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Structural shielding design in a bunker of accelerator's installations aims to limit radiation exposures to members of the public and employees to an acceptable level, i.e., to reduce the effective dose coming from accelerator to a point outside of bunker as low as reasonably achievable. Shielding design is particularly concerned with attenuation of primary beam and secondary radiations in the form of head leakage of accelerator, patient, and wall scatter. Thus, finding the optimum barrier thickness is an essential requirement for the safety of facilities. The main objective of this work was to calculate the primary and secondary barrier thicknesses of bunker of the only radiotherapy center in MALI according to the NCRP report 151 methods for authorization purposes. The shielding of main door of bunker was not included in this paper because it was provided with the LINAC by manufacturer.