

## **POLYSTONE® POLYOLEFINS**



LININGS | TANKS | FLOW PROMOTION | MACHINE PARTS | FENDERS



**IMPACT RESISTANT**

Even at low temperatures, POLYSTONE® resists impact without breaking (e.g. skating rinks, marine fenders, etc.).

**Polystone®**



**LIGHT WEIGHT**

Unlike steel sheets, POLYSTONE® sheets can easily be handled without special equipment.



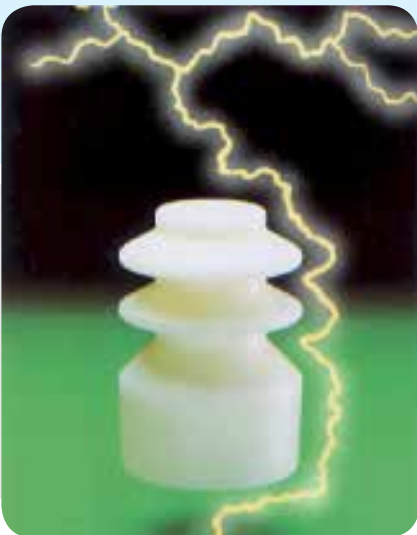
**TEMPERATURE RESISTANCE**

POLYSTONE® provides exceptional wear resistance and sliding properties at subzero temperatures and are ideal for freezers.



**PHYSIOLOGICALLY INERT**

POLYSTONE® is approved by health services (e.g. food industry).



**ELECTRICAL INSULATION**

POLYSTONE® is a good insulator with high dielectric resistance.

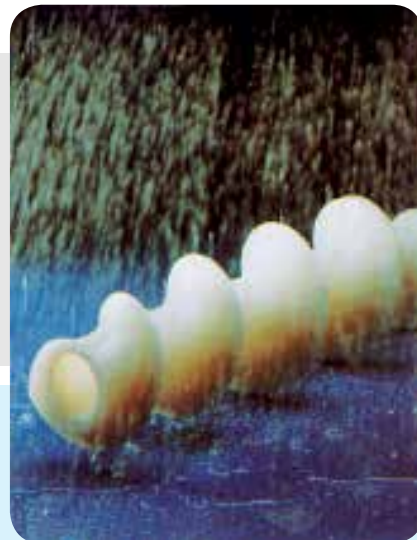
...application solutions, custom engineering.

## Characteristics



### CHEMICAL RESISTANCE

POLYSTONE® is resistant to corrosive chemicals such as sulphuric acid and caustic soda. Refer to web for chemical resistant chart.



### WEATHERPROOF

Resistant to the elements, POLYSTONE® is widely used for exterior applications (e.g. chain guides). Special UV resistant grades are available.



### ABRASION RESISTANCE

POLYSTONE® is rated better than carbon steel and other plastic materials for abrasion resistance (e.g. chute lining).



### LOW COEFFICIENT OF FRICTION

POLYSTONE® does not require lubrication thus providing low drag load and reduced energy consumption (e.g. chain guides).



### SELF LUBRICATING

POLYSTONE® does not require lubricating agents which may contaminate operations (e.g. food conveyors).

**DOTMAR ...your partner in performance plastics.**

## Polystone Polyolefins

Polystone Sheet & Rod Stock available in standard grade Polymers or in specifically formulated grades to suit a range of industry applications.

This group of plastics is constantly evolving through extensive research & development programs.

As new applications are identified by industry demands, manufacturers formulate appropriate solutions.

### POLYSTONE PP

Polypropylene

Homopolymer

Homopolymer

Orthotic

- Beige  
- Green  
- Natural  
- Natural

### POLYSTONE HD 300

High Density Polyethylene

- Natural  
- Black  
- Yellow

### POLYSTONE HM 500

High Molecular Weight Polyethylene

Natural Colour

Molecular Weight +/- 500,000 g/mol

### POLYSTONE 7000 AST

Ultra High Molecular Weight Polyethylene

Anti Static (Black)

Molecular Weight + 9.2 million g/mol

### POLYSTONE 7000

Ultra High Molecular Weight Polyethylene

Colour - Natural

Molecular Weight + 9.2 million g/mol

### POLYSTONE UHMWPE FENDER

Ultra High Molecular Weight Polyethylene

Colour - Black

Molecular Weight + 9.2 million g/mol

### POLYSTONE ULTRA

Colour - Green

Ultra High Molecular Weight Polyethylene

Colour - Blue/Grey

Molecular Weight + 9.2 million g/mol

### POLYSTONE MATROX

### POLYSTONE 8000 PLUS

Ultra High Molecular Weight Polyethylene Glass Filled

Colour - Blue

Molecular Weight + 9.2 million g/mol





## CUT TO SIZE AND CUSTOM PART MACHINING

Polyolefin is much stiffer and harder with high heat resistance and excellent chemical resistance at elevated temperatures. Used extensively in the Chemical process industry.

**ROD**  
6mm  
to  
300mm

**\*SHEET SIZES**  
2000/1000  
to  
3000/1500

**THICKNESS**  
1mm  
to  
100mm

A very rigid material available in large sheets for general use in plant engineering, tank construction and waste water industry. Where all round chemical resistance and weatherability are required.

**ROD**  
10 mm  
to  
250mm

**\*SHEET SIZES**  
2000/1000  
to  
3000/1500

**THICKNESS**  
1mm  
to  
160mm

Excellent mechanical properties supported by rigidity and creep resistance make this Polyethylene ideal for use in the food industry as cutting boards, underlays in food preparation and machined parts.

**\*SHEET SIZES**  
2000/1000

**THICKNESS**  
1mm  
to  
160mm

Specifically formulated to suit applications where reduced static is required in handling of bulk materials and other high speed sliding applications including lining of storage systems and change parts for the beverage industry.

**ROD**  
15mm  
to  
200mm

**\*SHEET SIZES**  
2000/1000  
to  
3000/1000  
to  
3000/2000  
to  
6000/1000

**THICKNESS**  
3mm  
to  
160mm

General purpose UHMWPE suited to engineered applications where the unique properties of excellent impact strength, wear and abrasion resistance are required.

**ROD**  
10mm  
to  
300mm

**\*SHEET SIZES**  
2000/1000  
to  
3000/1000  
to  
3000/2000  
to  
6000/1000

**THICKNESS**  
1mm  
to  
160mm

Polystone Fender Grade is a unique low-friction material suitable for Harbour Construction, Truck Docks, Dredges, Boats, Pilings and Floating Docks.

**\*SHEET SIZES**  
2000/1000  
to  
3000/1000  
to  
3000/2000  
to  
6000/1000

**THICKNESS**  
10mm  
to  
160mm

Specially formulated with improved sliding characteristics improving its resistance to wear, abrasion and environmental stress cracking. Ideally suited to flow promotion and mechanical transmission support products.

**ROD**  
20mm  
to  
200mm

**\*SHEET SIZES**  
2000/1000  
to  
3000/1000  
to  
3000/2000  
to  
6000/1000

**THICKNESS**  
3mm  
to  
160mm

Specially formulated Polyethylene with inorganic fillers to enhance its rigidity, dimensional stability and abrasion resistance. Ideal in dewatering elements.

**\*SHEET SIZES**  
2000/1000  
to  
3000/1000  
to  
3000/2000  
to  
6000/1000

**THICKNESS**  
10mm  
to  
160mm

**\*Note:** Custom sizes are available subject to minimum order quantities



**DOTMAR ...your partner in performance plastics.**

## Comparative Property Chart

	UNIT	POLYSTONE® HD 300	POLYSTONE® HM 500	POLYSTONE® 7000 AST	POLYSTONE® 7000	POLYSTONE® FENDER	POLYSTONE® ULTRA	POLYSTONE® MATROX	POLYSTONE® 8000 +
Density <b>DIN EN ISO 1183-1</b>	g/cm <sup>3</sup>	0.95	0.96	0.95	0.93	0.95	0.93	0.93	0.96
Crystalline Melting Range <b>ISO 11357-3</b>	°C	133-135	133-135	133-135	133-135	133-135	133-135	133-135	133-135
Tensile Stress at Yield <b>ISO 527-1</b>	N/mm <sup>2</sup>	22	27	22	>20	25	>20	20	23
Elongation at Break <b>ISO 527-1</b>	%	>50	>50	>200	>200	>50	>200	>200	>100
Shore Hardness <b>DIN EN ISO 868</b>	Shore D	63	65	63	63	66	63	63	67
Notched Impact Strength (14°double V notch) <b>DIN EN ISO 179-2</b>	mJ/mm <sup>2</sup>	-	>20	>100	>100	>10	>100	>100	>100
Sand-Slurry		500	250	90	80	220	80	80	70
Coefficient of Linear Thermal Expansion <b>DIN 53752</b>	1/K	150-230x10 <sup>-6</sup>	150-230x10 <sup>-6</sup>	150-230x10 <sup>-6</sup>	150-230x10 <sup>-6</sup>	150-230x10 <sup>-6</sup>	150-230x10 <sup>-6</sup>	150-230x10 <sup>-6</sup>	150-230x10 <sup>-6</sup>
Dielectrical Strength <b>IEC 60243</b>	KV/mm	45	45	-	45	-	45	45	45
Surface Resistivity <b>IEC 60093</b>	Ω	>10 <sup>14</sup>	>10 <sup>14</sup>	<10 <sup>6</sup>	>10 <sup>14</sup>	>10 <sup>11</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>
Volume Resistivity <b>IEC 60093</b>	Ω *cm	>10 <sup>14</sup>	>10 <sup>14</sup>	<10 <sup>6</sup>	>10 <sup>14</sup>	-	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>
Min/Max Service Temperature	°C	-50/+80	-100/+80	-150/+80	-250/+80	-100/+80	-250/+80	-250/+80	-250/+80

\* Lower value indicates better wear resistance.







MACHINED COMPONENTS



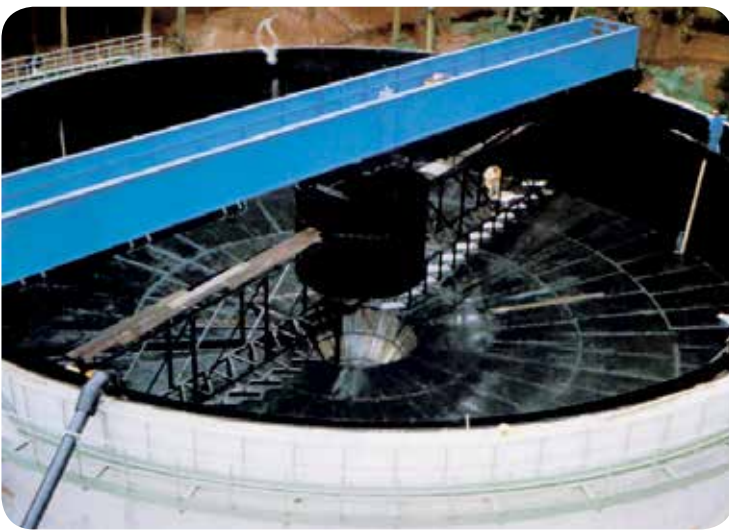
TIMBER REPLACEMENT PLAYGROUND EQUIPMENT



PP & HDPE SHEET FOR CHEMICAL STORAGE TANKS



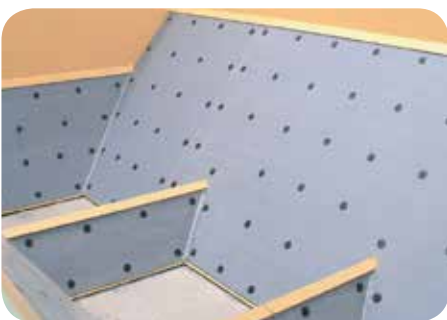
MACHINED COMPONENTS



HDPE SHEET FOR LINING THICKENER



TIMBER CHAIN GUIDES



MATROX LINING INSTALLED TO MANUFACTURERS RECOMMENDATION



POLYSTYRENE UHMWPE FENDER



MATROX LINERS TO REDUCE HANG UP



# From Conception...

Thermoplastics offer innovative solutions to traditional engineering challenges, enhancing performance, lowering cost and increasing efficiency. Dotmar has established advanced technical teams to support cutting edge application development.



- Lower Cost
- Design Flexibility
- Application Based Engineering
- Technical Specification & Support
- Solution Focused Relationships
- Re-Engineering

Are all aspects of Dotmar's approach allowing you to select the right thermoplastic in the most cost effective way.

# ...to Inception

Röchling Haren KG and the technical control board TUV Nord have co-operated to develop the new tank design calculation program **RITA** [ **R**ochling **I**ntegrated **T**ank **B**uilding **A**ssistant ].

**CAD/CAM**  
MANUFACTURING  
& DESIGN

**MATROX**  
COMPLETE PROJECT MANAGEMENT  
& SPECIALISED INSTALLATION

**CNC**  
MACHINING MILLING ROUTING  
SPINDLE MOULDING



*The suggestions and data presented here are based on information we believe to be accurate and reliable. They are given in good faith, but without guarantee, as the conditions and methods of use of our products are beyond our control. Each user should make his own tests to determine the suitability of our materials and suggestions before adopting them on a commercial scale. This publication is not to be taken as a license to operate under, or recommendation to infringe upon, any patents.*

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