



**POLYSTONE®**





#### Unbreakable

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



#### Temperature Resistance

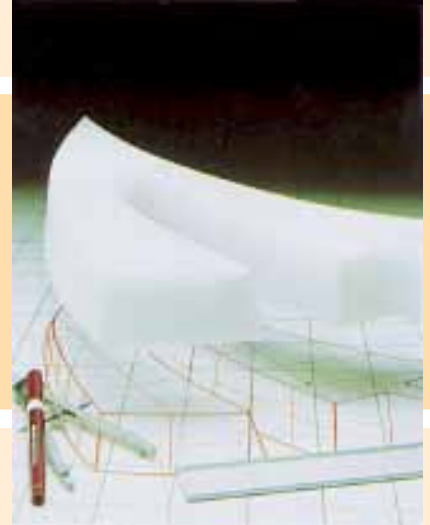
POLYSTONE® retains exceptional wear resistance and sliding properties at subzero temperatures and are ideal for freezers.



#### Electrical Insulation

POLYSTONE® are a good insulators with high dielectric resistance.

## Polystone®



#### Light Weight

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



#### Physiologically Inert

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

*... application solutions, custom engineering.*

## Characteristics



### Chemical Resistance

POLYSTONE® resists aggression from corrosive chemicals such as sulphuric acid and caustic soda.



### Low Coefficient of Friction

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

### Weatherproof

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



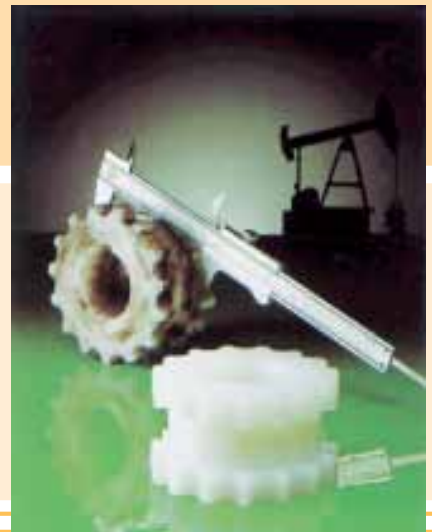
### Abrasion Resistance

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



### Self Lubricating

POLYSTONE® do not require lubricating agents which might contaminate your operation (e.g. food conveyors).



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



MACHINED COMPONENTS



TIMBER CHAIN GUIDES



LINERS TO REDUCE HANG UP

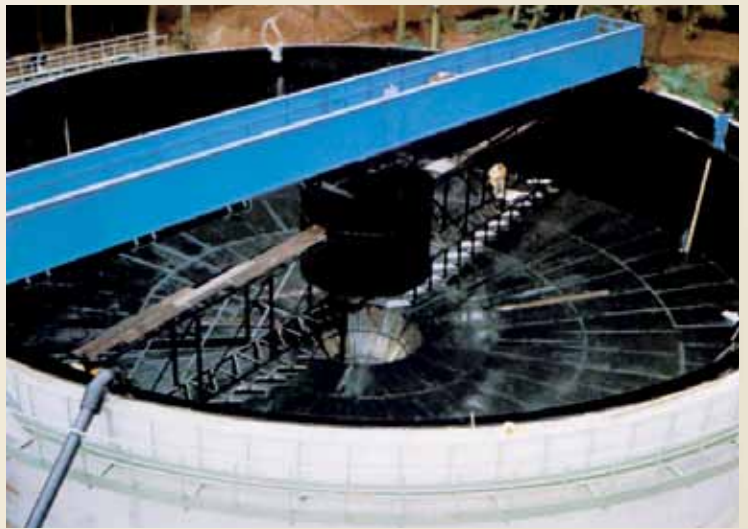


MACHINED COMPONENTS





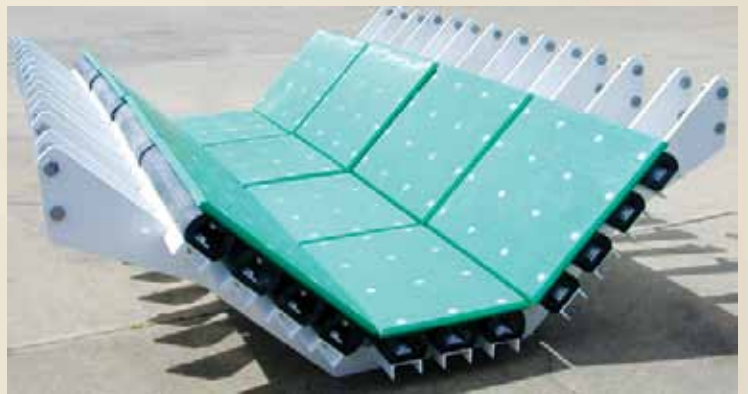
SHEET FOR CHEMICAL STORAGE TANKS



SHEET FOR LINING FLOTATION CELLS



WHARF FENDERS



IMPACT BED WEAR PLATES



TIMBER REPLACEMENT PLAYGROUND EQUIPMENT

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## Polystone Polyolefins

Polystone and Polypropylene Sheet and Rod Stock is available in Standard grade Polymers or in specially formulated grades to suit a range of Industry applications.

The constant change in expectations of engineered requirements has meant enormous improvement in the properties and performance of thermoplastics.

### POLYSTONE PP

Polypropylene -

Homopolymer  
Homopolymer

- Grey  
- 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 SR

Ultra High Molecular Weight Polyethylene  
Static Reduced (Black)  
Molecular Weight + 7 million g/mol

### POLYSTONE 7000

Ultra High Molecular Weight Polyethylene  
Natural - Colour  
Molecular Weight + 7 million g/mol

### POLYSTONE ULTRA

Ultra High Molecular Weight Polyethylene  
Colour - Green  
Molecular Weight + 7 million g/mol

### POLYSTONE 8000 PLUS

Ultra High Molecular Weight Polyethylene  
Colour - Blue  
Molecular Weight + 8 million g/mol



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

ROD	SHEET SIZES	THICKNESS
6mm to 300mm	2000/1000 3000/1500	1mm to 100mm

**CUT TO SIZE  
CUSTOM PARTS**



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	SHEET SIZES	THICKNESS
20 mm to 250mm	2000/1000 3000/1500	1mm to 160mm



**CUT TO SIZE  
CUSTOM PARTS**

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.

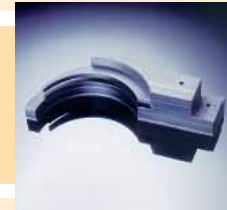
SHEET SIZES	THICKNESS
2000/1000 200/1000	1mm to 160mm

**CUT TO SIZE  
CUSTOM PARTS**



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	SHEET SIZES	THICKNESS
50mm to 200mm	2000/1000 3000/1000 3000/2000 6000/1000	3mm to 160mm



**CUT TO SIZE  
CUSTOM PARTS**

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

ROD	SHEET SIZES	THICKNESS
10mm to 300mm	2000/1000 3000/1000 3000/2000 6000/1000	1mm to 160mm

**CUT TO SIZE  
CUSTOM PARTS**



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	SHEET SIZES	THICKNESS
50mm to 200mm	2000/1000 3000/1000 3000/2000 6000/1000	3mm to 160mm



**CUT TO SIZE  
CUSTOM PARTS**

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

SHEET SIZES	THICKNESS
2000/1000 3000/1000 3000/2000 6000/1000	10mm to 160mm

**CUT TO SIZE  
CUSTOM PARTS**



## Comparative Property Chart

	UNIT	POLYSTONE 8000 +	POLYSTONE ULTRA	POLYSTONE 7000	POLYSTONE 7000 SR	POLYSTONE HM 500	POLYSTONE HD 300	POLYSTONE PP
DENSITY DIN 53479	g/cm <sup>3</sup>	0.96	0.93	0.93	0.95	0.95	0.95	0.90
CRYSTALLINE Melting Range	°C	130-135	130-135	130-135	130-135	130	135	160-168
DIN 53455 - Tensile Stress at Yield	N/mm <sup>2</sup>	≥19	≥20	≥20	≥20	28	22	26
DIN 53455 - Tensile Stress at Break	N/mm <sup>2</sup>	≥38	> 40	≥40	≥30	36	32	-
DIN 53455 - Elongation at Break	%	>300	>350	>350	>300	>600	>800	>50
DIN 53456 - Ball Indentation Hardness	N/mm <sup>2</sup>	38	38	38	-	46	40	65
DIN 53505 - Shore Hardness		D60	63	63	-	62	60	70
DIN 53453 - Notched Impact Strength	mJ/mm <sup>2</sup>	no failure	no failure	>100	-	>20	-	10
Relative Abrasion Loss By Sand Slurry Polystone 7000 = 90*		70	80	90	90	325	600	650
Coefficient of Lineal Thermal Expansion	K <sup>-1</sup>	2.10 <sup>-4</sup>	2.10 <sup>-4</sup>	2.10 <sup>-4</sup>	2.10 <sup>-4</sup>	2.10 <sup>-4</sup>	2.10 <sup>-4</sup>	1.5.10 <sup>-4</sup>
DIN 53481 - Dielectric Strength (measured on a 0.2mm thick sheet)	KV/mm	-	900	900	-	1500	700	750
DIN 53482 - Surface Resistivity (measured on 1mm thick material)	Ω	-	-	> 10 <sup>14</sup>	> 10 <sup>9</sup>	10 <sup>14</sup>	>10 <sup>15</sup>	>10 <sup>14</sup>
DIN 53482 - Volume Resistivity (measured on a 0.2mm thick sheet)	Ω cm	-	-	>10 <sup>16</sup>	-	>10 <sup>14</sup>	>10 <sup>15</sup>	10 <sup>14</sup>
Minimum/Maximum Service Temperature in Air	°C	-260/+90	-260/+90	-260/+90	-200/+90	-100/+80	-50/+80	-10/+130

\* Lower value indicates better wear resistance.

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

# From Conception...

Thermoplastics explore new answers to traditional engineering challenges, thereby enhancing performance and lifting efficiency. Dotmar has created advanced technical teams to support innovative application development.



- Engineering Costs Down
- Design Freedom
- Application Engineering
- Technical Specification
- Solution Selling
- Re-Engineering

Are all aspects of Dotmar which allow you to use the best Thermoplastic in the most cost effective way.



# ... to Inception

**CAD/CAM**  
MANUFACTURING  
& DESIGN

**CAMSAD**  
COMPUTER AIDED MATERIAL  
SELECTION & DESIGN

**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.*

**DOTMAR**  
ENGINEERING PLASTIC PRODUCTS

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