

# Weapons check

The weapon check is one of the most important safety aspects in live action role-playing games, since the LARP foam-weapons are used in simulated real combat. Although these are toy weapons, those toys can still injure people if they are underestimated due to their padding. Before the weapons are used at a LARP, they should pass a security check at every event. This weapon check, however, runs differently for almost every "weapon GM (Game Master)", so that the same weapon is allowed at one LARP without further ado and is taken out of the game in the next as a public danger. This leads to displeasure on the part of the participants ("it has passed through all security checks so far") or to excuses for not being taken out of circulation ("I can handle it" or "I won't fight with it").

Weapons are occasionally "stolen" in game and used by other players, so basically everyone must be able to handle them without posing a serious threat. And the fact that one weapon has passed through all the controls so far only tells the good weapon checker that either the others had no idea, the weapon has been more worn out since the last event, or that the player is simply lying. In any case, only the GM on site has to decide, because they guarantee the safety of their event. Since there are a lot of opinions about what is safe and what is not, we will try to make the weapon check calculable and understandable.

## PART 1: Standard Weapons Check

Since the weapon checker should not cut open every weapon or look into it in any other way, he is limited to experience and his sense of touch. The most important 7 points can also be checked without damaging the property:

### 1. The Padding

#### **Requirements**

The padding of the core rod is important so that the hard core rod does not break the bones of the "opponent". It is not suitable to prohibit any injuries. Every LARP weapon can cause at least bruises, especially if handled incorrectly. For weapons with a total length of more than 50 cm, the padding thickness of the impact zone should be at least 1.5 cm (for Evazote about 2.0 cm). The striking zone is the blade of an axe, the head of a mace and the blade of a blade weapon (from 20 cm distance to the parry bar).

#### **Sensible Testing**

Simple observation of the blade edge of the weapon: should be larger than  $2 \times 1.5 \text{ cm} + \sim 1.2 \text{ cm}$  core rod thickness. For axes, the stem thickness may be slightly smaller, since it is not used for hitting. The same applies to the lateral overlapping of blades not used for hitting. Slight impression along the blade (with a sword): the core bar should not be felt.

#### **Wrong or Unnecessary Testing**

Press the foam firmly until the core rod is felt: this stress does not occur during the game and damages the suspension properties of the foam.

Test strikes on the owner of the weapon to "see if it hurts": The impact sensitivity of the owner is

irrelevant; instead that of a sensitive opponent is important, and the weapon checker cannot assess how sensitive the owner is anyway...

"General" sorting out based on the foam used (unless it is very soft bed mattress foam): both common foams Evazote and Plastazote have disadvantages; harder foam leads to bruises more quickly (higher general danger), softer foam on the other hand has the danger that the core rod "hits through" with very hard blows (higher maximum danger). Heavy weighing weapons should therefore not be made of soft foam, unless they have large hitting areas (hammers). If you strike recklessly, you can injure others with any LARP weapon. Based on this case, the player, not the weapon, should be taken out of the game.

### **Editors Recommendation**

Anyone who personally rejects soft or hard foam should nevertheless try to objectively assess the weapon's safety and, accordingly, only consider sorting out the "outlawed" weapons if they deviate extremely from the desired hardness.

## **2. The Bonding**

### **Requirements**

The bonding of the foam layers must not come loose, as otherwise the individual layers can separate. This carries the risk of the core rod breaking out between the layers and seriously injuring the opponent.

### **Sensible Testing**

Grasp the blade with one hand, go along the entire length of the blade and gently press on both sides (approx. 2-3 mm per side) at regular, approx. hand-wide intervals: no two layers should be felt moving when pressing together.

### **Wrong or Unnecessary Testing**

Pressing in with your thumbnail to determine how far the glue has come loose: an unsafe weapon will be sorted out anyway and will only be damaged more.

## **3. The Point**

### **Requirements**

The point of padded weapons is one of the biggest weak spots, since the stabilization by the core rod is missing here. The tip of the core rod should be manufactured so that it cannot pierce and tear the foam and the foam does not shear when hitting with the point. To seal the sharp edge against piercing and tearing, it is often covered with leather. However, constructions with fiberglass fabric, similar tear-, piercing-resistant and flexible material or latex caps are more suitable against shearing.

### **Sensible Testing**

Optical impression: a secured point is usually slightly thicker than the rest of the blade. Press lightly on the presumed position of the core bar tip and guide it with light pressure along the core bar: if no increment is noticeable, ask the owner (there are also safe constructions which are not to be felt like

this!). If the owner cannot give any information about the safety, the weapon must be removed from the game. Check for tears: if the foam is torn and clearly moves when slightly bending it, the point has already detached itself from the original bonding and is therefore unsafe! "Two-finger technique": Use your thumb and index finger to feel the transition from the core rod to the foam at the point and move it back and forth slightly sideways with little pressure. With a loose core rod or defective point securing, you will quickly feel any possible damage. Often this also manifests itself in a crackle.

### **Wrong or Unnecessary Testing**

Strongly twisting the point several times: this kind of pressure does not occur in the event of a blow and damages the weapon permanently. Pressing the point of transition from core bar to foam particularly hard: this prevents you from feeling whether the safety seal is defective or released.

### **Special cases**

Check the attachment of the head of axes, maces and pole weapons: Hold the weapon and turn the blade/head slightly. A loose head will reveal itself even without the use of force! Safety seals against tearing for the head of axes and pole weapon blades: this safety seal can be detected in the same way as the point safety seal for blade weapons.

## **4. The Pommel**

### **Requirements**

A particularly high level of security is only required for weapons that are suitable for knocking someone unconscious (German LARP slang: "pömpfen"; when you hit someone in the back of the head with the pommel). Otherwise, it is often only checked whether the pommel has come loose. It must not move when slightly pulled. Short weapons without a core rod are best suited for "pömpfen". It should be kept in mind that "pömpfen" is a kind of stabbing motion, thus the same requirements apply as with the point. Failure to meet the requirements for "pömpfen" should not, however, result in a weapon being completely withdrawn from the game.

### **Sensible Testing** (for "Pömpf" weapons only)

Material: Foam, not rubber ball or hard decorations (e.g. plastic gemstones). Knocking with the pommel on the palm of the hand: The core rod must not be felt and decorations must not be visible on the hand.

### **Wrong or Unnecessary Testing**

Tearing at the pommel: a loose pommel already detaches from the weapon with a slight pull.

Weapons not used for "pömpfen"

No one accidentally hits the knob. The only danger are thieved weapons; solution of this problem: SL should only allow "pömpfen" with own weapons!

## **5. Weight of the weapon**

## **Requirements**

The weight of LARP weapons is detrimental to safety when they are top heavy (center of gravity is near the point). The longer the weapon, the more top-heavy it is. The more top-heavy a weapon, the harder it is to slow it down. Long, top-heavy weapons generate a very high kinetic energy (force x speed) on impact due to their high speed and weight at the point of impact. The impulse remaining after the damping by the foam deformation is transferred to the opponent. In order to reduce the top load, lead band in weapon heads should therefore be avoided. The lead band in the hilt however makes the weapon less top heavy and thus reduces the impact, even if the total weight of the weapon increases slightly.

## **Sensible Testing**

Testing the total weight: If due to the weight it can be assumed that an iron tube or something similar was used as the core, the weapon should be removed from the game. Center of gravity test: the center of gravity should not be too close to the point. For unbalanced swords with normal hilt length, the centre of gravity is about 2-3 hand's width in front of the cross-guard. Power weapons like hammers and axes naturally have their center of gravity much further towards the front than swords. Therefore they should be padded much better (as much soft foam as possible) to absorb the impact.

## **Wrong or Unnecessary Testing**

Assessment of the exact balance: Whether the weapon is balanced or not is a matter of taste and not necessarily important. However, a center of gravity close to the cross-guard makes a sword particularly controllable.

Weapons with lead band in the grip: A weapon with lead band in the grip is a little heavier but not less secure, because it is easier to handle. If the pure weight of a shot was decisive, all LARPer with thick arms or arm bracers should be banned from playing. Safety is almost exclusively about the position of the center of gravity within the weapon.

# 6. Smoothness of the Weapon

## **Requirements**

Sticky weapons can result in painful "red stripes" on the opponent. LARP weapons should therefore be coated and/or treated with talcum/silicone spray.

## **Sensible Testing**

Rub your hand lightly over the weapon: the weapon must not be sticky. Sticky weapons should be powdered with talcum or sprayed with silicone oil.

Tape weapons: The tape must not have any sharp edges or tips caused by glued strips.

## **Wrong or Unnecessary Testing**

Faults with slight cracks in the coating: Slight cracks in the coating (Coetrans/Isoflex) do not yet indicate damage to the weapon. This is usually caused by a coating that is too thick or applied completely without thinner. The coating can crack because it is not as elastic as latex. However, this has no influence on the safety of the weapon.

### **Special Case: Tape**

Several layers of adhesive tape on top of each other become too hard, especially if they are wrapped with tension! This is more likely to happen during crosswinding than longitudinal application. Taping over damage on latex weapons usually does not repair damage, but only simulates it. Tape can slip on latex and the adhesive can cause latex cancer or remove the latex layer.

## **7. Testing for Latex Cancer**

### **Requirements**

Weapons infested with latex cancer must be removed from the game, as they can "infect" other weapons. If cancer occurs, the latex decomposes as its polymer structure dissolves through catalysis. Usually latex cancer starts in places that often come into contact with the hand (parry bar or pommel), but can also occur anywhere else on the weapon. In addition to sweat, grease and skin grease, UV light, false colour pigments, lack of coating and solvents are also considered triggers. Latex cancer should not be underestimated and cannot be eliminated by talcum or silicone spray. If a weapon "pests", only a removal and a renewal of the latex layer can help. It is pointless to simply coat it afterwards.

### **Sensible Testing**

Scanning the weapon: if the weapon feels "sugary and sticky" at one point, the latex is affected by "latex cancer".

Special case: Latex cancer can also dry out and then does not feel sticky, but the structure of the latex is then covered with fine cracks - this can (does not always) indicate latex cancer.

*Part 2 deals with special cases such as chain weapons as well as armor parts and shields.*

## **PART 2: Special Cases**

### **1. Chain Weapons**

#### **Requirements**

These weapons are considered particularly dangerous because they are difficult to stop and can wrap around the opponent's neck. The "whip effect" made these weapons so effective in the Middle Ages and can easily lead to bruises in LARP during thoughtless fights. Therefore the construction of the weapon head from soft material is very important.

#### **Sensible Testing**

Thickness of the cushion layer on the head: should be assessed depending on chain length and weight of the head.

Chain length: a length of up to 30 cm can be considered safe as it is difficult/unlikely for the chain to wrap itself around the neck of an opponent. However, short chains can still wrap themselves around a weapon (or fingers and arms) and thus at least damage the opponent's weapon or change the direction of impact when hitting it. The user should always fight very carefully, otherwise the weapon should be removed.

Possible solution: no chain but a semi-rigid/semi-flexible connection between head and handle or very few larger chain links.

Chain material: light rings without edges (the soft end piece is important!), soft material (e.g. welded plastic rope, rubber rings or similar) or padded rings (e.g. leather rings). Risk when wrapping around the neck: so that the weapon can be released in an emergency, it must not have a loop on the wrist! The user must be aware of the dangers!

## 2. Throwing Weapons

### Requirements

Throwing weapons must not have a solid core rod and must not be too pointed to limit the damage when hitting an eye. In order to improve the flight characteristics (safe trajectory), however, some flexible weight may be used, e.g. rods of glue guns with an overlap of at least 1 cm of foam. The same requirements apply to rocks in catapults, balls of wizards and similar projectiles. Larger projectiles should be open-pored foam. What they all have in common is that a little weight is conducive to marksmanship and thus to playing fun. A slightly heavier weapon on the leg is better than a fluttering, light weapon in the eye! However, the padding around hard spots should be well worked and the projectile should not be too heavy!

### Sensible Testing

Weight and flexibility: the weapon must not be too heavy and must be bendable.

Points and edges: the edges must not be too sharp-edged or pointed.

Safe trajectory: it should be possible to throw safely.

## 3. Projectiles

***Attention: Only industrially manufactured arrows are permitted at ConQuest. "Self made arrows" are not checked but categorically excluded!***

### Requirements

Arrows and bolts can no longer be checked after firing. Therefore they have to be safe enough even in the worst case: fully extended bow when shooting at "enemies" at a distance of 30 m - someone walks 3 m in between and gets the arrow against their head! In addition, these kinds of hits always hurt more, because to the (actually rather small) pain, surprise is added! In contrast to real arrows, LARP arrows can turn around in flight without feathers ("fletches") and fly with the arrow end in the front further in the direction of the opponent. Therefore the fletches are particularly important. Furthermore it has to be checked if the shaft is secured and if the overlap at the tip is thick and soft

(impact absorption, open-pored foam instead of weapon foam) and wide enough (eyeball protection).

### **Sensible Testing**

Number of fletches (feathers): three Fletches for arrows or two for bolts, otherwise the projectile can turn during flight and continue to fly forward with the end of the arrow in front. Push in tip overlap frontally: if air escapes, the foam is open-pored and therefore safe. Tip overlap: The foremost part of the overlap must not be coated or taped with latex; especially not laterally! Diameter of the "arrowhead": should be at least 5 cm (about the diameter of an eye socket).

For wooden shafts: take the tip and end between thumb, index finger and middle finger and put some tension on the shaft: if it bends evenly, everything is fine. If it cracks or bends more at one point, it is torn and must be removed from the game. With GRP (glass fibre reinforced plastic) shafts (round!): no fibres must have come loose and no cracks must have formed in the shaft. Sometimes there are impurities in the material which look like cracks - here the bending test described with the wooden shaft helps.

With aluminium shafts: the shaft should not be too bent and no kinks should be visible.

Arrow head test: Take the head in one hand and the shaft in the other; make a slight counter-rotating movement; shaft and head shouldn't rotate against each other!

Lateral break-out protection: Scan the head going up from the shaft by applying light pressure with your thumb. It should be possible to feel an edge of a cube or a cylinder in which the shaft is glued. The frequently used coin is of little use, as shafts can slide out to the side (between the foam layers) after frequent shooting. Penetration protection: this must also be felt at the tip of the shaft, in the form of as wide a disc as possible (metal, bicycle tube, etc.) between the foam layers, so that the shaft cannot penetrate through the foam. If a wooden block is present as lateral break-out protection, then this also serves as additional protection against breakthrough; a disc then distributes only the kinetic energy evenly on the foam material in front of the wooden block) Bonds: all material layers should of course still be completely bonded.

### **Wrong or Unnecessary Testing**

Testing length of the fletches: the length has no safety-relevant meaning.

Head design: the rear part of the head can be coated with latex, taped or untreated, this is a purely aesthetic issue.

Head test: Do not force the shaft and head against each other. A previously safe head can be loosened.

## **4. Bows**

### **Requirements**

The safety of bows and other shooting weapons can only be controlled by the maximum tractive force with the arrow length used. Opinions differ widely when it comes to setting the maximum limit. There are organizers in Germany who allow up to 20, 24, 30 or even 35 lbs (1 lbs = 0.453 kg). The

quality of the arrows used and the ability of the archer are also very important. If there is an lbs-indication on the limbs and the archer only uses original bowstrings, this is sufficient as a safety check. The length of the stretched bow is indicated on the limb in addition to the pulling weight and pulled out length - the bowstring must correspond approximately to this length. Crossbows or bows without lbs indications are tested differently.

### **Sensible Testing**

Bows: If standard arrows (up to 28" length) are used, the bow is pulled out with a standard arrow and the tensile stress that is applied is measured. Special bow scales are available for this purpose, but a spring balance from a DIY store is sufficient if necessary. For short bows with shorter arrows (e.g. 26"), the bow is checked with an arrow of the owner.

Crossbows: If it still has the original rubber band, then a measurement is not necessary, since these are adjusted to 20-25 lbs. If a spare rubber band has been put in, a spring balance is hooked in and the tensile stress is measured up to the latch (where the rubber band is hooked in).

Archer: especially if the tensile force is borderline too dangerous, the archer should also be able to prove that he can shoot safely (three test shots on target).

### **Wrong or Unnecessary Testing**

Shooting an empty bow or crossbow: the device may break.

Using arrows that are too long: if arrows are used that are longer than the one's of the user, the bow might break.

## **5. Armor**

### **Requirements**

The armor should be designed in such a way that the wearer and all others, including other's LARP weapons, cannot suffer any damage. Metal parts must be deburred and crimped, no nails or sharp rivets must protrude, no sharp or pointed parts made of metal (or other hard material) must be present.

### **Sensible Testing**

Sharp edges and tips: must not be present, especially in metal.

## **6. Shields**

### **Requirements**

Shields come in a wide variety of weights, shapes and designs. The only important thing is: if there is a hard core (e.g. wood, plastic etc.), the padding must be thick enough to minimize the risk of damage to other LARP weapons and to not cause any damage if the opponent accidentally hits it. This means that a shield should be inspected as if it were a weapon. However, a shield should never be used as a weapon in LARP!

### **Sensible Testing**



Padding on edges: with a hard core, at least 3 cm of secured and bonded padding on all edges, which must be rounded off. If there is little overlap, very professional manufacturing should be applied. Soft foam shields can generally be considered safe.

Front padding: with a hard core, at least 1 cm of padding to also cushion the screw heads of wooden core shields.

For screws: Check whether all screws are tightened properly!

Thickness of the wood: depending on the type of wood, attention should be paid to the risk of splintering (for plywood at least 1 cm thickness, for MDF 6 mm is sufficient, otherwise it will be too heavy again...!)

Pointed shapes: the points of extraordinary shield shapes should always be made of foam, never of wood or metal!

### **Wrong or Unnecessary Testing**

Sorting out heavier shields because of the danger of shield ramming: since the damage to the opponent results from power (not only the weight of the shield!) and speed (with a heavier shield probably less), a heavy shield does not necessarily cause significant damage. It is more important to point out that ramming with shields is forbidden. Very heavy shields should not be dropped uncontrolled on the ground (e.g. on feet). Whoever sorts out securely padded wooden shields in the form described above because of the danger of fracturing weapons, should consequently ban all plate armor.

*This weapon check is to serve as a guideline for organizers. It does not release the user of the weapon from his responsibility to fight safely! The signatories of this guide do not accept any responsibility for damage in spite of a weapon check carried out as recommended above.*

*This guide was compiled by Torsten Buchmann on the basis of the Waffentest-Leitfaden by Dennis Stirnberg, Larson Kasper and Christian Heimes ([www.larp-schmiede.de](http://www.larp-schmiede.de)) with input from Jörg Weber, Hendrik Jähnig, Angela Arndt and Christian Schmal.*

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