

# NFPA 70E® Table Samples: Approach Boundaries



NFPA 70E® tables contain vital information about approach boundaries, hazard categories and PPE. **The following is only a SAMPLE of the information contained in NFPA 70E and should not be used for anything other than completing course activities.** Always use the most current edition of the NFPA 70E when working on energized electrical equipment. You can purchase the latest standards at the NFPA website.

**Table 130.4(E)(a) Electric Shock Protection Approach Boundaries to Exposed Energized Electrical Conductors or Circuit Parts for Alternating-Current Systems**

(1)  Nominal System Voltage Range, Phase to Phase	(2)	(3)	(4)
	Limited Approach Boundary		Restricted Approach Boundary; Includes Inadvertent Movement Adder
	Exposed Movable Conductor	Exposed Fixed Circuit Part	
Less than 50 V	Not specified	Not specified	Not specified
50 V–150 Ve	3.1 m (10 ft 0 in.)	1.0 m (3 ft 6 in.)	Avoid contact
151 V–750 V	3.1 m (10 ft 0 in.)	1.0 m (3 ft 6 in.)	0.31 m (1 ft 0 in.)
751 V–5 kV	3.1 m (10 ft 0 in.)	1.0 m (3 ft 6 in.)	0.63 m (2 ft 1 in.)
5.1 kV–15 kV	3.1 m (10 ft 0 in.)	1.5 m (5 ft 0 in.)	0.65 m (2 ft 2 in.)
15.1 kV–36 kV	3.1 m (10 ft 0 in.)	1.8 m (6 ft 0 in.)	0.77 m (2 ft 7 in.)
36.1 kV–46 kV	3.1 m (10 ft 0 in.)	2.5 m (8 ft 0 in.)	0.84 m (2 ft 10 in.)
46.1 kV–72.5 kV	3.1 m (10 ft 0 in.)	2.5 m (8 ft 0 in.)	1.0 m (3 ft 4 in.)
72.6 kV–121 kV	3.3 m (10 ft 8 in.)	2.5 m (8 ft 0 in.)	1.2 m (3 ft 9 in.)
121.1 kV–145 kV	3.4 m (11 ft 0 in.)	3.1 m (10 ft 0 in.)	1.3 m (4 ft 4 in.)
145.1 kV–169 kV	3.6 m (11 ft 8 in.)	3.6 m (11 ft 8 in.)	1.5 m (4 ft 10 in.)
169.1 kV–242 kV	4.0 m (13 ft 0 in.)	4.0 m (13 ft 0 in.)	2.1 m (6 ft 8 in.)
242.1 kV–362 kV	4.7 m (15 ft 4 in.)	4.7 m (15 ft 4 in.)	3.5 m (11 ft 2 in.)
362.1 kV–420 kV	5.8 m (19 ft 0 in.)	5.8 m (19 ft 0 in.)	4.3 m (14 ft 0 in.)
420.1 kV–550 kV	5.8 m (19 ft 0 in.)	5.8 m (19 ft 0 in.)	5.1 m (16 ft 8 in.)
550.1 kV–800 kV	7.2 m (23 ft 9 in.)	7.2 m (23 ft 9 in.)	6.9 m (22 ft 7 in.)

**Table 130.4(E)(b) Electric Shock Protection Approach Boundaries to Exposed Energized Electrical Conductors or Circuit Parts for Direct-Current Voltage Systems**

(1)	(2)	(3)	(4)
Nominal Potential Difference	Limited Approach Boundary		Restricted Approach Boundary; Includes Inadvertent Movement Adder
	Exposed Movable Conductor	Exposed Fixed Circuit Part	
Less than 50 V	Not specified	Not specified	Not specified
50 V–300 V	3.1 m (10 ft 0 in.)	1.0 m (3 ft 6 in.)	Avoid contact
301 V–1 kV	3.1 m (10 ft 0 in.)	1.0 m (3 ft 6 in.)	0.3 m (1 ft 0 in.)
1.1 kV–5 kV	3.1 m (10 ft 0 in.)	1.5 m (5 ft 0 in.)	0.5 m (1 ft 5 in.)
5.1 kV–15 kV	3.1 m (10 ft 0 in.)	1.5 m (5 ft 0 in.)	0.7 m (2 ft 2 in.)
15.1 kV–45 kV	3.1 m (10 ft 0 in.)	2.5 m (8 ft 0 in.)	0.8 m (2 ft 9 in.)
45.1 kV– 75 kV	3.1 m (10 ft 0 in.)	2.5 m (8 ft 0 in.)	1.0 m (3 ft 6 in.)
75.1 kV–150 kV	3.3 m (10 ft 8 in.)	3.1 m (10 ft 0 in.)	1.2 m (3 ft 10 in.)
150.1 kV–250 kV	3.6 m (11 ft 8 in.)	3.6 m (11 ft 8 in.)	1.6 m (5 ft 3 in.)
250.1 kV–500 kV	6.0 m (20 ft 0 in.)	6.0 m (20 ft 0 in.)	3.5 m (11 ft 6 in.)
500.1 kV–800 kV	8.0 m (26 ft 0 in.)	8.0 m (26 ft 0 in.)	5.0 m (16 ft 5 in.)