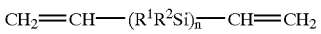
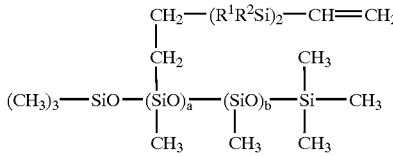
organic silicon compounds having molecular weights of 5,000 or less, containing a plurality of functional groups which are reacted and crosslinked by the application of ionizing radiation, for example, polymerizable double bonds. More specific examples of these compounds include polysilanes having a vinyl functional group at one end, polysilanes having vinyl functional groups at both ends, polysiloxanes having a vinyl functional group at one end, polysiloxanes having vinyl functional groups at both ends, vinyl functional polysilanes obtained by reacting these polysilane compounds, and vinyl functional polysiloxanes obtained by reacting these polysiloxane compounds. More specifically, the above-described organic silicon compounds are as follows:

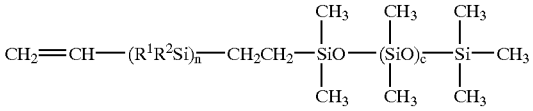
(a)



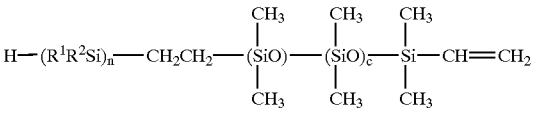
(b)



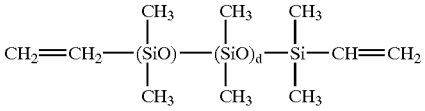
(c)



(d)



(e)



[0089] In the above formulas (a) to (e), R^1 and R^2represent an alkyl group having 1 to 4 carbon atoms, and a-d and n are a number that makes the molecular weight 5,000 or less.

[0090] In addition to the above-enumerated compounds, (meth)acryloxy-silane compounds such as 3-(meth)acryloxypropyltrimethoxysilane and 3-(meth)acryloxypropylmethyldimethoxysilane can be mentioned as organic silicon compounds that can be incorporated into the ionizing-radiation-curing resin composition.

[0091] In the embossing machine **10** shown in **FIG. 5**, the embossing roller **12** is used for forming the fine irregularity layer **3**. However, an embossing plate may also be used instead of the embossing roller **12** to form the fine irregularity layer **3**. The surface (die face) of the embossing roller or plate (die for providing irregularities) may be roughened by one of various techniques, for example, sandblasting or beads shot blasting.

[0092] Those fine irregularities of the fine irregularity layer **3** produced by the use of a die whose die face has been roughened by sandblasting are in such a state that a large number of depressions are distributed on a surface. On the other hand, those fine irregularities of the fine irregularity layer **3** produced by the use of a die whose die face has been roughened by beads shot blasting is in such a state that a large number of protrusions are distributed on a surface.

[0093] According to our knowledge, when the fine irregularity layer **3** having many protrusions distributed on a surface is compared with that having many depressions distributed on a surface, the former is lower in haze and less reflects an interior lighting, etc. than the latter even if the mean roughness (e.g., ten-point mean roughness (Rz)) of the former and that of the latter are the same. For this reason, it is more preferable that the fine irregularities on the transparent conductive film **1** according to this embodiment be those ones produced by using a die whose die face has been roughened by beads shot blasting, that is, such irregularities that the number per unit area of protrusions is greater than that of depressions. Namely, in the process of producing the transparent conductive film **1** according to this embodiment, a die having a die face roughened to have irregularities that are the inverse of the fine irregularities to be provided on the transparent conductive film **1**, that is, a die whose die face has been roughened by beads shot blasting to make the number per unit area of depressions greater than that of protrusions, is more preferably used as the die for providing irregularities. Preferably, the die face of the die for providing irregularities has irregularities that are the inverse of fine irregularities to be provided on the transparent conductive film **1** and that can provide, on the exposed surface of the ionizing-radiation-curing resin layer, fine irregularities having a maximum height (Rmax) of 0.5 to 2.0 μm. More preferably, the die face of the die for providing irregularities is suitable for providing, on the exposed surface of the ionizing-radiation-curing resin layer, fine irregularities having a maximum height (Rmax) of 0.5 to 2.0 μm and a ten-point mean roughness (Rz) of 0.35 to 1.5 μm.

[0094] A metal, plastic, wood or a composite of these materials is used to make the die for providing irregularities. Chromium is a metal preferable for this purpose because it has high strength and is hardly abraded while repeatedly used; and a chromium-plated iron-made roller is suitable from the economical point of view.

[0095] Metallic particles or inorganic particles such as silica, alumina or glass beads are suitable as the particles (i.e., beads) for use in shot blasting. It is preferable that the sizes (diameters) of these particles be from approximately 100 to 300 μm. These particles are blown over a material for the die together with a high-speed gas. At this time, a proper liquid (e.g., water) may be used along with the gas to blow particles other than glass beads. If a liquid is used in combination with the gas, the resulting die can have a more uniformly roughened die face. If a liquid is used together with the gas to blow glass beads, the glass beads cohere, so that it becomes difficult to conduct shot blasting.

[0096] It is preferable to use the die **12** for providing irregularities after plating its roughened die face **12***a* with chromium to improve its durability. Plating with chromium can impart hardness and corrosion resistance to the die face **12***a*.