

## TIMCAL TIMREX® F10 Primary Synthetic P/M Special-Graphite

Category : Carbon , Graphite , Other Engineering Material , Additive/Filler for Polymer

### Material Notes:

TIMREX Primary Synthetic Graphite is produced in a unique highly controlled graphitization process which assures narrow specifications and unequalled consistent quality due to: monitoring of all production and processing stages, strict final inspection, and clearly defined development processes. TIMREX Primary Synthetic Graphite shows unique properties thanks to the combination of a consistent purity, perfect crystalline structure and well defined texture. Applications: Fe-sintered engineering parts Fe-self lubricating engineering parts Fe-friction parts copper/bronze bearings Information provided by TIMCAL

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_TIMCAL-TIMREX-F10-Primary-Synthetic-PM-Special-Graphite.php](http://www.lookpolymers.com/polymer_TIMCAL-TIMREX-F10-Primary-Synthetic-PM-Special-Graphite.php)

| Physical Properties | Metric      | English                    | Comments |
|---------------------|-------------|----------------------------|----------|
| Bulk Density        | 0.0900 g/cc | 0.00325 lb/in <sup>3</sup> | Scott    |
|                     | 7.10 g/cc   | 0.257 lb/in <sup>3</sup>   | Sintered |
| Particle Size       | 6.8 µm      | 6.8 µm                     | d50      |
|                     | 12.6 µm     | 12.6 µm                    | d90      |
| Ash                 | <= 0.60 %   | <= 0.60 %                  |          |

| Mechanical Properties | Metric                                 | English                                  | Comments                       |
|-----------------------|----------------------------------------|------------------------------------------|--------------------------------|
| Hardness, Rockwell B  | 73                                     | 73                                       |                                |
|                       | @Temperature 1135 °C,<br>Time 1800 sec | @Temperature 2075 °F,<br>Time 0.500 hour | at Target density of 6.6 g/cc  |
|                       | 78                                     | 78                                       |                                |
|                       | @Temperature 1135 °C,<br>Time 1800 sec | @Temperature 2075 °F,<br>Time 0.500 hour | at Target density of 6.8 g/cc  |
|                       | 81                                     | 81                                       |                                |
|                       | @Temperature 1135 °C,<br>Time 1800 sec | @Temperature 2075 °F,<br>Time 0.500 hour | at Target density of 67.0 g/cc |
| Rupture Strength      | 780 MPa                                | 113000 psi                               |                                |
|                       | @Temperature 1120 °C,<br>Time 1500 sec | @Temperature 2050 °F,<br>Time 0.416 hour | at green density of 6.49 g/cc  |
|                       | 990 MPa                                | 144000 psi                               |                                |
|                       | @Temperature 1120 °C,<br>Time 1500 sec | @Temperature 2050 °F,<br>Time 0.416 hour | at green density of 6.87 g/cc  |
|                       | 1070 MPa                               | 155000 psi                               |                                |
|                       | @Temperature 1120 °C,<br>Time 1500 sec | @Temperature 2050 °F,<br>Time 0.416 hour | at green density of 7.02 g/cc  |

| Mechanical Properties    | Time 1500 sec<br>Metric | Time 0.416 hour<br>English | Comments |
|--------------------------|-------------------------|----------------------------|----------|
| Descriptive Properties   |                         | Value                      | Comments |
| Crystallinity Height, Lc |                         | 80 nm                      |          |

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