

- (3) In the case of passengers seated in seats authorised for occupancy during taxiing, take-off, and landing, in a compartment that does not incorporate any part of the main cabin aisle, in lieu of CS 25.812(e)(1), egress this compartment and enter the main cabin aisle using only markings and visual features not more than 1.2 m (4 ft) above the cabin floor, and proceed to the exits using the marking system necessary to complete the actions as described in CS 25.812(e)(1) and (e)(2) above.
- (f) Except for sub-systems provided in accordance with sub-paragraph (h) of this paragraph that serve no more than one assisting means, are independent of the aeroplane's main emergency lighting system, and are automatically activated when the assisting means is erected, the emergency lighting system must be designed as follows:
- (1) The lights must be operable manually from the flight crew station and from a point in the passenger compartment that is readily accessible to a normal cabin crewmember seat.
 - (2) There must be a flight crew warning light, which illuminates when power is on in the aeroplane and the emergency lighting control device is not armed.
 - (3) The cockpit control device must have an 'on', 'off' and 'armed' position so that when armed in the cockpit or turned on at either the cockpit or cabin crew member station the lights will either light or remain lighted upon interruption (except an interruption caused by a transverse vertical separation of the fuselage during crash landing) of the aeroplane's normal electric power. There must be a means to safeguard against inadvertent operation of the control device from the 'armed' or 'on' positions.
- (g) Exterior emergency lighting must be provided as follows:
- (1) At each overwing emergency exit the illumination must be –
 - (i) Not less than 0.3 lux (0.03 foot candle) (measured normal to the direction of the incident light) on a 0.186 m² (two-square-foot) area where an evacuee is likely to make his first step outside the cabin;
 - (ii) Not less than 0.5 lux (0.05 foot-candle) (measured normal to the direction of the incident light) for a minimum width of 1.07 m (42 inches) for a Type A over-wing exit and 61 cm (24 inches) for all other over-wing emergency exits along the 30 % of the slip-resistant portion of the escape route required in CS 25.810(c) that is farthest from the exit; and
 - (iii) Not less than 0.3 lux (0.03 foot candle) on the ground surface with the landing gear extended (measured normal to the direction of the incident light) where an evacuee using the established escape route would normally make first contact with the ground.
 - (2) At each non-overwing emergency exit not required by [CS 25.810\(a\)](#) to have descent assisting means the illumination must be not less than 0.3 lux (0.03 foot candle) (measured normal to the direction of the incident light) on the ground surface with the landing gear extended where an evacuee is likely to make his first contact with the ground outside the cabin.

- (h) The means required in CS 25.810(a)(1) and (d) to assist the occupants in descending to the ground must be illuminated so that the erected assisting means is visible from the aeroplane. In addition –
- (1) If the assisting means is illuminated by exterior emergency lighting, it must provide illumination of not less than 0.3 lux (0.03 foot candle) (measured normal to the direction of the incident light) at the ground end of the erected assisting means where an evacuee using the established escape route would normally make first contact with the ground, with the aeroplane in each of the attitudes corresponding to the collapse of one or more legs of the landing gear.
 - (2) If the emergency lighting sub-system illuminating the assisting means serves no other assist means, is independent of the aeroplane's main emergency lighting system, and is automatically activated when the assisting means is erected, the lighting provisions –
 - (i) May not be adversely affected by stowage; and
 - (ii) Must provide illumination of not less than 0.3 lux (0.03 foot candle) (measured normal to the direction of the incident light) at the ground end of the erected assisting means where an evacuee would normally make first contact with the ground, with the aeroplane in each of the attitudes corresponding to the collapse of one or more legs of the landing gear.
- (i) The energy supply to each emergency lighting unit must provide the required level of illumination for at least 10 minutes at the critical ambient conditions after emergency landing.
- (j) If storage batteries are used as the energy supply for the emergency lighting system, they may be recharged from the aeroplane's main electric power system: *Provided*, that the charging circuit is designed to preclude inadvertent battery discharge into charging circuit faults.
- (k) Components of the emergency lighting system, including batteries, wiring relays, lamps, and switches must be capable of normal operation after having been subjected to the inertia forces listed in [CS 25.561\(b\)](#).
- (l) The emergency lighting system must be designed so that after any single transverse vertical separation of the fuselage during crash landing:
- (1) the percentage of electrically illuminated emergency lights required by this paragraph which are rendered inoperative, in addition to the lights that are directly damaged by the separation, does not exceed the values set in the following table (See [AMC 25.812\(l\)\(1\)](#)):

Maximum approved seating capacity of the type-certified aeroplane as indicated in the aeroplane's type certificate data sheet (TCDS)	Percentage
More than 19	25 %
10 to 19	33.33 % (i.e. one third)
Less than 10	50 %

- (2) Each electrically illuminated exit sign required under [CS 25.811\(d\)\(2\)](#) remains operative exclusive of those that are directly damaged by the separation; and
- (3) At least one required exterior emergency light for each side of the aeroplane remains operative exclusive of those that are directly damaged by the separation.

[Amdt 25/3]

[Amdt 25/5]

[Amdt 25/12]

[Amdt 25/19]

AMC 25.812 Emergency lighting

ED Decision 2020/024/R

The relevant parts of FAA Advisory Circular (AC) 25-17A Change 1, *Transport Airplane Cabin Interiors Crashworthiness Handbook*, dated 24.5.2016 and AC 25.812-2 *Floor Proximity Emergency Escape Path Marking Systems Incorporating Photoluminescent Elements*, dated 24/7/97 are accepted by the Agency as providing acceptable means of compliance with [CS 25.812](#).

Note: ‘The relevant parts’ means ‘the parts of AC 25-17A Change 1 that address the applicable FAR/CS-25 paragraph’.

[Amdt 25/11]

[Amdt 25/26]

AMC 25.812(b)(1) Emergency lighting

ED Decision 2017/015/R

General Requirements

Emergency exit signs should consist of a consistent type throughout the aeroplane. They may be letter based or symbolic, as outlined below.

Letter based emergency exit signs should use letters with a height to stroke width ratio of not more than 7:1 nor less than 6:1.

Symbolic emergency exit signs should be white and green in compliance with European Standard (EN) ISO 7010:2012, Graphical symbols, safety colours and safety signs, registered safety signs. The green area of the sign should constitute at least half of the total area of the sign.

In determining the area of an emergency exit sign, no part of the sign outside of the white background (text signs) or green element (symbolic signs), for instance a surrounding contrasting border, should be included.

Minimum size - emergency exit signs required by CS 25.811(d)(1) or (d)(3)

For each emergency exit sign required by CS 25.811(d)(1), and for each emergency exit sign required on each bulkhead or divider by CS 25.811(d)(3), at each point along any possible aeroplane egress path, the next closest required emergency exit sign visible at each point along the egress path should be sized and located such that it is no farther away from the escapee than its maximum allowable viewing distance calculated as below.

Egress paths to be assessed should be:

- (1) any possible path from a passenger seat that can be occupied during taxiing, take-off, and landing to any passenger emergency exit; and
- (2) any possible path from a point adjacent to any passenger emergency exit to any other passenger emergency exit.

Calculation of maximum viewing distance

For an emergency exit sign required by CS 25.811(d)(1) and for an emergency exit sign required on each bulkhead or divider by CS 25.811(d)(3), the following formulae, as modified by the notes below, apply for calculating a maximum viewing distance. The maximum allowable viewing distance for a sign is in each case the lower of the two values D1 and D2:

Text based signs	Symbolic signs
$D_1 = 2 \cdot Z \cdot h_{\text{letter}}$.	$D_1 = 1.25 \cdot Z \cdot h_{\text{symbol}}$.
$D_2 = Z \cdot \sqrt{x_{\text{sign}}/2.5}$	$D_2 = Z \cdot \sqrt{x_{\text{sign}}/2.5}$

where:

1. Z is the distance factor obtained from Table 1 below;
2. h_{letter} is the overall height of each letter – which should be at least of 25 mm (1 inch) high;
3. h_{symbol} is the overall height of the white symbolic element incorporating the green ‘running man’ – which should be at least 40 mm (1.6 inches) high;
4. x_{sign} is the overall area of the sign; and
5. D_1 , D_2 , h_{letter} and h_{symbol} have the same units, and x_{sign} is in the same squared units as D_1 , D_2 , h_{letter} and h_{symbol} .

Note 1: In the case of dual-language text based emergency exit signs, only the English text is to be considered when selecting h_{letter} for use in the above formula. However, in determining the area of the sign (x_{sign}) for use in the above formula, the actual area may be used

Examples of acceptable designs of symbolic exit signs

CS 25.811(d)(1) (emergency exit locator sign)	
CS 25.811(d)(2) (emergency exit marking sign)	
CS 25.811(d)(3) (emergency exit sign on bulkhead or divider)	

Table 1: Z factor to be used for text based and symbolic emergency exit signs

Mean luminance of white contrast colour candela/m ² (ft-L)	Distance factor Z
≥ 1.27 candela/m ² (0.37 ft-L)	100
≥ 10 candela/m ² (2.92 ft-L)	150
≥ 30 candela/m ² (8.76 ft-L)	175
≥ 80 candela/m ² (23.35 ft-L)	200
≥ 200 candela/m ² (58.37 ft-L)	215
≥ 500 candela/m ² (145.93 ft-L)	230

Minimum size - emergency exit signs required by CS 25.811(d)(2)

For an emergency exit sign required by CS 25.811(d)(2), any sign using English letters of at least 25 mm (1 inch) height, or a white symbolic element (i.e. that part incorporating the green ‘running man’) of at least 40 mm (1.6 inches), with an overall area of at least 64.5 cm² (10 square inches) will be acceptable.

Supplementary directional arrows

The inclusion of an arrow or arrows in any of the signs discussed above, in order to increase the comprehension of the sign, is encouraged. The possibility to improve comprehension and the appropriate orientation of the arrows will depend on the particular installation. If arrows indicate a movement other than straight ahead, in the case of a symbolic sign, the depicted movement direction of the ‘running man’ (to the right/to the left) should be chosen to be compatible with the orientation of the arrow(s). There may be other reasons to choose a particular movement direction of the ‘running man’, for instance where a sign required by CS 25.811(d)(2) is placed to the left or right of the emergency exit. In this case, the ‘running man’ should not suggest movement away from the emergency exit.

In the case of symbolic signs, the arrows should be in accordance with the style defined in European Standard (EN) ISO 7010:2012, i.e. type D of ISO 3864-3. The ratio of overall length of an arrow to the width of its tail should be not more than 7:1 nor less than 5.5:1.

[Amdt 25/3]

[Amdt 25/19]

AMC 25.812(b)(2) Emergency lighting

ED Decision 2017/015/R

For an emergency exit sign required by CS 25.811(d)(1), (2) or (3), any sign meeting the overall appearance requirements of AMC 25.812(b)(1), using English letters of at least 25 mm (1 inch) height, or a white symbolic element incorporating the ‘running man’ of at least 40 mm (1.6 inches), with an overall area of at least 64.5 cm² (10 square inches), will be acceptable.

The guidance of AMC 25.812(b)(1) regarding supplemental direction arrows is also applicable.

[Amdt 25/3]

[Amdt 25/19]

AMC 25.812(e)(2) Emergency lighting

ED Decision 2017/015/R

If it is desired to identify each emergency exit by means of a symbolic sign, this sign should be white and green in compliance with European Standard (EN) ISO 7010:2012, Graphical symbols, safety colours and safety signs, registered safety signs.

Example of an acceptable design of symbolic sign to identify an exit

CS 25.812(e) (exit identifier)	
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The direction of the ‘running man’ (to the left/to the right) should not suggest movement away from the emergency exit.

The type of signs used to identify an emergency exit (letter based, symbolic) should be chosen to be consistent with the emergency exit signs throughout the cabin.

[Amdt 25/3]

[Amdt 25/19]

AMC 25.812(l)(1) Transverse Separation of the Fuselage

ED Decision 2017/015/R

Within CS 25.812(l)(1), the phrase ‘in addition to the lights that are directly damaged by the separation’ means that when calculating the percentage of electrically illuminated emergency lights rendered inoperative by the fuselage separation, the number of lights whose function is lost due to loss of power or loss of control input to the lights should be divided by the total number of electrically illuminated emergency lights installed. The lights that are directly damaged by the fuselage separation should not be included in the numerator of the calculation, but only those whose function is lost due to loss of power and/or control. The denominator should be the total of all electrically illuminated emergency lights installed.

Applicable parts of FAA AC 25.812-1A, Floor proximity emergency escape path marking, 22 May 1989 may be used.

[Amdt 25/19]

CS 25.813 Emergency exit access and ease of operation

ED Decision 2017/015/R

(See [AMC 25.813](#))

- (a) There must be a passageway leading from the nearest main aisle to each Type A, Type B, Type C, Type I, or Type II emergency exit and between individual passenger areas. Each passageway leading to a Type A or Type B exit must be unobstructed and at least 91 cm (36 inches) wide. Passageways between individual passenger areas and those leading to Type I, Type II, or Type C emergency exits must be unobstructed and at least 51 cm (20 inches) wide. Unless there are two or more main aisles, each Type A or B exit must be located so that there is passenger flow along the main aisle to that exit from both the forward and aft directions. If two or more main aisles are provided, there must be unobstructed cross-aisles at least 51 cm (20 inches) wide between main aisles. There must be:
 - (1) A cross-aisle which leads directly to each passageway between the nearest main aisle and a Type A or B exit; and
 - (2) A cross-aisle which leads to the immediate vicinity of each passageway between the nearest main aisle and a Type C, Type I, Type II, or Type III exit; except that when two Type III exits are located within three passenger rows of each other, a single cross-aisle may be used if it leads to the vicinity between the passageways from the nearest main aisle to each exit.
- (b) Adequate space to allow crew-member(s) to assist in the evacuation of passengers must be provided as follows:
 - (1) Each assist space must be a rectangle on the floor, of sufficient size to enable a crew member, standing erect, to effectively assist evacuees. The assist space must not reduce the unobstructed width of the passageway below that required for the exit.

- (2) For each Type A or Type B exit, assist space must be provided at each side of the exit regardless of whether an assisting means is required by [CS 25.810\(a\)](#).
 - (3) For each Type C, I or II exit installed in an aeroplane with seating for more than 80 passengers, an assist space must be provided at one side of the passageway regardless of whether an assisting means is required by CS 25.810(a).
 - (4) For each Type C, I or II exit, an assist space must be provided at one side of the passageway if an assisting means is required by CS 25.810(a).
 - (5) For any tail cone exit that qualifies for 25 additional passenger seats under the provisions of [CS 25.807\(g\)\(9\)\(ii\)](#), an assist space must be provided, if an assisting means is required by CS 25.810(a).
 - (6) There must be a handle, or handles, at each assist space, located to enable the crew member to steady himself or herself:
 - (i) While manually activating the assisting means (where applicable), and
 - (ii) While assisting passengers during an evacuation.
- (c) The following must be provided for each Type III or Type IV exit – (See AMC 25.813(c))
- (1) There must be access from the nearest aisle to each exit.
 - (2) In addition, for each Type III exit in an aeroplane that has a passenger-seating configuration of 20 or more and which has only seats installed immediately to the forward and aft of the access route(s)-
 - (i) Except as provided in sub-paragraph (c)(2)(ii) of this paragraph, the access must be provided by an unobstructed passageway that is at least 25.4 cm (10 inches) in width for interior arrangements in which the adjacent seat rows on the exit side of the aisle contain two seats, or 33 cm (13 inches) in width for interior arrangements in which those rows contain three seats. The width of the passageway must be measured with adjacent seats adjusted to their most adverse positions. At least 25.4 cm (10 inches) of the required passageway width must be within the required projected opening width of the exit.
 - (ii) In lieu of one 25.4 or 33 cm (10 or 13 inches) passageway, there may be two unobstructed passageways, that must be at least 15.2 cm (6 inches) in width and lead to an unobstructed space adjacent to each exit. Adjacent exits must not share a common passageway. The width of the passageways must be measured with adjacent seats adjusted to their most adverse positions. The unobstructed space adjacent to the exit must extend vertically from the floor to the ceiling (or to the bottom of upper side wall stowage bins), inboard from the exit for a distance not less than the width of the narrowest passenger seat installed on the aeroplane and from the forward edge of the forward passageway to the aft edge of the aft passageway. The exit opening must be totally within the fore and aft bounds of the unobstructed space.
 - (3) Each Type III exit in an aeroplane that has a passenger seating configuration of 20 or more and which has an access route bounded by any item(s) other than only seats (e.g. bulkhead/wall, class divider, curtain) to its forward and/or aft side, must be provided with an unobstructed passageway that is at least 50.8 cm (20 inches) in width. The width of the passageway must be measured with any adjacent seats, or other movable features, adjusted to their most adverse positions.

- (4) In addition to the access -
- (i) For aeroplanes that have a passenger seating configuration of 20 or more, the projected opening of the exit provided may not be obstructed and there must be no interference in opening the exit by seats, berths, or other protrusions (including adjacent seats adjusted to their most adverse positions) for a distance from that exit not less than the width of the narrowest passenger seat installed on the aeroplane or 40 cm (15.75 inches), whichever is the least.
 - (ii) For aeroplanes that have a passenger seating configuration of 19 or less, there may be minor obstructions in this region, if there are compensating factors to maintain the effectiveness of the exit.
- (5) For each Type III and Type IV exit there must be placards that –
- (i) are readable by each person seated adjacent to and facing a passageway to the exit, one in their normal field of view; and one adjacent to or on the exit;
 - (ii) accurately state or illustrate the proper method of opening the exit, including the correct use of controls, handles, handholds etc.;
 - (iii) if the exit is a removable hatch, state the weight of the hatch and indicate an appropriate location to place the hatch after removal.
- (6) For aeroplanes with a passenger seating configuration of 41 or more, each Type III exit must be designed such that when operated to the fully open position, the hatch/door is automatically disposed so that it can neither reduce the size of the exit opening, the passageway(s) leading to the exit, nor the unobstructed space specified in sub-paragraph (c)(2)(ii) of this paragraph, to below the required minimum dimensions. In the fully open position it must also not obstruct egress from the exit via the escape route specified in [CS 25.810\(c\)](#).
- (7) The design of each seat, bulkhead/partition or other feature, bounding the passageway leading to each Type III or Type IV exit must be such that -
- (i) evacuees are hindered from climbing over in the course of evacuating.
 - (ii) any baggage stowage provisions (such as under seat stowage) would prevent baggage items entering the passageway under the inertia forces of [CS 25.561\(b\)\(3\)](#) unless placards are installed to indicate that no baggage shall be stowed under the seats bounding the passageway.
 - (iii) no protrusions (such as coat hooks) could impede evacuation.
- (8) The design and arrangement of all seats bordering and facing a passageway to each Type III or Type IV exit, both with and without the bottom cushion in place, must be free from any gap, which might entrap a foot or other part of a person standing or kneeling on a seat or moving on or along the seat row.
- (9) The latch design of deployable features (such as tables, video monitors, telephones, leg/foot rest) mounted on seats or bulkheads/partitions bordering and facing a passageway to a Type III or Type IV exit, must be such that inadvertent release by evacuating passengers will not occur. The latch design of deployable features must also be such that cabin crew can easily check that the items are fully latched in the stowed position. Placards indicating that each such item must be stowed for taxi, take-off and landing must be installed in the normal field of view of, and be readable by each person seated in each seat bordering and facing a passageway to a Type III or Type IV exit.

- (d) If it is necessary to pass through a passageway between passenger compartments to reach any required emergency exit from any seat in the passenger cabin, the passageway must be unobstructed. However, curtains may be used if they allow free entry through the passageway.
- (e) No door may be installed between any passenger seat that is occupiable for take-off and landing and any passenger emergency exit, such that the door crosses any egress path (including aisles, cross-aisles and passageways). (See AMC 25.813(e))
- (f) If it is necessary to pass through a doorway separating any crew member seat (except those seats on the flight deck), occupiable for take-off and landing, from any emergency exit, the door must have a means to latch it in the open position. The latching means must be able to withstand the loads imposed upon it when the door is subjected to the ultimate inertia forces, relative to the surrounding structure, listed in [CS 25.561\(b\)](#).

[Amendt 25/9]

[Amendt 25/12]

[Amendt 25/18]

[Amendt 25/19]

AMC 25.813 Emergency exit access

ED Decision 2020/024/R

The term ‘unobstructed’ should be interpreted as referring to the space between the adjacent wall(s) and/or seat(s), the seatback(s) being in the most adverse position, in vertical projection from floor - level to at least the prescribed minimum height of the exit.

The relevant parts of FAA Advisory Circular (AC) 25-17A Change 1, *Transport Airplane Cabin Interiors Crashworthiness Handbook*, dated 24.5.2016, are accepted by the Agency as providing an acceptable means of compliance with [CS 25.813](#).

Note: ‘The relevant parts’ means ‘the parts of AC 25-17A Change 1 that address the applicable FAR/CS-25 paragraph’.

[Amendt 25/12]

[Amendt 25/17]

[Amendt 25/26]

AMC 25.813(c) Emergency Exit Access and Ease of Operation

ED Decision 2017/015/R

1 Post crash seat deformation

The requirement for an “unobstructed” passageway is not intended to preclude some deformation of seat structure into the required minimum passageway dimension due to emergency landing dynamic loading.

Seat permanent deformation of up to 3 inches (as recorded in the tests required by [CS 25.562](#)) into the minimum passageway dimensions defined in [CS 25.813\(c\)](#) is acceptable, provided no part of the seat intrudes into the minimum required projected opening of the exit and provided the exit operating characteristics are not compromised. Relevant parts of FAA Advisory Circular 25.562-1B provide further details.

2 Deployable features

Features mounted on seats, bulkheads or other cabin features, under passenger control and which deploy into the required minimum passageway, may be accepted as not contravening the “unobstructed passageway” requirements of [CS 25.813\(c\)](#) provided they are easily and instinctively pushed out of the passageway by escapees in the event that they remain deployed prior to, or become deployed during, an evacuation. This may include, but not be limited to, items such as handsets, tray tables, in-armrest video monitors. Items such as footrests which would not be within easy reach of escapees’ hands and/or not easily visible during an evacuation will not be accepted as being easily and instinctively re-stowed.

Such designs will be assessed on their individual merits.

It must be noted that none of the above reduces the requirement to design latching means that will prevent inadvertent release by evacuating passengers. A “Lock out device” will not be acceptable as part of a means of compliance to the minimum unobstructed passageway dimensions. “Lock out device” means a mechanism actuated by a cabin crew member to prevent passengers deploying items into an access passageway during taxi, take-off and landing.

Features (e.g. seat recline, footrests, video screens, tables) may still be unsafe, even if they do not deploy into a defined minimum 15.2, 25.4 or 33 cm (6, 10 or 13 inches) passageway (as applicable). Deployable items may create snagging/tripping hazards and in the case where a wider passageway than the minimum is provided, it cannot be assumed that escaping passengers will constrain themselves to passing along one side or the centre. Features which deploy into the actual passageway provided (in vertical projection from floor level to the upper ceiling/over head bin constraint) will be assessed in the same way as if they deployed into the minimum passageway, i.e. they can be accepted if they can be easily and instinctively pushed out of the passageway as described above.

3 Automatic disposal of hatch/door

The intent, in [CS 25.813\(c\)\(6\)](#), of requiring “automatic” disposal of a Type III hatch/door on aeroplanes with passenger seating configurations of 41 or more is to remove the risk of passenger confusion, difficulty or error once the opening handle movement has been initiated.

In this context, “automatic” is intended to convey the requirement that this type of Type III exit should be by its design as simple, instinctive and easy to operate as any other type of exit.

Markings, controls and kinematics of the design should be so that with minimal instruction (i.e. from a study of the placards required by [CS 25.813\(c\)\(5\)](#)) a naïve subject, with the ranges of size and strength found in the 5th percentile female to the 95th percentile male, would be expected to be able to swiftly and correctly operate the exit to its fully open and secured position.

In this regard, the exit hatch/door should move from its closed to fully open position in one simple and continuous operator motion, e.g. avoiding discontinuities in required force/direction on the handle(s). The traditional practice of providing a removable hatch will not be accepted as meeting the requirements of CS 25.813(c)(6).

It is to be noted that the requirements of [CS 25.809](#), which defines emergency exit operating characteristics, testing requirements, etc. are applicable to all exit types, including Type III and IV.