

achieved by spring-loaded or non-reclosing pressure relief devices or by other means of construction.

(ii) The start-to-discharge pressure may not be higher than 65 kPa (9 psig) and no lower than the vapor pressure of the hazardous material plus the partial pressure of the air or other inert gases, measured in the IBC at 55 °C (131 °F), determined on the basis of a maximum degree of filling as specified in §173.35(d) of this subchapter. This does not apply to fusible devices unless such devices are the only source of pressure relief for the IBC. Pressure relief devices must be fitted in the vapor space.

[Amdt. 178-103, 59 FR 38068, July 26, 1994, as amended by Amdt. 178-108, 60 FR 40038, Aug. 4, 1995; Amdt. 178-117, 61 FR 50629, Sept. 26, 1996; 66 FR 33452, June 21, 2001; 66 FR 45386, 45387, Aug. 28, 2001]

#### §178.706 Standards for rigid plastic IBCs.

(a) The provisions in this section apply to rigid plastic IBCs intended to contain solids or liquids. Rigid plastic IBC types are designated:

(1) 11H1 fitted with structural equipment designed to withstand the whole load when IBCs are stacked, for solids which are loaded or discharged by gravity.

(2) 11H2 freestanding, for solids which are loaded or discharged by gravity.

(3) 21H1 fitted with structural equipment designed to withstand the whole load when IBCs are stacked, for solids which are loaded or discharged under pressure.

(4) 21H2 freestanding, for solids which are loaded or discharged under pressure.

(5) 31H1 fitted with structural equipment designed to withstand the whole load when IBCs are stacked, for liquids.

(6) 31H2 freestanding, for liquids.

(b) Rigid plastic IBCs consist of a rigid plastic body, which may have structural equipment, together with appropriate service equipment.

(c) Rigid plastic IBCs must be manufactured from plastic material of known specifications and be of a strength relative to its capacity and to the service it is required to perform. In addition to conformance to §173.24 of this subchapter, plastic materials must

be resistant to aging and to degradation caused by ultraviolet radiation.

(1) If protection against ultraviolet radiation is necessary, it must be provided by the addition of a pigment or inhibitor such as carbon black. These additives must be compatible with the contents and remain effective throughout the life of the IBC body. Where use is made of carbon black, pigments or inhibitors, other than those used in the manufacture of the tested design type, retesting may be omitted if changes in the carbon black content, the pigment content or the inhibitor content do not adversely affect the physical properties of the material of construction.

(2) Additives may be included in the composition of the plastic material to improve the resistance to aging or to serve other purposes, provided they do not adversely affect the physical or chemical properties of the material of construction.

(3) No used material other than production residues or regrind from the same manufacturing process may be used in the manufacture of rigid plastic IBCs.

(4) Rigid plastic IBCs intended for the transportation of liquids must be capable of releasing a sufficient amount of vapor to prevent the body of the IBC from rupturing if it is subjected to an internal pressure in excess of that for which it was hydraulically tested. This may be achieved by spring-loaded or non-reclosing pressure relief devices or by other means of construction.

[Amdt. 178-103, 59 FR 38068, July 26, 1994, as amended at 66 FR 45386, 45387, Aug. 28, 2001]

#### §178.707 Standards for composite IBCs.

(a) The provisions in this section apply to composite IBCs intended to contain solids and liquids. To complete the marking codes listed below, the letter "Z" must be replaced by a capital letter in accordance with §178.702(a)(2) to indicate the material used for the outer packaging. Composite IBC types are designated:

(1) 11HZ1 Composite IBCs with a rigid plastic inner receptacle for solids loaded or discharged by gravity.

(2) 11HZ2 Composite IBCs with a flexible plastic inner receptacle for solids loaded or discharged by gravity.