



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 50341-2014

Code for design of vertical cylindrical welded steel oil tanks

立式圆筒形钢制焊接油罐设计规范及条文说明(带详细书签)

(English Translation)

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Foreword

According to the requirements of Ministry of Housing and Urban-Rural Development in Notice on Printing Development and Revision Plan of National Engineering Construction Standards and Codes in 2011 (JIANBIAO [2011] No. 17), the code drafting group summarizes experience from GB 50341-2003 Code for Design of Vertical Cylindrical Welded

Steel Oil Tanks, refers to relevant international and foreign advanced standards and revises this code based on extensive investigation and solicitation of opinions, discussion and modification.

This code covers the design of vertical cylindrical welded steel oil tanks in following main technical aspects, including materials, bottom design, shell design, fixed roof, floating roof, internal floating roof, appurtenances, wind stable calculation and anchorage design of oil

tank, tank for small internal pressures, design of storage tank for external pressure, requirements for tank operating at elevated temperatures, seismic design of oil tank, basic

requirement of foundation and basis for oil tank, load combinations, variable-design-point method on tank shell thickness calculation, calculation for spherical dome roof with rib reinforcement, allowable external loads on shell openings.

There have been some significant changes in this code in the following technical aspects.

1 Chapter 11 "Wind Stable Calculation and Anchorage Design of Oil Tank", Appendix B

"Design of Storage Tank for External Pressure", Appendix F "Load Combinations", Appendix

G "Variable-design-point Method on Tank Shell Thickness Calculation" and Appendix J

"Allowable External Loads on Shell Opening" are added;

2 Design negative pressure of atmospheric pressure storage tank is revised; positive

design pressure of fixed-roof oil tank is increased to 18kPa and the maximum design negative

pressure is increased to 6.9kPa;

3 Allowable stress of materials is revised; materials of Q235-A.F, Q235-A, Q345-C,

Q345-D, 15MnNbR, 07MnNiCrMoVDR are removed;

4 Minimum sketch bottom plate's thickness and lap width limit between bottom plates

are revised; extension limit of sketch bottom plates is adjusted;

5 Liquid level and welded joint coefficient are revised in the formula for calculating

shell thickness by fixed-design-point method;

7 When fixed-roof oil tank roof and shell use weakly connected structure, the

requirements, roof thickness and calculation formula of effective sectional area are revised;