Pipeline and Hazardous Materials Safety Administration, DOT § 178.518

undue bending. The fluting of corrugated fiberboard must be firmly glued to the facings.

(2) The ends of boxes may have a wooden frame or be entirely of wood or other suitable material. Reinforcements of wooden battens or other suitable material may be used.

(3) Manufacturing joints. (i) Manufacturing joints in the bodies of boxes must be—
   (A) Taped;
   (B) Lapped and glued; or
   (C) Lapped and stitched with metal staples.
   (ii) Lapped joints must have an appropriate overlap.

(4) Where closing is effected by gluing or taping, a water resistant adhesive must be used.

(5) Boxes must be designed so as to provide a snug fit to the contents.

(6) Maximum net mass: 400 kg (882 pounds).

(7) Authorization to manufacture, mark, and sell UN4G combination packagings with outer fiberboard boxes and with inner fiberboard components that have individual containerboard or paper wall basis weights that vary by not more than plus or minus 5% from the nominal basis weight reported in the initial design qualification test report.


§ 178.517 Standards for plastic boxes.

(a) The following are identification codes for plastic boxes:
   (1) 4H1 for an expanded plastic box; and
   (2) 4H2 for a solid plastic box.

(b) Construction requirements for plastic boxes are as follows:
   (1) The box must be manufactured from suitable plastic material and be of adequate strength in relation to its capacity and intended use. The box must be adequately resistant to aging and to degradation caused either by the substance contained or by ultraviolet radiation.

   (2) An expanded plastic box must consist of two parts made of a molded expanded plastic material: a bottom section containing cavities for the inner receptacles, and a top section covering and interlocking with the bottom section. The top and bottom sections must be so designed that the inner receptacles fit snugly. The closure cap for any inner receptacle may not be in contact with the inside of the top section of the box.

   (3) For transportation, an expanded plastic box must be closed with a self-adhesive tape having sufficient tensile strength to prevent the box from opening. The adhesive tape must be weather-resistant and its adhesive compatible with the expanded plastic material of the box. Other closing devices at least equally effective may be used.

   (4) For solid plastic boxes, protection against ultra-violet radiation, if required, must be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives must be compatible with the contents and remain effective throughout the life of the box. Where use is made of carbon black pigment or inhibitors other than those used in the manufacture of the tested design type, retesting may be waived if the carbon black content does not exceed 2 percent by mass or if the pigment content does not exceed 3 percent by mass; the content of inhibitors of ultra-violet radiation is not limited.

   (5) Additives serving purposes other than protection against ultra-violet radiation may be included in the composition of the plastic material if they do not adversely affect the material of the box. Addition of these additives does not change the design type.

   (6) Solid plastic boxes must have closure devices made of a suitable material of adequate strength and so designed as to prevent the box from unintentionally opening.

   (7) Maximum net mass 4H1: 60 kg (132 pounds); 4H2: 400 kg (882 pounds).

§ 178.518 Standards for woven plastic bags.

(a) The following are identification codes for woven plastic bags:
   (1) 5H1 for an unlined or non-coated woven plastic bag;
   (2) 5H2 for a sift-proof woven plastic bag; and
§ 178.519 Standards for plastic film bags.

(a) The identification code for a plastic film bag is 5H4.

(b) Construction requirements for plastic film bags are as follows:

1. Bags must be made of a suitable plastic material. The strength of the material used and the construction of the bag must be appropriate to the capacity and intended use of the bag.

2. Maximum net mass: 50 kg (110 pounds).

§ 178.520 Standards for textile bags.

(a) The following are identification codes for textile bags:

1. 5L1 for an unlined or non-coated textile bag;

2. 5L2 for a sift-proof textile bag;

3. 5L3 for a water-resistant textile bag.

(b) Construction requirements for textile bags are as follows:

1. The textiles used must be of good quality. The strength of the fabric and the construction of the bag must be appropriate to the capacity and intended use of the bag.

2. Bags, sift-proof, 5L2: The bag must be made sift-proof, by appropriate means, such as by the use of paper bonded to the inner surface of the bag by a water-resistant adhesive such as bitumen, plastic film bonded to the inner surface of the bag, or one or more inner liners made of paper or plastic material.

3. Bags, water-resistant, 5L3: To prevent entry of moisture, the bag must be made waterproof by appropriate means, such as by separate inner liners of paper (e.g., waxed kraft paper, tarred paper, or plastic-coated kraft paper), or plastic film bonded to the inner or outer surface of the bag, or one or more inner plastic liners.

4. Maximum net mass: 50 kg (110 pounds).

§ 178.521 Standards for paper bags.

(a) The following are identification codes for paper bags:

1. 5M1 for a multi-wall paper bag;

2. 5M2 for a multi-wall water-resistant paper bag.

(b) Construction requirements for paper bags are as follows:

1. Bags must be made of a suitable kraft paper, or of an equivalent paper with at least three plies. The strength of the paper and the construction of the bag must be appropriate to the capacity and intended use of the bag. Seams and closures must be sift-proof.