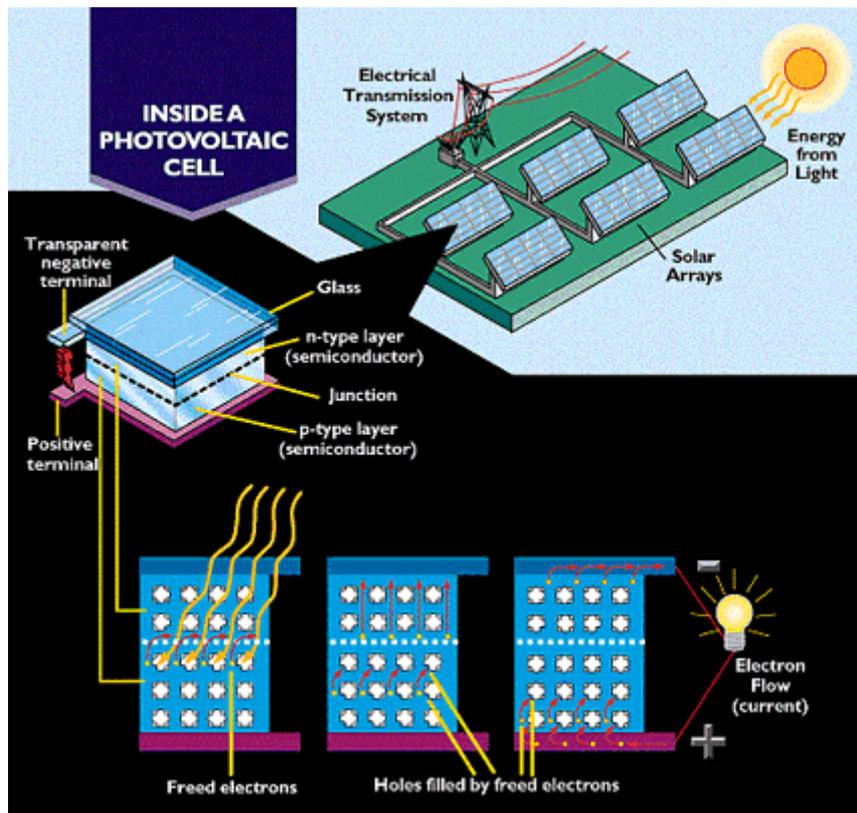


Structure of Molybdenum Sputtering Target for Solar Cell



Modern solar cells are based on semiconductor physics -- they are basically just P-N junction photodiodes with a very large light-sensitive area. The photovoltaic effect, which causes the cell to convert light directly into electrical energy, occurs in the three energy-conversion layers.

The first of these three layers necessary for energy conversion in a solar cell is the top junction layer (made of N-type semiconductor). The next layer in the structure is the core of the device; this is the absorber layer (the P-N junction). The last of the energy-conversion layers is the back junction layer (made of P-type semiconductor).

As may be seen in the above diagram, there are two additional layers that must be present in a solar cell. These are the electrical contact layers. There must obviously be two such layers to allow electric current to flow out of and into the cell. The electrical contact layer on the face of the cell where light enters is generally present in some grid pattern and is composed of a good conductor such as a metal. The grid pattern does not cover the entire face of the cell since grid materials, though good electrical conductors are generally not transparent to light. Hence, the grid pattern must be widely spaced to allow light to enter the solar cell but not to the extent that the electrical contact layer will have difficulty collecting the current produced by the cell. The back electrical contact layer has no such diametrically opposed restrictions. It need simply function as an

electrical contact and thus covers the entire back surface of the cell structure. Because the back layer must be a very good electrical conductor, it is always made of metal.

Our metals contribute to the performance of photovoltaics and solar thermal applications as coating materials. They are highly adhesive and resistant against corrosion and oxidation. Thin films made of molybdenum are reflective, very conductive, and can significantly increase the efficiency of solar cells.

Using molybdenum sputtering target as material have the properties of low thermal expansion, and high corrosion resistance.

If you are interested in molybdenum sputtering target, please refer to sales@chinatungsten.com or 86 592 512 9696 to get more information.

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