

**TECHNICAL DATA AND PROCESS SHEET**

**10% GLASS FIBER REINFORCED NYLON 6**

**INSTRUC PA6GF10**

**TYPICAL PROPERTIES**

| <b>PROPERTY</b>                         | <b>ASTM METHOD</b> | <b>English</b>    | <b>UNITS</b>                 | <b>Metric SI</b>  | <b>UNITS</b>             |
|---|--------------------|-------------------|------------------------------|-------------------|--------------------------|
| <b>GENERAL</b>                          |                    |                   |                              |                   |                          |
| SPECIFIC GRAVITY                        | D792               | 1.20              |                              | 1.20              |                          |
| SPECIFIC VOLUME                         |                    | 23.08             | in <sup>3</sup> /lb          | 0.833             | cm <sup>3</sup> /gm      |
| WATER ABSORPTION (24 Hrs)               | D570               | 1.4               | %                            | 1.40              | %                        |
| MOLD SHRINKAGE                          | D955               | 0.6-0.8           | %                            | 0.6-0.8           | %                        |
| <b>MECHANICAL</b>                       |                    |                   |                              |                   |                          |
| TENSILE STRENGTH                        | D638               | 14,500            | psi                          | 100               | MPa                      |
| ELONGATION, YIELD                       | D638               | 3-4               | %                            | 3-4               | %                        |
| FLEXURAL STRENGTH                       | D790               | 20,500            | psi                          | 141               | MPa                      |
| FLEXURAL MODULUS                        | D790               | 600,000           | psi                          | 4,137             | MPa                      |
| SHEAR STRENGTH                          | D732               | 9700              | psi                          | 67                | MPa                      |
| IZOD IMPACT STRENGTH                    | D256               |                   |                              |                   |                          |
| NOTCHED 1/8"                            |                    | 0.8               | ft.lb./in.                   | 43                | J/m                      |
| UNNOTCHED 1/8"                          |                    | 8                 | ft.lb./in.                   | 426               | J/m                      |
| ROCKWELL HARDNESS                       |                    |                   |                              |                   |                          |
| <b>THERMAL</b>                          |                    |                   |                              |                   |                          |
| HDTUL                                   | D648               | 375               | °F                           | 191               | °C                       |
| @ 264 PSI                               |                    |                   |                              |                   |                          |
| COEFFICIENT OF LINEAR THERMAL EXPANSION | D696               | 2.5               | in./in. F x 10 <sup>-5</sup> | 4.5               | mm/mm C 10 <sup>-6</sup> |
| FLAMMABILITY <sup>1</sup>               | U.L.Subj 94        | HB@ 1/16          | in                           | HB@ 1.5           | mm                       |
| <b>ELECTRICAL</b>                       |                    |                   |                              |                   |                          |
| SURFACE RESISTIVITY                     |                    | 10e <sup>16</sup> | ohms/sq                      | 10e <sup>16</sup> | ohms/sq                  |
| <b>PROCESSING</b>                       |                    |                   |                              |                   |                          |
| DRYING TEMPERATURE                      |                    | 175               | °F                           | 79                | °C                       |
| DRYING TIME                             |                    | 4                 | hrs                          | 4                 | hrs                      |
| MELT TEMPERATURE                        |                    | 480-550           | °F                           | 250 - 290         | °C                       |
| MOLD TEMPERATURE                        |                    | 200               | °F                           | 93                | °C                       |
| BACK PRESSURE                           |                    | 50-100            | psi                          | 0.3 - 0.7         | MPa                      |
| SCREW SPEED                             |                    | 40-70             | rpm                          | 40-70             | rpm                      |
| VENT DEPTH                              |                    | 0.0005-0.001      | in                           | 0.0125 - 0.025    | mm                       |

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