INTERNATIONAL MARITIME ORGANIZATION

4 ALBERT EMBANKMENT
LONDON SE1 7SR

Telephone: 0171-735 7611
Fax: 0171-587 3210
Telex: 23588 IMOLDN G

IMO

E

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GUIDELINES ON FIRE SAFETY CONSTRUCTION IN ACCOMMODATION AREAS

1 The Maritime Safety Committee, at its seventy-first session (19 to 28 May 1999), recognizing the need to provide Administrations and ship designers with guidance for uniform application of chapter II-2 of the 1974 SOLAS Convention, approved the Guidelines contained in the annex.

2 Member Governments are invited to take account of the annexed Guidelines on fire safety construction in accommodation areas when applying the relevant requirements of chapter II-2 of the 1974 SOLAS Convention to ships constructed or undergoing repairs, alterations and modifications of a major character on or after 21 May 1999.

3 Member Governments are also advised to take into account the interpretations of SOLAS chapter II-2, as contained in MSC/Circ.847 and Corr.1, and MSC/Circ.669. The annexed Guidelines supersede the interpretation concerning SOLAS regulation II-2/25.3 in section 4 of the annex to MSC/Circ.669.

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ANNEX

GUIDELINES ON FIRE SAFETY CONSTRUCTION IN ACCOMMODATION AREAS

1 Scope

1.1 These Guidelines present the typical construction of accommodation spaces and their applicability to different types of ships in accordance with the requirements of chapter II-2 of the 1974 SOLAS Convention.

1.2 The typical accommodation construction arrangements are shown by figures in the attached appendix and their applicability to different ship types is indicated in table 1.2. Some specific topics are discussed further in paragraphs 4 to 7 below.

1.3 These Guidelines are not intended to be applied to existing ships. Therefore, references to existing ships are only for information purposes.

2 Ship types

2.1 The ship types in the table are the following:

.1 passenger ships carrying more than 36 passengers:

- constructed before 1 October 1994 but not including the 1960 SOLAS ships. However, this category includes also the ships complying with resolution A.122(V); and

- constructed on or after 1 October 1994;

.2 passenger ships carrying not more than 36 passengers constructed on or after 1 September 1984; and

.3 cargo ships constructed on or after 1 September 1984.

2.2 Ships constructed to the 1960 SOLAS Convention, or earlier conventions, are not considered in these Guidelines because the applicable regulations do not clearly specify the details of the construction and fire integrity of accommodation areas. When such older ships are modified, the latest SOLAS requirements are used.

3 Interpretation of SOLAS regulation II-2/25.3 (as amended by MSC.27(61)) for passenger ships carrying more than 36 passengers, constructed on or after 1 October 1994

3.1 The ceiling and bulkheads including any steps forming the outer boundary of a cabin (see figures 3.1-1 through 3.1-3) should have a minimum fire rating of "B-0" where the corridor bulkheads extend from deck to deck.

3.2 When the corridor bulkheads only extend from the deck up to the continuous ceilings on both sides of the corridor (i.e. the corridor bulkheads do not extend to the deck above), the ceiling of the corridor and of the cabin should have a minimum fire rating of "B-15" (see figures 3.2-1 through 3.2-5).

4 Required fire rating for cabins installed on cargo ships, constructed on or after 1 September 1984, or passenger ships carrying not more than 36 passengers, constructed on or after 1 October 1994 in which corridor bulkheads are fitted from deck to deck

4.1 In cargo ships constructed on or after 1 September 1984 and using method IC and in passenger ships carrying not more than 36 passengers constructed on or after 1 October 1994 in which corridor bulkheads are fitted from deck to deck, the ceiling and walls forming the outer boundary of a cabin should be "C" class with, as far as practicable, closure of all openings (see figures 4.1-1 through 4.1-5).

4.2 In cargo ships constructed on or after 1 September 1984 and using methods IIC or IIIC there is no restriction on the type of ceiling or walls forming the outer boundary of a cabin (see figure 4.2). However, in case of method IIIC, for accommodation spaces with a deck area of 50 m^2 and over, the enclosing structures should be at least "B-0" class standard.

5 Windows and sidescuttles

5.1 In passenger ships carrying more than 36 passengers constructed on or after 1 October 1994, the opening in the cabin bulkhead in way of the window or balcony door aperture should be boxed in with materials which, in thickness and composition, are acceptable in the construction of "B-15" or "B-0" divisions, as appropriate to the cabin construction. The fire rating of the cabin should be maintained at such details. Combustible window or sidescuttle boxes may be fitted internally in addition to such enclosures, provided that the surface of such a combustible material is of a low flame spread type and the material is included in a fire load calculation. The enclosing structure should be designed to permit small relative deflections between the ship's hull and the cabin structures.

5.2 Connection between a cabin and the ship's side, or deckhouse side at windows or sidescuttles, on cargo ships constructed to the requirements applicable after 1 September 1984, or passenger ships carrying not more than 36 passengers constructed on or after 1 October 1994:

.1 in case of method IC, the opening in the cabin wall in way of the window or sidescuttle aperture should be boxed in with non-combustible materials. Combustible window or sidescuttle boxes may be fitted internally in addition to such enclosures, provided that the surface of such a combustible material is of a low flame spread type; and

.2 in case of methods IIC or IIIC, no special requirements need apply, provided the cabins are not fire rated in order to achieve the 50 m^2 boundary of SOLAS regulation II-2/42.5.3.

6 Access to ceiling and lining voids on all ships

6.1 Ready access/viewing openings should be provided by means of easily opened doors, hatches or panels (e.g. openable hinged ventilation unit) in bulkhead, lining or ceiling panels to facilitate inspection and repair of cabin services and survey of ships structure. Such doors, hatches and panels should have a fire rating equivalent to the division in which they are fitted. Such openings are important not only for inspection and repair, but may enable early location of a ceiling void fire (e.g. in cabling) or preventative measures against the spread of fire from adjacent spaces. Accesses will normally be provided from the corridor.

6.2 Void spaces provided with access required by paragraph 6.1 above, should not be used as lockers for stowage of baggage or stores. Lockers or storerooms for such purpose should be constructed with boundaries having fire ratings prescribed by SOLAS regulations II-2/26, 27, 44 or 58.

7 Details of construction

7.1 Local strengthening of the walls and ceilings in the cabin and corridors should be provided for mounting heavy items of furniture such as beds, cupboards, railings, etc., if necessary.

7.2 On all ro-ro passenger ships, the corridor panel system should be capable of supporting the evenly distributed load as required by SOLAS regulation II-2/28-1.

7.3 Draught stops in ceiling and lining voids should be erected in accordance with the relevant regulations in SOLAS chapter II-2.

7.4 The method of connecting the corridor panels to cabin unit panels (if these panels are separate) needs special consideration where the corridor to cabin doors could be connected to both panel structures and the corridor panels may be partially supported by adjacent cabin construction (see figures 3.1-1, 3.1-2, 3.2-1, 3.2-2, 4.1-1, 4.1-2, 7.4-1 and 7.4-2).

7.5 Special attention should be given to the joints of the structural components (such as ceilings, bulkheads, linings, bathroom units) from different manufacturers in order to maintain the required fire integrity and, where required, the continuous "B" class construction (see figure 3.1-3).

TABLE 1.2

TABLE - APPLICABILITY OF DIFFERENT ACCOMMODATION CONSTRUCTIONS (SEE FIGURES 1- 16) TO DIFFERENT TYPES OF SHIPS

Construction	**Passenger ships**					**Cargo ships** Constructed on or after 1/9/84		
	$n_p \leq 36$ constructed on or after 1/9/84		$n_p > 36$ constructed on or after 1/10/94	$n_p > 36$ constructed before 1/10/94		IC	IIC	IIIC
figure number	spr	non-spr.		spr	non-spr			
1	Y	Y	Y	Y	Y	Y	Y	Y
2	Y	N	Y	Y	N	Y	Y	Y
3	Y	N	Y	Y	N	Y	Y	Y
4	Y	N	Y	Y	N	Y	Y	Y
5	Y	Y	Y	Y	Y	Y	Y	Y
6	Y	N	Y	Y	N	Y	Y	Y
7	Y	N	Y	Y	N	Y	Y	Y
8	Y	Y	Y	Y	Y	Y	Y	Y
9	Y	Y	N	Y	N	Y	Y	Y
10	Y	N	N	Y	N	Y	Y	Y
11	Y	Y	N	Y	N	Y	Y	Y
12	Y	N	N	Y	N	N	N	N

Construction	**Passenger ships**					**Cargo ships** Constructed on or after 1/9/84		
	$n_p \leq 36$ constructed on or after 1/9/84		$n_p > 36$ constructed on or after 1/10/94	$n_p > 36$ constructed before 1/10/94		IC	IIC	IIIC
figure number	spr	non-spr.		spr	non-spr			
13	Y	N	N	Y	N	N	N	N
14	Y	Y	N	Y	N**	Y	Y	Y
15	Y	N	N	Y	N**	Y	Y	Y
16	Y[1)]	N	N	N	N	Y[1)]	Y	Y[2)]

Y = yes, N = no, Y[1)]=combustible is not applicable, Y[2)]=combustible applies only in the limited area not exceeding 50 m^2, n_p = number of passengers, spr = accommodation area protected with sprinkler, non-spr = accommodation area not protected with sprinkler.

* Passenger ships carrying more than 36 passengers constructed before 1 October 1994 do not include the 1960 SOLAS ships. However, this category also includes ships complying with IMO resolution A.122(V).

** Where "N**" is indicated, and "N" applies to non-spr, and "Y" applies if a spr is retro-fitted.

APPENDIX

Description of the constructions in the accommodation spaces shown in the figures

Figure 3.1-1:
- B-15 corridor bulkheads from deck to deck.
- class C corridor ceiling (where provided).
- cabin of B-0 continuous construction.
- cabin bulkheads (except the door) are not common with corridors or other cabins.
- toilet unit separated with a class C bulkhead from the cabin.

Figure 3.1-2:
- B-15 corridor bulkheads from deck to deck.
- class C corridor ceiling (where provided).
- cabin with B-15 bulkhead against corridor and B-0 bulkheads against other spaces.
- cabin with B-0 continuous ceiling.
- cabin bulkheads are common with corridors and other cabins.
- toilet unit separated with a class C bulkhead from the cabin.
- no gap between the toilet units
- no ceiling in the toilet service locker.

Figure 3.1-3:
- same as 3.1-2 but the toilet unit is fully separate including ceiling and there is a gap between the cabin and toilet unit. All bulkheads of the toilet unit are B-0.

Figure 3.2-1:
- same as 3.1-1 but the corridor is of B-15 continuous construction.
- cabins have B-15 ceiling and B-15 bulkhead against outer shell.

Figure 3.2-2:
- same as 3.2-1 but the cabins are of B-15 continuous construction.

Figure 3.2-3:
- B-15 corridor bulkheads from deck to continuous B-15 ceiling on both sides.
- cabin with B-0 bulkheads against other cabins and B-15 bulkhead against corridor and void spaces (including service locker for toilet unit).
- cabin with B-15 continuous ceiling.
- cabin bulkheads are common with corridors and other cabins.
- toilet unit separated with a class C bulkhead from the cabin.
- no ceiling in the toilet service locker.

Figure 3.2-4:
- same as 3.2-3 but there is no gap between the toilet units and the toilet service locker is provided with a ceiling.

Figure 3.2-5:
- same as 3.2-1 but there is only a single B-15 panel between cabin and corridor.
- cabins have B-15 ceiling and B-15 bulkhead against outer shell.

Figure 4.1-1:
- B-0 corridor bulkheads from deck to deck.
- class C corridor ceiling (where provided).
- cabin with class C bulkheads and ceiling.
- cabin bulkheads are not common with corridors and other cabins.
- toilet unit separated with a class C bulkhead from the cabin.
- no ceiling in the toilet service locker.

Figure 4.1-2:
- same as 4.1-1 but the corridor is formed by B-0 bulkheads from deck to the corridor ceiling made of a material which, in thickness and composition, is acceptable in the construction of "B" class divisions.

Figure 4.1-3:
- same as 4.1-1 but the cabin bulkheads are common between corridors and other cabins.

Figure 4.1-4:
- same as 4.1-2 but the cabin bulkheads are common between corridors and other cabins.

Figure 4.1-5:
- same as 4.1-3 but corridor ceiling is B-0 and the corridor bulkhead extension is class B material.

Figure 4.2:
- the corridor B-0 bulkheads are from deck to deck.
- the cabin bulkheads and ceilings are made of combustible materials except that the bulkhead between the cabin and the corridor is B-0.

Figure 7.4-1:
- the corridor is of B-0 continuous construction.
- the cabins are of B-0 continuous constructions.

Figure 7.4-2:
- the corridor is of continuous B-0 construction with a single element against cabins.
- the cabins are of continuous B-0 constructions.
- there are single panels between cabin and cabin, and between cabin and corridor.

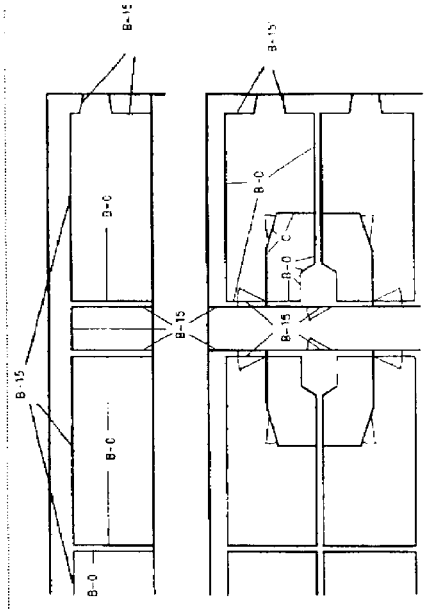

FIGURE 3.2-1

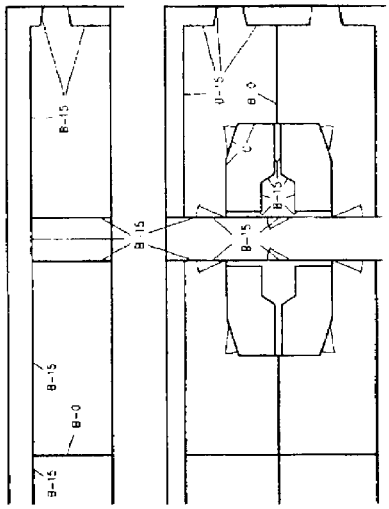

FIGURE 3.2-3

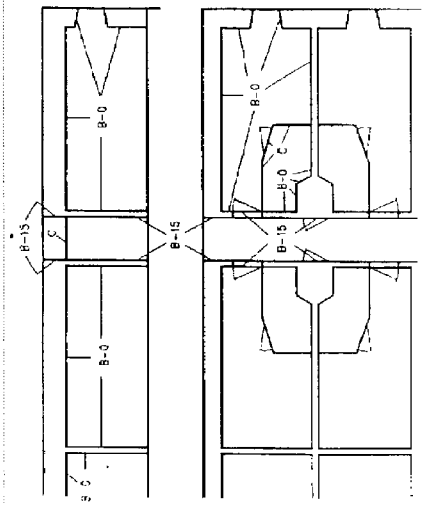

FIGURE 3.1-1

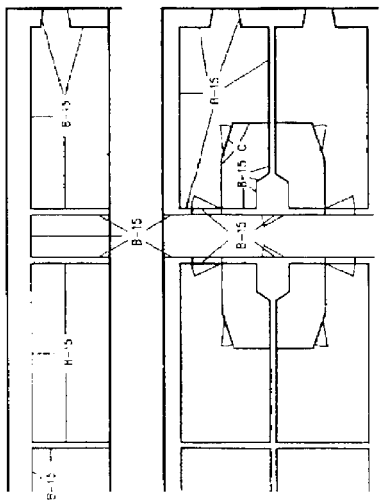

FIGURE 3.2-2

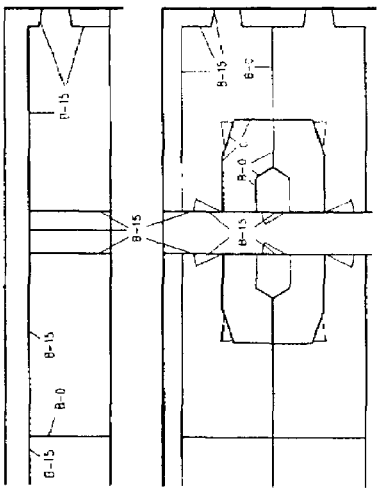

FIGURE 3.2-4

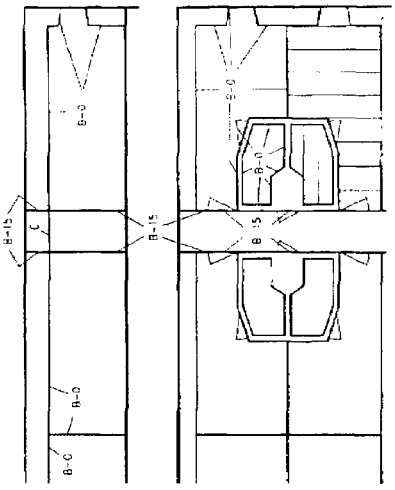

FIGURE 3.1-3

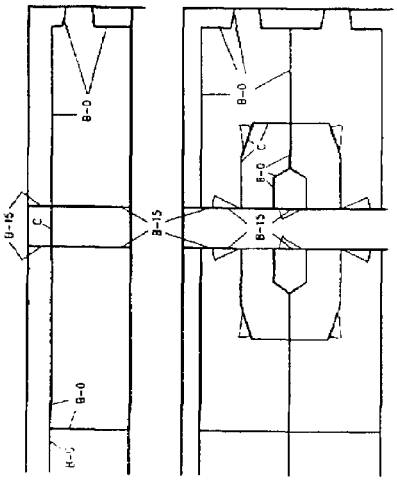

FIGURE 3.1-2

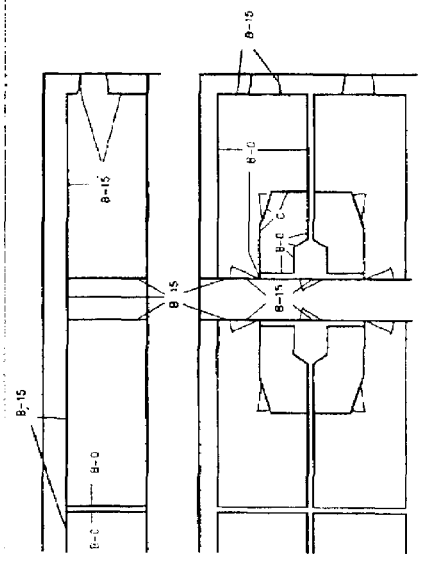

FIGURE 3.2-5

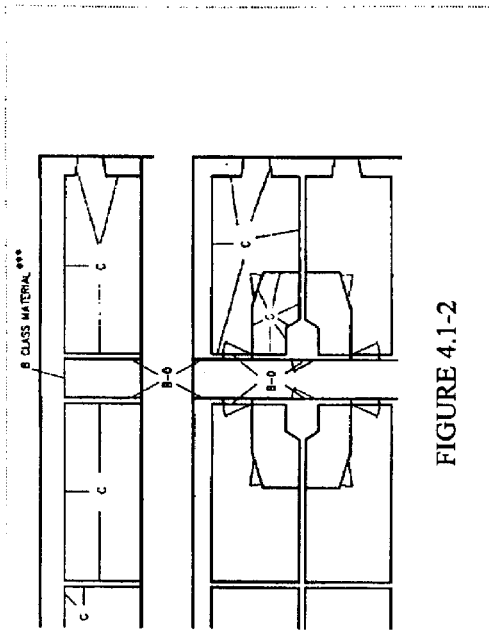

FIGURE 4.1-2

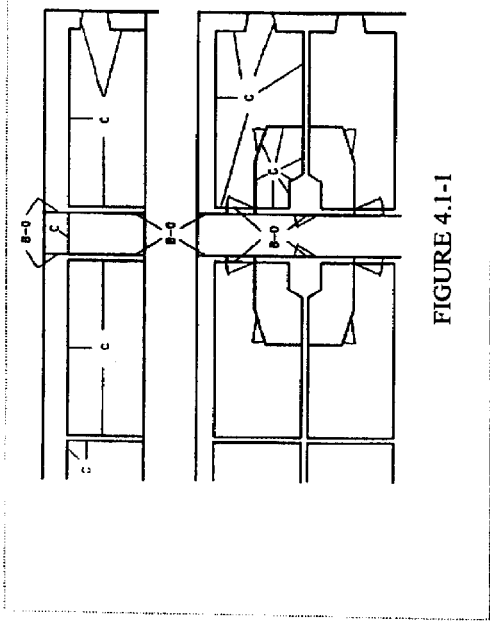

FIGURE 4.1-1

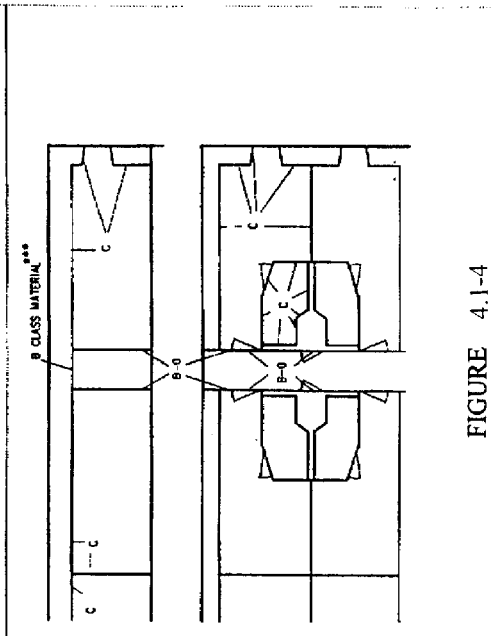

FIGURE 4.1-4

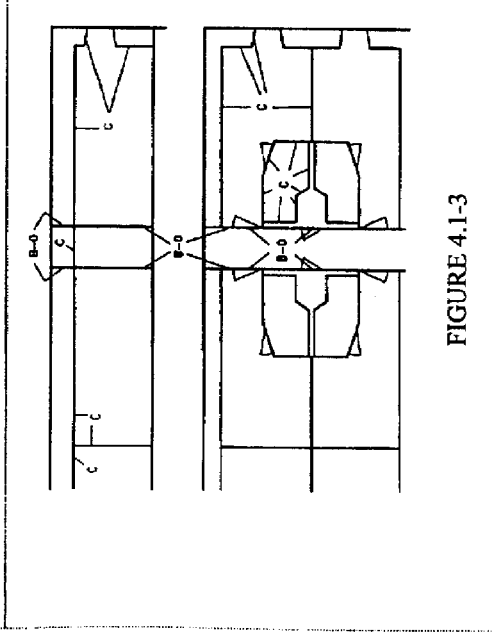

FIGURE 4.1-3

*** "B" class material means the material which, in the thickness and composite, is acceptable in the construction of "B" class divisions

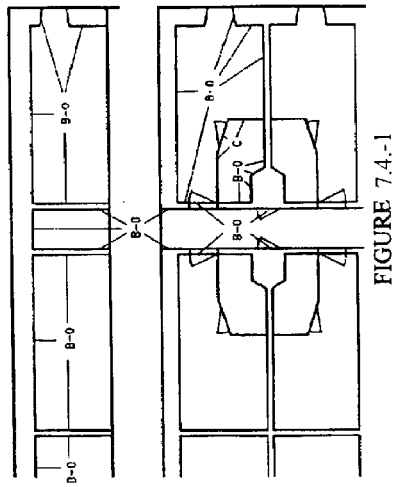

FIGURE 7.4.-1

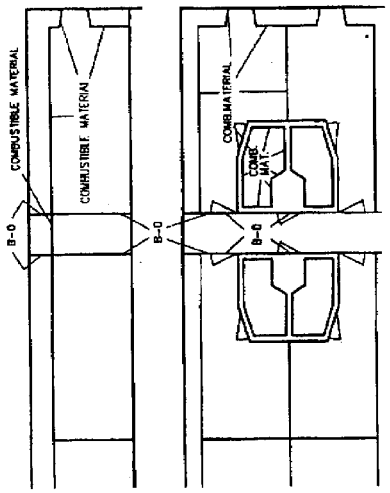

FIGURE 4.2

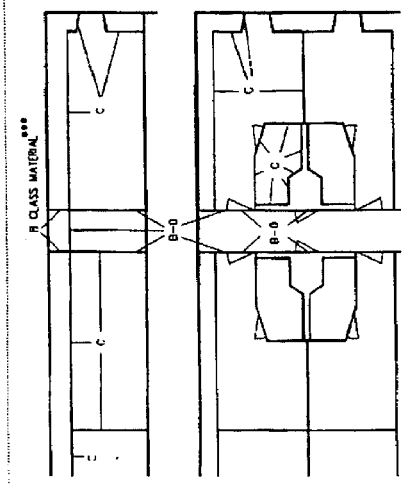

FIGURE 4.1-5

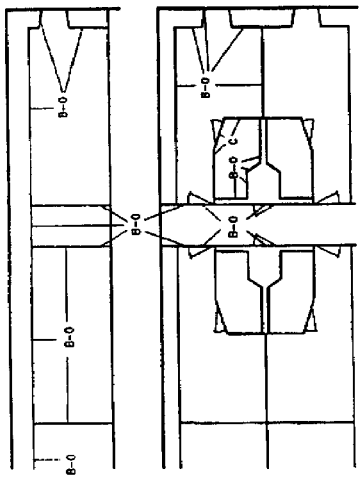

FIGURE 7.4-2