for a better future

KEP

KEPITAL
Electrical propreties

KOREA ENGINEERING PLASTICS CO.,LTD.

KEPITAL has good electrical insulating properties and dielectric strength. Moreover, with recent development in electrical applications, requirements on static dissipative or conductive materials are expanding since the combination of mechanical property and electrical property of KEPITAL is attractive to electrical markets.
KEPITAL provides a broad range of specialties to satisfy those needs.

1. Surface Resistivity (IEC 60093)

Surface resistivity (IEC 60093) is insulation resistance when certain voltage is applied across the surface of material. In general, it is the most widely-used characteristic to identify the electrical behavior of plastics.

The electrical properties of KEPITAL are shown based on the surface resistivity in Table 1.

10^2~10^5	10^6~10^9/10^{10}~10^{12}	Higher 10^{14}
Conductive	Static dissipative/ Anti-static	Insulator
ET-20A	ED-10	F20-03 etc.
FA-20		

Table 1. Surface resistivity of KEPITAL (unit: Ω)

In particular, KEPITAL ET-20A is designed for fuel delivery systems in passenger cars to have stable electrical conductivity and significant resistance in contact with fuels.

KEPITAL FA-20 is reinforced to have high rigidity with electrical conductivity as to meet requirements for high mechanical strength and low tendency to creep.

2. Volume Resistivity (IEC 60093)

Volume resistivity refers to the electrical resistance of a material that is measured when an electric field is applied across the unit cube of a test specimen.
Volume resistivity (IEC 60093) is the resistance measured based on the internal current of a material alone, and it may be used to determine its applicability as an insulator.

3. Dielectric Strength

When voltage is applied to an insulator and incrementally increased, if a certain limit is exceeded, large current suddenly flows to break down its insulation, and the limiting value of such voltage is referred to as dielectric strength.
Dielectric strength measurement (ASTM D149) of plastic is determined by dividing the voltage with a specimen thickness that incurs current when a test specimen prepared by injection molding is placed between two electrodes, and voltage is incrementally increased from 0.

4. Dielectric Constant

If an insulator is inserted in an electric field, electric charges in the insulator are separated into opposite electric charge directions of the electric field.
Dielectric constant (ASTM D150) represents the extent of separation between positive charges and negative charges that are induced at this time.

5. Arc Resistance

Arc resistance (ASTM D495) represents the time taken for insulation characteristics to be broken down by the current applied to the surface of an insulator.
Arc resistance may sometimes be influenced by moisture, dust, etc. that is on the surface of the sample.

HQ
Mapo-daero 119 (Gongdeok-dong) Hyeoseong Bldg.
Mapo-gu, Seoul, Korea
Tel 82-2-707-6840 ~ 8, Telefax 82-2-714-9235

KEP Americas
106 North Denton Tap Road Suite 210-202 Coppell,
TX 75019, USA
Tel +1 888 KEPITAL, Telefax +1 888 537-3291

KEP Europe GmbH
Rheingaustrasse 190-196 D-65203 Wiesbaden, Germany
Tel +49 (0)611 962-7381, Telefax +49 (0)611 962-9132

KEP China
A1905, HongQiao Nanfeng Plaza, 100 Zunyi Road,
Shanghai, China
Tel +86 21 6237-1972, Telefax +86 21 6237-1803