

Cryogenic Standard Tanks Linde Engineering

When natural gas was first discovered in Appalachia in the 19th century, its development as a fuel was rapid. Unlike oil and coal, gas could be moved only by pipeline and required large containers for storage. It was not possible to cope with peak loads without adding excessive pipeline capacity until just before World War II, when two sister gas companies developed a plant to liquefy and store natural gas as a liquid; the liquid was then regasified to deal with peak loads. The liquid is 1/600 the volume of the gas, but it requires storage at an extremely low temperature, 1-260° F. This worked well until 1944, when a liquid natural gas (LNG) tank in Cleveland ruptured and caused a fire with 130 fatalities. The fire did not end the industry but caused it to pause. Over the next few years the problems in materials, design, standards, and siting were solved. The recognition that liquefaction made LNG transportable without a pipeline was the breakthrough. In 1959 a shipload of LNG went from Louisiana to Britain and restarted the LNG industry. It is now a major worldwide energy industry and the topic of this work.

Jeff Wilson's latest release is a guide to railroad cars operated during one of the most popular eras to model. You can use the book's highly detailed historical information as inspiration for your layout. You'll find background on loads carried by freight cars, information on putting together a realistic freight car fleet, as well as prototype paint schemes and detailing.

The Magazine of the National Bureau of Standards, U.S. Department of Commerce

Physics Briefs

Thermal Insulation in Cryogenic Engineering

Liquid Natural Gas in the United States

Compendium of Hydrogen Energy

This book describes the challenges and solutions the energy sector faces by shifting towards a hydrogen based fuel economy. The most current and up-to-date efforts of countries and leaders in the automotive sector are reviewed as they strive to develop technology and find solutions to production, storage, and distribution challenges. Hydrogen fuel is a zero-emission fuel when burned with oxygen and is often used with electrochemical cells, or combustion in internal engines, to power vehicles and electric devices. This book offers unique solutions to integrating renewable sources of energy like wind or solar power into the production of hydrogen fuel, making it a cost effective, efficient and truly renewable alternative fuel.

Proceedings of the 20th International Cryogenic Engineering Conference

Electrical Engineering

Technical News Bulletin

Chemical Engineering

Freight Cars of the '40s and '50s

Chemical Engineering Progress

Issues for 1929- include section Contents noted (1929-1939 called Metallurgical abstracts; Jan. 1940- Sept. 1945 called Engineering digest; Oct. 1945- called Materials & methods digest) Annual indexes of the abstracts and digest were prepared 1929-1941; beginning in 1942, included in the complete index to the periodical.

Development of high-temperature superconductor cables for high direct current applicationsKIT Scientific Publishing

Scientific American

Federal Register

Official Gazette of the United States Patent and Trademark Office

REJ, the Railway Engineering Journal

Hazardous Cargo Bulletin

Proceedings of the 1991 Cryogenic Engineering Conference held in Huntsville, Alabama, June 11-14, 1991.

Drawing on Frank G. Kerry's more than 60 years of experience as a practicing engineer, the Industrial Gas Handbook: Gas Separation and Purification provides from-the-trenches advice that helps practicing engineers master and advance in the field. It offers detailed discussions and up-to-date approaches to process cycles for cryogenic separation of air, adsorption processes for front-end air purification, and related process control and instrumentation. The book uses SI units in accordance with international industry and covers topics such as chronological development, industrial applications, air separation technologies, noble gases, front end purification systems, insulation, non-cryogenic separation, safety, cleaning for oxygen systems, economics, and product liquefaction, storage, and transportation. No other book currently available takes the practical approach of this book — they are either outdated, too theoretical, or narrow in focus. In a clear and effective presentation, Industrial Gas Handbook: Gas Separation and Purification covers the principles and applications of industrial gas separation and purification.

Hydrogen & Fuel Cell Letter

Materials Engineering

Challenges and Solutions for a Cleaner Future

Annual Report on the Administration of the Natural Gas Pipeline Safety Act

Monthly magazine devoted to topics of general scientific interest.

A design process for HTS DC cables was developed for high current applications. Based on the design process, a 35 kA HTS DC cable demonstrator was developed. The superconducting elements of the demonstrator were manufactured and tested individually at 77 K. Afterwards, the demonstrator cable was assembled and tested at 77 K. The assembled demonstrator successfully reached 35 kA at 77 K and self field conditions.

Proceedings of the Twentieth International Cryogenic Engineering Conference (ICEC20)

Hydrogen-future Fuel

Astronautics

Annual Report of Pipeline Safety

Trademarks

Compendium of Hydrogen Energy, Volume 2: Hydrogen Storage, Distribution and Infrastructure focuses on the storage and transmission of hydrogen. As many experts believe the hydrogen economy will, at some point, replace the fossil fuel economy as the primary source of the world's energy, this book details hydrogen storage in pure form, including chapters on hydrogen liquefaction, slush production, as well as underground and pipeline storage. Other sections in the book explore physical and chemical storage, including environmentally sustainable methods of hydrogen production from water, with final chapters dedicated to hydrogen distribution and infrastructure. Covers a wide array of methods for storing hydrogen, detailing hydrogen transport and the infrastructure required for transition to the hydrogen economy Written by leading academics in the fields of sustainable energy and experts from the world of industry Part of a very comprehensive compendium which looks at the entirety of the hydrogen energy economy

The Encyclopedia of Electrochemical Power Sources is a truly interdisciplinary reference for those working with batteries, fuel cells, electrolyzers, supercapacitors, and photo-electrochemical cells. With a focus on the environmental and economic impact of electrochemical power sources, this five-volume work consolidates coverage of the field and serves as an entry point to the literature for professionals and students alike. Covers the main types of power sources, including their operating principles, systems, materials, and applications Serves as a primary source of information for electrochemists, materials scientists, energy technologists, and engineers Incorporates nearly 350 articles, with timely coverage of such topics as environmental and sustainability considerations

Hydrogen Storage, Distribution and Infrastructure

Gas Separation and Purification

Dimensions

Development of high-temperature superconductor cables for high direct current applications

Proceedings of the 1963 Cryogenic Engineering Conference University of Colorado College of Engineering and National Bureau of Standards Boulder Laboratories Boulder, Colorado August 19–21, 1963