§ 572.126 Knees and knee impact test procedure.

(a) Knee assembly. The knee assembly is part of the leg assembly (drawing 127–4000–1 and -2).

(b) When the knee assembly, consisting of knee machined (drawing 127–4013), knee flesh (drawing 127–4011), lower leg (drawing 127–4014), the foot assembly (drawing 127–4030–1(left) and -2 (right)) and femur load transducer (drawing SA572-S10) or its structural replacement (drawing 127–4007) is tested according to the test procedure in section 572.127(c), the peak resistance force as measured with the test probe mounted accelerometer must be not less than 2.0 kN (450 lbf) and not more than 3.0 kN (674 lbf).

(c) Test procedure. The test procedure for the knee assembly is as follows:

(1) Soak the knee assembly in a controlled environment at any temperature between 18.9 and 25.6 °C (66 and 78 °F) and a relative humidity from 10 to 70 percent for at least four hours prior to a test.

(2) Mount the test material and secure it to a rigid test fixture as shown in Figure N6. No contact is permitted between any part of the foot or tibia and any exterior surface.

(3) Align the test probe so that throughout its stroke and at contact with the knee it is within 2 degrees of horizontal and collinear with the longitudinal centerline of the femur.

(4) Guide the pendulum so that there is no significant lateral vertical or rotational movement at time-zero.

(5) The test probe velocity at the time of contact shall be 2.1 ±0.03 m/s (6.9 ± 0.1 ft/s).

(6) No suspension hardware, suspension cables, or any other attachments to the probe, including the velocity vane, shall make contact with the dummy during testing.

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