

Publication of JIS S 0021-2:2018

“Packaging–Accessible design–Ease of opening”

Introduction

Packaging is very important for transactions of goods both in Japan and overseas. Because of recent progress in aging as well as advanced cultural levels in the world, especially in advanced countries, package design concepts have incorporated more attention into ease of handling by disabled persons.

Under these circumstances, ISO 17480:2015 “Packaging–Accessible design–Ease of opening” was established in March 2015. It is an international standard based on the proposals made by Japan concerning accessible design focusing on requirements and evaluation methods for ease of opening or re-closing of packages and containers. This ISO standard is truly beneficial for designers and developers of packages and containers. For further promotion of the international standard, it has now become necessary to create a new standard in the Japanese Industrial Standards (JIS) based on ISO 17480, thereby providing consumers with packages and containers that are easy to open or re-close and making the concept applicable to actual package design. Then it will be possible to encourage accessibility in the design of packages and containers, which may a significant contribution to people’s life. The linkages between the JIS and international standard will also be beneficial to the promotion of international trade activities and mutual understanding among consumers in the world.

Thus, a new JIS, JIS S 0021-2:2018 was established in February 2018. The brief introductions of the path to the establishment are given below as well as the efforts made during draft writing, structure of the standards and other points.

1. Outline of Accessible Design in Packaging

It has become common understanding that society will be aging all over the world, making it important to create standards for aging society. As an international standard to respond to this progress, ISO/IEC Guide 71:2001 “Guidelines for standards developers to address the needs of older persons and persons with disabilities” was published in November 2001. Rather than showing detailed provisions for specific products, this document gives guidelines for the planning of industrial standards by identifying necessary factors to consider for the elderly and disabled in issuing or amending any standards established for consumer products or services or in relation to the environment.

In this ISO/IEC Guide, the term “accessible design” was defined, for the first time, as “design focused on principles of extending standard design to people with some type of performance limitation to maximize the number of potential customers who can readily use a product, building or service.” After the Guide was established, development of standards to expand packaging accessibility has been advanced based on this Guide so that

everyone can use packages to their satisfaction beyond the difference in age, perception and cognition capabilities, physical functions, language and culture.

First, ISO 11156:2011 “Packaging–Accessible design–General requirements” was made in July 2011, an internal standard showing the total theoretical view of accessible design for packaging. Then, in order to promote this standard in Japan, a translation standard JIS S 0021:2014 “Packaging–Accessible design–General requirements” was established in 2014. It was followed by an international standard on ease of opening for packages, as mentioned before, ISO 17480:2015 “Packaging–Accessible design–Ease of opening” for the improvement of packaging and package design. This standard has provisions in a systematical way from an ergonomic perspective concerning opening methods for packages and containers, and evaluation methods thereof, as well as requirements for package design.

It is expected that, in the future, international standardization will further progress beyond ease of opening in the accessible design domain to address new requirements in packaging features for even higher quality in packaging and package design.

2. Path to Establishment

During the course of establishment of ISO 17480, Japan had served as meeting convenor. So, it was more than necessary to promote this international standard among industry players in Japan by newly publishing a corresponding JIS as evaluation guidelines for package design processes. So, the Japan Packaging Institute set up a JIS draft preparation committee in August 2016, with the participation of practical specialists in package design, package testing methods, and package usability for in-depth deliberation of draft writing.

3. Points for Consideration

At the start of the new standard preparation, the following points were discussed:

- (1) Whether to make the new JIS an identical standard (international consistency code: IDT) to ISO 17480 or a modified one (MOD).

The new standard would be prepared based on ISO 17480, and the decision of IDT or MOD should depend on how easy it would be for JIS users to understand technological points concerned.

- (2) How to handle the Annexes.

It was necessary to present overseas research results introduced in the original ISO Annexes in a manner easy for readers to understand.

- (3) How to handle JIS S 0022.

The then current JIS S 0022 “Guidelines for all people including elderly and people with disabilities–Packaging and receptacles–Test methods for opening” corresponded to Annex B of ISO 17480. It was necessary to carefully consider the handling (keep or delete) of JIS S 0022 after the establishment of the new standard.

(4) Positioning of the new JIS standard

In preparation for ISO 11156, Japan has been dispatching proposals on standardization of accessible design in packaging for a broad variety of users including the elderly and disabled. During the course, JIS S 0021:2000 was revised corresponding to ISO 11156 and in the revised standard, JIS S 0021:2014, the expression “all people including elderly and people with disabilities” was replaced by “accessible design” for even broader application. The same purport is running in the new JIS draft standard being prepared now, so the new standard should be positioned in the same “accessible design” series of standards.

On the basis of the understanding of the above points, translation and technical interpretation of ISO 17480 were made among specialist committee members.

4. Efforts Made during Draft Writing

The committee members proceeded with deliberation to prepare the JIS standard draft keeping the following points in mind.

(1) Standard of faithful translation

The new JIS standard should be made with faithful translation of ISO 17480:2015. It was because the new JIS standard should facilitate systematic understanding of ease of package opening, and also because it was necessary to show overseas research results presented in the original ISO for better understanding of the subject.

(2) Translation to facilitate understanding

ISO 17480 body text and annexes use very technical terms and expressions, which should be modified or changed to easier expressions since the readers will be general packaging designers. The information given in the annexes includes research outcomes and knowledge obtained in Europe and other overseas countries, so terms and statements should be translated deliberately after repeated discussion among all the committee members.

(3) Figures and illustrations in Annex C

This modification efforts should especially apply to the figures shown in Annex C “Relation of human strength and dexterity to the opening of packages.” Part of the illustrations should be modified to facilitate understanding of the presented information. In addition, some retouch was made to tables, graphs etc. for even better readability.

(4) Notes to Annex E “Relation of human cognition to the opening of packages”

Complementary notes should be added to Section E 2.1 “Memory and aging” in Annex 2 to give clarification to the meaning of each of the “memories” referred to.

(5) Remarks that Annexes present overseas research results

The information given in the annexes is based on research results and knowledge obtained in Europe and other overseas countries. Such information may not be easy to understand if simply included in engineering standards of Japan, so it was discussed whether to add a note “information from overseas” in the introduction or somewhere else in the document. However, it has been decided not to add this note because it is the purport of the standard preparation to present overseas research results or knowledge as it is.

(6) Expression of strength, intensity, and forces in opening

The clarification of package opening is one of the most important points in this standard. So, the terms “strength, intensity, force” should be used distinguishably depending on the context.

5. Structure of Standard

JIS S 0021-2:2018 Packaging–Accessible Design–Ease of Opening has the following structure.

Introduction: Background situation and purposes of the establishment of this standard

1 Scope: Extent of the application of the standard

2 Normative references: Standards referred to or quoted in the standard

3 Terms and definitions: Clarification of the terms necessary for the understanding of the standard

4 Accessible design in ease of opening: Points for consideration in opening and re-closing of packages

5 Evaluation of ease of opening: Points necessary for evaluating packages’ ease of opening

6 Conformance: Procedures for the conformance with the standard

This standard has the following annexes showing related information for greater clarification. In particular, Annexes F and G will serve as checklists for self evaluation as to how considerate of ease of opening the packaging design is.

Annex A (Informative): Examples of opening types

Annex B (Informative): Examples of mechanical evaluation methods

Annex C (Informative): Relation of human strength and dexterity to the opening of packages

Annex D (Informative): Consumer panel test for ease of opening

Annex E (Informative): Relation of human cognition to the opening of packages

Annex F (Informative): Designer’s checklist

Annex G (Informative): Checklist for conformance with JIS S 0021-2

Full utilization of the text and Annexes of this standard will facilitate users to evaluate

how easy to open a package would be, how satisfied users would be in opening, and other points concerning greater ease of opening from an accessible design perspective. Thus it will greatly contribute to the improvement in ease of opening for packaging.

6. Further Issues

While this standard's proposal focuses on ease of opening for package users, the idea of accessible design will surely be advanced furthermore, and establishment or revision will be made for more international standards applicable to broader areas. In line with these movements, it is highly likely that need for discussion will arise for the reorganization of Japanese standards concerning design guidelines in consideration of all people including elderly and people with disabilities.

In Japan, with the establishment of JIS S 0021-2 "Packaging-Accessible design-Ease of opening" in continuation from JIS S 0021 "Packaging-Accessible design-General requirements," organization of packaging standards has made a remarkable progress from a perspective of accessible packaging design beyond the simple consideration of the elderly and disabled. In the future, it will become necessary to establish new standards. Accordingly, reorganization of the following current standards will also be required: JIS S 0022-3 "Guidelines for older persons and persons with disabilities-Packaging and receptacles-Tactile indication for identification", JIS S 0022-4 "Guidelines for older persons and persons with disabilities-Packaging and receptacles-Evaluation method by user", and JIS S 0025 "Guidelines for older persons and persons with disabilities-Packaging and receptacles-Tactile warnings of danger-Requirements."