In present work the properties of comercially pure titanium fouth grade processed by equal channel angular pressing (ECAP) were studied. Experimental techniques such as Vickers microhardness, measurement of electrical resistivity, light and electron microscopy were used in this research. The dependence of the degree of the strain imposed by ECAP on microhardness of the material was measured. Microhardness measurement was used to indirectly investigate thermal stability of the prepared material, which is essential for ultra fine grained (UFG) materials. That was also the reason for establishing dependence of the electrical resistivity on the temperature. This method allows to detect changes in the material microstructure. Using scanning electron microscopy (SEM) the results obtained by previous methods were confirmed. It was found that the UFG titanium processed by ECAP is thermally stable aproximatelly up to 450°C. At this temperature begins recovery of the material which results in a decrease of the microhardness values and electrical resitivity. For the temperatures higher than 520°C material recrystalization begins.