

FIGHTING CHANCE

John 8: 31-32

Proverbs 22: 3

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PERMANENT BLAST SHELTERS

This newsletter will often include a technical article on nuclear war personnel shelters. The set of articles will cover a complete shelter installation.

Some of our supporters are building family and neighborhood shelters now. If you need personal consulting about a shelter which you are building or propose to build, send FIGHTING CHANCE a note with a telephone number at which we can call you collect. We make these calls in the evenings and on Saturday. There is no charge for our help except for your payment of the telephone expense. We do not sell shelters, shelter equipment, or supplies.

Almost any construction material can be used to make a 200 psi blast shelter - even wood or plastic. When cost-effectiveness, durability, and longevity are considered, however, the materials of choice for permanent shelter are concrete and steel.

Blast shelters are quite simple, but they must have certain specialized characteristics in order to safely resist nuclear weapons effects. On few other subjects is there such widespread ignorance. Doomsayers proclaim that no safe shelter can be built. Braggarts proclaim simple solutions with incredible capabilities. In between are those with partial knowledge and an eager willingness to build expensive death traps.

In Germany, urban populations survived the massive allied bombings, because they had excellent, well-engineered concrete public

shelters. Even during the horrible firestorm raids on Hamburg, those in the public shelters survived. Those inside do-it-yourself basement shelters which were poorly designed died.

Inattention to any life-support item such as blast resistance, ventilation, radiation protection, or water supply can be fatal. Some of these elements will never have a test until they are actually needed.

A 200 psi blast shelter is designed to be surely safe under nuclear explosion blast waves up to 200 pounds per square inch. This includes virtually all air exploded weapons even directly overhead. Much lower overpressures will destroy most above ground targets. It is inefficient to explode the weapons nearer the ground and at higher pressures than necessary, since the area of destruction is markedly diminished for explosions near the ground. Ground explosions are restricted to things like missile silos and airports.

A 200 psi shelter is surely safe from a ground exploded, one megaton nuclear weapon outside of a circle with its center at the explosion, ground zero, and with an area of about six-tenths of a square mile. It is surely destroyed within an area of about three-tenths of a square mile. Between six-tenths and three-tenths of a square mile, you might be lucky. This sure destruction area is about ten times the size of the crater or hole produced by the explosion. That hole is about 20 acres in area. Most Soviet weapons are one megaton or less.

The practical limit for personnel shelters is about 200 psi, because above 200 psi the shock inside the shelter is likely to be fatal to its occupants even if the shelter survives. Shock isolation equipment to counter this problem is so expensive that it is impractical for large populations. Up to about 200 psi the shock can be endured by means of simple devices.

Shelters are classified by their "psi" rating, although this jargon obscures some of their properties. For example, a 200 psi shelter must also be able to protect its occupants against initial nuclear radiation from a weapon exploded so close as to produce 200 psi. It must also be internally safe from the shock which accompanies that sort of explosion.

In general, the incremental cost difference between a fallout shelter, a 50 psi blast shelter, and a 200 psi blast shelter is so low that it is foolish not to build the safer, 200 psi type. Beyond 200 psi the cost escalates rapidly. Unfortunately there is a tendency by some engineers and manufacturers to advocate the weaker

shelters and to justify this by speculative war game scenarios or other excuses. This sort of economizing is dangerous and cost-ineffective.

Let us begin this discussion with the casing or room walls themselves of a 200 psi shelter.

The surface area of a cylinder 20 feet long and 9 feet in diameter is $(3.14)(108)(240) = 81,400$ square inches. At 200 pounds per square inch, that is $(200)(81,400) = 16,000,000$ pounds or approximately 8,000 tons of pressure. For a flat-sided structure of similar size the area and therefore the pressure is a little greater.

An automobile weighs about two tons. 8,000 tons is the weight of 4000 automobiles pressing on your shelter. You get the idea.

The most economical way to resist this pressure is by means of a buried steel tank shelter of the type proposed in the book "Fighting Chance." These tank shelters are easy to fabricate and install and are very inexpensive per occupant. If one utilizes a surplus steel tank, the cost becomes even more attractive.

Blast pressure can also be resisted by thick, properly reinforced concrete. The actual thickness depends upon the shelter dimensions and shape. Since concrete is expensive, however, there is a tendency to use a minimum amount. All sorts of things then become critical such as the precise geometry of steel reinforcing, the water and cement content of the concrete, and the skill and experience of the builder. This dangerous tendency must be avoided.

The versatility of shapes available and the inherent strength of concrete even when it is not deeply buried are its primary advantages. For dual-use home shelters where cost is not a limiting factor concrete is ideal. Also, in new building construction where the cost is just an increment on new building costs, concrete is excellent. For luxury shelters, it is the material of choice.

With concrete it is even possible to build structures above ground that will be 200 psi safe. The German bunkers were, for example, above ground buildings with walls and roofs of concrete several feet thick. The interior of an above ground house could contain a safe concrete blast shelter, for example, in the bedroom area.

Since the effective pressure of a 200 psi blast wave which reflects from a vertical surface can be nearly 1000 psi, shelters with vertical surfaces exposed to the blast must be very strong.

Moreover, they must be very well anchored, so that they cannot be tipped or tumbled over. They also must resist penetration or breakage by debris which may fly into them at hundreds of miles per hour.

Family and neighborhood shelters are more expensive than public shelters, because the common items of expense like doors and entryways are averaged over fewer occupants. This, however, offers an answer to the frequently expressed worries about fights over shelter occupancy in times of crisis. "What if my neighbors try to crowd inside my little shelter? Will I have to shoot to keep them out?"

These sorts of questions are of great benefit to the anti-shelter crowd. By spreading scenarios of murder and mayhem over shelter occupancy, they ridicule the preparations themselves.

The answer to such a question is simple. Build it big enough for your neighbors too. Once you have paid for the entrances and have the backyard torn up anyway, the extra cost of a larger shelter room is not very great.

We recently had an experimental shelter fabricated. The entryways, doors, vents, and related items cost \$4,500. The entryways and vents were made large enough for a 150 person public shelter. The installation and other costs will be approximately \$2,500 when we are finished. This \$7000 steel shelter would be very comfortable for a large family and would save the lives of about 30 people if necessary. The shelter room is 8 feet in diameter and 17 feet long with one-fourth inch steel walls.

I did not list the cost of the shelter room. It is a 5000 gallon diesel fuel tank which was purchased at a farm auction for \$125. Sand blasted and painted white, it looks as clean as a hospital inside and smells like a new home.

This shelter is experimental and therefore small. If, however, we had chosen to build it from a surplus railroad molasses car, it could have been 40 feet long, 10 feet in diameter, and half-inch thick steel. We were recently offered six of these at a price of \$3000 each with the option of buying one or more. They actually have two rooms each 20 feet long. Last year I saw one of these purchased at auction for \$350.

With the molasses car tank, the shelter would be able to save the lives of 100 people. The total cost would be less than \$150 per person. I assure you that the value of your neighbors to you in the

aftermath of a nuclear war will be far greater than \$150 each.

Without surplus tanks, of course, these shelters would be more expensive by about \$3,000 and \$10,000 respectively. Find a large surplus steel tank in good condition, and you have just provided yourself with a large shelter at the cost of a small one. While you are checking, look for some surplus 30 to 36 inch pipe with lengths totaling 40 to 50 feet to use as entryways. That will knock another big increment out of the cost.

Build it big enough for the neighbors and forget about grisly scenarios. Your defensive procedures probably will not work anyway, and the moral justification for creating them is highly questionable.

Most steel tanks of sufficient size are at least one-fourth inch thick and quite suitable for shelters. One simply makes arrangements for the tank to be delivered to the local steel tank fabricator for entryway and vent fabrication. The design of these entryways will be discussed in a subsequent issue.

A steel tank shelter should be completely fabricated in the steel tank shop. These shops exist by the thousands in all parts of the United States. Use the one nearest you. Complete fabrication within the shop's usual schedule should require about a week. Transport from the shop to the installation site should cost about \$1 to \$2 per mile.

The entryways are disconnected for transport to the installation site. On that site you need a small dragline or a large backhoe to dig the hole, lower the tank into it, and backfill the hole. You will probably need a dozer briefly to smooth the ground after backfilling. It is helpful to have a ground area about ten times the size of the shelter cross-sectional area. This allows a place to unload the shelter and to stack the dirt from the hole during installation.

In our recent experimental case, installation required a total of eight days, since we were working between rainstorms in the Oregon winter. One man did all of the labor including the concrete forms around the doors.

In most applications, one will pay for the earth moving machinery by the hour or day. In those cases, a ten to fifty person shelter should be installed completely in three days from the time the earth mover begins to dig the hole. Two or three men should be available for labor during those days. Complete installation would require less than two days for an experienced crew. We do not, however, have

enough shelters being installed at present in the United States to provide that experience.

Steel tank shelters depend for their strength on earth arching. Upon application of blast pressure, the shelter walls flex inward slightly which allows the earth over and around the shelter to compress into an arch. The earth then carries the load of the nuclear blast wave.

In a minority of soils, the soil type is not well suited to earth arching. In those cases the hole can be backfilled with ordinary road gravel instead. Careful compaction and deeper installation can also help to compensate for poor soil.

If soil is saturated with water, the water transmits the blast wave directly to the shelter and interferes with arching. For this reason good drainage and a plastic film shield are used to keep the soil relatively dry.

If there is a high water table and no drainage available, then the shelter must be additionally strengthened. Concrete can be used for this at, unfortunately, high expense.

Another approach is to provide the hole with drainage to a sump in which an electric pump is installed. This assumes that the blast danger would come in the few hours after the electricity failed at the beginning of the war. Alternatively, in large installations, an emergency generator could keep the pump going for an extended period of time. We prefer the additional concrete option, so that the shelter's safety cannot be compromised by failure of a pump or generator.

If a high water table is a possibility, it may be necessary to anchor the shelter with steel beams which extend to the sides. This is especially important if the installation is shallow and the shelter is large. One does not want the shelter to float out of the hole.

Welded steel shelters have a great advantage in that they are completely water-tight. They also bend under stress and are not prone to catastrophic failure if over-stressed.

Corrosion is often mentioned as a disadvantage of steel shelters. At the tank shop they will spray the shelter with a tar coating. During installation cathodic protection electrodes should be attached to each end of the tank. These are bags of appropriate metal of ten to twenty pounds weight. They are connected with copper wire to bolt

fittings welded near the top of each end of the tank. The bags are then laid in the bottom of the hole.

Even with the tar coating and cathodic protection, the shelter might develop corrosion problems 50 years from now. If that worries you, a fiberglass coating is available too. If our great grand children are inconvenienced by shelter corrosion 50 years from now, we shall be very fortunate indeed. Also, income from the money saved by using steel rather than concrete would rebuild the shelters every 20 years.

There is an ongoing debate between those who advocate single purpose shelters and those who advocate dual use. Except in new construction, dual use makes the shelter a lot more expensive. Just the blast and radiation problems of normal walk-in entryways add substantially to costs.

The bottom line is this. You, your family, and your neighbors need protection now. Not next year. Not when you happen to get enough money together for a fancy dual use or luxury shelter. You need the shelter now. If you can afford a fancy one, go ahead and build it - providing you build it big enough for all of your neighbors. If not, don't wait for more money or a "better" time. Provide all of the nuclear weapons protection that you can afford now. Do it now.

Either that or figure out just how you will cope with the death of those for whom you are responsible (probably a slow, lingering, painful, horrible death over several weeks), because you procrastinated on their defense.

NUCLEAR WAR SURVIVAL SKILLS

In March 1987 we will publish the updated and expanded 1987 edition of the book Nuclear War Survival Skills by Cresson H. Kearny. This book belongs in every American household without exception.

During the 1970's a unique research and development program was conducted at the Oak Ridge National Laboratory. Realizing that the American government was not providing for the nuclear defense of its people and that the excellent shelter systems that had been developed were not being built, these scientists developed a remarkable array of expedient, do-it-yourself techniques.

The principal scientists involved in this were Cresson Kearny and Conrad Chester. The principal investigator was Cresson Kearny. Taken together with the expedient industrial protection work of Ed York and his coworkers at Boeing Company, these investigations produced a truly remarkable body of knowledge.

There is, of course, no substitute for permanent blast and fallout shelter and detailed, careful prior preparations. Without these neither our country nor most of our citizens will survive. Without these we shall not deter war.

The expedient techniques are, however, so well developed that complete information about them belongs in every permanent shelter system. They provide redundant protection, correction for errors in planning or failures in equipment, and a good way of quickly understanding the threat itself. If people are caught away from their shelters or with inadequate prior preparations, these techniques alone may save their lives.

In a few instances the expedient techniques are actually superior. For example, a Kearny fallout meter requires no calibration. It is inherently calibrated by its geometry alone. Electronic instruments can break. How will one know that his \$800 meter is really reading too low? One way is by death from radiation exposure. Another is by checking it with Cresson's tin can. Make one and keep it in your shelter.

This original research was published in a summary report by Cresson Kearny in 1979 at Oak Ridge. This document has been reprinted in several formats by private publishers. It is estimated to have sold over 400,000 copies.

Now a new updated and expanded version has been written by Cresson Kearny. It will be published in March 1987 by the Oregon Institute of Science and Medicine. Publication and subsequent lower cost distribution is being made possible, in part, by donations which the Institute has received specifically for this purpose.

The price will be set low to facilitate mass distribution of the book. Profits, if any, will go into a special fund established at the Institute to support Cresson Kearney's continuing work on this subject.

By Cresson Kearney's specific request, however, he personally will not receive a royalty, profit, or salary for his work. This permits a low book price and high distribution. He did not receive any royalty or profit from the 400,000 copies of the first edition

either.

Expedient nuclear weapons protection represents both the finest and the darkest hours in American military history. That it needed to be done at all arose from the total abrogation by the United States government of its responsibility to provide for the common defense of the American people. Even the butchers behind the iron curtain provide shelters for their people.

The existence of a small band of American scientists trying to save their country with shovels and tin cans is an outstanding chapter in American patriotism. Our country cannot be saved by these techniques alone, but, as we wrote in "Fighting Chance":

"saved lives are saved lives, and the patriotic and dedicated scientists and engineers who developed these expedient survival techniques can be justly proud that they tried to save their country and at least saved a few of their countrymen."

TACDA

The American Civil Defense Association has kept the torch of civil defense burning during the past 20 years. It has provided a forum through which civil defense scientists and engineers can maintain contact and develop effective procedures.

It was through TACDA that we established the professional relationships that made available to us the engineering and science information necessary for the book, "Fighting Chance".

Not all Americans will have an individual interest in TACDA's specific literature and programs, but every American owes a substantial debt to TACDA for their efforts to preserve American lives and freedom. That debt is far in excess of TACDA's \$25 annual membership fee.

We urge you to become a TACDA member. A TACDA membership form is enclosed. They also offer a three year membership for \$65.

You may wish to ask them to keep your name confidential.

PUBLIC SHELTERS

Each of us is morally required to provide the best nuclear weapons protection possible for our families and our neighbors. We delegated that responsibility to our politicians, and they have spent our money instead on other things. Some of them claim that the job cannot be done. That is false.

We cannot, however, escape our obligations by blaming a bunch of politicians. Self-righteous blame won't provide any blast or fallout protection.

Many FIGHTING CHANCE supporters are doing their best to provide protection with their own personal efforts and resources. That is why this newsletter has articles about self-help nuclear defense.

We are unlikely to deter war or save our country if war does come with self-help alone. Not some Americans, but most Americans must be protected. For that reason, we must get action from the United States Congress. Not some future Congress; not some group that we hope to like better in the future; but the crowd of politicians that we have right now - warts and all.

Congress will respond to only one thing - political pressure. If they responded to laws, duty, morals, right-thinking, and the other high ideals in their campaign speeches, we would already have a shelter system.

Congress must be convinced that the American people will no longer tolerate being held hostage to Soviet attack. Mutual Assured Destruction is fine for those who wish to manipulate a country with fear, but it is absolutely intolerable for a free people. For a people threatened by the current Soviet military machine, a national shelter system is the only alternative to certain national and personal suicide.

Please sit down right now and write a letter to each of your Senators and to your Congressman in which you demand the immediate deployment of blast and fallout shelters and the immediate deployment of current strategic defense technology for the entire United States. Now! This year! Not next year! Now! Also demand an increase in the budget for strategic defense research. Even if you have already written to them, write again!

When your politician replies, please send a copy of his reply to us at FIGHTING CHANCE. These replies are very helpful to us in designing the FIGHTING CHANCE work.

If you still have a spare copy of "Fighting Chance", send it to your favorite politician. The more of these books he gets, the greater the chance that he or someone on his staff will read one.

I have, for example, a set of replies from a Senator to several of his constituents who wrote to him about FIGHTING CHANCE. He has been known as an opponent of nuclear defense. Each time he got a letter, he softened a little in his opposition.

Some of the hard cases will require thousands of letters. Eventually they'll come around. If they don't, at least they'll get out of the way. Fear of unemployment does that to politicians.

Write today! Send us a copy of the reply!

WHAT IS FIGHTING CHANCE?

FIGHTING CHANCE is an all volunteer, non-profit effort to awaken the American people to their urgent need for personal protection against nuclear weapons effects and to provide Americans with the information necessary to install these defenses immediately.

FIGHTING CHANCE also strongly advocates active strategic defense including the deployment of off-the-shelf antimissile and anti-aircraft technology now and the deployment of advanced Star Shield technology as it becomes available.

The political basis of FIGHTING CHANCE is strongly pro-freedom and anti-totalitarian. We must preserve our God-given rights to life and liberty for ourselves and future generations. These rights are perilously close to destruction by the best armed tyranny the world has ever known.

We have the resources and technology to save ourselves if we act decisively and immediately. With that action and God's help we can prevail and preserve our heritage.

Stimulated by concern about our vulnerability, I undertook a detailed study during 1985 and 1986 of the nuclear threat and the passive defense technology available to neutralize it. I was shocked by what I learned.

First, the threat to America is far more serious and more

immediate than I had realized. Second, American scientists and engineers have provided the technology required to meet that threat, but the American government has not implemented it. Third, that same technology has been implemented by the major Communist governments and by the Swiss, so that it now protects 28% of the world's people. The American people are, however, defenseless.

In learning the technical information I was helped most by a stay at Oak Ridge National Laboratory where I read approximately 1000 of the 3000 research reports and articles in the Emergency Technology Library there. I scanned many of the remaining reports and was also helped greatly by daily conversations with the Oak Ridge scientists. These discussions and other interviews with experts in various parts of the United States helped me to grasp the situation during about a year of study.

When I began this job, I thought that there would be some aspect of the problem to which I could apply my own scientific research abilities. So much has already been accomplished, however, that only a small amount of continuing research is needed. If Americans know about and implement current technology, they can save themselves.

After discussing this situation thoroughly with my colleague, Gary North, he and I concluded that the best first step would be to write a short book about the subject. Gary owns a publishing company, the American Bureau of Economic Research, in Fort Worth, Texas. He agreed to provide his own skills and the capabilities of his company to the project on a non-profit basis.

Therefore, in April 1986, Gary and I isolated ourselves in Tyler, Texas and wrote the first draft of the book, "Fighting Chance". Gary made an appeal to the subscribers to his newsletter, Remnant Review, for help. In response, 2200 of his readers contributed \$15 each to the project. They also served as a test group for the book, as each was sent a copy of the rough draft for comment. Each received the finished book after it was printed.

On the basis of these reviews, we revised the book. The first printing was made in July 1986. Since that time, two additional printings have been necessary. There are now 230,000 copies of "Fighting Chance" in print. The second two printings were published by the Oregon Institute of Science and Medicine, a non-profit, 501 c(3) public foundation.

This Institute sponsored the early work on this project. Our trustees agreed to make the FIGHTING CHANCE project a formal division of the Institute. Gary and I concluded that the Institute was the

best permanent, formal home for this work.

The widest possible distribution of the message in "Fighting Chance" is one primary short term goal of the project. We hope to have one million copies in print by the end of 1987.

This is being accomplished by offering the book at very low cost, so that concerned Americans can afford to buy and distribute many copies. These costs are possible, because no royalties or profits are involved and all labor is being provided on a volunteer basis. Our facilities have also been directly donated to the project.

The book sale is primarily mail order. "Fighting Chance" is also being widely distributed without cost to selected groups of Americans. In essence, the more we sell, the more we can give away.

Response to this book has been remarkable. I personally have found all of my other work, including our research work on nutrition, cancer, and aging, swept away under a veritable river of paper which flows both ways.

First there is the paper going out. It has been experimentally determined here that a Caltech educated chemist can wrap and address about 65 books per hour, but that I can only do that for about 10 hours per day. Airline pilots are a little slower, but very careful. Physicians are fast, but tend to be distracted by their patients. Lumberjacks are busy by day, but are great for unloading a semi-truck trailer load of books in the rain at night.

One of our most steady volunteers at present is a marathoner. He usually is among the first finishers in very competitive fields of marathon runners and does the mile in about five minutes - in his wheel chair - he has no legs. Some of you got your books from this man. He and his pet parrot wrapped them at night.

In addition to books pouring out, we are receiving an enormous amount of information pouring in from our supporters and readers all over America. If there were any facts we missed on this subject originally, they must be here now. Personal defense against nuclear weapons is a forty-year-old subject, and many of our readers have worked on this subject.

EMERGENCY KITS

John Wadsworth, at Preparedness Products, provided the enclosed emergency kit information. Preparedness Products offers high quality items at a reasonable cost.

In case of nuclear attack, you, your family, and your neighbors will need:

1. Shelter from the initial nuclear weapons effects of blast, thermal pulse, and radiation.
2. Shelter from the secondary nuclear weapons effects of fire and fallout. These will not be a threat to everyone, but everyone must prepare for them.
3. A reliable supply of clean air.
4. A reliable supply of clean water.
5. A reliable long term food supply after the attack.
6. Warm clothing and emergency medical supplies and knowledge.
7. Food during the time you are in the shelters.

These seven necessities are listed in order of importance. Each category includes various support items such as a radiation meter in the shelter.

Most emergency kits do not include water and are, therefore, low on this list of priorities. The Wadsworth kits do have water. Emergency kits are easy to buy, however, so they are the first step most people take in emergency planning. Since the first step is often the most difficult, there is a temptation to tell everyone to immediately buy or assemble an emergency kit. This done, people are often more easily convinced to prepare shelters.

Emergency kits are higher on the list of priorities for comfort and convenience in case of flood, earthquake, or other natural disaster. These topics are politically safe, so many professionals emphasize them as a backdoor means of at least minor preparations for war.

Let us be completely truthful. The danger to you, your family, your neighbors, and your civilization from nuclear war is now so great that the threat of natural disaster is, by comparison, entirely insignificant. Moreover, if you are properly prepared for nuclear war, a natural disaster, if it does occur, will seem like child's play.

Buy or make an emergency kit sufficient for everyone for whom you are responsible. We own several. Expand your kit eventually into long term food storage which is even more important. Do not, under any circumstances, think that procuring these kits is the primary action which will save your lives in a nuclear war.

We have checked the Wadsworth kits and food storage products. We don't own any, because we had already made these preparations before they became available. We suspect that they are too good a product for the money, because Mr. Wadsworth has put the survival of his countrymen above his own economic well being.

INSERTS IN THE FIGHTING CHANCE NEWSLETTER

We have been approached by shelter manufacturers, equipment suppliers, and other organizations about mailing advertisements to FIGHTING CHANCE supporters. Some have offered a share of their profits.

1. We do not provide the names and addresses of our supporters to anyone.

2. We shall not accept any payments whatever from anyone in exchange for providing their information to our supporters. It is part of our job and obligation to provide this information to you without the bias of self-interest.

3. The inserts which you will occasionally receive with this newsletter will be provided by the source organizations and will be light weight in order to minimize our postage costs.

4. We have told shelter manufacturers that we will include inserts about their products only after their design drawings have been evaluated by the engineers and scientists who work with us. If we think the product has an important defect or limitation, we will tell you about it in the same newsletter issue in which the insert is included.