Corr track number:	
Model name: x	
LBH: xx m x xx m x xx m	
Rescue boat: Yes/No	
Occupancy: xxPOB	
New or modified design:	
Name of Manufacturer	
Lagation of Manufacture:	
Independent Laby	
	DI AN DEVIEW
46 CFR 160 135-9(d) Plan quality The plans and	
specifications submitted to the Commandant under this section	
must—	
(1) Be provided in English, including all notes, inscriptions,	
and designations for configuration control;	
(2) Address each of the applicable items in paragraph (0) of this section in sufficient detail to show that the lifeboat meets	
the construction requirements of this subpart;	
(3) Accurately depict the proposed lifeboat;	
(4) Be internally consistent;	
(5) Be legible; and (6) If reviewed by an independent laboratory under paragraph	
(c) of this section, include the independent laboratory's	
attestation that the plans meet the quality requirements of this	
section.	
46CFR 160.135-9(b)	
(1) A list of drawings, specifications, manuals, and any other documentation submitted with each document identified by	
number, title, revision issue, and date;	
(2) General arrangement and assembly drawings, including	
principal dimensions;	
(3) Seating arrangement plan, including a dimensioned seat	
(4) A complete material list, with each material referenced to a	
U.S. national standard or, if a copy is provided in English, an	
equivalent international standard;	
(5) Plans for carriage and, in detail, stowage of equipment;	
(6) Hull, canopy, and critical parts lay-up schedule for a Fiber	
(7) Hull and canopy construction drawings including	
particulars of joints, welds, seams, and other fabricating	
details;	
(8) Weights and thickness of each major FRP structural	
component, including the hull, canopy, and inner liners, before	
Outfitting; (9) Specification and identification of materials such as steel	
aluminum, resin, foam, fiberglass, cloth. and plastic used in the	
lifeboat's manufacture;	
(10) Fabrication details for each major structural component,	
including details of each welded joint;	
(11) Lines plans;	
(12) Propulsion system specifications and arrangement and installation drawings:	
(13) Steering system drawings and specifications:	
(14) Release mechanism installation drawings and the	
mechanism's Coast Guard approval number;	
(15) Air and water spray systems drawings and specifications,	

if installed;	
(16) Plans for critical subassemblies;	
(17) Hydraulic systems drawings and specifications, if	
(18) Electrical system schematics and specifications:	
(10) Electrical system schematics and spectrications,	
and loaded condition for both intact and flooded stability;	
(20) Drawings of all signs and placards, showing actual	
inscription, format, color, size, and location on the lifeboat;	
(21) Complete data pertinent to the installation and use of the	
proposed lifeboat, including the light load (condition A) and	
full load (condition B) weights;	
(22) Specifications for the required faunching famp length and	
water:	
(23) An operation, maintenance, and training manual as	
described in §§ 160.135–19 and 160.135–21 of this subpart;	
(24) A description of the quality control procedures and record	
keeping that will apply to the production of the lifeboat, which	
must include but is not limited to—	
(i) The system for checking material certifications received	
from suppliers;	
(ii) The method for checking quality of fabrication seems	
and joints including welding inspection procedures: and	
(iv) The inspection checklists used during various stages of	
fabrication to assure that the approved lifeboat	
complies with the approved plans and the requirements of this	
subpart;	
(25) Full details of any other unique capability;	
(26) Any other drawing(s) necessary to show that the lifeboat complies with the requirements of this subpart:	
(27) The location or address of all manufacturing sites.	
including the name and address of any subcontractors, where	
the lifeboat will be constructed;	
(28) The name of the independent laboratory that will perform	
the duties prescribed in §§ 160.135–11 and 160.135–15 of this	
subpart.	
(c) At the request of the manufacturer and discretion of the	
preapproval review required by this section so long as the	
preapproval review is conducted in accordance with the	
procedures agreed upon between the independent laboratory	
and Commandant under 46 CFR part 159, subpart 159.010.	
DESIGN AND C	ONSTRUCTION
Compliance with ASTM F1166. Design limits should be	
based on a range from the fifth percentile female to the 95th	
percentile male values for critical body dimensions and	
functional capabilities as described in ASTM F 1166. The	
dimensions for a person wearing an immersion suit correspond	
to the arctic clothed dimensions of AS1M F 1166.	
(i) The operator's station must be designed such that the	
operator, when seated at the control station has visibility 360	
degrees around the lifeboat, with any areas obstructed by the	
lifeboat structure or its fittings visible by moving the	
operator's head and torso.	
(ii) The operator, while still being able to steer and control the	
speed of the lifeboat, must be able to see the water—	
(A) Over a 90 degree arc within 3 m (9 ft, 10 in) of each side	

of the lifeboat;	
(B) Over a 30 degree arc within 1 m (3 ft, 3 in) of each side of	
the lifeboat; and	
(C) Within 0.5 m (1 ft, 8 in) of the entrances designated for	
recovering persons from the water.	
(111) In order to see a person in the water during recovery or	
docking operations, a hatch must be provided so that the	
operator can stand with his or her head outside the lifeboat for	
antral the speed of the lifeheat	
Construction Each major rigid structural component of each	
lifeboat must be constructed of steel aluminum Fiber	
Reinforced Plastic (FRP) or materials accented by the	
Commandant as equivalent or superior.	
мет	ALS
General. Metals in contact with each other must be either	
galvanically compatible or insulated with suitable non-porous	
materials. Provisions must also be made to prevent loosening	
or tightening resulting from differences of thermal expansion,	
freezing, buckling of parts, galvanic corrosion, or other	
incompatibilities.	
Steel. Sheet steel and plate must be low carbon, commercial	
quality, either corrosion resistant or galvanized as per ASTM	
A 653, coating designation G90. Structural steel plates and	
shapes must be carbon steel as per ASTM A 36, or an	
equivalent or superior steel accepted by the Commandant. All	
steel products, except corrosion resistant steel, must be	
galvanized to provide high quality zinc coatings suitable for	
the intended service file in a marine environment. Corrosion	
276 ASTM A 313 or ASTM A 314 or another corresion	
resistant stainless steel of equal or superior corrosion resistant	
characteristics.	
Aluminum. Aluminum and aluminum alloys must conform to	
ASTM B 209 and be high purity for good marine corrosion	
resistance, free of iron, and containing not more than 0.6	
percent copper.	
Welding. Welding must be performed by welders certified by	
the Commandant, a classification society recognized by the	
Commandant in accordance with 46 CFR 8.220, the U.S.	
Navy, or the national body where the lifeboat is constructed or	
the national body's designated recognized organization. Only	
electrodes intended for use with the material being welded may	
be used. All welds must be checked using appropriate non-	
	ATION AND INTEDIOD I AVOUT
ACCESS, SEATING, ACCOMMOL	ATION AND INTERIOR LAYOUT
The vertical distance between the floor surface and the interior	
of the enclosure or canony over 50 % of the floor area shall be:	
1 not less than 1.3 m for a lifeboat permitted to	
accommodate nine persons or less:	
.2 not less than 1.7 m for a lifeboat permitted to	
accommodate 24 persons or more; and	
.3 not less than the distance as determined by linear	
interpolation between 1.3 m and 1.7 m for a lifeboat permitted	
to accommodate between nine and 24 persons.	
No lifeboat shall be approved to accommodate more than 150	
persons	
The number of persons which a lifeboat to be launched by falls	
shall be permitted to accommodate shall be equal to the lesser	
of:	

.1 the number of persons having an average mass of 75	
kg (FOR PASSENGER VESSELS ONLY) or 82.5 kg (ALL	
OTHER VESSELS AND RESCUE BOATS), all wearing	
lifejackets, that can be seated in a normal position without	
interfering with the means of propulsion or the operation of	
any of the lifeboat's equipment: or	
.2 the number of spaces that can be provided on the	
seating arrangements in accordance with the seating dimension	
of figure 1 of MSC.48(66). The shapes may be overlapped as	
shown, provided footrests are fitted and there is sufficient	
and lower sect is not loss then 250 mm	
and lower seat is not less than 550 linit.	
Lifeboats shall have a boarding ladder that can be used at any	
boarding entrance of the lifeboat to enable persons in the water	
to board the lifeboat. The lowest step of the ladder shall be not	
less than 0.4 m below the lifeboat's light waterline.	
All surfaces on which persons might walk shall have a non	
skid finish	
FIBER REINFO	RCED PLASTIC
Hulls and rigid covers shall be fire retardant or non-	
combustible.	
Desin Any regin used for the hull canony batches rigid	
covers and enclosures for the engine transmission and engine	
accessories must be fire retardant and accented by the	
Commandant in accordance with 46 CFR part 164 subpart	
164 120.	
Glass reinforcement. Any glass reinforcement used must have	
good laminated wet strength retention and must meet the	
appropriate specification in this paragraph. Glass cloth must be	
a finished fabric woven from "E" electrical glass fiber yarns	
meeting ASTM D 4029 commercial style designation 1564.	
Woven roving must conform to MIL-C-19663D. Other glass	
materials equivalent or superior in strength, design, wet out,	
and efficiency will be given consideration on specific request	
to the Commandant.	
Laminate. All exposed surfaces of any finished laminate must	
present a smooth finish, and there must be no protruding	
surface fibers, open voids, pits, cracks, bubbles, or blisters.	
The laminate must be essentially free from resin-starved or	
overimpregnated areas, and no foreign matter must remain in	
the finished laminate. The entire laminate must be fully cured	
delaminate neel or craze in any overlay. The laminate must	
not be released from the mold until a Barcol bardness reading	
of not less than $40-55$ is obtained from at least 10 places on	
the non-gel coated surface, including all interior inner and	
outer hull surfaces and built-in lockers. The mechanical	
properties of the laminate must meet the requirements for a	
Grade 3 laminate in Table I of MIL-P-17549D(SH). Other	
grades will be given consideration on specific request to the	
Commandant.	
BUOYANCY A	ND STABILITY
All lifeboats shall have inherent buoyancy or shall be fitted	
with inherently buoyant material which shall not be adversely	
affected by seawater, oil or oil products, sufficient to float the	
lifeboat with all its equipment on board when flooded and open	
to the sea. Additional inherently buoyant material, equal to 280	
N of buoyant force per person shall be provided for the number	
of persons the lifeboat is permitted to accommodate. Buoyant	

material, unless in addition to that required above, shall not be	
installed external to the hull of the lifeboat.	
All lifeboats shall be stable and have a positive GM value	
when loaded with 50 % of the number of persons the lifeboat is	
permitted to accommodate in their normal positions to one side	
of the centerline.	
Lifeboat buoyancy (i) The buoyancy material must be	
accepted by the Commandant as meeting the performance	
requirements of the IMO Revised recommendation on testing	
part 1 6.2.2 to 6.2.7 with a density of $32 + 8 \text{ kg/m} 3 (2 + 0.5)$	
b/ft_3) The buoyancy form or lifeboat manufacturer must	
certify the results of the testing to IMO Revised	
recommendation on testing, part 1, 6,2,2 to 6,2,7 and submit	
those results to the Commandant A list of accented buoyancy	
forms may be obtained from the Commandant upon request	
and online at http://ogmix.usog.mil	
and omme at <u>http://cgmix.uscg.mm</u> .	
(ii) All voids in the hull and conony required to provide	
(ii) All volus in the num and canopy required to provide	
buoyancy for positive stability and sell righting must be	
completely filled with Coast Guard accepted buoyancy	
material.	
PROPULSION AN	D FUEL SYSTEMS
Engines Every lifeboat shall be powered by a compression	
ignition engine. No engine shall be used for any lifeboat if its	
fuel has a flashpoint of 43°C or less (closed cup test)	
In order to be accepted by the Commandant, any compression	
ignition engine fitted to an approved lifeboat must meet the	
U.S. Environmental Protection Agency emission requirements	
in 40 CFR part 89, part 94, or part 1042, as applicable, and	
have reports containing the same information as recommended	
by MSC Circ. 980 certified and witnessed by a U.S. Coast	
Guard inspector or an independent laboratory.	
Air cooled engines fitted in fully enclosed lifeboats must have	
a duct system to take in cooling air from, and exhaust it to, the	
outside of the lifeboat. Manually operated dampers shall be	
provided to enable cooling air to be taken in from, and	
exhausted to, the interior of the lifeboat.	
Starting System. The engine shall be provided with either a	
manual starting system, or a power starting system with two	
independent rechargeable energy sources. Any necessary	
starting aids shall also be provided.	
The starting systems shall not be impeded by the engine	
casing, seating or other obstructions.	
Propeller. The propeller shafting shall be so arranged that the	
propeller can be disengaged from the engine. Provision shall	
be made for ahead and astern propulsion of the lifeboat.	
Propeller guard. Each propeller on a lifeboat must be fitted	
with a propeller guard with a maximum opening of 76 mm (3	
in) on all sides on which a person is likely to be exposed.	
The exhaust pipe shall be so arranged as to prevent water from	
entering the engine in normal operation.	
All lifeboats shall be designed with due regard to the safety of	
persons in the water and to the possibility of damage to the	
propulsion system by floating debris.	
The lifeboat engine, transmission and engine accessories shall	
be enclosed in a fire retardant casing or other suitable	
arrangements providing similar protection. Such arrangements	
shall also protect persons from coming into accidental contact	
with hot or moving parts and protect the engine from exposure	

to weather and sea.	
Adequate means shall be provided to reduce the engine noise	
so that a should order can be heard. Starter batteries shall be	
provided with cashings which form a waterlight enclosure	
around the bottom and sides of the batteries.	
The battery casings shall have a tight fitting ton which	
provides for necessary gas venting.	
The lifeboat engine and accessories shall be designed to limit	
electromagnetic emissions so that engine operation does not	
interfere with the operation of radio life saving appliances used	
in the lifeboat.	
Means shall be provided for recharging all engine starting,	
radio and searchlight batteries. Radio batteries shall not be	
used to provide power for engine starting. Means shall be	
provided for recharging lifeboat batteries from the ship's power	
supply at a supply voltage not exceeding 50V (Refer to IEC	
92-101) which can be disconnected at the lifeboat embarkation	
station, or by means of a solar battery charger.	
Water resistant instructions for starting and operating the	
engine shall be provided and mounted in a conspicuous place	
near the engine starting controls.	
A hydraulic starting system, if installed, must be in	
accordance with 46 CFR part 58, subpart 58.30, with nose and	
nuings in accordance with 40 CFK part 50, subpart 50.00,	
(A) Push-on type fittings such as $\Delta eroquin 1525 X 25156 X$	
and FC332–X are not permitted: and (B) The length of	
nonmetallic flexible hose is limited to 760 mm (30 in). Longer.	
nonmetallic flexible hoses may be allowed in emergency	
steering systems at the discretion of the Commandant. (iii) If a	
hand pump is provided, or if the engine has a manual starting	
system, adequate space must be provided for the hand pump or	
hand start operation.	
Fuel system . (i) The fuel system must meet 46 CFR 56.50–	
75(b) and, except as specified in this paragraph, the fuel tank	
must meet 46 CFR 58.50–10.	
FUEL TAILSS CONSTRUCTED WITH (A) A luminum must be at least 5 mm (0.20 in) thick of ASTM	
B 209 or 5086 allov:	
(B) Nickel-copper must be at least 0.9 mm (0.0375 in) thick of	
ASTM B 127 hot-rolled sheet or plate;	
(C) Steel or iron must be at least 1.9 mm (0.0747 in) thick.	
Diesel tanks of steel or iron must not have interior galvanizing;	
(D) Fiberglass reinforced plastic must be at least 5 mm (0.187	
in) thick; be sealed against porosity by at least one ply of	
chopped strand mat; be reinforced in the way of tank openings;	
be fitted with corrosion-resistant fittings; have each joint at the	
top of the tank; and have each joint bonded and through-	
Dolled; of (F) Pote molded plastic must be at least 5 mm thick must	
(E) Noto-Informed plastic must be at least 5 mm thick; must meet the requirements of 33 CEP 183 510 (a) (b) and (a)	
regardless of tank canacity: must be able to pass all static	
pressure tests as required in 33 CFR 183 510 at a minimum	
pressure of 5 psi; and be fitted with corrosion-resistant fittings.	
(iii) Each fuel tank over 0.75 m (30 in) long must be baffled at	
intervals not exceeding 0.45 m (18 in).	
(iv) A fuel level indicator must be provided for each fuel tank.	
(v) Any fuel tank vent piping must be	

at least 6 mm (0.25 in) outside diameter	
tubing.	
A shut-off valve must be provided at the fuel tank and must	
not be provided at the fuel pump. The valve must be clearly	
labeled. The position of the valve must be clearly indicated by	
a permanent marking inside the lifeboat. The marking must be	
an arrow pointing in the direction of the valve, and the words	
"Fuel Shut-Off Valve" must be in a color that contrasts with	
their background. The marking must be legible to a person	
within the vicinity of the engine.	
Starting system batteries. Any battery fitted in a totally	
enclosed lifeboat must be stored in a sealed compartment with	
exterior venting. If the lifeboat has more than one engine, then	
only one starting battery is required per engine.	
Exhaust . Engine exhaust must be routed away from bilge and	
potential oil drips. Any paint used on engines, manifolds, or	
exhaust must not give off fumes when heated. All exhaust	
lagging must be non-absorbent.	
	ID CEPTEDINC
Control The operator's control and stating station must have	ND STEEKING
complete lifeboat lowering and lowering heads release and lowering	
throttle steering controls and if applicable an air system and	
water snray system	
(i) The throttle must be a continuous manual control and must	
be able to be set and locked at any position	
(ii) The control and steering station must be designed and laid	
out in accordance with ASTM F 1166 sections 9 and 10 so	
that controls and displays are unambiguous accessible and	
easy to reach and use from the operator's normal seated	
position, while wearing an immersion suit or a lifeiacket.	
F	
Each control, gauge, or display must be identified by a	
marking posted on, above, or adjacent to the respective item.	
Each control must operate in a logical manner and be marked	
with an arrow to show direction of movement of control which	
will cause an increased response. Each gauge must be marked	
with the normal operating range and indicate danger or	
abnormal conditions.	
Each marking must be permanent and weatherproof.	
(iv) Gauges, and audio and visual alarms must be provided to	
monitor at least the following parameters—	
(A) Coolant temperature, for a liquid cooled engine;	
(B) Oil pressure, for an engine with an oil pump;	
(C) Tachometer, for an engine not provided with over-speed	
protection;	
and	
(D) State of charge, or rate of charge, for each rechargeable	
All lifeboots shall be provided with a mydden and tiller. Where a	
An includits shall be provided with a fudder and ther. When a wheel or other remote steering mechanism is also provided the	
tiller shall be canable of controlling the rudder in case of	
failure of the steering mechanism. The rudder shall be	
nermanently attached to the lifeboat. The tiller shall be	
permanently installed on or linked to the rudder stock.	
however, if the lifeboat has a remote steering mechanism the	
tiller may be removable and securely stowed near the rudder	
stock. The rudder and tiller shall be so arranged as not to be	
damaged by operation of the release mechanism or the	
propeller.	
Remote steering . The procedure to change over from remote	
to local steering must be simple, not require the use of tools,	

install, operaid: remove, and stow the removable tiller arm. The tiller arm and its connection to the rulder stoke, must be of sufficient strength so that there is no slippage or bending of the tiller arm. Rudder from turning to far on either side. TUTINCS AND OTHER PERMANENTLY INSTALLED EQUIPMENT Hull drain plug . All lifeboats except free full ifdeos shall be provided with at least one drain valve fitted near the lowest point in the hull, which shall automatically open to drain water from the hull which shall be provided to with a cap or plug to close the valve, which shall be attacked to the lifeboat is waterborne. Each drain valve shall be provided with a cap or plug to close the valve, which shall be attacked to the lifeboat is waterborne. Each drain plug must be clearly indicated by a permanent marking inside the lifeboat is must be an arrow pointing in the direction of the plug, and the words "Drain Plug" must be 76 mm (3) in bjlg and have sletters of a color that contrast with their background. The marking must be clearly visible to a person within the vicinity of the drain plug. Lifelines. Buoyant lifelines must be of ultraviolet resistant material. Handholds. Except in the vicinity of the drain plug. Lifelines. Buoyant lifelines must be of ultraviolet resistant material. Handholds. Except in the vicinity of the nudder and propeller, suitable handholds shall be provided or a huoyant form hand fielboat which are not self righting when capsized shall have suitable handholds. Shall be provided to runderside of the hull to enable persons to cling, but hiftboat is and the ideotion on impact sufficient to cause them to break away from the lifeboat shell theodo to solve dor thal theole ling when the lifeboat is sover to break away (1) The righting when capsized shall have suitable mathholds. Ris provided as hundholds to cling when the lifeboat is sover to break away (1) The bills boat shells the storage of the hull blockers or compartments and collection and stor	and be clearly posted. There must be sufficient clear space to	
The tiller arm and its connection to the radder stock must be of strifficient strengths to that there is no slippage or bending of the tiller arm. Rudder stops or other means must be provided to prevent the radder from turning too far on either side. FITUES AND OTHER PERMANENTLY INSTALLED EQUIPMENT FITUE AND	install, operate, remove, and stow the removable tiller arm.	
sufficient strength so that there is no slippage or bending of the Rudder stops or other means must be provided to preven the malder from turning toof ar on either side. FITTINGS AND OTHER PERMANENTLY INSTALLED EQUIPMENT Huld Hein Juga All lifeboats except free fall lifeboats shall be provided with at least one drain valve finde near the lowest point in the hull, which shall automatically open to drain water from the hull when the lifeboat is not water when the lifeboat is waterborne. Each drain valve stability provided with a cap or plug to close the valve, which shall be anxield with a cap or plug to close the valve, which shall be marked with a cap or plug to close the valve, which shall be marked with a cap or plug to close the valve, which shall be marked with a cap or plug to close the valve, which shall be marked by any parmanent marking inside the lifeboat is waterborne. Becalary indicated. The position soll be clearly indicated by a parmanent marking inside the lifeboat may be an arrow pointing in the direction of the plug, and the words "Drain Plug" must be 7 nm (3 in) high and have letters of a color that contrast with ther brackground. The marking must be clearly visible to a person within the vicinity of the drain plug. Lifebions. Buogran lifelines must be of ultraviolet resistant material. Handholds, Shall be provided or a huyant lifeline shall be hecked around the ouxise of the lifeboat have he watertime and within reach of a person in the water. Lifeboats which are not self righting when capsized shall have suitable handholds on the underside of the hild to enable persons to cling to the lifeboat in sole awy that, when subjected to an impact sufficient to cause them to break away from the lifeboat, they break away without damaging the lifeboat. Raits provided as handholds so of the hull, and the clearny when the lifeboat is overtured must extend for half the length of the lifeboat in sub to stratego of the must has the provided shall be forwided to the hull beb	The tiller arm and its connection to the rudder stock must be of	
iller arm. Radder stops or other means must be provided to prevent the International construction of an oright of the stops of the st	sufficient strength so that there is no slippage or bending of the	
Itudier stops or other means must be provided to prevent the indider from turning too far on either side. Hill drain plug. All lifeboats scape free fall lifeboats shall be provided with at least one drain valve fitted hear the lowest point in the hull, which shall automatically open to drain water from the hull when the lifeboat is not waterborne and shall automatically close to prevent entry of water when the lifeboat is waterborne. Each drain valve smallable provided with a cap or plug to close the valve, which shall be provided with a cap or plug to close the valve, which shall be the folded with a cap or plug to close the valve, which shall be the lifeboat and their position shall be cellerly indicated. The position of each drain plug must be clearly indicated by a permanent marking inside the lifeboat. The marking must be clearly visible to a person within the vicinity of the drain plug. Lifelines. Bouyon lifelines must be of ultraviolet resistant material. Handholds. Except in the vicinity of the radder and propeller, suitable handholds shall be provided or a buoyant lifeline shall be becketed around the outside of the lifeboat. be becketed around the outside of the lifeboat. Radd offs. Rais provided as a way that, when subjected to an impact sufficient to cause them to break away from the lifeboat, they break away without damaging the lifeboat. Rads provided as handholds. Rais provided as handholds to cling when the lifeboat is overtured must extend for half the length of the lifeboat is overtured must extend for half the length of the lifeboat is overtured must extend for balf the length of the lifeboat is on the storage of the store or or of the blage, must be to fraged to prevent any fouting, and rot project beyet he storage of the	tiller arm.	
index from turning too far on either side. ETTINGS AND OTHER PERMANENTELY INSTALLED EQUIPMENT Hull drain plag. All lifeboats except free fall lifeboats shall be provided with at least one drain valve fitted near the lowest point in the hull, which shall automatically open to drain water from the hull when the lifeboat is waterborne. Each drain valve shall be provided with a cap or plug to close the valve, which shall be teached to the lifeboat shall be eachy indicated. The position of each drain plug must be clearly indicated by a permanent marking inside the lifeboat. The marking must be an arrow pointing in the direction of the plug, and the words "Drain Plug" must be 76 mm (3) high and have letters of a color that contrast with their background. The marking must be elearly indicated by a permanent marking inside the lifeboat and propellet. The marking must be to a person within the vicinity of the drain plug. Lifebness. Buogram lifelines must be of ultraviolet resistant material. Handholds. Except in the vicinity of the mudder and propellet. The marking must be factor of the plug, and the words waterline and within reach of a person in the water. Lifeboats which are not self righting when cospized shall have suitable handholds shall be preval of the lifeboat. The handholds shall be provided or a hoyorapellet. Lifeboats which are not self righting when cospized shall have suitable handholds shall be preval away from the lifeboat is overtuned must extend for half the length of the lifeboat. Radin books on the underside of the hull to enable person in the water. Lifeboats which are not self righting when cospized shall have suitable	Rudder stops or other means must be provided to prevent the	
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(i) Each storage compartment must be supported and secured against movement. It must have adequate hand access for	water	
(i) Each storage compartment must be supported and secured	water.	
(1) Each storage compartment must be supported and secure	(i) Each storage compartment must be supported and secured	
against movement. It must have adequate name access for	against movement. It must have adequate hand access for	

removing and storing the required equipment provisions or	
water, and for algoring the inside of the compartment	
water, and for cleaning the inside of the compartment.	
(11) The rain water collecting device may be incorporated into	
the design of the canopy or may be a separate unit to be	
mounted outside the lifeboat. The device must have a projected	
horizontal area of at least 1 m2 (10.7 ft2) collection area and	
be designed to function unattended	
(iii) Provision must be made to continue to collect water in the	
(iii) I Tovision must be made to continue to confect water in the	
storage compartment while drawing water to fill a cup. The	
compartment must have a means of drainage and adequate	
access to allow filling the graduated drinking cup required to	
be carried as part of the lifeboat equipment.	
Release mechanism . Each release mechanism must be	
identified at the application for approval of the prototype	
lifeboat and must be approved under 46 CEP part 160 subpart	
100 122	
100.155.	
The release lever or control in the lifeboat must be red in color,	
and the area immediately surrounding the control must be a	
sharply contrasting light color. An illustrated operating	
instruction plate or placard showing the correct off-load and	
amarganov on load ralassa procedure and recovery presedure	
emergency on-road release procedure and recovery procedure	
must be posted so that it is visible and legible from the	
helmsman's normal operating position. The plate or placard	
must be corrosion resistant and weatherproof and must be	
marked with the word "Danger".	
Painter release Any painter release must be located such that	
the lifeboat operator can readily release the pointer from the	
the medical operator can reading release the painter from the	
operator's control and steering station.	
Canopy lamp . Any exterior lifeboat position-indicating light	
must be approved by the Commandant under approval series	
161.101.	
Navigating lights . Each lifeboat must have navigation lights	
that are in compliance with the applicable sections of the	
International and Inland Navigation Pulos and most 46	
CED 111.75 17	
CFK111./5-17.	
A manually controlled exterior light or source of light shall be	
fitted inside the lifeboat to provide illumination for not less	
than 12h to permit reading of survival and equipment	
instructions; however, oil lamps shall not be permitted for this	
nurnose	
A manually controlled lown shall be fitted. The light shall be	
A manually controlled famp shall be fitted. The light shall be	
white and be capable of operating continuously for at least 12	
h with a luminous intensity of not less than 4.3 cd in all	
directions of the upper hemisphere. However if the light is a	
flashing light it shall flash at a rate of not less than 50 flashes	
and not more than 70 flashes per min for the 12 h operating	
neriod with an equivalent effective luminous intensity	
Lifeboot againment. Each lifeboot must be designed to	
Lieboat equipment. Each medoat must be designed to	
accommodate and carry the equipment as specified in 46 CFR	
199.175.	
Oars. Oars are not required on a lifeboat with more than one	
engine, provided one engine can be operated while the other is	
disabled	
Rilge nump Each lifeboat that is not automatically self-	
biling must be fitted with a menual biles sume approximation	
banning, must be nited with a manual bilge pump approved	
under 46 CFR part 160, subpart 160.044. Each such lifeboat	
with a capacity of 100 persons or more must carry an	
additional approved manual bilge pump or an engine-powered	
bilge pump.	
Exterior color . The primary color of the exterior of the	
canony and interior of partially enclosed lifeboats visible from	
canopy and menor of partiany cherosed meduats visible nom	

the air must be a highly visible color equivalent to vivid	
reddish orange color number 12197 of FED-STD-595C, or a	
durable fluorescent color of a similar hue.	
Retroreflective material. The exterior of each lifeboat and its	
canopy must be marked with Type II retroreflective material	
approved under 46 CFR part 164, subpart 164.018. The	
arrangement of the retroreflective material must comply with	
IMO Res. A.658(16) (incorporated by reference, see §	
160.135–5 of this subpart).	
Permanently attached foldable	
canopy . For a partially enclosed lifeboat, the foldable canopy	
cloth material must meet the specifications for Type II. Class 1	
requirements of A–A–55308 (incorporated by reference, see §	
160.135–5 of this subpart), or be accepted by the Commandant	
as equivalent or superior.	
Labels and notices. Any labels, caution and danger notices	
and operating maintenance or general instructions must be in	
accordance with ASTM F 1166 Section 15 in terms of format	
content lettering size and spacing color and posted location	
They must be illustrated with symbols in accordance with IMO	
Res \triangle 760(18), as applicable. Information and instruction	
nlates not specifically mentioned in this section must not be	
nosted in the vicinity of the control and steering station without	
prior approval from the Commandant Identification label	
phot approval from the Commandant. Identification laber	
prates, in required, must be posted on or above the component	
Deinten Erren lifebeet ehell he fitted with a device to error a	
Fainter . Every medoat shan be fitted with a device to secure a	
painter near its bow. The device shall be such that the lifeboat	
does not exhibit unsale of unstable characteristics when being	
towed by the ship making headway at speeds up to 5 knots in	
calm water. Except for free fail lifeboats the painter securing	
device shall include a release device to enable the painter to be	
released from inside the lifeboat, with the ship making	
neadway at speeds up to 5 knots in calm water.	
Every lifeboat which is fitted with a fixed two way VHF	
radiotelephone apparatus with an antenna which is separately	
mounted shall be provided with arrangements for siting and	
securing the antenna effectively in its operating position.	
Lifeboats intended for launching down the side of a ship shall	
have skates and fenders as necessary to facilitate launching and	
prevent damage to the lifeboat.	
Enclosure	
Every totally enclosed lifeboat shall be provided with a rigid	
watertight enclosure which completely encloses the lifeboat.	
The enclosure shall be so arranged that:	
.1 it provides shelter for the occupants;	
.2 access to the lifeboat is provided by hatches which	
can be closed to make the lifeboat watertight;	
.3 except for free fall lifeboats, hatches are positioned	
so as to allow launching and recovery operations to be	
performed without any occupant having to leave the enclosure;	
.4 access hatches are capable of being opened and	
closed from both inside and outside and are equipped with	
means to hold them securely in open positions;	
.5 except for a free fall lifeboat, it is possible to row the	
lifeboat;	
.6 it is capable, when the lifeboat is in the capsized	
position with the hatches closed and without significant	
leakage, of supporting the entire mass of the lifeboat, including	
all equipment, machinery and its full complement of persons:	
.7 it includes windows or translucent panels which	
admit sufficient daylight to the inside of the lifeboat with the	

hatches closed to make artificial light unnecessary;	
.8 its exterior is of a highly visible colour and its	
interior of a light colour which does not cause discomfort to	
the occupants;	
.9 handrails provide a secure handhold for persons	
moving about the exterior of the lifeboat, and aid embarkation	
and disembarkation;	
.10 persons have access to their seats from an entrance	
without having to climb over thwarts or other obstructions; and	
Fire protect	ted lifeboats
General. In addition to complying with the requirements of	
section 4.8, a fire protected lifeboat when waterborne shall be	
capable of protecting the number of persons it is permitted to	
accommodate when subjected to a continuous oil fire that	
envelops the lifeboat for a period of not less than 8 min.	
Water spray system	
A lifeboat which has a water spray fire protection system shall	
comply with the following:	
.1 water for the system shall be drawn from the sea by a	
self priming motor pump. It shall be possible to turn "on" and	
turn "off" the flow of water over the exterior of the lifeboat;	
.2 the seawater intake shall be so arranged as to prevent	
the intake of flammable liquids from the sea surface; and	
.3 the system shall be arranged for flushing with fresh	
water and allowing complete drainage.	
Self-contained air supply system and fire protection system	
operating instructions. Water-resistant instructions for	
starting the water spray and air supply, if fitted, must be	
provided and mounted in a conspicuous place near the system	
Controls.	
An outles. Each compressed gas an cymider must meet me	
accessible for removal and charging in place	
accessible for removal and charging in place.	
§ 160.135–15 Production inspections, tests, o	uality control, and conformance of lifeboats.
The manufacturer must—	
(1) Institute a quality control procedure to ensure that all	
production lifeboats are produced to the same standard, and in	
the same manner, as the prototype lifeboat approved by the	See specifics for recordkeeping in 46 CFR 160.135-15
Commandant. The manufacturer's quality control personnel	
must not work directly under the department or person	
responsible for either production or sales;	
MARKING AND LABELING OF T	THE LIFEBOAT 46 CFR 160.135-17
(a) Each lifeboat must be marked with a plate or label	
permanently affixed to the hull in a conspicuous place readily	
accessible for inspection and sufficiently durable to withstand	
continuous exposure to environmental conditions at sea for the	
life of the lifeboat	
(b) The plate or label must be in English, but may also be in	
other languages.	
(c) The plate or label must contain	
the—	
(1) Manufacturer's name and model identification;	
(2) Name of the independent laboratory that witnessed the	
prototype or production tests;	
(3) Serial number of the release mechanism;	
(3) Serial number of the release mechanism;(4) U.S. Coast Guard approval number;	
 (3) Serial number of the release mechanism; (4) U.S. Coast Guard approval number; (5) Month and year of manufacture; 	
 (3) Serial number of the release mechanism; (4) U.S. Coast Guard approval number; (5) Month and year of manufacture; (6) Safe working load of the release 	

(7) the word "SOLAS."	