

**TECHNICAL DATA AND PROCESS SHEET**

**30% CARBON FIBER REINFORCED NYLON 6**

**INELEC PA6CF30**

**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               | 1.28                               |                              | 1.28                               |                          |
| SPECIFIC VOLUME                            |                    | 21.64                              | in <sup>3</sup> /lb          | 0.781                              | cm <sup>3</sup> /gm      |
| WATER ABSORPTION (24 Hrs)                  | D570               | 0.8                                | %                            | 0.80                               | %                        |
| MOLD SHRINKAGE                             | D955               | 0.2-0.4                            | %                            | 0.2-0.4                            | %                        |
| <b>MECHANICAL</b>                          |                    |                                    |                              |                                    |                          |
| TENSILE STRENGTH                           | D638               | 32,000                             | psi                          | 221                                | MPa                      |
| ELONGATION, YIELD                          | D638               | 1-3                                | %                            | 1-3                                | %                        |
| FLEXURAL STRENGTH                          | D790               | 46,000                             | psi                          | 317                                | MPa                      |
| FLEXURAL MODULUS                           | D790               | 2,400,000                          | psi                          | 16,547                             | MPa                      |
| SHEAR STRENGTH                             | D732               |                                    |                              |                                    |                          |
| IZOD IMPACT STRENGTH                       | D256               |                                    |                              |                                    |                          |
| NOTCHED 1/8"                               |                    | 1.8                                | ft.lb./in.                   | 96                                 | J/m                      |
| UNNOTCHED 1/8"                             |                    | 13                                 | ft.lb./in.                   | 693                                | J/m                      |
| ROCKWELL HARDNESS                          |                    |                                    |                              |                                    |                          |
| <b>THERMAL</b>                             |                    |                                    |                              |                                    |                          |
| HDTUL<br>@ 264 PSI                         | D648               | 425                                | °F                           | 218                                | °C                       |
| COEFFICIENT OF LINEAR<br>THERMAL EXPANSION | D696               | 1.2                                | in./in. F x 10 <sup>-5</sup> | 2.16                               | 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>2</sup> -10e <sup>4</sup> | ohms/sq                      | 10e <sup>2</sup> -10e <sup>4</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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