(xiii) Drawing No. 175–8000, Neoprene Body Suit, incorporated by reference in §§ 572.181 and 572.185; and,

(xiv) Drawing No. 175–9000, Headform Assembly, incorporated by reference in §§ 572.181, 572.183, 572.187;

(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, February 2008,'' 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 Department of Transportation, Docket Operations, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590, telephone (202) 366–9826, and at the National Archives and Records Administration (NARA), and in electronic format through *Regulations.gov*. 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 *Regulations.gov*, call 1–877–378–5457, or go to: *http://www.regulations.gov*.

(c) The incorporated materials are available as follows:

(1) The Parts/Drawings List, Part 572 Subpart U, Eurosid 2 with Rib Extensions (ES2re) 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) 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 Regulations.gov 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.

[71 FR 75331, Dec. 14, 2006, as amended at 73 FR 33920, June 16, 2008; 76 FR 31864, June 2, 2011]

§ 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 2009,'' (incorporated by reference, see § 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 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), September 2009,'' containing 9 pages, incorporated by reference, see § 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, see § 572.180,

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

(b) Exterior dimensions of ES–2re test dummy are shown in drawing 175–0000 sheet 3 of 6, dated February 2008, incorporated by reference, see § 572.180.

(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, incorporated by reference, see § 572.180.

(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; 76 FR 31866, June 2, 2011]

§ 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(n);

(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 longitudinal centerline shown in Figure U2–A. Torque the half-spherical screws (175–2004) located at either end of the neck assembly to 88 ±5 in-lbs using the neck compression tool (175–9500) or equivalent;

(3) Release the pendulum from a height sufficient to allow it to fall freely to achieve an impact velocity of 3.4±0.1 m/s measured at the center of the pendulum accelerometer (Figure 22 as set forth in 49 CFR 572.33) at the time the pendulum makes contact with the decelerating mechanism. The velocity-time history of the pendulum falls inside the corridor determined by the upper and lower boundaries specified in Table 1 to paragraph (a) of this section.

(4) Allow the neck to flex without the neck-headform assembly making contact with any object;

(5) Time zero is defined in § 572.189(j).

TABLE 1 TO PARAGRAPH (A)—ES–2RE NECK CERTIFICATION PENDULUM VELOCITY CORRIDOR

Upper boundary		Lower boundary	
Time (ms)	Velocity (m/s)	Time (ms)	Velocity (m/s)
1.0	0.00	0.0	−0.05