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**TECHNICAL DATA AND PROCESS SHEET**

**30% GLASS FIBER REINFORCED NYLON 6**

**INSTRUC PA6GF30**

**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               | 1.37              |                             | 1.37              |                          |
| SPECIFIC VOLUME                            |                    | 20.22             | in <sup>3</sup> /lb         | 0.730             | cm <sup>3</sup> /gm      |
| WATER ABSORPTION (24 Hrs)                  | D570               | 1.1               | %                           | 1.10              | %                        |
| MOLD SHRINKAGE                             | D955               | 0.3-0.4           | %                           | 0.3-0.4           | %                        |
| <b>MECHANICAL</b>                          |                    |                   |                             |                   |                          |
| TENSILE STRENGTH                           | D638               | 36,000            | psi                         | 248               | MPa                      |
| ELONGATION, YIELD                          | D638               | 2-4               | %                           | 2-4               | %                        |
| FLEXURAL STRENGTH                          | D790               | 36,000            | psi                         | 248               | MPa                      |
| FLEXURAL MODULUS                           | D790               | 1,200,000         | psi                         | 8,274             | MPa                      |
| SHEAR STRENGTH                             | D732               | 12,000            | psi                         | 83                | MPa                      |
| IZOD IMPACT STRENGTH                       | D256               |                   |                             |                   |                          |
| NOTCHED 1/8"                               |                    | 2.3               | ft.lb./in.                  | 123               | J/m                      |
| UNNOTCHED 1/8"                             |                    | 22                | ft.lb./in.                  | 1173              | J/m                      |
| ROCKWELL HARDNESS                          |                    |                   |                             |                   |                          |
| <b>THERMAL</b>                             |                    |                   |                             |                   |                          |
| HDTUL<br>@ 264 PSI                         | D648               | 410               | °F                          | 210               | °C                       |
| COEFFICIENT OF LINEAR<br>THERMAL EXPANSION | D696               | 1.7               | in./in. F x10 <sup>-5</sup> | 3.06              | 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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