

Accuracy of SIUS sound chamber target systems

SIUS target systems are designed for highest measuring and display accuracy. The systems meet the requirements of international competitions. In order to guarantee the accuracy, it requires, in addition to the highly integrated technology, a regular inspection of the system. Only a conscientious, regular maintenance offers the necessary accuracy of the shot detection during operation.

Important for the accuracy is the condition of the sound chamber. Each shot leaves a smaller or larger hole in the rubber of the sound chamber, depending on the type of bullet.

A small-caliber pointed ammunition usually leaves a small, inconspicuous hole. Hollow point bullets, on the other hand, punch huge holes in the rubber covering.

Different types of ammunition used for 300m shooting

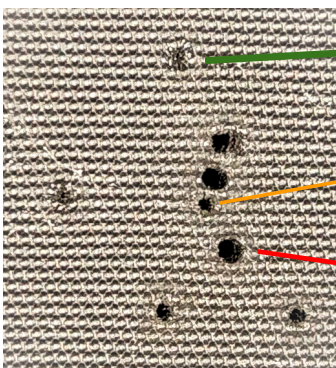


GP90
Sound chamber load per shot small

Norma 6mm Norma BR DIAMOND Line
Sound chamber load per shot large

Lapua 6mm BR Norma
Sound chamber load per shot very large

Holes in the rubber of the different ammunition types



GP90
Hole diameter \varnothing 0.25mm

Norma 6mm Norma BR DIAMOND Line
Hole diameter \varnothing 0.9mm

Lapua 6mm BR Norma
Hole diameter \varnothing 1.4mm

Maintenance interval

As can be easily seen from the holes of the different ammunition types, the maintenance interval is very much dependent on which ammunition is used for shooting. The standard maintenance instructions of SIUS for the target types S110 and S310 are designed for the ammunition types GP11 and GP90 which are used very often in Switzerland.

If other ammunition types are used, such as the above mentioned 6mm Norma BR types, the maintenance interval is much more frequent.

For highest accuracy, always rotate the rubber band after a match (shooter).

Background knowledge

Each hole in the sound chamber reduces the shot signal. This so little that with the ammunition types GP11 and GP90 and an average hit of a good 8, a shot load of up to 2'500 shots can be expected.

The average shot load from maintenance to maintenance can be determined with the following rule of thumb:

155/Hole diameter²

| | | |
|--------------|--------------|---------------------|
| As examples: | GP90 | $155/0.25^2 = 2480$ |
| | Norma 6mm BR | $155/0.9^2 = 191$ |
| | Lapua 6mm BR | $155/1.4^2 = 79$ |

This gives an average shot load from maintenance to maintenance of:

| | |
|---------------------|--------------------|
| GP90 | 2500 rounds |
| Norma 6mm BR | 190 rounds |
| Lapua 6mm BR | 80 rounds |

Maintenance through inspection

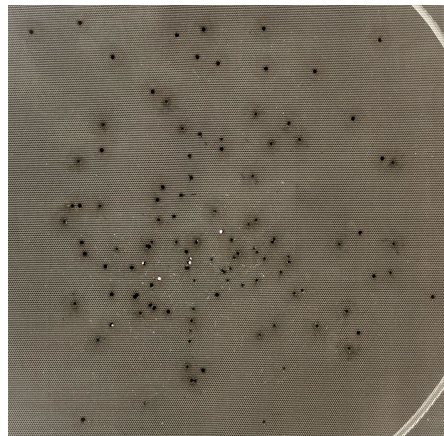
In addition to the rule of thumb based maintenance interval, regular visual inspection is also important. By inspecting the rubber, which must always be done without the front and back frame, it is possible to check for light shining through.

If the highest precision is required, no light may show through the rubber.

Pictures as examples

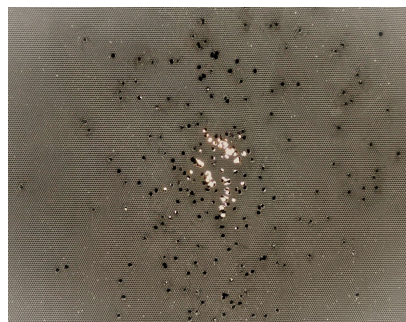
Firing with GP90, Norma 6mm BR and Lapua 6mm BR

The displayed 20x20cm area shows **approximately 120 rounds**. **Maintenance**, cutting out the main frame or turning the rubber band is **necessary**.



Firing with Norma 6mm BR and Lapua 6mm BR

The displayed 18x14cm area has **approximately 250 rounds**. **Maintenance**, cutting out the main frame or turning the rubber band is **overdue!**



The accuracy of the shots is no longer guaranteed!