

APPENDIX 1: TESTING STANDARDS FOR SCA RAPIER COMBAT

FABRIC TESTING FOR PROTECTIVE GEAR:

When the SCA's original standard for protective gear fabric (4 layers of heavy poplin or "trigger" cloth) was tested, in order to provide objective measures for testing other fabrics, it was found that 4 joules of energy, delivered by a 5/32" (4 mm) flat, dull surface, was reliably resisted when the fabric was clamped over a frame. Higher amounts of energy led to penetration, as did sharp testing surfaces. (4 joules is delivered by 1.4 kg, dropping 30 cm.)

Any testing device built to field-test protective gear should, therefore:

- deliver 4 joules energy to the fabric sample
- use a dull, flat 5/32" diameter cylindrical rod to deliver the force to the fabric
- test the gear, or fabric sample, when it is clamped flat (not stretched taut) over a frame, so that nothing is under the test sample but air.

A single test drop is adequate to assess the material in question, unlike the older four thrust test (see below).

The Newton standard used by commercial suppliers of contemporary fencing gear does not correlate precisely to this standard. However, commercial fencing gear/fabrics, in testing, has been found to consistently resist penetration, by the same test as used on 4 layers heavy poplin cloth, at a rating of 550 Newtons. Consequently, commercial gear/fabric which has been rated by a testing laboratory to 550 N is considered acceptable.

Drachenwald has opted to allow continued use of the traditional four thrust test, using a flat-broken foil blade to thrust against the material, as a field expedient if no other testing tool is available. To conduct this test, lay the material to be tested on firm ground or penetrable material (not hardpacked dirt, concrete, or similarly hard surfaces). Holding the broken blade in both hands, punch the material four times, increasing the force each time. After each punch, examine the material.

If the gear to be tested is made of a single layer, it fails if penetrated by the 5/32" (4 mm) diameter dull, flat cylindrical rod, or by the broken foil in ANY of the four thrusts. If the protective gear is made of multiple layers of material, no more than the top layer may be penetrated when tested; if more than one layer is penetrated, the gear fails.

BLADE FLEXIBILITY TESTING

If doubt exists about a weapon's flexibility, an acceptable field test is:

Hold weapon parallel to the ground, supporting handle against table or bench if necessary. Hang a 3 ounce weight (85 grams) just behind the tip. If the blade of a dagger (out to 18" blade length) flexes visibly (more than 1/4 inch <6 mm>), the blade is sufficiently flexible. For a rapier blade (greater than 18"), the flex must be 1/2 inch (12 mm).

APPENDIX 2: PROCEDURES FOR EXPERIMENTATION IN RAPIER COMBAT

Before any new weapon or technique can be used in Society Rapier Combat, a test plan must be submitted to and approved by the Deputy Society Marshal for Rapier Combat. This plan shall describe:

- the new weapon or technique
- specifics of materials used and construction of the weapon (as appropriate);
- in the case of new blade types, a sample of the new blade-type for direct evaluation by the Deputy Society Marshal
- the proposed uses of the new weapon or technique
- all restrictions that will be imposed during the experimental period
- how long the test period will be.

It is the prerogative of the Kingdom Rapier Marshals, subject to the above, and to approval of their Earl Marshals, to allow testing of new weapons or techniques within a kingdom. Testing means the weapon or technique may be used at fighter practice, tournaments, and in small melees after all combatants and marshals have been informed the weapon or technique is being tested and that it is not approved for general SCA use. All combatants and marshals must consent to the use of the weapon or technique before combat begins. If any of the marshals or combatants object to the use of the weapon or technique, it may not be used.

At regular intervals the Kingdom Rapier Marshal shall report to their Earl Marshal, and the Deputy Society Marshal, on the progress and results of the experiment. At the end of the test period the Kingdom Rapier Marshal will provide the Deputy Society Marshal with a test summary, to include a list of injuries that resulted from the use of the weapon or technique, and any concerns from fighters and marshals arising from the testing. The Deputy Society Marshal, after consultation with the Kingdom Rapier Marshals, shall determine if the weapon or technique seems suitable for SCA Rapier Combat. He shall then report to the Society Marshal for final adjudication. .

APPENDIX 3: PRODEDURES FOR CREATION OF A DROP TESTER

It is important not to deviate from the construction specifications given below without approval, as seemingly minor changes can affect the test results. There are three major parts to the tester, the drop probe (the weighted piece), the guide tube, and the round frame (3" flange, below) over which the fabric to be tested is clamped. The actual test method is detailed in Appendix 4 of the Society Rapier Combat Rules but here is a brief overview:

Clamp the fabric over the 3" flange, balance the guide tube over the centre of the fabric, and drop the weighted drop probe down the middle of the guide tube, as shown in Figure 1, below. If the rod on the end of the falling drop probe punches through, the fabric fails, if it doesn't punch through the fabric passes.