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Oil and gas industries including lower carbon energy — Bulk material for offshore projects — Design for architectural supports

Industries du pétrole et du gaz, y compris les énergies à faible teneur en carbone — Matériels de base pour les projets en mer — Conception pour les supports architecturaux

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Foreword

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This document was prepared by Technical Committee ISO/TC 67, *Oil and gas industries including lower carbon energy*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Based on an assessment of past offshore projects, this document aims to provide a set of unified design specifications for architectural supports for offshore projects, responding to the current lack of recognized specifications for such supports in terms of shapes, sizes, dimensions, material and application area.

Company-specific standards from owners, engineering companies and shipbuilders have been prevailing for such specifications. There are big variations in specifications from project to project, because of the lack of international recognized specifications within this area.

Thus, individual architectural supports have often failed to be compatible across different projects. With this document, one unified approach can be applied for their design, material selection, shape and application, etc. This can significantly reduce the delivery time and improve the engineering and fabrication efficiency. Another expected benefit is improvement on the design and application of architectural support types related to design life, maintainability and integrity.

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Oil and gas industries including lower carbon energy — Bulk material for offshore projects — Design for architectural supports

1 Scope

This document specifies the design requirements for architectural supports, in terms of their shape and dimensions, material, strength, etc. This document covers architectural supports of topside and living-quarter regions for fixed or floating offshore oil and gas platforms including lower carbon energy.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1 ~~3.1~~ architectural support

~~a~~ member, attached to adjacent structural members, used to maintain the position of architectural components, but not subject to take significant loads from the architectural components.

EXAMPLE Lining panel ~~(3.6(3.6)-1)~~, partition panel ~~(3.7(3.7)-1)~~.

3.2 ~~3.2~~ architectural welding

welding used to fix the architectural support ~~(3.1(3.1))~~ of equal angle or flat bar to the structural member

3.3 ~~3.3~~ ceiling panel

overhead interior surface that covers the upper limits of a room, connected with the wall system by being either suspended or self-supported

3.4 ~~3.4~~ coaming plate

steel flat bar or vertical surface which is provided to prevent ingress of water

3.5 ~~3.5~~ equipment support

architectural member to support equipment installed on the wall panel ~~(3.12(3.12))~~

3.6 ~~3.6~~ lining panel

non-load-bearing proprietary sandwich panel system of 25 mm in thickness, consisting of mineral or rock wool core and single- or double-sided steel sheeting finish used as a part of the wall panel ~~(3.12(3.12))~~ system

3.7 ~~3.7~~

partition panel

non-load-bearing proprietary sandwich panel system of 50 mm or 100 mm in thickness, consisting of mineral or rock wool core and double-sided steel sheeting finish used as a part of the *wall panel* ~~(3.12(3.12))~~ system

3.8 ~~3.8~~

quality control plan

QCP

written set of procedures and activities aimed at delivering products that meet quality objectives for a project as stated in contract documents and other procedures, manuals and guidance

3.9 ~~3.9~~

tack welding

welding used to fix the *architectural support* ~~(3.1(3.1))~~ of the channel to the structural member and weld applied to connect the top and bottom profile of the channel to the architectural support or itself

3.10 ~~3.10~~

technical liner

thin metal panel fixed to support profiles which are usually provided to protect insulation from mechanical damage

3.11 ~~3.11~~

vibration absorber

material or device used to reduce a transmission of vibration on the *wall panel* ~~(3.12(3.12))~~

Note 1 to entry: The vibration absorber between the *architectural support* ~~(3.1(3.1))~~ and the wall panel can be installed in accordance with the project specification.

3.12 ~~3.12~~

wall panel

single piece of material, usually flat and cut into a rectangular shape that serves as the visible and exposed covering for a wall

Note 1 to entry: Wall panels are functional as well as decorative, providing insulation and sound proofing, uniformity of appearance, along with some measure of durability or ease of replaceability. According to the installation location and the existing steel wall, it is composed of lining wall panel and partition wall panel.

4 Architectural support specification

4.1 General

This clause specifies the standard design for architectural supports as the following types:

- a) ~~a)~~ lining panel support;
- b) ~~b)~~ partition panel support;
- c) ~~c)~~ coaming plate;
- d) ~~d)~~ technical liner support;
- e) ~~e)~~ equipment supports on wall panel.

4.2 Lining panel support specification

4.2.1 Key parameters

The key parameters of the lining panel support are:

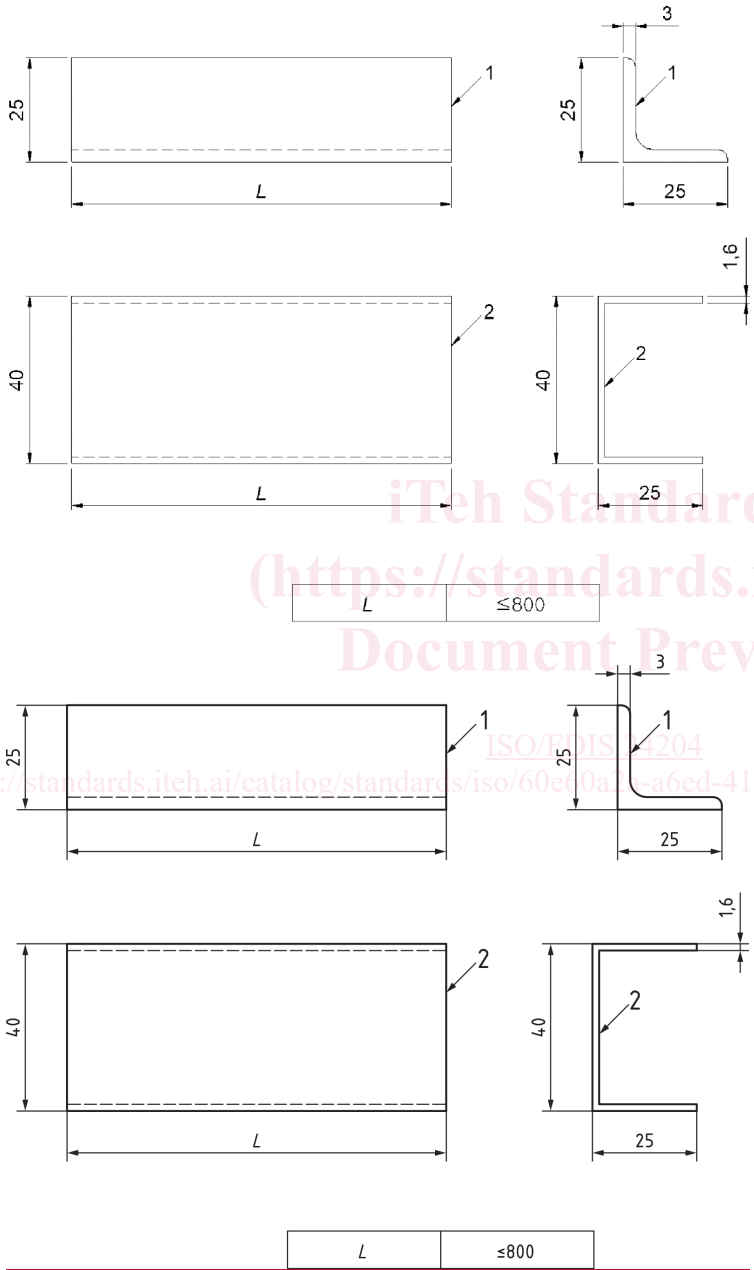
- a) ~~a)~~ shape;
- b) ~~b)~~ dimension;
- c) ~~c)~~ connection;
- d) ~~d)~~ material;
- e) ~~e)~~ maximum lining length for single support;
- f) ~~f)~~ maximum pitch for lining panel support;
- g) ~~g)~~ application of double pads.

4.2.2 Shape and dimensional specifications

~~4.2.2.1.1~~ Shape and dimensional specifications

The lining panel support should be, as a minimum, 25 mm × 25 mm × 3 mm (thickness) equal angle or 25 mm × 40 mm × 25 mm × 1,6 mm (thickness) channel or equivalent, as shown in ~~Figure 1~~ ~~Figure 1~~, with architectural welding. For installing the vibration absorber with a slot hole on the angle as shown in ~~Figure 2~~ ~~Figure 2~~, 40 mm × 40 mm × 5 mm (thickness) equal angle can be used. The vibration absorber may be installed for reducing the transmission of vibration in accordance with project specification.

Dimensions in millimetres

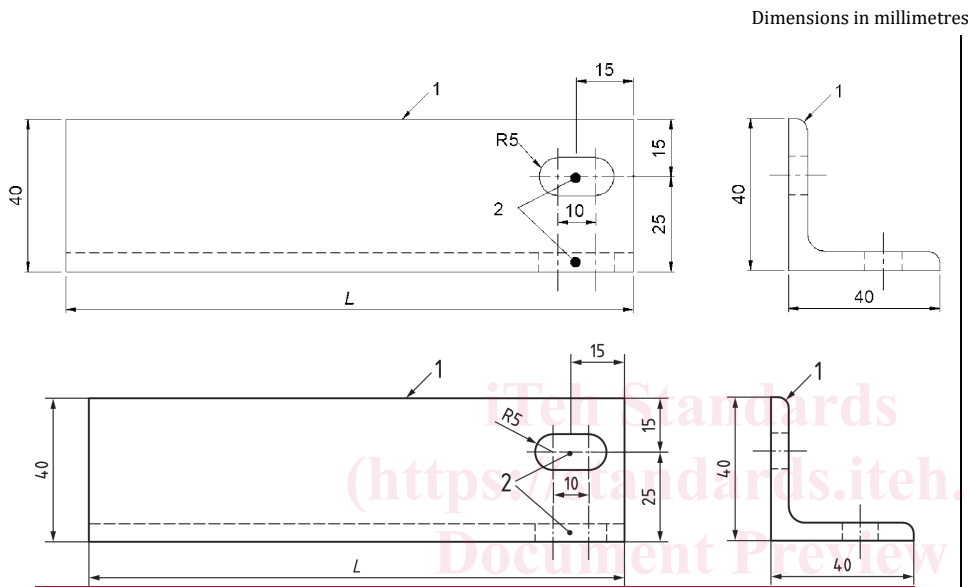


Key

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- 1 25 mm × 25 mm × 3 mm (thickness) equal angle
- 2 25 mm × 40 mm × 25 mm × 1,6 mm (thickness) channel
- L support length

Figure 1 — Maximum length for lining panel support



- Key**
- 1 40 mm × 40 mm × 5 mm (thickness) equal angle
 - 2 slot holes
 - L support length

Figure 2 — Slot hole detail for vibration absorber

A slot hole is provided at the bottom side of the angle to install vibration absorber. Considering the flexibility of installation, slot holes are provided at both sides of the angle.

4.2.3 Connection detail specification

The architectural welding detail for equal angle of the lining panel support to the structural member is shown in Figure 3 and Figure 4. The length of the weld leg for architectural welding shall be minimum 2 mm. When a channel is installed, tack welding shall be applied considering the web thickness of the channel.