

Subpart T [Reserved]**Subpart U, ES–2re Side Impact Crash Test Dummy, 50th Percentile Adult Male**

SOURCE: 71 FR 75331, Dec. 14, 2006, unless otherwise noted.

§ 572.180 Incorporated materials.

(a) The following materials are hereby incorporated into this Subpart by reference:

(1) A parts/drawing list entitled, “Parts/Drawings List, Part 572 Subpart U, Eurosid 2 with Rib Extensions (ES2re), Sept. 2006,”

(2) A drawings and inspection package entitled “Parts List and Drawings, Part 572 Subpart U, Eurosid 2 with Rib Extensions (ES–2re, Alpha Version), September 2006,” consisting of:

(i) Drawing No. 175–0000 ES–2re Dummy Assembly;

(ii) Drawing No. 175–1000 Head Assembly;

(iii) Drawing No. 175–2000, Neck Assembly Test/Cert;

(iv) Drawing No. 175–3000, Shoulder Assembly;

(v) Drawing No. 175–3500, Arm Assembly, Left;

(vi) Drawing No. 175–3800, Arm Assembly, Right;

(vii) Drawing No. 175–4000, Thorax Assembly with Rib Extensions;

(viii) Drawing No. 175–5000, Abdominal Assembly;

(ix) Drawing No. 175–5500 Lumbar Spine Assembly;

(x) Drawing No. 175–6000 Pelvis Assembly;

(xi) Drawing No. 175–7000–1, Leg Assembly—left;

(xii) Drawing No. 175–7000–2, Leg Assembly—right;

(xiii) Drawing No. 175–8000, Neoprene Body Suit; and,

(xiv) Drawing No. 175–9000, Headform Assembly;

(3) A procedures manual entitled “Procedures for Assembly, Disassembly and Inspection (PADI) of the EuroSID–2re 50th Percentile Adult Male Side Impact Crash Test Dummy, September 2006,” incorporated by reference in §§ 572.180(a)(2), and 572.181(a);

(4) Society of Automotive Engineers (SAE) Recommended Practice J211, Rev. Mar 95 “Instrumentation for Impact Tests—Part 1—Electronic Instrumentation”; and,

(5) SAE J1733 of 1994–12 “Sign Convention for Vehicle Crash Testing.”

(b) The Director of the Federal Register approved the materials incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of the materials may be inspected at the National Archives and Records Administration (NARA), and in electronic format through the DOT docket management system (DMS). For information on the availability and inspection of this material at NARA, call 202–741–6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. For information on the availability and inspection of this material at the DOT DMS, call 1–800–647–5527, or go to: <http://dms.dot.gov>.

(c) The incorporated materials are available as follows:

(1) The Parts/Drawings List, Part 572 Subpart U, Eurosid 2 with Rib Extensions (ES2re), Sept. 2006, referred to in paragraph (a)(1) of this section, the Parts List and Drawings, Part 572 Subpart U, Eurosid 2 with Rib Extensions (ES–2re, Alpha Version), September 2006, referred to in paragraph (a)(2) of this section, and the PADI document referred to in paragraph (a)(3) of this section, are available in electronic format through the DOT docket management system and in paper format from Leet-Melbrook, Division of New RT, 18810 Woodfield Road, Gaithersburg, MD 20879, telephone (301) 670–0090.

(2) The SAE materials referred to in paragraphs (a)(4) and (a)(5) of this section are available from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096, telephone 1–877–606–7323.

§ 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), September 2006," 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 No.
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), Sept. 2006," 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 September 2006, incorporated by reference in § 572.180,

(4) Procedures for Assembly, Disassembly and Inspection (PADI) of the ES-2re Side Impact Crash Test Dummy, September 2006, incorporated by reference in § 572.180,

(5) Sign convention for signal outputs reference document SAE 1733 Information Report, titled "Sign Convention for Vehicle Crash Testing" dated July 15, 1986.

(b) Exterior dimensions of ES-2re test dummy are shown in drawing 175-0000 sheet 3 of 6, dated September 2006.

(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 September 2006.

(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.

§ 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.

(b) *Test procedure.*

(1) Soak the neck-headform assembly in a test environment as specified in § 572.189(o);

(2) Attach the neck-headform assembly to the Part 572 subpart E pendulum test fixture as shown in Figure U2-A in Appendix A to this subpart, so that the midsagittal plane of the neck-headform assembly is vertical and perpendicular to the plane of motion of the pendulum