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NATIONAL IRANIAN OIL REFINING & DISTRIBUTION COMPANY
NATIONAL IRANIAN OIL ENGINEERING
& CONSTRUCTION COMPANY

NIOEC SP

NIOEC SPECIFICATION
FOR
PACKING & PACKAGES

FIRST EDITION
JULY, 2005

THIS SPECIFICATION IS THE PROPERTY OF NATIONAL IRANIAN OIL ENGINEERING & CONSTRUCTION COMPANY. IT IS CONFIDENTIAL AND ALL RIGHTS RESERVED TO THE OWNER. NEITHER WHOLE NOR ANY PART OF THIS DOCUMENT MAY BE DISCLOSED TO ANY THIRD PARTY, REPRODUCED, STORED IN ANY RETRIEVAL SYSTEM OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN CONSENT OF THE NATIONAL IRANIAN OIL ENGINEERING & CONSTRUCTION COMPANY.

IN THE NAME OF GOD**FOREWORD**

By their very nature, technical Specifications are continuously subject to modifications and revisions. To strengthen their merit and usefulness, continuous improvements, addendum, deletion of disparate information and consequently provision of updated revisions are to be made in order to ascertain that such Specifications meet the current requirements, inclusive of Iranian Petroleum Standards (IPS) and the recognized and acceptable national and international Standards, as well as the optimal codes and practices based on the accumulated in-house know-how and plant knowledge and experiences.

However, in reality, due to several reasons, not to mention the complexity of the matter, the ultimate goal of continuous direct embedment of the required changes on the relevant Specifications may be far reaching. Therefore, in the interim periods between the officially issued revisions, the required changes will appear in other documents related to the engineering and design work of the ongoing projects.

In response to the initiative of the Design and Engineering Directorate, and considering that the task of the execution of several important and mega projects for the realization of the new oil refineries, pipelines and oil terminals as well as improvements of the existing facilities, has been assigned to NIOEC, it was decided to update the NIOEC Specifications and to issue new official revisions.

The Design and Engineering Directorate was itself entrusted to carry out this important task, and as such by forming several special technical committees, working in close co-operation and cohesion and sharing their expertise and knowledge, the updated and revised NIOEC Specifications were successfully prepared and complied.

These Specifications are intended to be used for Oil Refineries, Distribution Depots, Oil Terminals, Pipelines and Pump Stations within NIOEC's projects, and have been proven to be of high value for such purposes. It must however be appreciated that these Specifications represent the minimum requirements and should in no way be interpreted as a restriction on the use of better procedures, engineering and design practices or materials.

We encourage and highly appreciate the users and other clear sighted and experts to send their comments on the Specifications to the Design and Engineering Director of NIOEC for evaluation and approval.

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NOTES:

- 1) THIS SHEET IS A RECORD OF ALL REVISIONS TO THIS SPECIFICATION.
- 2) WHEN APPROVED EACH REVISION SHALL BE CONSIDERED AS A PART OF THE ORIGINAL DOCUMENT.
- 3) NUMBER OF PAGES EXCLUDES THIS SHEET AND THE COVER SHEET.

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INTRODUCTION

To satisfy the requirements of this NIOEC Specification, Iranian Petroleum Standard IPS-G-GN-210(2) (Revised April 2014) with the modifications as specified herein after shall be strictly followed.

Articles 1 through 3 of this document replace entirely the related articles in the referenced IPS Standard.

1. SCOPE

This specification defines NIOEC minimum requirements for packaging, packing, marking, testing and shipment of supplies and equipment for delivery to provide full protection against physical and mechanical damage during transit and multiple handling and possible long periods under adverse storage condition. It also provides for package quantities suitable for redistribution without additional repackaging or marking.

Vendors shall remain fully responsible for selecting suitable packing material, and for efficiency of packaging.

Vendor's own experience and practice should be used to decide whether certain items require more than the minimum requirements specified in this Specification.

Deviations from this specification will only be permitted on obtaining written approval from NIOEC.

Resolution on cases not explicitly stipulated in this Specification, or on cases where conflicts may arise among the requirements of the international standards, shall be made through written consent and approval of NIOEC.

2. REFERENCES

The following standards, codes, and specifications, to the extent specified hereinafter, shall constitute a part of this NIOEC Specification. Latest edition of the undated referenced documents and the cited edition of the dated references shall apply. The applicability of changes made to the dated references ,after the cited date shall be mutually agreed upon between NIOEC and the Vendor /Contractor.

ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)

D-3951	"Standard Practice for Commercial Packaging"
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BSI (BRITISH STANDARDS INSTITUTION)

BS 1133	"Packaging Code"
BS 2540	"Silica Gel for Use as Desiccant for Packages"
BS 3177	"Method of Determining the Permeability Materials Used for Packaging"

ISO (INTERNATIONAL ORGANIZATION FOR STANDARDIZATION)

	"Packaging-Complete, Filled Transport Packages"
ISO 3394	"Dimensions of Rigid Rectangular Packages-Transport Packages"
ISO 780	"Pictorial Marking for Handling of Goods"

ISO 4180	"General Rules for Compilation of Performance Test Schedules" Part 2: "Quantitative Data"
ISO 7965/1	"Packaging Sacks-Drop Test" Part 1: "Paper Sacks"
ISO 6591/1	"Packaging-Sacks-Description and Method of Measurement" Part 1: "Empty Paper Sacks"
ISO 6591/2	"Packaging-Sacks-Description and Method of Measurement" Part 2: "Empty Sacks Made from Thermoplastic Flexible Film"
ISO 2233	"Conditioning for Testing"
ISO 2234	"Stacking Test Using Static Load"
ISO 2248	"Vertical Impact Test by Dropping"
ISO 2244	"Horizontal Impact Tests"
ISO 2247	"Vibration Test at Fixed Low Frequency"
ISO 2873	"Low Pressure Test"
ISO 2875	"Water Spray Test"
ISO 2876	"Rolling Test"

IPS (IRANIAN PETROLEUM STANDARD)

IPS-G-GN-210(2)	"General Standard for Packing and Packages"
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NIOEC-SP (NIOEC SPECIFICATIONS)

NIOEC-SP-00-10	"NIOEC Specification for Units"
NIOEC-SP-50-27	"NIOEC Specification for Identification of Piping Material"

3. UNITS

International system of units (SI) shall be used in accordance with NIOEC-SP-00-10, unless otherwise specified.

4. ADDENDUM TO IPS-G-GN-210

This addendum revises the below listed article of the referenced standard as follows:

4.1.10. (Modification)

The last sentence shall be modified as follows:

For identification of piping material reference is made to NIOEC-SP-50-27.

GENERAL STANDARD**FOR****PACKING & PACKAGES****ORIGINAL EDITION****MAY 1997**

This standard specification is reviewed and updated by the relevant technical committee on Oct. 2003(1) and Apr. 2014(2). The approved modifications are included in the present issue of IPS.

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FOREWORD

The Iranian Petroleum Standards (IPS) reflect the views of the Iranian Ministry of Petroleum and are intended for use in the oil and gas production facilities, oil refineries, chemical and petrochemical plants, gas handling and processing installations and other such facilities.

IPS is based on internationally acceptable standards and includes selections from the items stipulated in the referenced standards. They are also supplemented by additional requirements and/or modifications based on the experience acquired by the Iranian Petroleum Industry and the local market availability. The options which are not specified in the text of the standards are itemized in data sheet/s, so that, the user can select his appropriate preferences therein

The IPS standards are therefore expected to be sufficiently flexible so that the users can adapt these standards to their requirements. However, they may not cover every requirement of each project. For such cases, an addendum to IPS Standard shall be prepared by the user which elaborates the particular requirements of the user. This addendum together with the relevant IPS shall form the job specification for the specific project or work.

The IPS is reviewed and up-dated approximately every five years. Each standards are subject to amendment or withdrawal, if required, thus the latest edition of IPS shall be applicable

The users of IPS are therefore requested to send their views and comments, including any addendum prepared for particular cases to the following address. These comments and recommendations will be reviewed by the relevant technical committee and in case of approval will be incorporated in the next revision of the standard.

Standards and Research department

No.17, Street14, North kheradmand

Karimkhan Avenue, Tehran, Iran.

Postal Code- 1585886851

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GENERAL DEFINITIONS:

Throughout this Standard the following definitions shall apply.

COMPANY:

Refers to one of the related and/or affiliated companies of the Iranian Ministry of Petroleum such as National Iranian Oil Company, National Iranian Gas Company, National Petrochemical Company and National Iranian Oil Refinery And Distribution Company.

PURCHASER:

Means the "Company" where this standard is a part of direct purchaser order by the "Company", and the "Contractor" where this Standard is a part of contract documents.

VENDOR AND SUPPLIER:

Refers to firm or person who will supply and/or fabricate the equipment or material.

CONTRACTOR:

Refers to the persons, firm or company whose tender has been accepted by the company.

EXECUTOR:

Executor is the party which carries out all or part of construction and/or commissioning for the project.

INSPECTOR:

The Inspector referred to in this Standard is a person/persons or a body appointed in writing by the company for the inspection of fabrication and installation work.

SHALL:

Is used where a provision is mandatory.

SHOULD:

Is used where a provision is advisory only.

WILL:

Is normally used in connection with the action by the "Company" rather than by a contractor, supplier or vendor.

MAY:

Is used where a provision is completely discretionary.

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1. SCOPE

1.1 This General Standard covers the minimum requirements for packaging, packing, marking, testing and shipment of supplies and equipment for delivery to provide full protection against physical and mechanical damage during transit and multiple handling and possible long periods under adverse storage condition. It also provides for package quantities suitable for redistribution without additional repackaging or marking.

Vendors shall remain fully responsible for selecting suitable packing material, and for efficiency of packaging.

Seller's own experience and practice should be used to decide whether certain items require more than the minimum requirements specified in this Standard.

1.2 Those (IPS) Standards that have packing arrangement, shall have precedence to this Standard.

Note 1:

This standard specification is reviewed and updated by the relevant technical committee on Oct. 2003. The approved modifications by T.C. were sent to IPS users as amendment No. 1 by circular No. 179 on Oct. 2003. These modifications are included in the present issue of IPS.

Note 2:

This standard specification is reviewed and updated by the relevant technical committee on Apr. 2014. The approved modifications by T.C. were sent to IPS users as amendment No. 2 by circular No. 425 on Apr. 2014. These modifications are included in the present issue of IPS.

2. REFERENCES

Throughout this Standard the following dated and undated standards/codes are referred to. These referenced documents shall, to the extent specified herein, form a part of this standard. For dated references, the edition cited applies. The applicability of changes in dated references that occur after the cited date shall be mutually agreed upon by the Company and the Vendor. For undated references, the latest edition of the referenced documents (including any supplements and amendments) applies.

ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)

D 3951: 2010 "Standard Practice for Commercial Packaging"

BSI (BRITISH STANDARDS INSTITUTION)

BS 1133: 1985 "Packaging Code"

BS 2540: 1991 "Silica Gel for Use as Desiccant for Packages"

BS 3177: 1959 "Method for Determining the Permeability to Water Vapour of Flexible Sheet Materials used for Packaging"

BS EN ISO 2873: 2002 "Packaging-Complete, Filled Transport Packages and Unit Loads-Low Pressure Test"

BS EN 2875: 2002 "Packaging - Complete, Filled Transport Packages and Unit Loads-Water-Spray Test"

BS EN ISO 2244: 2002 "Packaging-Complete, Filled Transport Packages and Unit Loads-

Horizontal Impact Tests"

BS EN ISO 2247: 2002 "Packaging – Complete, Filled Transport Packages and Unit Loads- Vibration Test at Fixed Low Frequency"

ISO (INTERNATIONAL ORGANIZATION FOR STANDARDIZATION)**"Packaging-Complete, Filled Transport Packages"**

ISO 3394: 2012	"Packaging-Complete, Filled Transport Packages and Unit Loads-Dimensions of Rigid Rectangular Packages"
ISO 780: 1997	"Packaging-Pictorial Marking for Handling of Goods"
ISO 4180: 2009	"Packaging-Complete, Filled Transport Packages-General Rules for the Compilation of Performance Test Schedules" Part 2: "Quantitative Data"
ISO 7965/1: 1984	"Packaging Sacks-Drop Test" Part 1: "Paper Sacks"
ISO 6591/1: 1984	"Packaging-Sacks-Description and Method of Measurement" Part 1: "Empty Paper Sacks"
ISO 6591/2: 1985	"Packaging-Sacks-Description and Method of Measurement" Part 2: "Empty Sacks Made from Thermoplastic Flexible Film"
ISO 2233: 2001	"Packaging-Complete, Filled Transport Packages and Unit Loads-Conditioning for Testing"
ISO 2234: 2000	"Packaging-Complete, Filled Transport Packages and Unit Loads-Stacking Tests using a Static Load"
ISO 2248: 1985	"Packaging-Complete Filled Transport Packages-Vertical Impact Test by Dropping"
ISO 12048: 1994	"Packaging-Complete, Filled Transport Packages-Compression and Stacking Tests using a Compression Tester"
ISO 2876: 1985	"Packaging-Complete Filled Transport Packages-Rolling Test"
ISO-6590/1: 1983	"Packaging-Sacks-Vocabulary and Types- Part 1: Paper Sacks"
ISO-6590/2: 1986	"Packaging-Sacks-Vocabulary and Types- Part : Sacks made from thermoplastic flexible film"

IPS (IRANIAN PETROLEUM STANDARDS)

IPS-E-TP-100	"Engineering Standards for Paints"
IPS-E-GN-100	"Engineering Standards for Units"

3. UNITS

This Standard is based on International System of Units (SI), as per [IPS-E-GN-100](#) except where otherwise specified.