

# QUADRANT EPP PRODUCT DATA SHEET

## ERTALON® 66SA

June 2001

Nylon 66 (PA 66)

In comparison to ERTALON® 66SA, ERTALON® 66SA has a higher melting point, better mechanical properties and greater hardness. Because of its lower water absorption, it is more suited for components that have to meet tighter tolerances.

- High impact strength
- High mechanical damping
- Good alkaline resistance (up to pH 12)
- High strength / stiffness
- Good fatigue resistance
- Good UV resistance
- Excellent wear resistance
- Continuous temperature 80°C (max. 180°C)

Common applications: Gears; Bearings; Rollers; Wheels; Cams; Nuts; Valve seats; Pulleys; Gaskets; Electrical insulators.

### Delivery Programme

|                   |                        |             |
|-------------------|------------------------|-------------|
| Rod 1m & 3m long  |                        |             |
| Diameter (mm):    | 5 (Min)                | 250 (Max)   |
| Sheet 1m wide     |                        |             |
| Thickness (mm):   | 2 (Min)                | 6 (Max)     |
| Length:           | 1m & 2m                |             |
| Plate 610mm wide  |                        |             |
| Thickness (mm):   | 8 (Min)                | 100 (Max)   |
| Length:           | 1m & 3m                |             |
| Tube 1m & 3m long |                        |             |
| O.D. (mm):        | 20 (Min)               | 100 (Max)   |
| I.D. (mm):        | 10 (Min)               | 80 (Max)    |
| Coiled Strip      |                        |             |
| Thickness (mm):   | 0.25 (Min)             | 3.18 (Max)  |
| Width (mm):       | 25.4 (Min)             | 101.6 (Max) |
| Length (mm):      | Dependant on thickness |             |

### Distributor

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### Technical Specification

| Property                                    | ISO Methods | Units                              | ERTALON® 66SA     |
|---|-------------|------------------------------------|-------------------|
| Colour                                      | -           | -                                  | White             |
| Density                                     | 1183        | g/cm <sup>3</sup>                  | 1.14              |
| Water absorption                            |             |                                    |                   |
| Saturation in air (23°C / 50% RH)           | -           | %                                  | 2.40              |
| Saturation in water (23°C)                  | -           | %                                  | 8.00              |
| Tensile strength* <sup>1</sup>              | 527         | N/mm <sup>2</sup>                  | 90                |
| Tensile modulus of elasticity* <sup>1</sup> | 527         | N/mm <sup>2</sup>                  | 3450              |
| Elongation at break* <sup>1</sup>           | 527         | %                                  | >40               |
| Impact - Charpy* <sup>1</sup>               | 179/1eU     | kJ/m <sup>2</sup>                  | no break          |
| Impact - Izod notched* <sup>1</sup>         | 180/2A      | kJ/m <sup>2</sup>                  | 4.5               |
| Hardness                                    | Rockwell    | -                                  | M88               |
|   | Shore D     | -                                  | -                 |
| Melt point                                  | -           | °C                                 | 255               |
| Max allowable service temp in air           |             |                                    |                   |
| for short periods                           | -           | °C                                 | 180               |
| continuously for 20,000hrs                  | -           | °C                                 | 80                |
| Linear thermal expansion coefficient        | -           | K <sup>-1</sup> x 10 <sup>-5</sup> | 8.0               |
| Thermal conductivity                        | -           | W/(K.m)                            | 0.28              |
| Flammability* <sup>2</sup> (6mm thickness)  | -           | -                                  | V-2               |
| Volume resistivity* <sup>1</sup>            | IEC93       | Ohm.cm                             | >10 <sup>14</sup> |
| Dielectric strength* <sup>1</sup>           | IEC243      | kV/mm                              | 27                |
| Outside applications - UV resistance        | -           | -                                  | A/B               |
| Acids - strong (pH < 3)                     | -           | -                                  | C                 |
| Alkalis - strong (pH > 11)                  | -           | -                                  | B/C               |
| Chlorinated hydrocarbons                    | -           | -                                  | A/B               |
| Hot water                                   | -           | -                                  | B                 |

'A' - Acceptable service; 'B' - Limited service; 'C' - Unacceptable.

\*<sup>1</sup> Measured on dry test specimens (where applicable)

\*<sup>2</sup> Tests completed by Quadrant EPP, using UL test methods

Not all material sizes shown within the delivery programme section of this data sheet are available as standard. Please contact Quadrant EPP UK Ltd for further details.

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