

Flat-bottomed, vertical, cylindrical storage tanks for low temperature service —

**Part 4: Specification for the design and
construction of single containment
tanks for the storage of liquid oxygen,
liquid nitrogen or liquid argon**

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Pressure Vessel Standards Policy Committee (PVE/-) to Technical Committee PVE/15, upon which the following bodies were represented:

- British Chemical Engineering Contractors' Association
- British Compressed Gases Association
- British Gas plc
- Concrete Society
- Energy Industries Council
- Engineering Equipment and Materials Users' Association
- Institution of Gas Engineers
- Institution of Mechanical Engineers
- Process Plant Association
- Thermal Insulations Contractors' Association
- Welding Institute

This British Standard, having been prepared under the direction of the Pressure Vessel Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 15 June 1993

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Foreword

This Part of BS 7777 has been prepared under the direction of the Pressure Vessels Standards Policy Committee.

Flat-bottomed, vertical, cylindrical storage tanks for liquid oxygen, liquid nitrogen or liquid argon have traditionally been of the double wall, single containment type where the liquid is contained in an inner tank, and an outer container serves mainly to contain the insulation.

These tanks were built in accordance with the following British Standard:

BS 5387:1976, *Specification for vertical cylindrical welded storage tanks for low-temperature service: double-wall tanks for temperatures down to -196°C .*

It is still the practice to store liquid oxygen, liquid nitrogen or liquid argon in single containment tanks. This is due to the combination of stored fluid properties, tank size and properties of the materials of construction. It has been decided to revise BS 5387 and rationalize it within BS 7777. This Part of BS 7777, together with BS 7777-1 to BS 7777-3, supersedes BS 5387:1976 which is withdrawn.

This Part covers only single containment, flat-bottomed, cylindrical, stand-alone storage tanks, but is not intended to exclude the use of other storage concepts and designs which have been proven in service.

This British Standard comprises four Parts:

- *Part 1: Guide to the general provisions applying for design, construction, installation and operation;*
- *Part 2: Specification for the design and construction of single, double and full containment metal tanks for the storage of liquefied gas at temperatures down to -165°C ;*
- *Part 3: Recommendations for the design and construction of prestressed and reinforced concrete tanks and tank foundations, and for the design and installation of tank insulation, tank liners and tank coatings;*
- *Part 4: Specification for the design and construction of single containment tanks for the storage of liquid oxygen, liquid nitrogen or liquid argon.*

NOTE This standard has been written in the form of a practice specification (see clause 6 of PD 6501-1:1982).

To comply with this specification, the user has to comply with all of its requirements. The user may responsibly depart from the recommendations, but would be expected to have good reasons for doing so.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 10, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

