



## NSCV PART C SUB-SECTION 5A - MACHINERY – THERMOPLASTIC FUEL TANKS

**NOTE:** This GES was endorsed by Peer Advisory Network on 16 November 2010 & originally published by the NMSC as GES 2010-04 and Circular 10-03.

### Application

This equivalent solution applies to the use of thermoplastic fuel tanks for petrol and diesel fuels. It is available for vessels with Fire Risk Category 1, in accordance with NSCV Part C Section 4, where measured length x breadth is less than 66m<sup>2</sup>, i.e. vessels that are not required to be fitted with a fire hose.

### Requirement

Clause 4.7.3.1 specifies that “Non-portable, freestanding fuel tanks shall be constructed of carbon steel, stainless steel, copper, marine grade aluminium alloy or FRP.”

### Equivalent solution and guidance

For a thermoplastic fuel tank, Clause 4.7.3.1 is deemed to be satisfied if its construction, installation and operation are in accordance with the specifications shown below.

#### **SPECIFICATIONS:**

##### ***Tank design, construction and location***

For a thermoplastic fuel tank, Clause 4.7.3.1 of NSCV Part C Sub-section 5A is deemed to be satisfied if its construction meets the requirements of *ISO 21487 Small craft – Permanently installed petrol and diesel fuel tanks* or *ISO 10088 Small Craft – Permanently installed fuel systems and fixed fuel tanks*, subject to the following conditions:

1. The installation of thermoplastic tanks shall be restricted to spaces defined as minor fire risk or accommodation by NSCV Part C Section 4; and in addition, is further restricted to spaces remote from sources of ignition, for example, a diesel tank under a bunk space;
2. The installation of thermoplastic tanks intended to contain petrol shall be restricted to a vapour-tight void space complying with NSCV Part C Subsection 5A;
3. Both the tank and the void space in which it is housed shall be independently vented to atmosphere;
4. The tank shall not be subjected to pressurised filling;
5. The maximum capacity shall not be greater than 400 litres; and
6. The fuel tank shall be located to permit inspection of the exterior of the tank and the hull and structure adjacent to the tank.

##### ***Installation***

The installation of thermoplastic fuel tanks shall comply with one of the following arrangements:

1. It shall satisfy all of the installation requirements of NSCV Part C Sub-section 5A with the following exceptions:
  - a. Pressure testing: the test pressure shall be at 20 KPa rather than 25 KPa.
  - b. Any securing straps, if used to secure the tank, shall be designed to allow for thermal expansion of the tank.
  - c. Metal fuel lines shall incorporate a flexible rubber expansion piece to allow for thermal expansion of the tank.
  - d. Flexible fuel lines shall comply with ISO 7840 type A1 or SAE J1527 type A
  - e. A fuel shut off valve shall be fitted at the tank of any fuel line, except in the case set out in item f (below).
  - f. In the case of sealed underdeck fuel tanks located in a cofferdam below decks and connecting to outboards, where there is no potential source of ignition in the vicinity of the fuel tank, i.e. no underdeck 12 volt wiring, 12 volt bilge pumps or other sources of electrical ignition, the fuel shut off may be located at the filter in lieu of the tank.
2. Alternatively, for a vessel that has been certified by a Notified Body as complying with the European Recreational Craft Directive, the installation of the fuel system may be in accordance with ISO 10088. Compliance with ISO 10088 includes complying with the minimum fire rating for flexible fuel hoses.

##### ***Inspection and compliance***

At initial survey, the builder shall provide evidence of compliance of the tank with the requirements of the applicable ISO standard. The presence of a CE mark applied under the supervision of a Notified Body is deemed to satisfy this requirement. Fuel tank connections shall be inspected during the periodic survey process.