



# COMMON MYTHS ABOUT RUBBER BERM TRAPS

Since its introduction, granular rubber technology has been the subject of significant misunderstanding about what it actually does and does not do. The purpose of this presentation is to explore some of the claims associated with rubber berm traps.

This information represents the views and opinions of Action Target based on our experience and observations. You are encouraged to conduct your own research and speak with other users about their experiences with the various bullet trap technologies presented before drawing your own conclusions.

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## **CLAIM #1 - Action Target disapproves of rubber traps because all they make are steel traps.**

Not only do we approve of rubber berm traps for certain shooting range applications, we have been manufacturing our own for nearly 10 years and have issued patents covering our unique berm trap technology. We recognize that steel traps and rubber traps have very different benefits and limitations.



It is important for the range operator to understand these issues clearly before choosing one technology over the other.

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## **CLAIM #2 - Rubber berm traps capture all bullets whole and eliminate splatter and ricochet.**

Chopped rubber is obviously softer than steel, so some bullets can indeed be captured whole. However, that is not the whole story. After multiple rounds have been fired into the same concentrated area of the trap, newly fired bullets can begin impacting other bullets previously suspended in the rubber. As one bullet impacts another, both can begin to break into small pieces. These “hot spots” of concentrated lead can form behind turning targets, indoor range target retrievers, and other fixed-position targets on your range, and can pose a significant ricochet hazard if not managed properly.

When cleaning rubber berm traps it is not unusual to find masses of small bullet fragments that are nearly indistinguishable from bullet fragments taken from a steel bullet trap.

Because rubber berm traps have no hard surfaces or obstacles to interfere with cross-lane shooting, they can be particularly effective in tactical applications where shooters move from one position to another and engage targets that are not directly in front of them. As long as hot spots are effectively managed, a rubber berm trap can also be a good choice for very close-range shooting.



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**CLAIM #3 - Rubber berm traps are specially treated so they will not catch on fire.**

There are many documented cases of rubber bullet traps catching on fire. Most manufacturers, including Action Target, treat their rubber with some kind of a fire-retardant substance to reduce the risk of fire. But without taking additional precautions, it is still possible to have a serious problem.

You may see a demonstration where a piece of fire-treated rubber is held to a direct flame without burning, or you might read reports about tracer rounds being fired into rubber berm traps without igniting the rubber. These may be unrealistic scenarios. A full size trap on an actual shooting range can collect large quantities of un-spent gunpowder and flammable debris from paper and cardboard targets, and bullets fired into the trap can break open chunks of treated rubber exposing the untreated surfaces inside. These issues alone may pose a considerable risk of fire, but the risk can increase dramatically if tracers or other incendiary rounds are fired into the trap – a practice which Action Target does not recommend.

A recent attempt to decrease the potential fire hazard of rubber berm traps involves mixing the chunks of chopped rubber with hydrated gel beads.

The theory is that as bullets are absorbed into the rubber, they will be cooled by the gel to reduce heat build-up. Because this approach is so new and no long-term data seems to exist to support the theory, it is unclear whether this gel can keep a fire from starting or keep the fire from spreading after it has already started. It is also unclear what difficulty such a gel may cause when it comes time to clean the trap and separate the lead from the rubber.

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**CLAIM #4 - Rubber berm traps are easy to clean. You can even do it yourself with a special vacuum or with doors on the back of the trap.**

When too many bullets are suspended in the trap for it to function safely, they should be mined from the rubber and disposed of properly. Early claims stated that a million rounds per lane could be fired before cleaning was required, but our real-world experience and documented accounts reveal that a rubber berm trap should be cleaned after approximately 80,000 rounds per lane.

Separating the lead from the rubber can be a very specialized and time consuming task. The top 8 to 12 inches of rubber are typically taken off the entire trap and then sorted to remove the bullet fragments. The lead fragments can be classified as a recyclable material, but may require special permits to transport and dispose of legally. After the lead has been properly dealt with, the remaining rubber is placed back on the trap. Even with the best heavy-duty industrial equipment, it can take experienced crews nearly 6 days to clean a 20 lane trap. Because of the extensive lead exposure inherent in the process, all personnel should be outfitted with the proper safety equipment including complete hazardous material suits and certified respirators.

Another claim states that bullets will travel all the way through the rubber to the rear of the trap where they can easily be removed through doors mounted in the back of the steel support structure. Our experience shows that handgun rounds typically penetrate only 6 to 10 inches into the usual 24 inches of rubber, and most rifle rounds only penetrate 12 to 16 inches.

Even as newly fired bullets impact other bullets already in the rubber, we have not seen fragments even come close to the rear of the trap.



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**CLAIM #5 - Rubber berm traps greatly reduce the noise levels on your range.**

Sound problems on shooting ranges are caused by the noise generated when firing a gun, and the interaction of that noise with the walls, floors and other surfaces of your range. When you compare the surface area of a bullet trap with that of the floor, walls, and ceiling of a typical range, the trap typically makes up only about 5% of the total surface area. This small percentage combined with the fact that rubber is only a fair sound absorbing material means a rubber berm trap may have minimal impact on the sound levels on your range. We have found that using proper sound absorbing materials and techniques on your walls and ceiling baffles can give far better results.





**CLAIM #6 - Adding more technology and additional devices to your trap will improve its performance.**

There is only so much you can do to “technologically enhance” chopped rubber. That being said, let’s look at some of the most common add-ons to rubber berm traps.

The first device is a large collection bin or “hopper” that spans the top of the trap. In certain cases, the chopped rubber has been found to migrate and flow towards the bottom of the trap leaving undesirably thin coverage near the top. When this happens, the extra rubber that accumulates at the bottom of the trap should be periodically collected and returned to the hopper. This process can be very labor intensive and you should employ the same safety equipment and procedures used when cleaning the trap.

Another add-on uses large sheets of rubber that act as a skin over the entire surface of the trap. This cover is designed to help keep the small rubber granules in place, and to keep small bullet fragments from escaping back towards the shooter. As shots are fired into concentrated areas, the cover can quickly develop larger and larger holes, requiring time and money to maintain. Another downside to a cover like this can be heat retention. In hot conditions, the membrane may reduce the ability of the granules to “breathe” building up heat and increasing the chance of fire when other ignition events are present.

