

RADIATION BARRIERS

If a nuclear weapon explodes nearby, then people need protection from initial nuclear radiation. If the weapon is a ground burst, then they need fallout protection as well. Since fallout can be carried over long distances by wind, people in locations remote from ground burst explosions may need fallout protection also.

United States government publications on fallout protection are sometimes ambiguous and sometimes simply wrong. During the years following World War II, instead of building proper shelters, the government marked existing structures for civil defense use. Since there was a shortage of existing structures suitable for fallout protection, our government bureaucrats "solved" the problem by lowering the "standards" for protection. The approved protection factor was lowered, therefore, sequentially from 1,000 to 200 and then from 200 to 40. 40 is very inadequate.

A protection factor of 1,000 means that there will be 1,000 times less gamma radiation inside the shelter than outside. 1,000 is good, although 10,000 is preferable. Permanent shelters should be designed with at least a protection factor of 10,000.

Since radiation can leak in through entryways and airvents, several things need to be considered in determining the overall protection factor of a shelter.

As a simple barrier alone, about 4 feet of dirt provides a fallout gamma ray protection factor of 10,000. The same protection is provided by 12 feet of wood, 3 feet of concrete, 10 inches of steel or 6 inches of lead. Dirt or concrete usually constitute the most economical shield.

Misinformation about barrier shielding from gamma rays is dangerous in fallout shelter design. If you are planning a fallout shelter, be sure that it conforms to the information given above. Some people, misled by incorrect government documents, have planned fallout shelters that will not work.

Since we now live in an age of very large numbers of nuclear weapons, most people should have blast shelter protection. These weapons can be used to annihilate civilian populations as a means of ensuring victory. In *Fighting Chance* we advocate this blast protection for all Americans. A properly designed blast shelter with provision for initial nuclear radiation provides more than adequate fallout protection as well.