

**§ 572.181 General description.**

(a) The ES-2re Side Impact Crash Test Dummy, 50th Percentile Adult Male, is defined by:

(1) The drawings and specifications contained in the "Parts List and Drawings, Part 572 Subpart U, Eurosid 2 with Rib Extensions (ES-2re, Alpha Version), February 2008," incorporated by reference in §572.180, which includes the technical drawings and specifications described in Drawing 175-0000, the titles of which are listed in Table A;

TABLE A

Component assembly	Drawing number
Head Assembly .....	175-1000
Neck Assembly Test/Cert .....	175-2000
Neck Bracket Including Lifting Eyebolt .....	175-2500
Shoulder Assembly .....	175-3000
Arm Assembly-Left .....	175-3500
Arm Assembly-Right .....	175-3800
Thorax Assembly with Rib Extensions .....	175-4000
Abdominal Assembly .....	175-5000
Lumbar Spine Assembly .....	175-5500
Pelvis Assembly .....	175-6000
Leg Assembly, Left .....	175-7000-1
Leg Assembly, Right .....	175-7000-2
Neoprene Body Suit .....	175-8000

(2) "Parts/Drawings List, Part 572 Subpart U, Eurosid 2 with Rib Extensions (ES2re), February 2008," containing 8 pages, incorporated by reference in §572.180,

(3) A listing of available transducers-crash test sensors for the ES-2re Crash Test Dummy is shown in drawing 175-0000 sheet 4 of 6, dated February 2008, incorporated by reference in §572.180,

(4) Procedures for Assembly, Disassembly and Inspection (PADI) of the ES-2re Side Impact Crash Test Dummy, February 2008, incorporated by reference in §572.180,

(5) Sign convention for signal outputs reference document SAE J1733 Information Report, titled "Sign Convention for Vehicle Crash Testing" dated December 1994, incorporated by reference in §572.180.

(b) Exterior dimensions of ES-2re test dummy are shown in drawing 175-0000 sheet 3 of 6, dated February 2008.

(c) Weights of body segments (head, neck, upper and lower torso, arms and upper and lower segments) and the center of gravity location of the head are shown in drawing 175-0000 sheet 2 of 6, dated February 2008.

(d) Adjacent segments are joined in a manner such that, except for contacts existing under static conditions, there is no additional contact between metallic elements of adjacent body segments throughout the range of motion.

(e) The structural properties of the dummy are such that the dummy conforms to this Subpart in every respect before use in any test similar to those in Standard No. 214, Side Impact Protection and Standard No. 201, Occupant Protection in Interior Impact.

[71 FR 75331, Dec. 14, 2006, as amended at 73 FR 33921, June 16, 2008]

**§ 572.182 Head assembly.**

(a) The head assembly consists of the head (drawing 175-1000), including the neck upper transducer structural replacement, and a set of three (3) accelerometers in conformance with specifications in §572.189(b) and mounted as shown in drawing (175-0000 sheet 1 of 6). When tested to the test procedure specified in paragraph (b) of this section, the head assembly shall meet performance requirements specified in paragraph (c) of this section.

(b) *Test procedure.* The head shall be tested per procedure specified in 49 CFR §572.112(a).

(c) *Performance criteria.* (1) When the head assembly is dropped in accordance with §572.112 (a), the measured peak resultant acceleration shall be between 125 g's and 155 g's;

(2) The resultant acceleration-time curve shall be unimodal to the extent that oscillations occurring after the main acceleration pulse shall not exceed 15% (zero to peak) of the main pulse;

(3) The fore-and-aft component of the head acceleration shall not exceed 15 g's.

**§ 572.183 Neck assembly.**

(a) The neck assembly consists of parts shown in drawing 175-2000. For purposes of this test, the neck is mounted within the headform assembly 175-9000 as shown in Figure U1 in appendix A to this subpart. When subjected to tests procedures specified in paragraph (b) of this section, the neck-headform assembly shall meet performance requirements specified in paragraph (c) of this section.