

DG/TS/126B (Rev.1/21)



**STANDARD FIRE SAFETY REQUIREMENTS FOR TANK WAGONS USED
FOR CONVEYANCE OF CATEGORY 5 DANGEROUS GOODS**

運送第5類危險品的油缸車的標準消防安全規定

ENGINE (引擎)

1. The engine of the vehicle shall be the type of compression ignition (Diesel).
車輛的引擎須為壓縮點火式(柴油)。
2. The exhaust system of the engine shall be situated wholly in front of the fire resisting shield and the discharge shall be arranged to offside of the vehicle.
引擎的排氣系統須全部位於防火板前及須由車旁右面排氣。
3. Any fuel pipe which form a part of a gravity feed system, a quick action cut-off valve shall be fitted to the fuel feed pipe in an easily accessible and clearly marked position.
任何成為重力供應系統部分的燃料管須安裝一個快速切斷掣，其位置須方便接近及清楚標明。

FUEL TANK (油箱)

4. The fuel tank shall be:-
油箱須 :-
 - i) complied with a double cases construction;
符合雙重包箱構造；
 - ii) screened from the body by a fire resisting shield;
加裝防火板使其與車身隔離；
 - iii) protected from blows by strong steel guards or by the frame of the chassis of the vehicle; and
以堅固鋼板或車身底盤架作保護以抵擋碰撞；及
 - iv) fitted with a lock to the fuel tank lid.
在入油箱蓋處加鎖。

CARGO TANK (油缸)

5. The maximum carrying load of a tank wagon shall not exceed the permitted gross vehicle weight and the maximum permitted axle weights permitted on roads set out in the Road Traffic Ordinance (Cap. 374), Laws of Hong Kong.
油缸車的總重量或車軸重量不可超過香港法例第374章《道路交通條例》的可容許限度。
6. The cargo tank shall be inspected by a competent person¹ at an interval of every 5 years. The relevant tank survey report should include the required design and inspection information in this requirement and should be submitted to this Department upon new licence application and subsequently at a 5-year interval.
油缸須由合資格人士²每五年檢查一次。相關的油缸檢測報告須包括本規定所要求的設計及檢測資料，並於申請新牌照時向本處呈交，其後每五年呈交一次。
7. The thickness of the cargo tank shall follow the provision stipulated below:
油缸的厚度須根據下列的規定：

		Diameter of tank 油缸直徑 ≤ 1.8m	Diameter of tank 油缸直徑 > 1.8m
Minimum thickness of tank 油缸最少厚度	Austenitic stainless steels 奧氏體不鏽鋼	2.5 mm	3 mm
	Austenitic-ferritic stainless steels 奧氏-鐵素體不鏽鋼	3 mm	3.5 mm
	Other steels 其他鋼鐵	3 mm	4 mm
	Aluminium alloys 鋁合金	4 mm	5 mm
	Pure aluminium of 99.8% 99.8%的純鋁	6 mm	8 mm

¹ Competent Person refers to a Registered Professional Engineer in the “Marine & Naval Architecture Discipline” or “Mechanical Discipline” or an “Authorized Surveyor” under the Merchant Shipping (Local Vessels) Ordinance (Cap 548) or the “Boiler Inspector” under Boilers and Pressure Vessels Ordinance (Cap 56).

² 合資格人士指「輪機暨造船學界別」或「機械界別」的註冊專業工程師，或《商船(本地船隻)條例》(第 548 章) 下獲委任的「特許驗船師」，或《鍋爐及壓力容器條例》(第 56 章) 下獲委任的「鍋爐檢驗師」。

8. The cargo tank shall be secured on the vehicle.
油缸須穩固地裝在車輛上。
9. The rear end of the cargo tank shall be protected by a robust steel bumper which is situated at least 75 mm away from the rear of the nearest part of the tank; and extended on each side of the vehicle to at least the maximum width of the cargo tank and tank fittings.
距離油缸後端至少75毫米處須安裝堅固鋼鐵保險桿作保護，其長度至少須與該油缸及其裝置的最大闊度相等。
10. Except during the operation of filling or emptying any tank, all filling pipes and discharging pipes shall be closed at all times.
除入油或放油操作外，所有放油管及入油管須在任何時間緊閉。
11. The cargo tank feed pipes shall be fitted with a quick action shut off valve in a position easily accessible and clearly marked in English and Chinese characters.
在油缸輸油喉管容易接近的地方，須安裝一個快速關閉活門，並以中英文顯著標明。
12. Every draw-off pipe shall be fitted with an internal valve and a strong securely screwed cap.
每一抽油管須安裝內活門及堅固的緊密螺旋蓋。
13. Any cargo tank with a total capacity exceeding 5,000 liters shall be divided into several enclosed compartments. Each compartment shall have a capacity of not exceeding 5,000 liters and be fitted with a lock to the fuel tank lid. For tank wagon operating on Hong Kong Island, the capacity of each compartment shall not exceed 3,600 liters.
任何油缸容量超過 5,000 升須分為多個密封間格，每個密封間格的容量不得超過 5,000 升，並須在入油蓋處加鎖。對於在港島使用的油缸車，每個密封間格的容量不得超過3,600 升。
14. Every fuel tank lid of the cargo tank shall be closed and locked to avoid spillage during conveyance of dangerous goods.
當運送危險品時，油缸上的每一個油蓋須緊閉及上鎖以防止傾瀉。
15. Tank wagon carrying flammable liquids shall be equipped with an earth cable. Such cable shall be connected to the earth terminal of the receiving equipment during transfer of flammable liquids.
運送易燃液體的油缸車須配備地線。在輸送易燃液體時，該地線須與接收裝備的地線端連接。

16. Power-driven pumps for product off-loading shall be fitted with clearly marked and easily accessible emergency controls forward of the fire resisting shield.
卸貨用電動泵的緊急掣須安裝在防火板前容易接近的地方，並以明顯的標記標明。
17. Piping and/or fittings shall not be projected beyond any sides of the tank wagon. All piping, equipment, hoses, valves, accessories and outlet valves shall be adequately protected against accidental damage or interference. Outlet valves shall be projected by (a) the bumper if the valves are located at the rear of the vehicle; (b) a substantial protective metal bar if located at the side.
所有喉管及/或裝置不得伸延出油缸車的四周。所有喉管、裝備、捲喉、活門、其他附件及輸出活門須妥為保護以防意外損毀或阻礙。輸出活門如（甲）位於車尾則須以保險桿加以保護；（乙）如位於車旁則須以堅硬金屬條加以保護。
18. The chassis, cargo tank, piping and associated equipment shall be adequately bonded.
車身底盤、油缸、喉管及有關裝置須緊密連接。
19. The body chassis, fuel tank and fittings shall be strongly constructed of non-combustible materials.
車身底盤，油箱及裝置須用堅固的不可燃物質建造。

FIRE RESISTING SHIELD (防火板)

20. The engine, fuel tank, electrical generator, batteries switch gear, fuses and exhaust system of the tank wagon shall be situated in front of a fire resisting shield and effectively screened from the cargo tank by the fire resisting shield.
油缸車的引擎、油箱、發電機、電池開關掣、保險絲及排氣系統須位於防火板前並有效地與油缸隔離。
21. The installation of fire resisting shield shall be projected upwards to a point above the topmost level of the cargo tank, and downwards to a point not more than 300 mm from the ground. (The steel cab can be deemed to constitute part of the shield).
防火板的安裝須伸延稍高於油缸頂及向下則離地不超過 300 毫米。(鋼鐵製駕駛室可視作防火板的一部份)。
22. Any aperture made to allow any piping to pass through the fire resisting shield (i.e. air brake tubing) shall be so sealed as to prevent the passage of inflammable vapour through the shield.
任何穿過防火板的管孔(如空氣制動掣管)須密封以防易燃氣體通過該防火板。

23. Any windows in the fire resisting shield shall be wire glazed in fixed metal frame and not capable of being opened.
任何在防火板上的窗戶須為不可開啟的金屬線玻璃窗外包固定金屬框。
24. A clear space shall be maintained at least 150 mm between the back of the fire resisting shield and the front of the cargo tank.
防火板與油缸須至少保持有 150 毫米的空隙距離。

ELECTRICAL SYSTEM (電力系統)

25. All electric wiring shall be heavily insulated and resistant to abrasion and chemical action. The wiring fixed at positions behind the fire resisting shield shall be run in flexible metal conduit.
所有電線須高度絕緣及能抵抗磨損和具有抗化性能。位於防火板後的電線須套以金屬軟管。
26. A safety cut-off switch shall be fitted in the driver's cab to isolate the electrical system from the battery.
安全斷流掣須安裝於駕駛室內以便切斷電力系統與電池間的電流。
27. Only electric lights shall be used on the tank wagon. No fire, artificial light or article capable of causing fire or explosion shall be carried on the tank wagon.
油缸車內只可使用電燈。可引致火警或爆炸的火焰，人造燈光或物件則不得裝載在油缸車。
28. The voltage of the electric current shall not exceed sixty volts.
電流的電壓不得超過六十伏特。

IDENTIFICATION (識別)

29. "NO SMOKING", "不准吸煙" notice of not less than 120 mm in height shall be prominently displayed and this instruction shall be complied with at all times by the driver and attendants on the vehicle.
須在明顯位置懸掛 "NO SMOKING", "不准吸煙" 告示牌一個，字體高度須不少於120毫米。司機及跟車須任何時間遵守此項規定。
30. Portable "NO SMOKING", "不准吸煙" notices of not less than 120 mm in height shall be carried on the vehicle for display when filling or discharging process.
車上須備有 "NO SMOKING", "不准吸煙" 手提告示牌，字體高度須不少於120毫米，以便在注入或卸下程序時掛出。

31. A notice of not less than 120 mm in height in English and Chinese characters shall be displayed at the front and rear of the vehicle as appropriate :-
車輛前後須懸掛適當的中英文告示牌，字體高度須不少於120 毫米:-

Front : DANGEROUS GOODS CAT. 5 KEEP CLEAR

前： 第5類危險品，勿近。

Rear : DANGEROUS GOODS KEEP CLEAR

後： 危險品，勿近。

EQUIPMENTS ATTACHED (附加工具)

32. 2 nos. of dry powder fire extinguishers, each with capacity of at least 2 kg and not exceeding 9 kg, shall be provided one on each side of the vehicle and accessible from outside the cab. The fire extinguishers shall be kept in efficient working order at all times and be inspected by a registered Fire Service Installation Contractor at least once in every 12 months.
車輛須設置2具合適乾粉滅火筒，每具不小於2公斤及不多於9公斤，每邊車身各一具，並可由駕駛室外輕易取得。該等滅火筒任何時間須保持有效工作性能，及最少每十二個月由註冊消防裝置承辦商檢查一次。

GENERAL OBSERVATION (一般情況)

33. Only one category of dangerous goods shall be conveyed by the vehicle at any one time.
無論在任何時間，該車每次只准運送一種類別的危險品。
34. Tyres shall be the 'anti-static' type, the electrical resistance of which shall be in accordance with BS 2050 or equivalent.
車胎須為“抗靜電”式，其電阻須符合英國標準 BS 2050 或同等規格。
35. Delivery hose(s) for delivery of Category 5 dangerous goods, if provided, shall be in accordance with BS EN 1360, BS EN 13483, BS EN 13765, BS EN 1761, EN ISO 1825 or equivalent.
如車輛附有輸油軟喉，該軟喉須符合國際標準 BS EN 1360, BS EN 13483, BS EN 13765, BS EN 1761, EN ISO 1825 或同等規格。
36. The tank wagon conveying Category 5 dangerous goods in liquid form shall be attended by at least one person in addition to the driver.
油缸車運送第5類危險品的液體時，除司機外，須最少有一人看管。

Attention: This shall not apply to a tank wagon equipped with a 2-way radio communication system.

注意： 此項規定對於裝有收發兩用無線電通訊系統的油缸車不適用。

37. Built-in type quick shut-off valves shall be provided for each tank compartment of tank wagon. Except during the operation of filling or emptying any tank, the quick shut-off valves shall be closed and locked at all times.
油缸車須為各個油缸分隔間提供內置式快速關斷閥。除入油或放油操作外，該快速關斷閥須在任何時間緊閉及上鎖。
38. Dangerous goods placards as per UN standard and incorporated with Chinese characters for the essential wordings will be provided at the rear of tank wagons. The colour scheme and character size will follow the attached drawing.
油缸車須在車尾裝上危險告示牌。告示牌須符合聯合國標準，並且寫有必要的中文警告字句。告示牌的顏色及字體大小須一如附圖所示。

N.B.

附註

Notices referred to at paragraphs 29, 30 and 31 above shall be made of reflective white or silver letters and characters on a red background. English letters with height and width in the proportion of 2 : 1 (e.g. 120 mm letters with 60 mm width, 75 mm letters with 36 mm width). Each letter shall be reasonably spaced, a 6 mm spacing is recommended for 120 mm letters and 3 mm spacing for 75 mm letters.

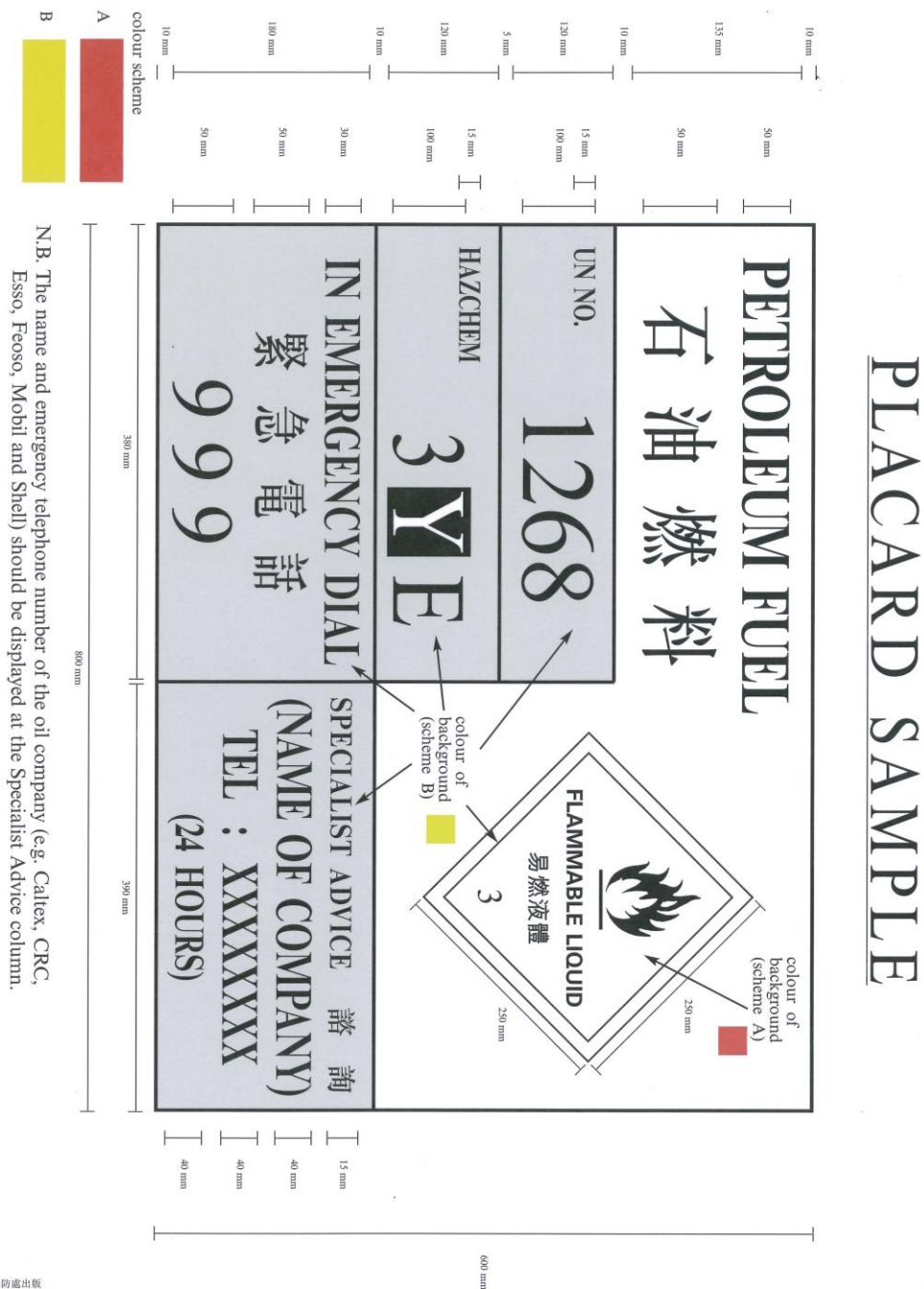
以上第 29, 30 及 31 段所述的‘告示’須用反光的白色或銀色中英文字寫在紅底板上。英文字母的高度和闊度的比例須為 2 : 1 (120 毫米的字體須為 60 毫米闊；75 毫米的字體須 36 毫米闊)字母間須有適當的距離。120 毫米的字體其字母須相距 6 毫米，而 75 毫米的字體則須相距 3 毫米。

This document is for reference only. Case-specific fire safety requirements will be issued once an application for DGV licence is received.
本文件只作參考。當收到危險品車輛牌照的申請時，指定的消防安全規定才另行發放。

Sample 13a

Attached drawing - a placard sample for Cat.5 DG

附圖 - 一個第 5 類危險品告示牌的樣本



消防處出版
政府物流服務署印
(這標誌由香港政府及可再生林木的紙張印製)
Published by the Fire Services Department
Printed by the Government Logistics Department
(Printed with environmentally friendly ink on paper made from woodpulp derived from sustainable forests)

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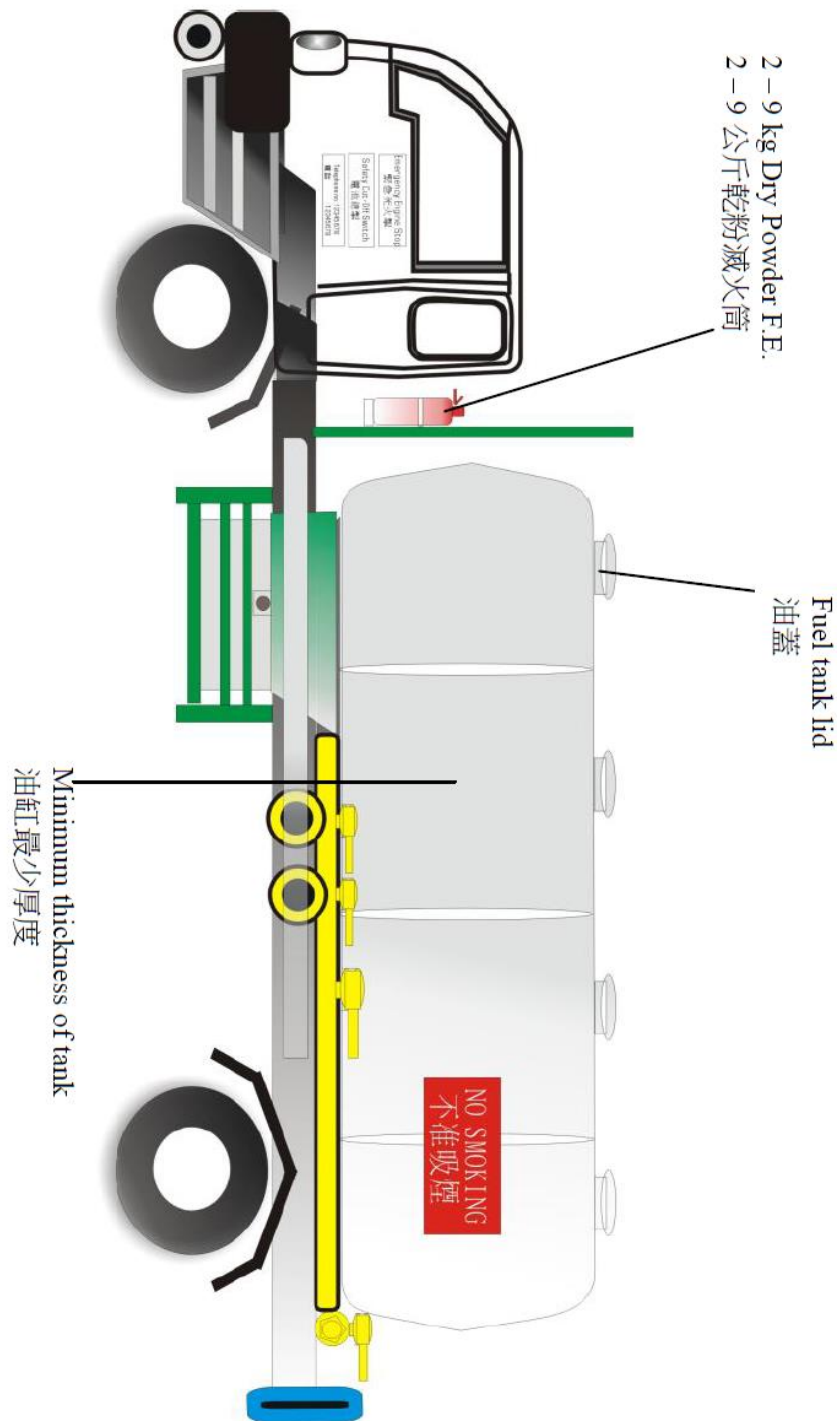
This document is for reference only. Case-specific fire safety requirements will be issued once an application for DGV licence is received.

Sample 13a

本文件只作參考。當收到危險品車輛牌照的申請時，指定的消防安全規定才另行發放。

Attached drawing - the tank wagon for Cat.5 DG (petroleum products)

附圖 - 第 5 類危險品(石油產品)的油缸車



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Attached guidance note - cargo tank volumetric measurement

附指引 – 計算油缸容積

The volumetric capacities of the cargo tank should be measured by either calculation or water capacity test.

油缸的容積需以計算方式或水容量測試量度。

i) By calculation
以計算方式

The capacity of the tank should be calculated with incorporation of the following details:

在計算油缸的容積時，下列資料需包括在內：

- Detailed drawings including every elevation and section of the tank;
包括油缸每個立面及切面的詳細圖則；
- Cross-sectional area of the tank;
油缸的切面面積；
- Length of the tank;
油缸的長度；
- Length of each tank compartment;
每個油缸間格的長度；
- Thickness of the tank;
油缸的厚度
- Position of the baffles inside the tank;
油缸內隔板的位置；
- Curvature of the front and rear of the tank;
油缸前後的弧度；
- Necessary deduction and addition of volume due to the internal structure of the tank;
因應油缸內的結構而需要增加或減少的容量；

ii) By water capacity test
以水容量測試

When using water capacity test, the following detail should be incorporated:

在以水容量測試容積時，下列資料需包括在內：

- Calibration of the meter by a competent person;
由合資格人士對泵作出的校準；
- Reading of the meter before and after the test;
測試前後泵的讀數；

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本文件只作參考。當收到危險品車輛牌照的申請時，指定的消防安全規定才另行發放。

Sample 13a

- Photos showing the interior of the tank before and after the test.
測試前後每個油缸間格內部的照片。

The measurement error should be within +/- 5% from the actual volumetric capacity of the tank.

量度的誤差不應多於或少於油缸的實際容積的 5%。

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本文件只作參考。當收到危險品車輛牌照的申請時，指定的消防安全規定才另行發放。