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DIELECTRIC POLARIZATION

Dielectric polarization → polar molecules have permanent dipoles due to the bonds. Example for carbon dioxid, Halaggen monoxide etc. The dipdes in a polar molecules are randomly oriented due to a thermal effect. That's why the dipde moment of the polar molecules cancels out. There is a zero-dipoles moment.

On the application of the electric field the individual dipde moments align themselves in the electric field direction, According to the properties of dielectric molecules nature, bonds, and orientation remain constant. inside the polar molecule. The extent to which the polar molecule get polarised is ~~dielectric~~ directly related to the thermal energy and strength of the external field.

Dielectric polarization in non-polar molecule → A molecules without a dipde refers to a non-polar molecule for example N_2, O_2, H_2 etc. The charge are equally distributed in the

type of molecules. On applying the electric field. The positive and negetive charges having opposite polarities experience a force in the opposite direction. The electron cloud of a non-polar molecule gets displaced towards attraction that cause an induced moment.

How to calculate dipole polarization → ? The application of the dielectric constant is due to the introduction of the electric field across the material irrespective of ~~cause~~ cloud (whether a dielectric is polar or non-polar. The parabrisation refered to the dipole moment of a material perunit valeume and is denated by $P = X_e E$, Wher X_e is dielectric material properties (electric susceptibility of dielectric medium) and E represents the apptied electric fields P represents the polarization