

## TYPICAL MATERIAL PROPERTIES OF THERMOPLASTICS

| Properties                    | Units                               | Thermoplastics            |                  |                    |              |
|-------------------------------|-------------------------------------|---------------------------|------------------|--------------------|--------------|
|                               |                                     | SANLENE                   | SANTHENE         | SAN ABS            | SANHIPS      |
| <b>PHYSICAL</b>               |                                     |                           |                  |                    |              |
| Density                       | M/gm <sup>3</sup>                   | 0.90 - 0.91               | 0.941 - 0.965    | 1.04 - 1.05        | 1.04 - 1.07  |
| Hardness                      | Shore                               | 71                        | 60-70            | 100                | 69           |
| Heat Distortion temp          | °C                                  | 90-110                    | 60-82            | 90                 | 73-85        |
| Softening Point               | °C                                  | 150                       | 127              | 110                | 92           |
| Oxygen Index                  |                                     | 17                        | 17               |                    |              |
| Flash Ignition temp           | °C                                  | 410                       | 343              |                    |              |
| <b>MECHANICAL</b>             |                                     |                           |                  |                    |              |
| Tensile Strength              | Kg/cm <sup>2</sup>                  | 302 - 401                 | 218-387          | 425                | 160-420      |
| Tensile Modulus               | x 10 <sup>3</sup> Mpa               | 1 - 1.6                   | 0.4 - 1.2        | 2.55               |              |
| Flexural strength             | Kg/cm <sup>2</sup>                  | 36 - 55                   | 141-211          | 580 - 660          | 380 - 880    |
| Flexural Modulus              | x 10 <sup>3</sup> Mpa               | 1.2 - 1.7                 | 2.6 - 5.9        | 2.1                |              |
| Compression strength          | Kg/cm <sup>2</sup>                  | 598-703                   | 169              | 610                | 563 - 1127   |
| Izod Impact Strength          | ft-lb /in - not                     | 0.5 - 2.2                 | 1.5 - 1.2        | 3 - 6              | 3.81 - 19.04 |
| Elongation at break           | %                                   | 50 - 600                  | 50 - 600         | 20                 | 10 - 75      |
| <b>THERMAL</b>                |                                     |                           |                  |                    |              |
| Specific Heat                 | J/ kg <sup>3</sup> k                | 1925                      | 1925 -2300       |                    |              |
| Thermal conductivity          | W /m <sup>3</sup> k                 | 0.14                      | -                | 1.4 - 2.1          | 1.3          |
| Thermal expansion Coefficient | m/m <sup>3</sup> ox10 <sup>-4</sup> | 112                       | 150 -300         | 8.5                | 3.4 -10.1    |
| <b>ELECTRICAL</b>             |                                     |                           |                  |                    |              |
| Dielectric strength           | Volts / mil                         | 450 - 560                 | 440 - 600        | 300 - 400          | 300 -600     |
| Volume resistivity            | ohms / cm                           | 10 <sup>16</sup>          | 10 <sup>16</sup> | > 10 <sup>16</sup> | -            |
| Dielectric Constant           | 60 Hz                               | 2.5 - 2.75                | 2.3 - 2.35       | 2.4 - 5            |              |
| Dissipation Factor            | 60 Hz                               | 5.4 - 7x 10 <sup>-3</sup> | > 0.0005         | 0.00038            |              |