

transport index numbers of the individual packages or overpacks.

(2) The following table prescribes minimum separation distances that must be maintained in passenger-carrying aircraft between Class 7 (radioactive) materials labeled Radioactive Yellow-II or Radioactive Yellow-III and passengers and crew:

Transport index or sum of transport indexes of all packages in the aircraft or predesignated area	Minimum separation distances	
	Centimeters	Inches
0.1 to 1.0 .....	30	12
1.1 to 2.0 .....	50	20
2.1 to 3.0 .....	70	28
3.1 to 4.0 .....	85	34
4.1 to 5.0 .....	100	40
5.1 to 6.0 .....	115	46
6.1 to 7.0 .....	130	52
7.1 to 8.0 .....	145	57
8.1 to 9.0 .....	155	61
9.1 to 10.0 .....	165	65
10.1 to 11.0 .....	175	69
11.1 to 12.0 .....	185	73
12.1 to 13.0 .....	195	77
13.1 to 14.0 .....	205	81
14.1 to 15.0 .....	215	85
15.1 to 16.0 .....	225	89
16.1 to 17.0 .....	235	93
17.1 to 18.0 .....	245	97
18.1 to 20.0 .....	260	102
20.1 to 25.0 .....	290	114
25.1 to 30.0 .....	320	126
30.1 to 35.0 .....	350	138
35.1 to 40.0 .....	375	148
40.1 to 45.0 .....	400	157
45.1 to 50.0 .....	425	167

(3) Class 7 (radioactive) materials in packages, overpacks or freight containers labeled Radioactive Yellow-II or Radioactive Yellow-III must be separated from live animals by a distance of at least 0.5 meters (20 inches) for journeys not exceeding 24 hours, and by a distance of at least 1.0 meters (39 inches) for journeys longer than 24 hours.

(c) *Predesignated areas.* A package required by §172.403 of this subchapter to be labeled Radioactive Yellow-II or Radioactive Yellow-III may be carried in a passenger-carrying aircraft in accordance with a system of predesignated areas established by the aircraft operator. Each aircraft operator that elects to use a system of predesignated areas shall submit a detailed description of the proposed system to the Associate Administrator for Hazardous Materials Safety for approval prior to implementation of the system. A proposed system of

predesignated areas is approved if the Associate Administrator for Hazardous Materials Safety determines that it is designed to assure that:

(1) The packages can be placed in each predesignated area in accordance with the minimum separation distances prescribed in paragraph (b)(2) of this section; and

(2) The predesignated areas are separated from each other by minimum distance equal to at least four times the distances required by paragraphs (b)(1) and (b)(2) of this section for the predesignated area containing packages with the largest sum of transport indexes.

[Amdt. 175-13, 45 FR 20102, Mar. 27, 1980, as amended by Amdt. 175-23, 47 FR 43066, Sept. 30, 1982; Amdt. 175-25, 47 FR 54824, Dec. 6, 1982; Amdt. 175-47, 55 FR 52687, Dec. 21, 1990; 56 FR 66281, Dec. 20, 1991; Amdt. 175-49, 58 FR 50494, Sept. 27, 1993]

**§ 175.702 Requirements for carriage of packages containing Class 7 (radioactive) materials in a cargo aircraft only.**

(a) As used in this section, the term “group of packages” means packages that are separated from each other in an aircraft by a distance of 6 m (20 feet) or less.

(b) No person may carry in a cargo aircraft only any package required by §172.403 of this subchapter to be labeled Radioactive Yellow-II or Radioactive Yellow-III unless:

(1) The total transport index for all of the packages does not exceed 50.0 and the package is carried in accordance with §175.701(a); or

(2) The total transport index for all of the packages exceeds 50.0 and:

(i) The separation distance between the surfaces of the Class 7 (radioactive) materials packages, overpacks or freight containers and any space occupied by—

(A) Humans is at least 9 meters (30 feet); and

(B) Live animals is at least 0.5 meters (20 inches) for journeys not exceeding 24 hours and at least 1.0 meters (39 inches) for journeys longer than 24 hours;

(ii) The transport index for any group of packages does not exceed 50.0; and

(iii) Each group of packages is separated from every other group in the

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aircraft by not less than 6 m (20 feet), measured from the outer surface of each group; and

(iv) The total transport index for all packages containing fissile Class 7 (radioactive) materials does not exceed 50.0.

[Amdt. 175-13, 45 FR 20102, Mar. 27, 1980, as amended by Amdt. 175-29, 48 FR 50461, Nov. 1, 1983; Amdt. 175-47, 55 FR 52687, Dec. 21, 1990; Amdt. 175-49, 58 FR 50494, Sept. 27, 1993]

**§ 175.703 Other special requirements for the acceptance and carriage of packages containing Class 7 (radioactive) materials.**

(a) No person may carry in an aircraft any package of Class 7 (radioactive) materials required by §172.403 of this subchapter to be labeled Radioactive Yellow-II or Radioactive Yellow-III closer than the distances shown in the following table to any package marked as containing undeveloped film:

Transport index	Minimum separation distance to nearest undeveloped film for various times of transit									
	Up to 2 hours		2 to 4 hours		4 to 8 hours		8 to 12 hours		Over 12 hours	
	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet
0.1 to 1.0 .....	0.3	1	0.6	2	0.9	3	1.2	4	1.5	5
1.1 to 5.0 .....	0.9	3	1.2	4	1.8	6	2.4	8	3.3	11
5.1 to 10.0 .....	1.2	4	1.8	6	2.7	9	3.3	11	4.5	15
10.1 to 20.0 .....	1.5	5	2.4	8	3.6	12	4.8	16	6.6	22
20.1 to 30.0 .....	2.1	7	3.0	10	4.5	15	6.0	20	8.7	29
30.1 to 40.0 .....	2.4	8	3.3	11	5.1	17	6.6	22	9.9	33
40.1 to 50.0 .....	2.7	9	3.6	12	5.7	19	7.2	24	10.8	36

(b) No person may accept for carriage in an aircraft packages of Class 7 (radioactive) materials, other than limited quantities, contained in a rigid or non-rigid overpack, including a fiberboard box or plastic bag, unless they have been prepared for shipment in accordance with §173.448(g) of this subchapter.

(c) No person shall carry in an aircraft a fissile material controlled shipment (as defined in §173.403 of this subchapter), except—

(1) In a cargo aircraft only which has been assigned for the exclusive use of the shipper for the specific shipment of fissile Class 7 (radioactive) material. Instructions for the exclusive use must be developed by the shipper and carrier, and the instructions issued with the shipping papers; or

(2) In an aircraft in which there are no other packages required to bear a radioactive label as prescribed in §172.403 of this subchapter. Specific arrangements must be made between the shipper and carrier, with instructions to that effect issued with the shipping papers.

(d) No person shall offer or accept for transportation, or transport, by air—

(1) Vented Type B(M) packages, packages which require external cooling by

an ancillary cooling system or packages subject to operational controls during transport; or

(2) Liquid pyrophoric Class 7 (radioactive) materials.

(e) Packages with radiation levels at the package surface or a transport index in excess of the limits specified in §173.441(a) of this subchapter may not be transported by aircraft except under special arrangements approved by RSPA.

[Amdt. 175-13, 45 FR 20102, Mar. 27, 1980, as amended by Amdt. 175-26, 48 FR 10245, Mar. 10, 1983; Amdt. 175-26, 48 FR 31220, July 7, 1983; Amdt. 175-29, 48 FR 50461, Nov. 1, 1983; Amdt. 175-47, 55 FR 52687, Dec. 21, 1990; Amdt. 175-53, 60 FR 50333, Sept. 28, 1995]

**§ 175.704 Plutonium shipments.**

Shipments of plutonium by air which are subject to 10 CFR 71.88(a)(4) must comply with the following:

(a) A plutonium package weighing less than 40 kg (88 lbs) and having its height and diameter both less than 50 cm (19.7 in), must be stowed aboard the aircraft on the main deck or the lower cargo compartment in the aft-most location that is possible for cargo of its size and weight. No other type of cargo may be stowed aft of a plutonium package.