High atomic number (Z) materials (Ti, Cr, V, Fe) used in various prostheses and Pb used for shielding electron beams produce dose perturbations. An accurate knowledge of dose perturbation and transmission through these materials is required for curative and reirradiation planning which is not available for all clinical electron beams. Measurements were taken with thin-window parallel plate ion chambers for Ti, Al, Cu, Steel, and Pb on Varian and Siemens units in the energy range of 5-20 MeV. Two sets of data were acquired, one with the detector at the surface and the other at d_{max} of the electron beams. It is observed that for all high-Z materials, there are dose enhancements on both sides of thin plates. The dose enhancement on both sides of the plate is due to increased electron fluence that is dependent on the beam energy. In the transmission side, the magnitude depends on the thickness of the plate that reduces with increasing thickness. The bremsstrahlung component increases with beam energy and Z of the medium. The thickness of material to reduce 100%, 50% and 1% transmission is linear with the beam energy. For the 50% and full attenuation, the slope of curves are 0.95 mm/MeV, 1.2 mm/MeV and 0.24 mm/MeV and 0.4 mm/MeV for the Ti and Pb, respectively. An analytical function is provided for the atomic number and the energy for a given transmission, which may be used for dosimetric planning with metallic plates in electron beams.