(1) The cooler structure is fabricated from material of the same thickness and quality as the hull;
(2) The flexible connections are located well above the deepest subdivision draft;
(3) The end of the structure is faired to the hull with a slope no greater than 4 to 1; and
(4) Full penetration welds are employed in the fabrication of the structure and its attachment to the hull.


§ 119.425 Engine exhaust cooling.

(a) Except as otherwise provided in this paragraph, all engine exhaust pipes must be water cooled.
(1) Vertical dry exhaust pipes are permissible if installed in compliance with §§116.405(c) and 116.970 of this chapter.
(2) Horizontal dry exhaust pipes are permitted only if:
   (i) They do not pass through living or berthing spaces;
   (ii) They terminate above the deepest load waterline;
   (iii) They are so arranged as to prevent entry of cold water from rough or boarding seas;
   (iv) They are constructed of corrosion resisting material at the hull penetration; and
   (v) They are installed in compliance with §§116.405(c) and 116.970 of this chapter.

(b) The exhaust pipe cooling water system must comply with the requirements of this paragraph.
   (1) Water for cooling the exhaust pipe must be obtained from the engine cooling water system or a separate engine driven pump.
   (2) Water for cooling an exhaust pipe, other than a vertical exhaust, must be injected into the exhaust system as near to the engine manifold as practicable. The water must pass through the entire length of the exhaust pipe.

(c) The exhaust piping must be so arranged as to prevent backflow of water from reaching engine exhaust ports under normal conditions.

(d) Pipes used for wet exhaust lines must be at least Schedule 80 or corrosion resistant material and adequately protected from mechanical damage.

(e) Where flexibility is necessary, a section of flexible metallic hose may be used. Nonmetallic hose may be used for wet exhaust systems provided it is especially adapted to resist the action of oil, acid, and heat, and has a wall thickness sufficient to prevent collapsing or panting, and is double clamped where practicable.

(f) Where an exhaust pipe passes through a watertight bulkhead, the watertight integrity of the bulkhead must be maintained. Noncombustible packing must be used in bulkhead penetration glands for dry exhaust systems.