	—	Illuminating gas	Yellow	Yes	Rapid	Dense black smoke with soot in air
Polysulfones	—	b	Orange	Yes	—	—	—	—	Black smoke
Polyurethanes	—	—	—	—	b	Yellow	No	Slow	Black smoke
Vinyls									
Flexible	—	Hydrochloric acid	Yellow with green spurts	No	—	—	—	—	Chars, melts
Rigid	—	Hydrochloric acid	Yellow with green spurts	No	—	—	—	—	Chars, melts
Polyblends									
ABS/Polycarbonate	—	—	—	—	b	Yellow, blue edges	No	—	Black smoke with soot in air
ABS/PVC	—	Acrid	Yellow, blue edges	No	—	—	—	—	Black smoke with soot in air
PVC/Acrylic	—	Fruity	Blue, yellow tip	No	—	—	—	—	—
<b>THERMOSETS</b>									
Alkyds	—	—	—	—	—	—	—	—	—
Diallyl Phthalates	—	—	—	—	Phenolic	Yellow	No	Slow	Black smoke, cracks
Diglycol Carbonate	—	—	—	—	Acrid	Yellow	No	Slow	Black smoke with soot
Epoxies	—	—	—	—	Phenol	Black smoke	No	Slow	Black smoke with soot in air
Melamines	Formaldehyde and fish	—	—	—	—	—	—	—	—
Phenolics	Formaldehyde and phenol <sup>c</sup>	Phenol and wood or paper <sup>d</sup>	Yellow <sup>d</sup>	No	—	—	—	—	May crack
Polyesters	—	Hydrochloric acid <sup>a</sup>	Yellow <sup>a</sup>	No <sup>a</sup>	b	Yellow, blue edges	No	Slow	Cracks and breaks
Silicones	b	—	—	—	—	—	—	—	Deforms
Ureas	Formaldehyde	—	—	—	—	—	—	—	—

<sup>a</sup> Flame retardant <sup>b</sup> Nondescript <sup>c</sup> Inorganic filler <sup>d</sup> Organic filler

Ref: Materials Engineering, Penton/IPC, Cleveland, Ohio



IMIDE MATERIALS	
<p><b>Key Characteristics:</b>            Very High Cost Per Pound            Excellent Properties Above 400°F            Excellent Electrical Properties            Excellent Dimensional Stability            Low Coefficient of Friction</p>	<p><b>Materials:</b>            PI            PAI            PBI</p>
<b>SEMI-CRYSTALLINE HIGH PERFORMANCE PLASTICS</b>	
<p><b>AMORPHOUS HIGH PERFORMANCE PLASTICS</b></p> <p><b>Key Characteristics</b>            High Cost            High Temperature            High Strength &amp; Good Stiffness            Good Chemical Resistance            Transparency            Hot Water &amp; Steam Resistance</p>	<p><b>Materials:</b>            Polysulfone            Polyetherimide            Polyethersulfone            Polyarylsulfone</p>
<b>SEMI-CRYSTALLINE HIGH PERFORMANCE PLASTICS</b>	
<p><b>Key Characteristics:</b>            High Cost            High Temperature            High Strength            Good Electrical Properties            Outstanding Chemical Resistance            Low Coefficient of Friction            Good Toughness</p>	<p><b>Materials:</b>            PVDF            PTFE            ECTFE            FEP            PFA            PPS            PEEK</p>
<b>AMORPHOUS ENGINEERING PLASTICS</b>	
<p><b>Key Characteristics:</b>            Moderate Cost            Moderate Temperature Resistance            Moderate Strength            Good Impact Resistance            Translucency            Good Dimensional Stability            Good Optical Qualities</p>	<p><b>Materials:</b>            Polycarbonate            Modified PPO            Modified PPE            Thermoplastic Urethane</p>
<b>SEMI-CRYSTALLINE ENGINEERING PLASTICS</b>	
<p><b>Key Characteristics:</b>            Moderate Cost            Moderate Temperature Resistance            Moderate Strength            Good Chemical Resistance            Good Bearing and Wear Properties            Low Coefficient of Friction            Difficult to Bond</p>	<p><b>Materials:</b>            Nylon            Acetal            PET            PBT            UHMW-PE</p>
<b>AMORPHOUS COMMODITY PLASTICS</b>	
<p><b>Key Characteristics:</b>            Low Cost            Low Temperature Resistance            Low Strength            Good Dimensional Stability            Bond Well            Typically Transparent</p>	<p><b>Materials:</b>            Acrylic            Polystyrene            ABS            PVC            PETG            CAB</p>
<b>SEMI-CRYSTALLINE COMMODITY PLASTICS</b>	
<p><b>Key Characteristics:</b>            Low Cost            Low Temperature Resistance            Low Strength            Excellent Chemical Resistance            Low Coefficient of Friction            Near Zero Moisture Absorption            Very Good Electrical Properties            Good Toughness</p>	<p><b>Materials:</b>            Polyethylene            Polypropylene            Polymethylpentene(TPX)</p>
<b>AMORPHOUS PLASTICS KEY CHARACTERISTICS:</b>	
<p>Soften Over a Broad Range Of Temperatures            Easy to Thermoform            Tend to Be Transparent            Bond Well Using Adhesives and Solvents            Prone To Stress Cracking            Poor Fatigue Resistance            Structural Applications Only (Not for Bearing &amp; Wear)</p>	
<b>SEMI-CRYSTALLINE PLASTICS KEY CHARACTERISTICS:</b>	
<p>Sharp Melting Point            Difficult to Thermoform            Tend to Be Opaque            Difficult To Bond Using Adhesives and Solvents            Good Resistance To Stress Cracking            Good Fatigue Resistance            Good For Bearing and Wear, As Well As Structural Applications</p>	
<b>AMORPHOUS PLASTICS</b>	



# RÖCHLING Machined Plastics

*Fabricated Plastics Parts-To meet your print requirements*

Phone: 724-696-5200

Fax: 724-696-5300

**Contacts:** Kevin X-108,  
Lisa, Chris & Craig

**Web Page:**

<http://www.roechling-plastics.us>

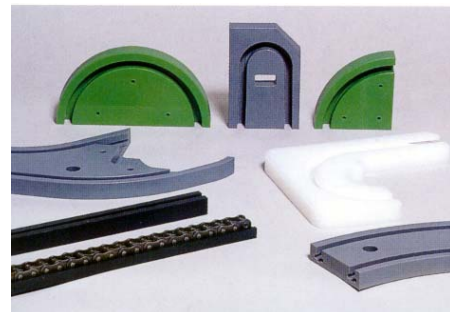


RMP can run 1 to 10,000 pieces from your print or sample parts. Call them Today for a Quote !



For over 25 years Röchling Machined Plastics has striven to service their customers with high quality fabricated parts made from engineered plastics and composites at competitive prices with short lead-times. Constantly working to keep the most technologically advanced equipment and conscience work force that is both well trained and service oriented team.

Founded in 1981 as SEA-TEK, Incorporated to provide composites & densified wood products to the electrical insulation marketplace. Since that time we have branched into being a complete fabricator of all nonmetallic plastic components. We also market the Lignostone and Durostone products for our sister companies located in



### Röchling Fabricates products for the following industries:

- Electrical
- Chemical
- Thermal
- Waste Water
- Conveying & Packaging
- Transportation
- Material Handling & Processing

### Materials Fabricated by RMP:

- Lignostone® & Permali-densified wood laminates
- Durostone®-fiberglass reinforced plastics-Standard & Conductive
- Polystones®-Ultra & High Density Polyethylenes & Polypropylene
- Sustamid®-Nylons
- Sustarin®-Acetals
- Sustatec®-High Performance Materials.
- Phenolics
- PTFE
- Most other nonmetallic materials



Please Consider the following Röchling Sister Company for your UHMW, HDPE, PP, Mechanical & High Performance Plastics Materials :

**Röchling Engineering Plastics-**

**800-541-4419**

### RMP also sells the following materials as stock products:

- Durostone®
- Lignostone®
- Fiberglass threaded rod & nuts.

These items are sold as stock materials or fabricated to your specifications.



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**George Southard, CPMR**

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Fax: 317-595-6755  
Email: [george@gssales.com](mailto:george@gssales.com)  
Cell Phone: 317-509-2258



**PALRAM AMERICAS, INC.**



**Phone: 800-999-9459**

**Fax: 610-285-2859**



Palram's US PVC Plant



Palram's US Polycarbonate Plant

**Inside Sales Contacts:**

Anthony (Tony) Martin x 298

**North American Product**

**Manager:** Tim Cronrath x 235

**Director of Sales & Marketing:**

Gary DeFazio

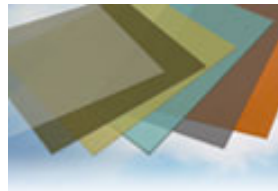
## Palram Manufactures Polycarbonate & PVC in Kutztown, PA

Palram Americas is manufacturing quality flat polycarbonate sheet, structured and corrugated in Kutztown, PA, just outside Allentown. Palram also has a 85,000 sq. ft. PVC plant behind their over 100,000 sq. ft. polycarbonate plant. This plant manufactures PVC Foam, Trim Board, Corrugated PVC, Clear PVC, Type I & Type II PVC sheet.

It is time you started doing business with manufacturers who are investing and making quality products in the USA. [Please consider supporting Palram Americas.](#)

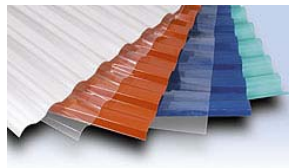
### **PALTUF® Solid Polycarbonate Sheet**

Solid Polycarbonate sheet in Thickness: 1mm(.040") to 12mm (.472") Stocked in 48" x 96", 48" x 120", 60" x 96" & 72"x 96"  
Order Plain or with UV protected one side or two.



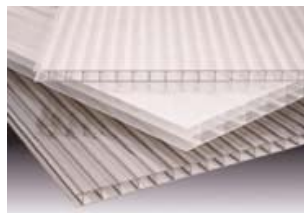
### **SUNTUF® Corrugated Polycarbonate Sheet**

Seven standard profiles in different widths. Three standard colors stocked & run in PA.  
Order with UV one or two side or with Solar Control®



### **SUNLITE® Multiwall Sheet THE ONLY US MADE TWIN WALLED POLYCARBONATE SHEET !**

6mm to 35mm sheet in twinwall, tripplewall and X Lite structured. Call for pricing and availability.



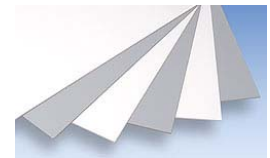
### **PALITE® Foam PVC Sheet**

Stocked in White and Black & Digital-Colors per order in 48" x 96", 48" x 120" & custom run to size per your requirements.  
Thickness: 1mm(.040") to 25mm (.975")



### **PALOPAQUE® Solid PVC Sheet**

Type I and Type II run per requirement  
Run to your requirements in .040" to .472"  
Standard Shee Size 48" x 96" and run to order.



### **PALCLEAR® Solid Clear PVC Sheet**

Run to your requirements in .040" to .472"  
Run in Standard and Impact Modified. Run in 48" x 96" sheet or run to order. Order standard clear or waterclear.



Combine Polycarbonate and PVC for pre-paid freight. 6 pallets of material and your freight is prepaid.



## Working to Make All Products in the United States !

Palram is continuing to work to manufacture all sheet in the United States. They currently supplement US manufacturing from their Israel and United Kingdom manufacturing plants. New capacity coming on stream should minimize this.



George Southard, CPMR  
9765 Conifer Ct.  
Fishers, IN 46037

Phone: 317-595-6750  
Cell: 317-509-2258  
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For Less than Container of Structured PC Call Green-Tek

**800-747-6440**



# Green.tek

Established in 1986 Green-tek is a fabricator and master distributor of polycarbonate thermal glazing, greenhouse coverings and material handling products.

Centrally located in Wisconsin, Green-tek is ideally situated in the middle of our territory to provide quick shipment of all multiwall polycarbonate sheet products.



## ThermaGlas®

ThermaGlas is a registered trademark of Palram for all of Palram America's multi-layer polycarbonate glazing panels. The product was introduced in 1995 and was the first product produced in Palram's Kutztown, PA Polycarbonate manufacturing facility. This factory is ISO 9002 certified.

Polycarbonate is inherently susceptible to condensate formation. **ThermaGlas Plus** is made with an exclusive manufacturing process that results in one of the industry's best condensate control mechanisms. Because it is so good it features a 10 year condensate control warranty.

**ThermaGlas UV2™** is a trademark for all Palram polycarbonate products featuring double-sided UV protection. This was designed for applications that both sides of the sheet are exposed to UV from the outside. (Ex. A building or greenhouse that opens)



## DynaGlas®

**DynaGlas** is a corrugated polycarbonate sheet designed for greenhouse and architectural applications from Palram. DynaGlas is available in multiple tints including clear, white/opal, **SolarSoft™** and solar gray. It offers 99.9 % UV blocking and has built in condensate control that carries a 10 year warranty.

Green-tek also offers a full line of accessories for both the ThermaGlas and DynaGlas products.

**GS**  
SALES

iapd

Company Profile

Phone: 800-747-6440

Fax: 608-884-9459

Customer Service:

Alice Banks

Sales Representative

Earl Craker

Vice President of Sales:

Erin Kelly (Cell:608-201-3659)

Website: [www.green-tek.com](http://www.green-tek.com)

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IS NOW AN AUTHORIZED  
PALRAM MASTER DISTRIBUTOR & LOGISTICS PARTNER

Palram is the largest manufacturer of quality twin wall, triple wall and multiwall polycarbonate sheet in the United States. This product is produced in a variety of colors and sizes that are stocked at Green-tek and cut to size to your specific requirements.

Green-tek stocks thickness' of 4mm to 32mm thick structured polycarbonate. This product is stocked in widths of 48", 72" and 82.68"(in 25mm & 32mm only). These sheets are all stocked in 40 foot lengths and then cut to our customers specific requirements.

Green-tek will also work with you on run to size jobs on larger orders. They will stock a part of the job with blanket orders to help make special size requirements easier to work with.

New DYNAGLAS  
**SolarSoft™**  
85% Par light transmission  
100% Diffusion

Clear DynaGlas 1% Diffusion

New SolarSoft™ 100% Diffusion



**Harkness Precision Cast Urethane Product Offering:**

**Sheets—Bars—Rods—Tubes**

**Now 48" x 96" Sheet !**



**Sheet (Precision Cast):**

Available in thicknesses of 1/32" to 2" thick. In sheet sizes of 12" x 12" to 48" x 48" Tolerances of 1/32" to 3/16" (+/- .010"), 1/4" to 3/8" (+/- .015"), 1/2" to 1-1/4" (+/- .025") and over 1-1/2" (+/- 3%).



**Fabric-Backed Sheets:**

Stocked in 3/16" to 9/16" in 48" x 48" sheets. Custom sizes available on special order

**Bars:**

Stocked in 1" square, 2" square & 2" x 3" sizes in 48" lengths. Custom sizes on request.

**Rods:**

Cast in sizes of 1/4" to 6" Diameter in 36" Long lengths. Custom sizes on request

**Tubes:**

Standard tube is cast in 36" lengths, standard sizes are:

ID	1"	1-1/4"	1-1/2"	1-3/4"	2"	2-1/4"	2-1/2"	2-3/4"	3"
OD	2"	2-1/4"	2-1/2"	2-3/4"	3"	3-1/4"	3-1/2"	2-3/4"	4"

Custom sizes available on request.



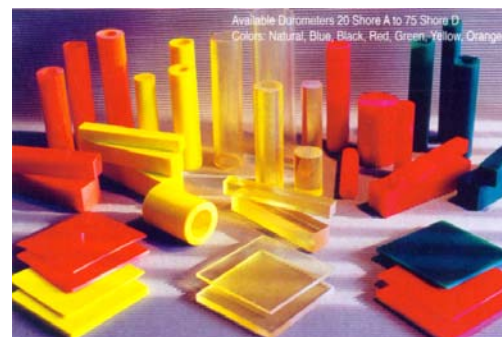
**Custom Cast Parts:**

As a precision cast urethane supplier Harkness Industries does a number of cast parts. Their specialty are parts requiring precision and exactness.

Harkness Industries was founded in 1960 as an injection molding company serving the needs of the Northeast. In 1985, Harkness acquired the urethane sheet, rod, tube and bar business from J.P. Stevens and in 1989 the custom urethane parts business from the Lord Corporation.

Today, Harkness is a leading high quality supplier of precision cast urethane products. In addition, the company is a custom injection molder and profile extruder of all major engineering grade thermoplastics.

**Over 90% of Orders Shipped the Same Day as Ordered! Don't Lose the Order Call Harkness Industries. !**

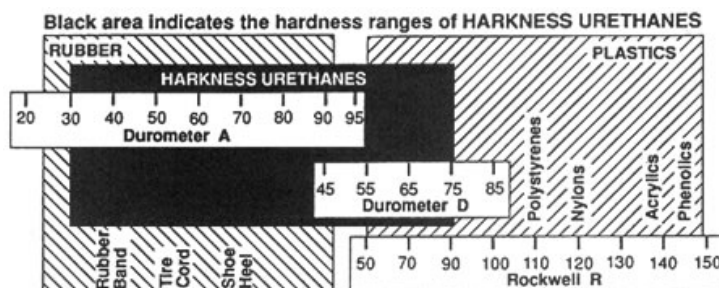


**8 Standard Grades and Variety of Colors to Suit Your Particular Needs.**

Harkness keeps a lot of standard urethane materials in stock for immediate shipment. But also think of Harkness for:

**Custom Extruded Profile-in me** chemical & high performance plastics. Medium quantity runs.

**Custom Injection Molded Parts-** in mechanical & high performance plastics. Specializing in complicated low quantity runs. Send a print today.



**Let us help you determine which grade of Precision Cast Urethane is best for your application. NOT ALL URETHANES ARE CREATED EQUAL !**

MECHANICAL PROPERTY	ASTM Test	MP300	MP600	MP750	MP850	MP900	MP950	MP160	MP175
<b>Tensile Properties</b>									
Break, psi	D-412	380	4500	5500	6000	4500	5500	6500	7500
100% modulus, psi	D-412	80	250	350	600	1100	1800	3000	5500
300% modulus, psi	D-412	170	600	1000	1500	2100	4000	6500	-
Elongation, %	D-412	515	500	500	500	450	320	300	225
Break Set, %	D-412	-	5	10	10	10	10	15	-
Modulus of Elasticity, psi	D-638	-	5	15	25	50	90	125	-
<b>Compression Properties (Shape factor 0.56)</b>									
Deflection, psi @ 5%	D-575	15	30	70	180	310	450	-	-
Deflection, psi @ 10%	D-575	25	70	140	390	625	890	-	-
Deflection, psi @ 15%	D-575	34	110	220	560	875	1170	-	-
Deflection, psi @ 20%	D-575	38	160	280	690	1125	1400	-	-
Deflection, psi @ 25%	D-575	44	220	330	800	1350	1600	-	-
<b>Compression Set, %</b>									
Method A @ 70° C	D-395	-	10	8	5	-	1	10	15
Method B @ 70° C	D-395	9	10	15	25	30	40	50	-
Durometer, Shore ± 5	D-2240	30A	60A	75A	85A	90A	95A	60D	75D
Tear Properties, pli, Die C	D-624	90	200	250	400	400	450	700	850
<b>Abrasion Resistance, Tabor</b>									
H18 @ 1000 gm. load, mg. loss per 1000 cycles	C-501	-	30	40	40	30	40	80	450
Specific Gravity	D-792	1.20	1.26	1.26	1.26	1.10	1.15	1.18	1.18
Base		Ester	Ester	Ester	Ester	Ether	Ether	Ether	Ether

**Buy Harkness and receive, The Harkness Quality Advantage ?**



**G S Sales**

Growing the Plastics Market Through Education

**George Southard, CPMR**

9765 Conifer Ct.  
Fishers, IN 46037  
Web Site: [www.gssales.com](http://www.gssales.com)

Phone: 317-595-6750  
Fax: 317-595-6755  
Email: [george@gssales.com](mailto:george@gssales.com)  
Cell Phone: 317-509-2258





# Thermoplastic Welding Equipment & Supplies

## G S Sales Company Profile



Phone: 800-258-2936  
Fax: 407-656-5244

**Contacts:**  
Connie, Paige, Jill & Dom  
**Web Page:**  
<http://www.seelyeinc-ork.com>

Seelye, Incorporated is located in Ocoee, Florida offers a full line of Hot Air Welding Equipment and Supplies. They are the inventors of the Guardian Series of "Cool To the Touch" welders with the cool barrel design. These are the safest welders in the market. They also offer a full line of accessories for all your welding needs.

You should be using and/or selling Seelye thermoplastic welders and accessories. The markets safest and most efficient welders.



Guardian Welders with "Cool To Touch Barrel"



Heat Guns from Seelye, Inc.

### Seelye Welding Accessories & Welding Tips



#### Seelye's SI-1197CH

This fully adjustable welder is capable of temperatures of up to 1300°F. It is hot enough to allow you to weld UHMW polyethylene. It comes with feed and tacking tips.



Seelye also offers a full line of welding rod. We offer a variety of colors and sizes to meet your individual job requirements. Seelye has adapters for other guns to make you tips work on Seelye welders. Call us on your Welding

### Portable Welders From Seelye, Inc.

Seelye offers 3 different portable welder for use in field applications where air lines are not available.

Review Seelye's offering to see which option is best for you or your customer.



**New in 2001**  
**2001FC & 2001FCP New Fume Control Welders !**

### Seelye Offers the Tools to Make Your Job Easy !

Seelye offers full catalogues and price lists to help to sell and specify the welders and accessories you need. Seelye's Thermoplastic Welding Products Guide also give you full instructions and how to's for thermoplastic welding. Seelye also offers a "Seelye How To Weld" video. This video will give you tips and suggestions to minimize your learning time in starting to weld. Call Seelye today.

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Fishers, IN 46037  
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Phone: 317-595-6750  
Fax: 317-595-6755  
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Cell Phone: 317-509-2258

# KYDEX®

THERMOPLASTIC SHEET

**Durability by Design™**  
**Kleerdex Company**

## G S Sales Company Profile

Kleerdex Company has grown with a very strong product offering of different grades and colors of Kydex products. What started off as a wall covering material and grew into the thermoforming marketplace has grown into many markets. Kydex is now a respected and valued material in the laminating marketplace replacing laminates. It is used in marketplaces for the sign, transportation, and building products. Being a flame retardant material Kydex is used in many intriguing marketplaces. Kydex is also now available in resin for injection molding and profile extrusion.



### Grades of Kydex for Many Applications:

#### Thermoforming Applications:

- Kydex 100
- Kydex T
- Kydex V
- Kydex 101
- Kydex 150
- Kydex 160
- Kydex 152AR
- Kydex 152WG
- Kydex 301
- Kydex 510
- Kydex 620
- Kydex 130
- Kydex 120
- Kydex 200
- Kydex 1900
- Kydex 6185
- Kydex 107
- Vinyloy 100
- Vinyloy 102
- Vinyloy 103
- Kydex 101AS
- Kydex GND

#### Laminating & Membrane Pressed Applications:

- Kydex HD
- Kydex XD
- Kydex WG
- Kydex 130
- Kydex 510
- Kydex 152
- Kydex DL

#### Kydex For the Sign Industry:

- Kydex 101
- Kydex 100
- Kydex 510
- Kydex T

#### Kydex For the Transportation Industry:

- Kydex 100
- Kydex T
- Kydex 6200
- Kydex 6201
- Kydex 6185
- Kydex 6565
- Kydex 1900



### Kydex Sheet Products:

Thickness: .022" to .500"  
 Widths: up to 60" wide  
 Colors: 33 Standard Solid Colors



5 Standard Granite Colors,



5 Standard Granite Capped Colors



5 Std. Woodgrain Capped Colors.

**Color Matches:** Usually done in 1 week. Over 3,000 Color matches done 1000# min. runs

**Textures:** 11 Standard

**Specialty Caps:** Hardcoat Caps & UV color caps available.



### Kydex For Static Dissipative and Anti Static Applications:

- Esilon DC-PC (Polycarbonate)
  - Esilon-PMMA (Acrylic)
  - Esilon-PVC PVC
- These Products are available in Static Dissipative
- Kydex GND (Black)
  - Kydex 100 AS (Colors Available)



Phone: 800-325-3133

Fax: 800-452-0155

### Contacts:

Mary, Mary Lee, Ryan & Bernadette.

Web Page: [www.kydex.com](http://www.kydex.com)

### Key Contacts at Kleerdex:

Rich Cort-Product Development Manager 800-682-8758

Scott Burns-Specification 3D Manager 800-682-8758

Mike Karr Product Business Manager: 330-703-1959

Jim Arnet Midwest Regional Manager 972-213-6499

**Technical Service Questions:**  
**800-682-8758**

### Kleerdex No Longer Sells Wall Covering Materials.

Kydex Wall Covering Materials are only available only through Koroseal Wall Protection: 800-628-0449



### Kleerdex Offers:

- Color Matches to your specific color in 1 week. 1,000# minimum runs.
- Matches capped products to match laminates. Minimum determined by film cap supplier.
- Field technical support for forming and surfacing runs.

### Kleerdex Web Site:

Visit Kleerdex's Web Site at: [www.kydex.com](http://www.kydex.com) It is filled with helpful information:

- Specification & MSDS Sheets
- Informative Technical Briefs
- Application Stories & Information
- Color & Texture listings



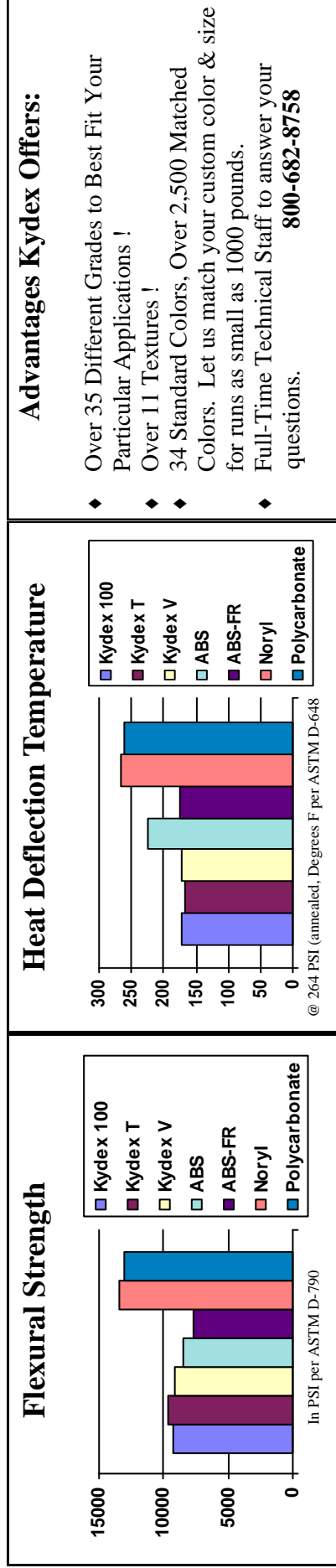
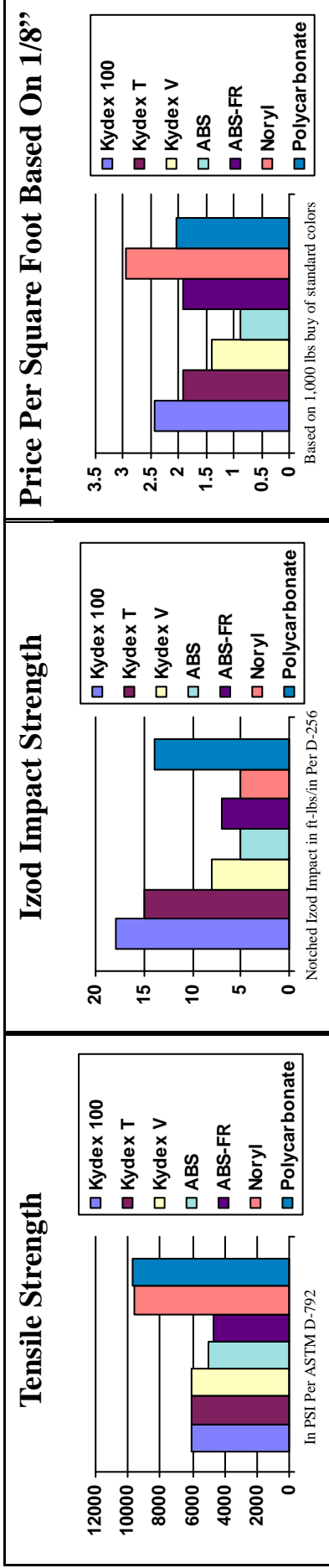
George Southard  
 GS Sales  
**Kleerdex Company**  
 9765 Conifer Court  
 Fishers, IN 46038  
 Tel: 317.595.6750  
 Fax: 317.595.6755  
 Cell: 317.509.2258  
 Email: [George@gsales.com](mailto:George@gsales.com)  
 Customer Service: 800-325-3133



# The Real Kydex Advantage-Property Comparisons



The information listed below is to the best of our knowledge correct and accurate  
 Web Site: <http://www.kydex.com> Or visit the G S Sale's Web Site: [www.georgesouthsales.com](http://www.georgesouthsales.com)



Typical	Kydex 100	Kydex T	Kydex V	ABS	ABS-FR	Noryl	Polycarbonate	Comments
Chemical Resistance	Excellent	Excellent	Excellent	Fair	Fair	Excellent	Good	Advantage Kydex
Non Flammable	94V-0, V-5	94V-0, V-5	Yes	No	94 V-0, V-5	94 V-1	94 V-0	ABS is not flame retardant
Color Availability	Excellent	Excellent	Black	Good	Good	Fair	Fair	Advantage Kydex
Part Detail	Excellent	Excellent	Fair	Good	Good	Fair	Fair	Kydex Advantage
Drying Required	Not needed	Not needed	Not needed	Required	Required	Required	Required	Kydex Advantage
Stiffness	Very Stiff	Very Stiff	Very Stiff	Stiff	Stiff	Stiff	Stiff	Kydex may be able to be downsized
Weather Resistance	Good	Good	Good	Poor	Poor	Fair	Good	Kydex Advantage
Tear Resistance	Excellent	Excellent	Good	Good	Good	Poor	Fair	Kydex Advantage

**Kleerdex Company KYDEX**  
**Customer Service:** ..... Phone: 800-325-3133  
 Fax: 800-452-0155  
 Eastern Regional Mgr. Thom Price: 412-491-1470  
**Technical Service Staff:**.....800-682-8758

**G S Sales** **Growing the Plastics Market, Through Education**  
 George Southard, CPMR Manufacturers' Representative  
 Phone: 317-595-6750 Fax: 317-595-6755  
 Cell Ph.: 317-509-2258 Email: gssales@insightbb.com



Phone: 800-325-3133

Fax: 800-452-0155

**Contacts:**

Mary, Mary Lee, Ryan & Bernadette.

**Web Page:**

<http://www.kydex.com>

Represented By:

**G S Sales: 317-595-6750**

**Kydex Sheet Lbs. Per Sq. Ft. & Sheets Per Case**

Sheet Thickness	Pounds per sq. ft.	Sheet Per Case	Standard Colors:
0.028" 0.7mm	0.197 #	30	12000 Red
0.040" 1.0mm	0.281 #	20	12036 Bordeaux
0.060" 1.5mm	0.421 #	16	12037 Rooster Red
0.080" 2.0mm	0.562 #	12	12038 Cabernet
0.093" 2.4mm	0.653 #	10	22031 Orange
0.100" 2.5mm	0.702 #	10	32059 Treasure Chest
0.118" 3.0mm	0.828 #	8	32060 Mystic Green
0.125" 3.2mm	0.878 #	8	42031 Cadet Blue
0.156" 4.0mm	1.095 #	6	42031 Pastel Blue
0.177" 4.5mm	1.243 #	5	42107 Canyon Blue
0.187" 4.75mm	1.313 #	5	42108 Peacock Blue
0.197" 5.0mm	1.383 #	4	42109 Thunder
0.236" 6.0mm	1.656 #	4	42110 Twilight
0.250" 6.4mm	1.755 #	4	42111 Amethyst
0.275" 7.0mm	1.931 #	4	42112 Buoyant Blue
0.315" 8.0mm	2.211 #	3	52000 Calcutta Black
0.354" 9.0mm	2.485 #	3	52001 Pewter Gray
0.375" 9.5mm	2.633 #	3	52002 Dark Gray
0.394" 10.0mm	2.766 #	2	52114 Black
0.433" 11.0mm	3.040 #	2	52070 Pinstripe
0.472" 12.0mm	3.313 #	2	62000 Polar White
0.492" 12.5mm	3.454 #	2	62015 Ivory
0.500" 12.7mm	3.510 #	2	62029 Snowflake
			62033 Monterey
			72000 Parchment
			72005 Beige
			72010 Chocolate
			72047 Coca
			72174 Angora
			72175 Rouge
			72176 Dusty Rose
			72177 Daybreak
			72178 Misty Mauve
			72179 Sandy Beach
			Over 5,000 other colors & matches available. These are just Kleerdex's standard 34 colors.

Custom Runs on Colors and Sizes is a 1,000 pound minimum run per color per size.



**Durability by Design™**



Phone: 800-325-3133

Fax: 800-452-0155

**Contacts:**

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**Web Page:**

<http://www.kydex.com>

**Matrix Showing Which Grade of Kydex Will Compete With Comparable Materials**

Kydex Grades	Competitive Materials																															
	Acrylic/PVC (DKE 400/B4330)	ABS/PVC Royalite (R57/ R59)	FR ABS Royalite R 24	Royalite R 84/21	Royalite R 60/61LS	Royalite R 63	Boltaron 9815	Noryl EN 165	FR Styrene	Clear PVC	Acrylic	PETG	PET	PC	PC F6000	PC F8000	Decorative	DC Plate	GP ABS	HDPE/HMW-PE	Royalite R-52	Boltaron 9185 HG	Boltaron 4325	Boltaron 4315	Royalite R-47	Royalite R-86	Boltaron 1165	Boltaron 4205	Boltaron 4800	Boltaron 6800		
Kydex-100	X	X		X <sup>1</sup>				X						X <sup>2</sup>	X <sup>2</sup>									X	X					X		
Kydex-100AS					X													X														
Kydex-101				X											X <sup>2</sup>																	
Kydex-103 <sup>8</sup>																																
Kydex-130	X																X															
Kydex-200	X	X	X																X		X					X						
Kydex-510				X																							X					
Kydex-550				X																							X					
Kydex-657															X	X															X	
Kydex-1900 <sup>4</sup>								X <sup>2</sup>							X <sup>2</sup>	X <sup>2</sup>													X		X	
Kydex-6185 <sup>5</sup>								X <sup>2</sup>							X <sup>2</sup>	X <sup>2</sup>												X			X	
Kydex-6200					X																									X		
Kydex-6565							X									X															X	
Kydex-GND						X												X														
Kydex-T	X	X	X						X					X <sup>2</sup>	X <sup>2</sup>							X			X	X						
Kydex-V																			X	X <sup>7</sup>							X					
Vinyloy-100	X	X							X										X	X <sup>7</sup>		X			X		X					
Vinyloy-102		X	X	X					X								X		X				X					X				
Vinyloy-103 <sup>6</sup>			X																X			X					X					
Kydex 152 AR																							X									

Technical Service:  
800-682-8758

- 1- Only specific colors of Kydex 100 are sold for UV exposure applications
- 2- Application dependent based on HDT requirements
- 3- Better chemical resistance & formability-lower impact
- 4- Kydex 1900 competes where the HDT requirements do not exceed 170°F
- 5- Kydex 6185 competes where the HDT requirements are approximately 185F
- 6- Lower cycle time than Vinyloy 100
- 7- Typical completion is in formed dunnage/reusable pallet applications
- 8- Smooth texture (P-A)



**Durability by Design™**



**Phone: 800-325-3133**

**Fax: 800-452-0155**

**Contacts:**

Mary, Mary Lee, Ryan & Bernadette.

**Web Page:**

<http://www.kydex.com>

## Kydex to Industrial Laminate Color Cross Reference Guide

Please note that Kleerdex is constantly updating our color matches and this is constantly changing. We can match most all solid and capped materials at Kleerdex. This is a minimum order requirement for all special run colors and capped materials. This will vary with a solid color requiring 1000# to a special capped material requiring a minimum square footage requirement. Please call for matches, most are turned in 1 week for solids and 3 weeks for capped products.

Formica #	Kleerdex #	Description	Wilson Art #	Kleerdex #	Description
107	42107	CANYON BLUE	D29	32143	SILVERPINE
428	42170	COLONIAL BLUE	D096-13	42125	BLUE
456	42194	PEACOCK	321-60	42249	BLUE JAY BLUE
463	62027	IVORY	096-13	42125	BLUE
510	32124	BAYOU GREEN	1511-60	12100	MANDARIN RED
845	12079	SPECTRUM RED	1530	72502	BEIGE
846	42108	PEACOCK BLUE	D307-60	12099	TUTORTIME RED
848	42135	ASPEN	D309	12118	FAWN
851-58	42299	SPECTRUM BLUE	D315	52491	PLATINUM
853	32060	MYSTIC GREEN	D329-60	72470	LIGHT MAPLE
857	72178	MISTY MAUVE	D341-60	22120	TUTORTIME YELLOW
859	12047	MAUVELOUS	D351-60	32082	TYROL GREEN
866	72228	DOESKIN	D379	42300	INDIGO
868	72230	ADOBE	D417-60	42275	TUTORTIME BLUE
872	22021	LIGHT ORANGE	D451	12106	FIESTA REEF
875	72175	ROUGE	D474	42306	CANTON BLUE
876	12033	MAUVE	D91-60	52416	SLATE GRAY
879	32073	DUSTY JADE	D92-60	52225	DOVE GREY
897	32100	SPECTRUM GREEN			
911	72239	DAWN	<b>Nevarmar #</b>	<b>Kleerdex #</b>	<b>Description</b>
920	62143	ALMOND	S-1-23T	12101	ROSE PEARL
923	62161	WHITE	S-1-27T	12089	LIBERTY RED
927	52070	PINSTRIPED	S-3-36-T	42345	IMPRESSIONIST BLUE
928	52183	MOUSE	S-5-40-T	32155	IMPERIAL GREEN
929	52133	OYSTER GRAY	S-6-20-T	52173	CUSTOM GRAY
930	42133	BLUE SILK	S-6-27-T	52523	MARITIME GRAY
933	62065	MISSION WHITE	S-6-52T	72444	BOYD PUTTY
934	62144	PEARL	S-6-54-T	52521	GYRFALCON GRAY
942	32132	NILE			
950	72341	ECRU	<b>Pionite #</b>	<b>Kleerdex #</b>	<b>Description</b>
956	32071	MALLARD GREEN	SG-241-S	82506	FOLKSTONE
957	42132	WINDSOR BLUE	SP-409-S	42278	IRIS
965	42279	LAVENDER			
966	12045	BURGUNDY			
967	32059	TREASURE CHEST			
968	72176	DUSTY ROSE			

**Represented By:**

**G S Sales**

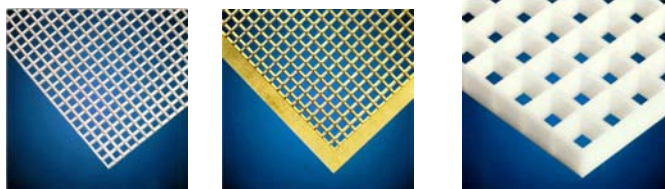
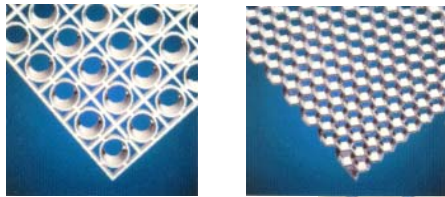
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**Fax: 317-595-6755**

**E-Mail: [gssales@insightbb.com](mailto:gssales@insightbb.com)**

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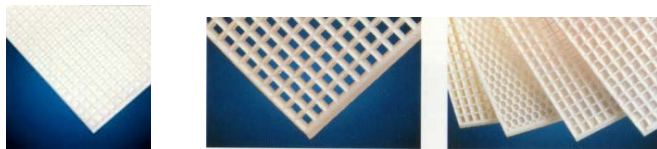


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- \* Hexlite/Paracircle Louvers\* Retro-Pak Frames

All American Louver's louvers are available in the colors of gold, silver, white and some in black. Please check today to see if American Louver can help you with your lighting supply needs.



**Vinyl Louvers** from American Louver meet fire and building code ratings. It meets Class 1 material standards. Open and closed cell available in a variety of styles.

**Aluminum Louvers, Baffles & Reflectors !**

American Louver is one of the only manufacturers of Aluminum Louvers Baffles & Reflectors. Call for literature or with your specifications on your aluminum louver requirements.

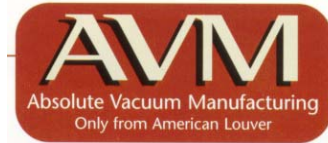
**Louver Blade Options**



Phone: 800-323-4250  
Fax: 847-470-0420

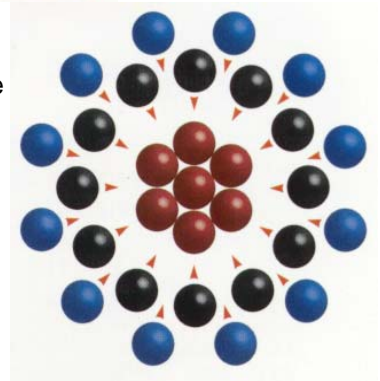
**Contacts:**  
Zoli, Tom & Gary  
**Web Page:**  
<http://www.AmericanLouver.com>

**G S Sales Company Profile**



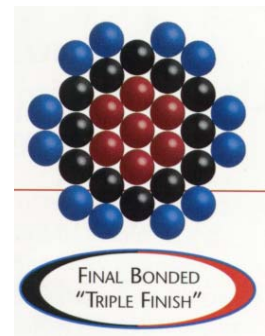
**What's AVM ?**

AMV stands for American Louver Company's Exclusive "Absolute Vacuum Manufacturing" Process, which occurs inside a vacuum chamber under the purest of conditions. AVM is the process that produces the exceptional UltraLux "Triple



Finish," featuring incredible reflectivity and ease of maintenance. After aluminum Metalized Plastic Polymer Ions Evaporated Silicon deposition (metalization) takes place, a protective film in the form of a gaseous-state polymer is introduced into the chamber. The polymer is bonded to the aluminum by inducing ions in to the chamber from a high-voltage cathode assembly. This polymerization is followed by the application of

Metalized Plastic Polymer Ions Evaporated Silicon



**Standard & Custom Wraparounds.**

Fax a sketch of the wraps you are matching. American may have a standard extrusion or it may be a fabricated to order

wrap. Either way you will get a quick competitive price and good delivery. American Louver wants to be your complete lighting supplier. Call American Louver

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Phone: 317-595-6750  
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Cell Phone: 317-509-2258

9765 Conifer Ct.  
Fishers, IN 46037  
Web Site: [www.gssales.com](http://www.gssales.com)



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