

Technical Literature E-01-01

Dielectric Constant and Dielectric Dissipation Factor of AURUM[®]

The dielectric constant of a substance represents the properties of the substance relating to its dielectric polarization. It is a critical property of a plastic when the plastic is used as an electrical insulator.

On the other hand, the dielectric dissipation factor of a substance is an important index of the amount of the energy loss that will occur when volts alternating current is passed through the substance. A plastic may be heated due to such loss, causing troubles such as dielectric breakdown, deformation and change in quality. Because of this, materials having a low value of the dielectric dissipation factor are generally selected except for those uses for high-frequency heating (dielectric heating).

Both dielectric constant and dielectric dissipation constant of AURUM[®] are small and yet stable even in a high-frequency range. For this reason, it may be said that AURUM[®] has practical properties satisfactory enough to be used as a general electrical insulating material.

Table 1 shows the frequency dependence of the dielectric constant and dielectric dissipation factor of AURUM[®].

Table 1 Dielectric Constant and Dielectric Dissipation Factor of AURUM[®]

	Frequency (Hz)	Natural	GF20%	GF30%
Dielectric constant	60	3.1	3.4	3.8
	1K	3.2	3.4	3.8
	30K	3.1	3.4	3.8
	1M	3.1	3.4	3.7
Dielectric dissipation factor	60	7.0E(-4)	9.7E(-4)	1.2E(-3)
	1K	9.0E(-4)	2.5E(-3)	1.2E(-3)
	30K	2.5E(-3)	2.1E(-3)	2.5E(-3)
	1M	3.4E(-3)	2.5E(-3)	3.6E(-3)

The information contained herein is based on the information and data available at this moment, but none of the data or evaluation results contained herein provide any warranty whatsoever.