Semitron® ESd 490HR PEEK is a registered trademark of Mitsubishi Chemical Advanced Materials.
- The figures given for these properties are for the most part derived from raw material supplier data and other publications.

- Values for this property are only given here for amorphous materials and for materials that do not show a melting temperature (PBI, PAI & PI). DMA settings, oscillation amplitude of 0.20 mm; a frequency of 1 Hz; heating rate of 2°C/min.

- Temperature resistance over a period of min. 20,000 hours. After this period of time, there is a decrease in tensile strength – measured at 23 °C – of about 50 % as compared with the original value. The temperature value given here is thus based on the thermal-oxidative degradation which takes place and causes a reduction in properties. Note, however, that the maximum allowable service temperature depends in many cases essentially on the duration and the magnitude of the mechanical stresses to which the material is subjected.

- Impact strength decreasing with decreasing temperature, the minimum allowable service temperature is practically mainly determined by the extent to which the material is subjected to impact. The value given here is based on unfavourable impact conditions and may consequently not be considered as being the absolute practical limit.

- These estimated ratings, derived from raw material supplier data and other publications, are not intended to reflect hazards presented by the material under actual fire conditions. There is no ‘UL File Number’ available for these stock shapes.

- Most of the figures given for the mechanical properties are average values of tests run on dry test specimens machined out of rods 40-60 mm when available, else out of plate 10-20mm. All tests are done at room temperature (23° / 73°F)

- Test speed: either 5 mm/min or 50 mm/min [chosen acc. to ISO 10350-1 as a function of the ductile behaviour of the material (tough or brittle)] using type 1B tensile bars

- Test specimen: cylinders Ø 0.5" x 1", or square 0.5" x 1", test speed 0.05"/min

- Test specimen: bars 4 mm (thickness) x 10 mm x 80 mm ; test speed: 2 mm/min ; span: 64 mm.

- Test specimen: bars 0.25"(thickness) x 0.5" x 5"; test speed: 0.11"/min ; span: 4" 

- Measured on 10 mm, 0.4" thick test specimens.

- Measured on discs Ø 50 mm x 3 mm.

- Test procedure similar to Test Method A: “Pin-on-disk” as described in ISO 7148-2, Load 3MPa, sliding velocity= 0.33 m/s, mating plate steel Rα= 0.7-0.9 μm, tested at 23°C, 50%RH.

- Test using journal bearing system, 200 hrs, 118 ft/min, 42 PSI, steel shaft roughness 16±2 RMS micro inches with Hardness Brinell of 180-200

- Test using Plastic Thrust Washer rotating against steel, 20 ft/min and 250 PSI, Stationary steel washer roughness: 16±2 RMS micro inches with Rockwell C 20-24

- Test using Plastic Thrust Washer rotating against steel, Step by step increase pressure, Test ends when plastic begins to deform or if temperature increases to 300°F.

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