Petroleum, petrochemical and natural gas industries — Materials selection and corrosion control for oil and gas production systems

Industries du pétrole, de la pétrochimie et du gaz naturel — Choix des matériaux et contrôle de la corrosion pour les systèmes de production de pétrole et de gaz
Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 21457 was prepared by Technical Committee ISO/TC 67, Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries.
Introduction

The provision of well-established and robust material selection guidelines offers a means of satisfying long-term materials performance that meet the minimum requirements for a broad range of end users in the petroleum, petrochemical and natural gas industries. An additional benefit can be to enable product suppliers to develop, manufacture and provide off-the-shelf equipment that meets these requirements.

Oil and gas production projects benefit from a structured evaluation of materials used for the different fluids being handled. Therefore, the main objective of this International Standard is to provide general requirements with guidelines for the selection of materials for systems and components, with due consideration to the transported fluids and the external environment.

It is the end user's responsibility to provide a project document with respect to implementation of the requirements and guidelines of this International Standard, and to specify the design conditions for material selection. In addition to the end user, the organization responsible for the facility or for the equipment design, or for both, is regarded as responsible for materials selection.

This International Standard is developed to provide responsible parties with a structured process to carry out materials selection in a consistent manner as a part of the engineering work, based upon a design basis for a particular installation. This International Standard is intended for use by oil companies and engineering contractors.

Users of this International Standard are advised that further or differing requirements might be needed for individual applications. This International Standard is not intended to inhibit a vendor from offering, or the purchaser from accepting, alternative equipment or engineering solutions for the individual application. This can be particularly applicable where there is innovative or developing technology. Where an alternative is offered, it is advisable that the vendor identify any variations from this International Standard and provide details.