PETROLEUM

1959 No. 1919

The Gas Cylinders (Conveyance) Regulations, 1959

Made - - - -	11*th November*, 1959
Laid before Parliament	18*th November*, 1959
Coming into Operation	20*th November*, 1959

In pursuance of the powers conferred upon me by section six of the Petroleum (Consolidation) Act, 1928(a), as applied by the Petroleum (Compressed Gases) Order, 1930(b), made under section nineteen thereof, I hereby make the following Regulations:—

1. The Gas Cylinders (Conveyance) Regulations, 1931(c), as amended by the Gas Cylinders (Conveyance) Regulations, 1947(d), shall be amended in the manner specified in the Schedule to these Regulations.

2. These Regulations may be cited as the Gas Cylinders (Conveyance) Regulations, 1959, and shall come into operation on the twentieth day of November, 1959.

R. A. Butler,
One of Her Majesty's Principal
Secretaries of State.

Home Office,
Whitehall.
11th November, 1959.

SCHEDULE

AMENDMENTS TO THE GAS CYLINDERS (CONVEYANCE) REGULATIONS, 1931, AS AMENDED BY THE GAS CYLINDERS (CONVEYANCE) REGULATIONS, 1947

1. In Regulation 3 (which, amongst other things, requires that cylinders should be so conveyed as not to project beyond the sides or ends of the vehicle), after the words "Cylinders shall" there shall be inserted the words "either be securely attached to a cradle or".

2. At the end of Regulation 5 (which requires that the working or internal pressure of a cylinder shall not exceed 1,980 lbs. to the square inch), there shall be added the words "or, in the case of a cylinder made to specification D contained in the Second Schedule hereto, 3,000 lbs. to the square inch".

(a) 18 & 19 Geo. 5. c. 32. (b) S.R. & O. 1930/34 (Rev. XVIII, p. 4: 1930, p. 1396).
(c) S.R. & O. 1931/679 (Rev. XVIII, p. 16: 1931, p. 1040).
(d) S.R. & O. 1947/1594 (Rev. XVIII, p. 16: 1947 I, p. 1681).

3. At the end of Regulation 6 (which relates to the protection of the valves of cylinders containing certain gases, and requires that this should be either achieved by the design of the cylinder or by the provision of a cap or cover), there shall be added the following proviso, that is to say:—

"Provided that this Regulation shall not apply in the case of cylinders securely attached to a cradle if the valves are protected by a stout metal guard and, in any case where several cylinders so attached are connected to a common manifold, that manifold is also so protected.".

4. At the end of Regulation 8 (which requires that oil or similar lubricant shall not be used on any valves or other fittings of any cylinder), there shall be added the words "except a cylinder containing hydrogen".

5. In Regulation 9 (which, amongst other things, requires that before being filled with gas a cylinder shall within two years have been submitted to a certain hydraulic test), for the words "two years" there shall be substituted the words "five years".

6. At the end of Regulation 10 (which specifies identification colours with which cylinders containing different gases are to be painted, in certain cases with a distinguishing colour band, and requires that any such band shall be painted round the neck of the cylinder), there shall be added the following proviso, that is to say:—

"Provided that in the case of a cylinder securely attached to a cradle which is not required to be painted with a distinguishing colour band, this Regulation shall be deemed to have been sufficiently complied with if the identification colour is painted only as a band round the neck of the cylinder close to the valve fitting.".

7. In paragraph 1 of the Second Schedule (which sets out the specifications, including specifications called A, B and C, to which, under Regulation 1, cylinders of steel shall be constructed), after the words "specifications A or B" there shall be inserted the words "or, in the case only of cylinders containing hydrogen, specification D".

8. After paragraph 4 of the said Schedule (which describes specification C referred to in paragraph 1 thereof), there shall be inserted the following paragraph, that is to say:—

"4A. *Specification D*

(*a*) The steel shall be such that analysis gives the following result:—

Carbon	0·27 to 0·35 per cent.
Silicon	0·10 to 0·35 per cent.
Manganese	0·50 to 0·70 per cent.
Nickel	2·30 to 2·80 per cent.
Chromium	0·50 to 0·80 per cent.
Molybdenum	0·40 to 0·70 per cent.
Sulphur	Not to exceed 0·050 per cent.
Phosphorus	Not to exceed 0·050 per cent.

(*b*) The steel shall be such that after the following treatment, that is to say, hardening in oil from a temperature of 820° C. to 850° C. and tempering at a suitable temperature not exceeding 660° C. it shall have the following mechanical properties, that is to say:—a minimum tensile strength of 55 tons per square inch, a maximum tensile strength of 65 tons per square inch, a minimum yield stress of 44 tons per square inch, and a minimum percentage elongation of not less than 7 on a gauge piece 8 inches long and ¾ inch wide, and the minimum energy for fracture on the Izod impact test shall be not less than 4½ foot-pounds in the transverse direction and 10 foot-pounds in the longitudinal direction.

(*c*) The steel shall be such that a specimen taken therefrom would remain uncracked when bent round a former having a diameter of not more than six times the thickness of the specimen.".

9. In paragraph 5 of the said Schedule (which relates to the required thickness of the wall of cylinders made to specifications A, B and C, and gives a formula for determining it)—

(*a*) for the words "specifications A and B" there shall be substituted the words "specifications A, B and D";

(*b*) for the words "Where p=maximum working pressure (1,800 lbs. per square inch)" there shall be substituted the words—

"Where p = maximum working pressure (that is to say 1,800 lbs. per square inch in the case of cylinders made to specifications A and B and 3,000 lbs. per square inch in the case of cylinders made to specification D)"; and

(*c*) after the words "17,920 pounds per square inch for cylinders made to specification B" there shall be added the words—

"and 44,800 pounds per square inch for cylinders made to specification D".

10. In paragraph 6 of the said Schedule (which, amongst other things, requires that each completed cylinder when ready for service shall be subjected to a hydraulic stretch test and requires that the proof pressure applied in the test shall be 3,000 lbs. per square inch, and requires a specified re-heat treatment in certain circumstances)—

(*a*) for the words "The proof pressure applied in this test shall be 3,000 lbs. per square inch" there shall be substituted the words "The proof pressure applied in this test shall, except in the case of cylinders made to specification D, be 3,000 lbs. per square inch and, in the case of cylinders made to specification D, be 5,000 lbs. per square inch"; and

(*b*) at the end there shall be added the words "and, in the case of cylinders made to specification D, that given in paragraph (*b*) of specification D".

EXPLANATORY NOTE

(This Note is not part of the Regulations, but is intended to indicate their general purport.)

These Regulations make various amendments to the Gas Cylinders (Conveyance) Regulations, 1931, as amended by the Gas Cylinders (Conveyance) Regulations, 1947. In particular, they make provision for conveyance of hydrogen in cylinders of a specification not authorised by those Regulations which is described in paragraph 8 of the Schedule to these Regulations. In cylinders of this specification a higher maximum working pressure is authorised (paragraph 2) and other modifications are made in this case as respects thickness of the walls (paragraph 9) and hydraulic stretch tests (paragraph 10). In addition, modifications as respects cylinders generally when securely attached to a cradle are made as regards the manner of carrying the cylinders on a vehicle (paragraph 1), the protection of the valves (paragraph 3) and the painting of cylinders with distinguishing colours (paragraph 6). A relaxation is made by paragraph 5 as regards the period within which a cylinder must have been submitted to a hydraulic test.