

-520.287780

## Polypropylene

**DSM EPP**

A versatile, low weight material which combines temperature and chemical resistance with excellent flexural properties.

- High flexural fatigue resistance
- Good impact strength
- Resists steam cleaning
- Natural white colour
- Continuous working temperature 80°C (max 100°C)
- Excellent chemical resistance (pH 4 - 11)
- Limited UV resistance
- Excellent electrical resistance

Application: Chemical tank/vessel lining, integral hinges, tool handles

### Rod 1m long

| Diameter (mm) | Farnell Order Code | Quantity per pack |
|---------------|--------------------|-------------------|
| 20            | 521 - 309          | 3                 |
| 30            | 521 - 310          | 2                 |
| 40            | 521 - 322          | 1                 |

### Sheet

| Sheet size (mm) | Farnell Order Code | Quantity per pack |
|-----------------|--------------------|-------------------|
| 3 x 495 x 995   | 521 - 334          | 3                 |
| 4.5 x 495 x 995 | 521 - 346          | 2                 |
| 6 x 495 x 995   | 521 - 358          | 2                 |
| 9 x 495 x 995   | 521 - 360          | 1                 |
| 10 x 495 x 995  | 521 - 371          | 1                 |
| 15 x 495 x 995  | 521 - 383          | 1                 |

## Technical Data

| Property                                 | ASTM Test Method | Units                              | Polypropylene     |
|------------------------------------------|------------------|------------------------------------|-------------------|
| Colour                                   | -                | -                                  | Trans /White      |
| Specific Gravity                         | D792             | -                                  | 0.9               |
| Water Absorption                         |                  |                                    |                   |
| Saturation in water                      | D570             | %                                  | <0.1%             |
| Tensile Strength                         | D638             | N/mm <sup>2</sup>                  | 42                |
| Tensile Modulus                          | D638             | N/mm <sup>2</sup>                  | 1050              |
| Elongation                               | D638             | %                                  | <600              |
| Flexural Strength                        | D790             | N/mm <sup>2</sup>                  | 45                |
| Flexural Modulus                         | D790             | N/mm <sup>2</sup>                  | 2000              |
| Hardness                                 | Rockwell         | -                                  |                   |
|                                          | Shore D          | -                                  | 80D               |
| Melt Point                               | D2117            | °C                                 | 160               |
| Max allowable service temp in air        |                  |                                    |                   |
| for short periods <sup>(1)</sup>         | -                | °C                                 | 110               |
| continuously for 20000hrs <sup>(2)</sup> | -                | °C                                 | 80                |
| Minimum Service Temperature              | -                | °C                                 | -60               |
| Linear thermal expansion coefficient     | D696             | K <sup>-1</sup> x 10 <sup>-5</sup> | 16                |
| Thermal Conductivity                     | C117             | W/K.m                              | 0.10              |
| Flammability                             | D635             | -                                  | Slow Burning      |
| UL (thickness in mm)                     | UL-94            | -                                  | -                 |
| Volume Resistivity                       | D257             | Ohm.cm                             | >10 <sup>15</sup> |
| Dielectric Strength <sup>(3)</sup>       | D149             | kV/mm                              | >30               |
| Outside applications - UV resistance     | -                | -                                  | A                 |
| Acids - Strong (pH < 3)                  | -                | -                                  | A                 |
| Alkalis - Strong (pH > 11)               | -                | -                                  | A                 |
| Chlorinated Hydrocarbons                 | -                | -                                  | C                 |
| Hot Water                                | -                | -                                  | A                 |

(1) Only a few hours, with little or no load applied

(2) After these periods mechanical properties reduce by approx 50%.

Note, however, that service temperatures are load and time dependent.

(3) Test specimen 1.6mm thick unless otherwise stated.

'A' No attack

'B' Mild attack by absorption

'C' Dimensional change due to absorption

'D' Decomposition in short time

'E' In steam - at 160°C, decomposition after short time

The data are typical values and are not intended to represent specifications. Their aim is to guide the user toward a material choice.

# ERTACETAL® C

## Acetal Copolymer

**DSM EPP**

This proven engineering material has a good combination of all round properties, distinguished by its low moisture absorption and excellent machinability:

- High rigidity
- Good impact resistance
- Low moisture absorption
- Natural white colour
- Continuous working temperature 100°C (max 140°C)
- Good chemical resistance (pH 5-11)
- Excellent dimensional stability
- Ideal for close tolerance parts

Application: pump housings, impellers, gears, bearings, valves, valve seats, domestic appliances, electrical components

### Rod 1m long

| Diameter (mm) | Farnell Order Code | Quantity per pack |
|---------------|--------------------|-------------------|
| 6             | 520 - 986          | 5                 |
| 10            | 520 - 998          | 5                 |
| 15            | 521 - 000          | 3                 |
| 20            | 521 - 012          | 2                 |
| 25            | 521 - 024          | 2                 |

### Sheet

| Sheet size (mm) | Farnell Order Code | Quantity per pack |
|-----------------|--------------------|-------------------|
| 8 x 500 x 305   | 521 - 036          | 2                 |
| 10 x 500 x 305  | 521 - 048          | 1                 |
| 16 x 500 x 305  | 521 - 050          | 1                 |
| 25 x 500 x 305  | 521 - 061          | 1                 |

### Technical Data

| Property                                                           | ASTM Test Method | Units                              | ERTACETAL® C      |
|--------------------------------------------------------------------|------------------|------------------------------------|-------------------|
| Colour                                                             | -                | -                                  | White             |
| Specific Gravity                                                   | D792             | -                                  | 1.41              |
| Water Absorption                                                   |                  |                                    |                   |
| Saturation in water                                                | D570             | %                                  | 0.8               |
| Tensile Strength                                                   | D638             | N/mm <sup>2</sup>                  | 62                |
| Tensile Modulus                                                    | D638             | N/mm <sup>2</sup>                  | 2795              |
| Elongation                                                         | D638             | %                                  | >60               |
| Flexural Strength                                                  | D790             | N/mm <sup>2</sup>                  | 90                |
| Flexural Modulus                                                   | D790             | N/mm <sup>2</sup>                  | 2585              |
| Hardness                                                           | Rockwell         | -                                  | R120              |
| Shore D                                                            | -                | -                                  | -                 |
| Melt Point                                                         | D2117            | °C                                 | 165               |
| Max allowable service temp in air for short periods <sup>(1)</sup> | -                | °C                                 | 140               |
| continuously for 20000hrs <sup>(2)</sup>                           | -                | °C                                 | 100               |
| Minimum Service Temperature                                        | -                | °C                                 | -50               |
| Linear thermal expansion coefficient                               | D696             | K <sup>-1</sup> x 10 <sup>-3</sup> | 12.5              |
| Thermal Conductivity                                               | C117             | W/K.m                              | 0.23              |
| Flammability                                                       | D635             | -                                  | Slow Burning      |
| UL (thickness in mm)                                               | UL-94            | -                                  | -                 |
| Volume Resistivity                                                 | D257             | Ohm.cm                             | >10 <sup>14</sup> |
| Dielectric Strength <sup>(3)</sup>                                 | D149             | kV/mm                              | >16               |
| Outside applications - UV resistance                               | -                | -                                  | D                 |
| Acids - Strong (pH < 3)                                            | -                | -                                  | D                 |
| Alkalis - Strong (pH > 11)                                         | -                | -                                  | C                 |
| Chlorinated Hydrocarbons                                           | -                | -                                  | A                 |
| Hot Water                                                          | -                | -                                  | C                 |

- (1) Only a few hours, with little or no load applied  
 (2) After these periods mechanical properties reduce by approx 50%  
 Note: however, that service temperatures are load and time dependent.  
 (3) Test specimen 1.6mm thick unless otherwise stated.

'A' No attack  
 'B' Mild attack by absorption  
 'C' Dimensional change due to absorption  
 'D' Decomposition in short time  
 'E' in steam - at 180°C, decomposition after short time

The data are typical values and are not intended to represent specifications. Their aim is to guide the user toward a material choice.

# AXXIS® PC-111

## Polycarbonate

**DSM EPP**

Polycarbonate sheet is a virtually unbreakable optical quality, flexible material which can be fabricated into a wide variety of clear components.

- Good mechanical strength
- Exceptional impact strength
- Excellent flame retardance
- Clear, high optical quality
- Continuous working temperature 80°C (max 100°C)
- Good chemical resistance
- Very good UV/weathering resistance
- Good thermal/noise barrier

**Application:** Flat and curved glazing, machine guards, riot shields, door viewing panels, light covers

### Sheet

| Sheet size<br>(mm) | Farnell<br>Order<br>Code | Quantity<br>per pack |
|--------------------|--------------------------|----------------------|
| 3 x 610 x 1220     | 521 - 395                | 2                    |
| 4 x 610 x 1220     | 521 - 401                | 2                    |
| 5 x 610 x 1220     | 521 - 413                | 2                    |
| 6 x 610 x 1220     | 521 - 425                | 2                    |

### Technical Data

| Property                                 | ASTM<br>Test<br>Method | Units                              | AXXIS<br>PC-111   |
|------------------------------------------|------------------------|------------------------------------|-------------------|
| Colour                                   | -                      | -                                  | Clear             |
| Specific Gravity                         | D792                   | -                                  | 1.20              |
| Water Absorption                         |                        |                                    |                   |
| Saturation in water                      | D570                   | %                                  | 0.35              |
| Tensile Strength                         | D638                   | N/mm <sup>2</sup>                  | 65                |
| Tensile Modulus                          | D638                   | N/mm <sup>2</sup>                  | 2300              |
| Elongation                               | D638                   | %                                  | >50               |
| Flexural Strength                        | D790                   | N/mm <sup>2</sup>                  | 100               |
| Flexural Modulus                         | D790                   | N/mm <sup>2</sup>                  | -                 |
| Hardness                                 | Rockwell               | -                                  | M75               |
|                                          | Shore D                | -                                  | -                 |
| Melt Point                               | D2117                  | °C                                 | -                 |
| Max allowable service temp in air        |                        |                                    |                   |
| for short periods <sup>(1)</sup>         | -                      | °C                                 | 135               |
| continuously for 20000hrs <sup>(2)</sup> | -                      | °C                                 | 115               |
| Minimum Service Temperature              | -                      | °C                                 | -60               |
| Linear thermal expansion coefficient     | D696                   | K <sup>-1</sup> x 10 <sup>-5</sup> | 6.5               |
| Thermal Conductivity                     | C117                   | W/K.m                              | 0.21              |
| Flammability                             | D635                   | -                                  | -                 |
| UL (thickness in mm)                     | UL-94                  | -                                  | V-2/V-0           |
| Volume Resistivity                       | D257                   | Ohm.cm                             | >10 <sup>14</sup> |
| Dielectric Strength <sup>(3)</sup>       | D149                   | kV/mm                              | >30               |
| Outside applications - UV resistance     | -                      | -                                  | D                 |
| Acids - Strong (pH < 3)                  | -                      | -                                  | D                 |
| Alkalis - Strong (pH > 11)               | -                      | -                                  | D                 |
| Chlorinated Hydrocarbons                 | -                      | -                                  | D                 |
| Hot Water                                | -                      | -                                  | A                 |

- (1) Only a few hours, with little or no load applied  
 (2) After these periods mechanical properties reduce by approx 50%  
 Note, however, that service temperatures are load and time dependent.  
 (3) Test specimen 1.6mm thick unless otherwise stated.

'A' No attack  
 'B' Mild attack by absorption  
 'C' Dimensional change due to absorption  
 'D' Decomposition in short time  
 'E' In steam - at 160°C, decomposition after short time

## ERTALON® 66SAMU

*Nylon 66, MoS<sub>2</sub> Filled*

**DSM EPP**

This material is based on nylon 66, enhanced with a molybdenum disulphide (MoS<sub>2</sub>) filler to produce a low friction, self lubricating material with superior properties over unfilled nylon 66

- High stiffness/strength
- Self lubricating
- Excellent wear resistance
- Dark grey colour
- Continuous working temperature 100°C (max 145°C)
- Good chemical resistance (pH 5-11)
- Greater load bearing capability
- Excellent dynamic bearing material

**Application:** Gears, bearings, rollers, wheels, cams, nuts, valve seats, pulleys, gaskets, electrical insulators

### Rod 1m long

| Diameter (mm) | Farnell Order Code | Quantity per pack |
|---------------|--------------------|-------------------|
| 8             | 520 - 627          | 5                 |
| 12            | 520 - 639          | 3                 |
| 16            | 520 - 640          | 3                 |
| 20            | 520 - 652          | 2                 |
| 25            | 520 - 664          | 2                 |
| 30            | 520 - 676          | 1                 |
| 35            | 520 - 688          | 1                 |
| 40            | 520 - 690          | 1                 |
| 45            | 520 - 706          | 1                 |
| 50            | 520 - 718          | 1                 |

### Sheet

| Sheet size (mm) | Farnell Order Code | Quantity per pack |
|-----------------|--------------------|-------------------|
| 8 x 500 x 305   | 520 - 720          | 2                 |
| 12 x 500 x 305  | 520 - 731          | 1                 |
| 16 x 500 x 305  | 520 - 743          | 1                 |
| 20 x 500 x 305  | 520 - 755          | 1                 |
| 25 x 500 x 305  | 520 - 767          | 1                 |

### Technical Data

| Property                                 | ASTM Test Method | Units                              | ERTALON® 66SAMU    |
|------------------------------------------|------------------|------------------------------------|--------------------|
| Colour                                   | -                | -                                  | Silver grey        |
| Specific Gravity                         | D792             | -                                  | 1.14-1.18          |
| Water Absorption                         |                  |                                    |                    |
| Saturation in water                      | D570             | %                                  | 6-8                |
| Tensile Strength                         | D638             | N/mm <sup>2</sup>                  | 69/96              |
| Tensile Modulus                          | D638             | N/mm <sup>2</sup>                  | 3130/4160          |
| Elongation                               | D638             | %                                  | 5-150              |
| Flexural Strength                        | D790             | N/mm <sup>2</sup>                  | 110-130            |
| Flexural Modulus                         | D790             | N/mm <sup>2</sup>                  | 2758-3448          |
| Hardness                                 | Rockwell         | -                                  | R110-125           |
|                                          | Shore D          | -                                  | 80-90              |
| Melt Point                               | D2117            | °C                                 | 260                |
| Max allowable service temp in air        |                  |                                    |                    |
| for short periods <sup>(1)</sup>         | -                | °C                                 | 160                |
| continuously for 20000hrs <sup>(2)</sup> | -                | °C                                 | 90                 |
| Minimum Service Temperature              | -                | °C                                 | -40                |
| Linear thermal expansion coefficient     | D696             | K <sup>-1</sup> x 10 <sup>-5</sup> | 6.3                |
| Thermal Conductivity                     | C117             | W/K.m                              | 0.3                |
| Flammability                             | D635             | -                                  | Self Extinguishing |
| UL (thickness in mm)                     | UL-94            | -                                  | -                  |
| Volume Resistivity                       | D257             | Ohm.cm                             | >10 <sup>13</sup>  |
| Dielectric Strength <sup>(3)</sup>       | D149             | kV/mm                              | >20                |
| Outside applications - UV resistance     | -                | -                                  | C                  |
| Acids - Strong (pH < 3)                  | -                | -                                  | D                  |
| Alkalis - Strong (pH > 11)               | -                | -                                  | C                  |
| Chlorinated Hydrocarbons                 | -                | -                                  | A                  |

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# ERTALON® 66SA

*Nylon 66*

**DSM EPP**

ERTALON® 66SA is a highly versatile general engineering plastic due to its excellent combination of properties:

- Tough/resilient
- Good wear resistance
- Electrical insulator
- Natural white colour
- Continuous working temperature 80°C (max 160°C)
- Good chemical resistance (pH 5-11)
- Low weight (1/6 vs steel)
- Good flexural fatigue resistance

Application: gears, bearings, rollers, wheels, cams, nuts, valve seats, pulleys, gaskets, electrical insulators

## Rod 1m long

| Diameter (mm) | Farnell Order Code | Quantity per pack |
|---------------|--------------------|-------------------|
| 6             | 520 - 287          | 5                 |
| 10            | 520 - 299          | 5                 |
| 15            | 520 - 305          | 3                 |
| 20            | 520 - 317          | 2                 |
| 25            | 520 - 329          | 2                 |
| 30            | 520 - 330          | 2                 |
| 36            | 520 - 342          | 1                 |
| 40            | 520 - 354          | 1                 |
| 45            | 520 - 366          | 1                 |
| 50            | 520 - 378          | 1                 |
| 56            | 520 - 380          | 1                 |
| 60            | 520 - 391          | 1                 |
| 65            | 520 - 408          | 1                 |
| 70            | 520 - 410          | 1                 |
| 75            | 520 - 421          | 1                 |

## Sheet

| Sheet size (mm) | Farnell Order Code | Quantity per pack |
|-----------------|--------------------|-------------------|
| 8 x 500 x 305   | 520 - 433          | 2                 |
| 12 x 500 x 305  | 520 - 445          | 1                 |
| 16 x 500 x 305  | 520 - 457          | 1                 |
| 20 x 500 x 305  | 520 - 469          | 1                 |
| 25 x 500 x 305  | 520 - 470          | 1                 |
| 30 x 500 x 305  | 520 - 482          | 1                 |
| 40 x 500 x 305  | 520 - 494          | 1                 |
| 50 x 500 x 305  | 520 - 500          | 1                 |

## Technical Data

| Property                                                           | ASTM Test Method | Units                              | ERTALON® 66SA      |
|--------------------------------------------------------------------|------------------|------------------------------------|--------------------|
| Colour                                                             | -                | -                                  | White              |
| Specific Gravity                                                   | D792             | -                                  | 1.14-1.15          |
| Water Absorption                                                   |                  |                                    |                    |
| Saturation in water                                                | D570             | %                                  | 7-9                |
| Tensile Strength                                                   | D638             | N/mm <sup>2</sup>                  | 62/83              |
| Tensile Modulus                                                    | D638             | N/mm <sup>2</sup>                  | 1733/2744          |
| Elongation                                                         | D638             | %                                  | 20-200             |
| Flexural Strength                                                  | D790             | N/mm <sup>2</sup>                  | 86-97              |
| Flexural Modulus                                                   | D790             | N/mm <sup>2</sup>                  | 1207-2827          |
| Hardness                                                           | Rockwell         | -                                  | R112-120           |
|                                                                    | Shore D          | -                                  | 80-85              |
| Melt Point                                                         | D2117            | °C                                 | 260                |
| Max allowable service temp in air for short periods <sup>(1)</sup> | -                | °C                                 | 160                |
| continuously for 20000hrs <sup>(2)</sup>                           | -                | °C                                 | 80                 |
| Minimum Service Temperature                                        | -                | °C                                 | -40                |
| Linear thermal expansion coefficient                               | D696             | K <sup>-1</sup> x 10 <sup>-5</sup> | 10                 |
| Thermal Conductivity                                               | C117             | W/K.m                              | 0.24               |
| Flammability                                                       | D635             | -                                  | Self Extinguishing |
| UL (thickness in mm)                                               | UL-94            | -                                  | -                  |
| Volume Resistivity                                                 | D257             | Ohm.cm                             | >10 <sup>13</sup>  |
| Dielectric Strength <sup>(3)</sup>                                 | D149             | kV/mm                              | >12                |
| Outside applications - UV resistance                               | -                | -                                  | C                  |
| Acids - Strong (pH < 3)                                            | -                | -                                  | D                  |
| Alkalis - Strong (pH > 11)                                         | -                | -                                  | C                  |
| Chlorinated Hydrocarbons                                           | -                | -                                  | A                  |
| Hot Water                                                          | -                | -                                  | C                  |

(1) Only a few hours, with little or no load applied

(2) After these periods mechanical properties reduce by approx 50%.

Note, however, that service temperatures are load and time dependent

(3) Test specimen 1.6mm thick unless otherwise stated.

'A' No attack

'B' Mild attack by absorption

'C' Dimensional change due to absorption

'D' Decomposition in short time

'E' In steam - at 160°C, decomposition after short time

The data are typical values and are not intended to represent specifications. Their aim is to guide the user toward a material choice.

# ERTALON® 66GF-30

*Nylon 66 30% Glass Filled*

**DSM EPP**

The addition of 30% glass fibre to nylon 66 produces an outstanding composite material which is ideal for demanding static applications:

- High strength/stiffness
- Excellent creep resistance
- Good dimensional stability
- Black colour
- Continuous working temperature 120°C (max 145°C)
- Good chemical resistance (pH 5-11)
- Good hydrolysis resistance
- Excellent electrical insulator

Application: as ERTALON® 66SA but at higher loads

## Rod 1m long

| Diameter (mm) | Farnell Order Code | Quantity per pack |
|---------------|--------------------|-------------------|
| 10            | 520 - 512          | 5                 |
| 15            | 520 - 524          | 3                 |
| 20            | 520 - 536          | 2                 |
| 25            | 520 - 548          | 2                 |
| 30            | 520 - 550          | 2                 |
| 40            | 520 - 561          | 1                 |
| 50            | 520 - 573          | 1                 |
| 70            | 520 - 585          | 1                 |

## Sheet

| Sheet size | Farnell Order | Quantity |
|------------|---------------|----------|
|------------|---------------|----------|

## Technical Data

| Property                          | ASTM Test Method | Units             | ERTALON® 66GF30 |
|-----------------------------------|------------------|-------------------|-----------------|
| Colour                            | -                | -                 | Black           |
| Specific Gravity                  | D792             | -                 | 1.35            |
| Water Absorption                  |                  |                   |                 |
| Saturation in water               | D570             | %                 | 5.5             |
| Tensile Strength                  | D638             | N/mm <sup>2</sup> | 190             |
| Tensile Modulus                   | D638             | N/mm <sup>2</sup> | 10,000          |
| Elongation                        | D638             | %                 | 3               |
| Flexural Strength                 | D790             | N/mm <sup>2</sup> | 270             |
| Flexural Modulus                  | D790             | N/mm <sup>2</sup> | -               |
| Hardness                          | Rockwell         | -                 | M100            |
|                                   | Shore D          | -                 | -               |
| Melt Point                        | D2117            | °C                | 255             |
| Max allowable service temp in air |                  |                   |                 |
| for short periods                 | -                | °C                | 145             |
| continuously for 20000hrs         | -                | °C                | 120             |
| Minimum Service Temperature       | -                | °C                | -20             |

ns. Their aim is to guide the user toward a material choice

# UHMWPE

## Ultra high molecular weight polyethylene

**DSM EPP**

Ultra high molecular weight polyethylene is a physiologically inert material with an outstanding combination of properties for indoor and outdoor aggressive environments:

- Very high impact resistance
- Good abrasive wear resistance
- Suitable for food contact
- Natural translucent white colour
- Continuous working temperature 60°C (max 80°C)
- Low temperature capability -250°C
- Excellent chemical and UV/weathering resistance
- Excellent electrical properties

Application: chute linings, chain guides, underwater bearings, hopper linings, impact plates, pulleys, textiles machinery, gaskets, pump components, guide rails

### Rod 1m long

| Diameter (mm) | Farnell Order Code | Quantity per pack |
|---------------|--------------------|-------------------|
| 20            | 521 - 152          | 5                 |
| 30            | 521 - 164          | 5                 |
| 40            | 521 - 176          | 3                 |

### Sheet

| Sheet size (mm) | Farnell Order Code | Quantity per pack |
|-----------------|--------------------|-------------------|
| 3 x 470 x 960   | 521 - 188          | 3                 |
| 4 x 470 x 960   | 521 - 190          | 2                 |
| 8 x 470 x 960   | 521 - 206          | 1                 |
| 10 x 500 x 1000 | 521 - 218          | 1                 |
| 15 x 500 x 1000 | 521 - 220          | 1                 |

### Technical Data

| Property                                                | ASTM Test Method | Units                | POLYETHYLENE UHMWPE |
|---------------------------------------------------------|------------------|----------------------|---------------------|
| Colour                                                  | -                | -                    | Trans. White        |
| Specific Gravity                                        | D792             | -                    | 0.93                |
| Water Absorption                                        | -                | -                    | Non-absorbent       |
| Saturation in water                                     | D570             | %                    | -                   |
| Tensile Strength                                        | D638             | N/mm <sup>2</sup>    | 40                  |
| Tensile Modulus                                         | D638             | N/mm <sup>2</sup>    | 522-690             |
| Elongation                                              | D638             | %                    | >350                |
| Flexural Strength                                       | D790             | N/mm <sup>2</sup>    | -                   |
| Flexural Modulus                                        | D790             | N/mm <sup>2</sup>    | 517                 |
| Hardness                                                | Rockwell         | -                    | -                   |
|                                                         | Shore D          | -                    | 82                  |
| Melt Point                                              | D2117            | °C                   | 130                 |
| Max allowable service temp in air for short periods (1) | -                | °C                   | 80                  |
| continuously for 20000hrs (2)                           | -                | °C                   | 60                  |
| Minimum Service Temperature                             | -                | °C                   | -260                |
| Linear thermal expansion coefficient                    | D696             | K x 10 <sup>-5</sup> | 20                  |
| Thermal Conductivity                                    | C117             | W/K m                | 0.42                |
| Flammability                                            | D635             | -                    | Slow Burning        |
| UL (thickness in mm)                                    | UL-94            | -                    | -                   |
| Volume Resistivity                                      | D257             | Ohm cm               | >10 <sup>15</sup>   |
| Dielectric Strength (3)                                 | D149             | kV/mm                | 20                  |
| Outside applications - UV resistance                    | -                | -                    | D                   |
| Acids - Strong (pH < 3)                                 | -                | -                    | D                   |
| Alkalis - Strong (pH > 11)                              | -                | -                    | D                   |
| Chlorinated Hydrocarbons                                | -                | -                    | A                   |
| Hot Water                                               | -                | -                    | D                   |

(1) Only a few hours, with little or no load applied

(2) After these periods mechanical properties reduce by approx 50%

Note, however that service temperatures are load and time dependent

(3) Test specimen 1.6mm thick unless otherwise stated

'A' No attack

'B' Mild attack by absorption

'C' Dimensional change due to absorption

'D' Decomposition in short time

'E' In steam - at 160°C decomposition after short time

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# PVC

## PolyVinylChloride

**DSM EPP**

A long established plastic with quite good mechanical properties, generally chosen when chemical resistance is required at low cost.

- Reasonable mechanical properties
- Limited impact strength
- Low moisture absorption
- Light grey colour
- Continuous working temperature 50°C (max 80°C)
- Good UV/weather resistance
- Good chemical resistance (pH3 - 12)
- Easily fabricated

Application: mainly static applications for prototyping, models, electrical insulation, chemical valves and pumps

### Rod 1m long

| Diameter (mm) | Farnell Order Code | Quantity per pack |
|---------------|--------------------|-------------------|
| 6             | 521 - 231          | 5                 |
| 10            | 521 - 243          | 5                 |
| 15            | 521 - 255          | 3                 |
| 20            | 521 - 267          | 2                 |
| 25            | 521 - 279          | 2                 |

### Sheet

| Sheet size (mm)  | Farnell Order Code | Quantity per pack |
|------------------|--------------------|-------------------|
| 3 x 500 x 1000   | 521 - 280          | 5                 |
| 4.5 x 500 x 1000 | 521 - 292          | 3                 |

### Technical Data

| Property                             | ASTM Test Method | Units                              | PVC                  |
|--------------------------------------|------------------|------------------------------------|----------------------|
| Colour                               | -                | -                                  | Grey                 |
| Specific Gravity                     | D792             | -                                  | 1.46                 |
| Water Absorption                     |                  |                                    |                      |
| Saturation in water                  | D570             | %                                  | 0.2                  |
| Tensile Strength                     | D638             | N/mm <sup>2</sup>                  | 48                   |
| Tensile Modulus                      | D638             | N/mm <sup>2</sup>                  | 3500                 |
| Elongation                           | D638             | %                                  | 120                  |
| Flexural Strength                    | D790             | N/mm <sup>2</sup>                  | 125                  |
| Flexural Modulus                     | D790             | N/mm <sup>2</sup>                  | -                    |
| Hardness                             | Rockwell         | -                                  | -                    |
|                                      | Shore D          | -                                  | 84                   |
| Melt Point                           | D2117            | °C                                 | -                    |
| Max allowable service temp in air    |                  |                                    |                      |
| for short periods (1)                | -                | °C                                 | 130                  |
| continuously for 20000hrs (2)        | -                | °C                                 | 80                   |
| Minimum Service Temperature          | -                | °C                                 | -15                  |
| Linear thermal expansion coefficient | D696             | K <sup>-1</sup> x 10 <sup>-3</sup> | 7.0                  |
| Thermal Conductivity                 | C117             | W/K m                              | 0.14                 |
| Flammability                         | D635             | -                                  | -                    |
| UL (thickness in mm)                 | UL-94            | -                                  | V-0                  |
| Volume Resistivity                   | D257             | Ohm cm                             | 4 x 10 <sup>13</sup> |
| Dielectric Strength (3)              | D149             | kV/mm                              | 20-50                |
| Outside applications - UV resistance | -                | -                                  | A                    |
| Acids - Strong (pH < 3)              | -                | -                                  | A                    |
| Alkalis - Strong (pH > 11)           | -                | -                                  | A                    |
| Chlorinated Hydrocarbons             | -                | -                                  | D                    |
| Hot Water                            | -                | -                                  | A                    |

- (1) Only a few hours, with little or no load applied  
 (2) After these periods mechanical properties reduce by approx 50%  
 Note, however that service temperatures are load and time dependent  
 (3) Test specimen 1.6mm thick unless otherwise stated.

- 'A' No attack  
 'B' Mild attack by absorption  
 'C' Dimensional change due to absorption  
 'D' Decomposition in short time  
 'E' In steam - at 160°C, decomposition after short time