

(1) Be made of materials resistant to each LHG transferred, in both the liquid and vapor state (if wire braid is used for reinforcement, the wire must be of corrosion-resistant material, such as stainless steel);

(2) Be constructed to withstand the temperature and pressure foreseeable during transfer, with a MAWP not less than the maximum pressure to which it may be subjected and at least 1030 kPa gauge (149.4 psig);

(3) Be designed for a minimum bursting pressure of a least five times the MAWP;

(4) Have—

(i) Full-threaded connections;

(ii) Flanges that meet ANSI B16.5; or

(iii) Quick connect couplings that are acceptable to the Commandant;

(5) Be adequately supported against the weight of its constituent parts, the LHG, and any ice formed on it;

(6) Have no kinks, bulges, soft spots, or other defects that will let it leak or burst under normal working pressure; and

(7) Have a permanently attached nameplate that indicates, or otherwise be permanently marked to indicate—

(i) Each LHG for which it is suitable;

(ii) Its MAWP at the corresponding service temperature; and

(iii) If used for service at other than ambient temperature, its minimum service temperature.

(b) Each loading arm used for the transfer of LHG or its vapor must—

(1) Be made of materials resistant to each LHG transferred, in both the liquid and vapor state;

(2) Be constructed to withstand the temperature and pressure foreseeable during transfer;

(3) Be adequately supported against the weight of its constituent parts, the LHG, and any ice formed on it;

(4) Be provided with an alarm to indicate when it is approaching the limits of its extension, unless the examined Operations Manual requires a person to perform the same function; and

(5) Have a permanently attached nameplate that indicates, or otherwise be permanently marked to indicate—

(i) Each LHG it may handle;

(ii) Its MAWP at the corresponding service temperature; and,

(iii) If it is used for service at other than ambient temperature, its minimum service temperature.

§ 127.1103 Piers and wharves.

(a) Each new waterfront facility handling LHG, and all new construction in the marine transfer area for LHG of each existing facility, must comply with the standards for seismic design and construction in 49 CFR part 41.

(b) Each substructure on a new waterfront facility handling LHG, and all new construction in the marine transfer area for LHG of each existing facility, except moorings and breasting dolphins, that supports or is within 4.5 meters (14.8 feet) of any pipe or equipment containing a flammable LHG, or that is within 15 meters (49.2 feet) of a loading flange used to transfer a flammable LHG, must have a fire-endurance rating of not less than two hours.

§ 127.1105 Layout and spacing of marine transfer area for LHG.

Each new waterfront facility handling LHG, and all new construction in the marine transfer area for LHG of each existing facility, must comply with the following:

(a) Each building, shed, and other structure within each marine transfer area for LHG must be located, constructed, or ventilated to prevent the accumulation of flammable or toxic gases within the structure.

(b) Each impounding space for flammable LHGs located within the area must be designed and located so that the heat flux from a fire over the impounding space does not cause, to a vessel, damage that could prevent the vessel's movement.

(c) Each manifold, loading arm, or independent mating flange must be located at least 60 meters (197 feet) from each of the following structures, if that structure is intended primarily for the use of the general public or of railways:

(1) A bridge crossing a navigable waterway.

(2) The entrance to, or the superstructure of, a tunnel under a navigable waterway.

(d) Each manifold, loading arm, or independent mating flange must be located at least 30 meters (98.5 feet) from each public roadway or railway.