The formation of the strata during fast explosion of metal foils at current densities of 100MA/cm² has been studied experimentally. To observe the strata the soft x-ray radiation generated by an x-pinch were used. The experiment on studying the process of stratification during the foil explosion (FE) was carried out in a setup consisting of three generators. One of generators (WEG-2) was operated to initiate FE, while the others (XPG radiographs) were used for diagnostics. The generator WEG-2 has the capacitance of 250 nF, the charge voltage of 20 kV, and the current rate of 16 A/ns. The radiographs XPG have the capacitance of 1 mcF, the charge voltage of 43 kV, the current of 300 kA, and the current rise time of 180 ns. X-pinch produced by four Mo wires was a load for the radiographs. The delay between the operation of the WEG-2 and XPG generators was set with the use of DPG trigger pulse generator; the operation jitter was 20 ns for the all generators. The delay between the operations was regulated in the range of 0 mcs up to 1.3mcs. We performed the experiments with the Al and Cu foils. The length of foil was 2 cm, the foil width was 1mm, and the foil thickness was 6 mcm. In our experiments the shunting discharge develops at the metal explosion in the vacuum. It has been revealed that strata were formed early in the explosion, i.e. at the stage where the metal melted. Analysis of the experimental results suggests that the most probable reason for the stratification is the thermal instability developing as a consequence of the increase in resistivity of the foil metal with temperature.